

Ficha Técnica para Acondicionadores Electrónicos de Línea Monofasicos

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/- 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120 o 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 15% de la Tensión Nominal

Tensión de Salida:

.+/- 3% Tipico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES

GABINETE

C-12

ALTURA (H)

14.5 cm

ANCHO (A)

16.0 cm

FONDO (F)

26.0 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG*	PESO APROX KGS
LAN-11	1	8	14	5.5
LAN-12	2	16	12	8.2

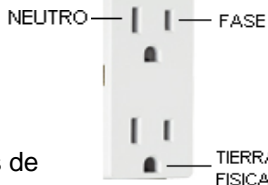
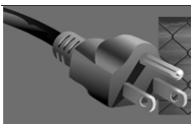
* Calibre minimo recomendado para la instalación eléctrica



RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN



Conexión a través de clavija y contacto **POLARIZADO**

Diseño, desarrollo y Fabricación de:

ENFIL de México, S.A. DE C.V.

Pais de Origen:

México

Normatividad:

NOM-001-SCFI-1993

NOM-003-SCFI-2000

Compatibilidad en Normas de Seguridad Extranjeras:

Con UL y CSA

Nuestros

Acondicionadores

son fabricados

especialmente

para las condiciones

de voltaje de México

(Rangos de protección

MAS AMPLIOS)



NOM



Rumbo a ISO 9000



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Cualquier duda o información adicional:

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LINE ACONDITIONER DE MEXICO, S.A. DE C.V.

CALZ. DE LOS JINETES No. 139 COL. LAS ARBOLEDAS

C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

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Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo

color BEIGE

DIMENSIONES

GABINETE

C-35

ALTURA (H)

18 cm

ANCHO (A)

22 cm

FONDO (F)

36.5 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG*	PESO APROX. KGS
LAN-13	3	24	12	13.5
LAN-14	4	32	10	15
LAN-15	5	40	8	16.5

** Calibre mínimo recomendado para la instalación eléctrica

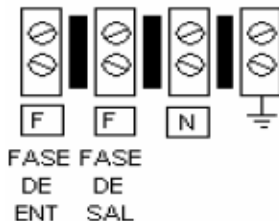


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Tablilla de conexiones ubicada en el interior del gabinete



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Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre 'MCM'
LAN-150	50	400	416

** Calibre minimo recomendado para la instalación eléctrica

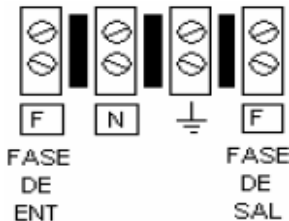


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Pintura del gabinete:

Pintura electrostática en polvo

color BEIGE

MODELO	Capacidad KVA	Amp x fase	Calibre awg**	Peso aprox. Kgs
LAN-18	8	64	6	60
LAN-110	10	80	4	68
LAN-115	15	120	2	76
LAN-120	20	160	1/0	90
LAN-130	30	240	2/0	105

DIMENSIONES

GABINETE

G-9

ALTURA (H)

67 cm

ANCHO (A)

35 cm

FONDO (F)

74 cm

** Calibre minimo recomendado para la instalacion electrica

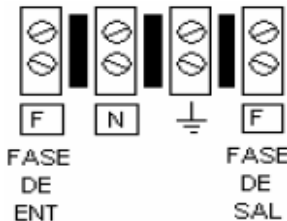


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Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES	
GABINETE	
G-9	
ALTURA (H)	78 cm
ANCHO (A)	35 cm
FONDO (F)	60 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-216	16	64	6	85

** Calibre minimo recomendado para la instalacion electrica

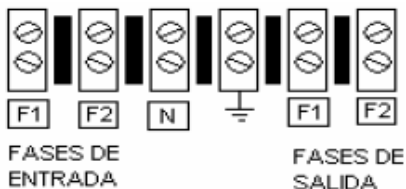


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MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO Aprox KGS
LAN-220	20	80	4	91
LAN-230	30	120	2	113
LAN-240	40	166	1/0	155
LAN-250	50	208	3/0	190

DIMENSIONES GABINETE G-8	
ALTURA (H)	100 cm
ANCHO (A)	41 cm
FONDO (F)	74 cm

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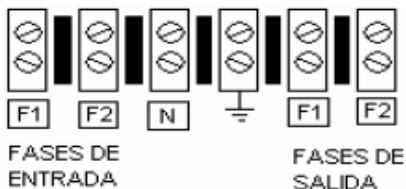


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color BEIGE

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				kgs
LAN-22	2	8	14	21
LAN-24	4	16	12	32
LAN-26	6	27	10	36
LAN-28	8	32	8	38
LAN-210	10	40	8	40

DIMENSIONES

GABINETE

G-6

ALTURA (H)

48 cm

ANCHO (A)

26 cm

FONDO (F)

43 cm

** Calibre minimo recomendado para la instalacion electrica

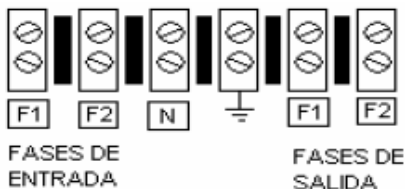


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



Diseño, desarrollo y Fabricación de:

ENFIL de México, S.A. DE C.V.

Pais de Origen:

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Normatividad:

NOM-001-SCFI-1993

NOM-003-SCFI-2000

Compatibilidad en Normas de Seguridad Extranjeras:

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NOM



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C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMÁTICA Por Alto y bajo voltaje: +/- 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automático.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208, 127/220, 220/380, 254/440, 265/460 y 277/480 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

./- 15% de la Tensión Nominal

Tensión de Salida:

./- 3% Típico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox. 99%

Factor de Potencia:

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE							PESO APROX kgs
		120/208	127/220	220/380	230/400	254/440	265/460	277/480	
LAN-324	24	64	63	36	35	31	30	29	125
LAN-330	30	80	78	45	43	39	37	36	137
LAN-345	45	120	118	68	65	59	56	54	170
LAN-360	60	160	157	91	87	78	75	72	166

DIMENSIONES GABINETE G-8

ALTURA (H)
100 cm

ANCHO (A)
41 cm

FONDO (F)
74 cm

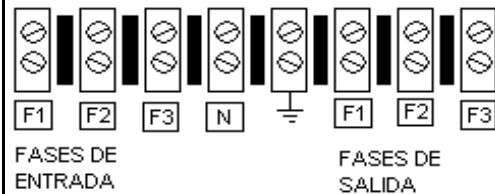


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



Diseño, desarrollo y Fabricación de:

ENFIL de México, S.A. DE C.V.

País de Origen:

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Compatibilidad en Normas de Seguridad Extranjeras:

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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/-20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

./-15% de la Tensión Nominal

Tensión de Salida:

./- 3% Tipico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG*	PESO APROX. KGS
LAN-33	3	8	14	32
LAN-36	6	16	12	38
LAN-310	10	28	10	44
LAN-315	15	40	8	52

DIMENSIONES	
GABINETE G-7	
ALTURA (H)	63.0 cm
ANCHO (A)	25.0 cm
FONDO (F)	42.5 cm

** Calibre minimo recomendado para la instalacion electrica

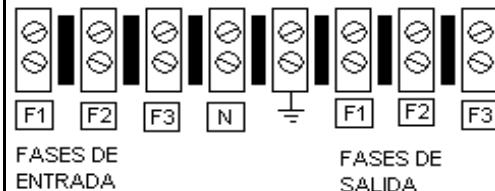


RECUERDE

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FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



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DESCONEXION AUTOMÁTICA Por Alto y bajo voltaje: +/- 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automático.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208, 127/220, 220/380, 254/440, 265/460 y 277/480 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 10% de la Tensión Nominal

Tensión de Salida:

.+/- 3% Típico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox. 99%

Factor de Potencia:

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES

GABINETE

G-8

ALTURA (H)

100 cm

ANCHO (A)

41 cm

FONDO (F)

74 cm

MODELO	Capacidad KVA	AMP X FASE							PESO APROX kgs
TENSIÓN VCA		120/208	127/220	220/380	230/400	254/440	265/460	277/480	
LAN-380	80	213	210	122	116	105	100	96	185
LAN-3100	100	266	262	151	145	131	126	120	211

* Rango de Regulación

.+/- 10% de entrada, +/- 3% de salida de LAN-380 y LAN-3100

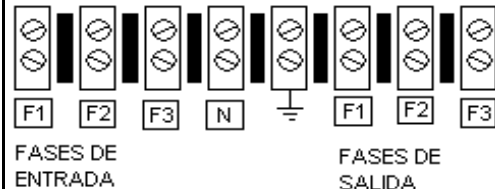


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



Diseño, desarrollo y Fabricación de:

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País de Origen:

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Normatividad:

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C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Monofasicos RA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/- 35% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de término Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120 o 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 30% de la Tensión Nominal

Tensión de Salida:

.+/- 3% Tipico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad KVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-110RA	10	80	4	68
LAN-115RA	15	120	2	76

DIMENSIONES GABINETE G-8	
ALTURA (H)	100 cm
ANCHO (A)	41 cm
FONDO (F)	74 cm

** Calibre minimo recomendado para la instalacion electrica

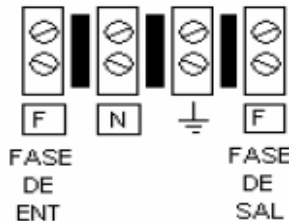


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete



Diseño, desarrollo y Fabricación de:

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Pais de Origen:

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Normatividad:

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NOM-003-SCFI-2000

Compatibilidad en Normas de Seguridad Extranjeras:

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Ficha Técnica para Acondicionadores Electrónicos de Línea Monofasicos RAA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: -20% +30% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120 o 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

-.15% + 25% de la Tensión Nominal

Tensión de Salida:

./- 5% de la tensión nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES

GABINETE

C-35

ALTURA (H)

18 cm

ANCHO (A)

22 cm

FONDO (F)

36.5 cm

MODELO	Capacidad KVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-11RAA	1	8	14	6.8
LAN-12RAA	2	16	12	9.6

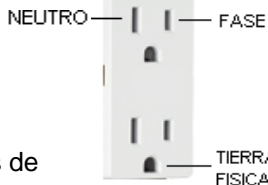
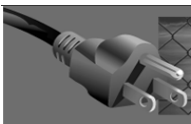
* Calibre minimo recomendado para la instalación eléctrica



RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN



Conexión a través de clavija y contacto **POLARIZADO**

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Ficha Técnica para Acondicionadores Electrónicos de Línea Monofásicos RA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/- 35% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120 o 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 30% de la Tensión Nominal

Tensión de Salida:

.+/- 3% Típico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES

GABINETE
G-6

ALTURA (H)
46.5 cm

ANCHO (A)
25.0 cm

FONDO (F)
42.5 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX. KGS
LAN-11RA	1	8	12	19
LAN-12RA	2	16	12	21
LAN-13RA	3	24	12	32

** Calibre mínimo recomendado para la instalación eléctrica

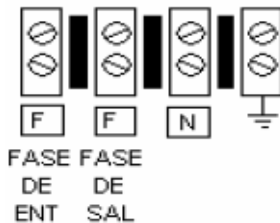


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete



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Normatividad:

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Compatibilidad en Normas de Seguridad Extranjeras:

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CALZ. DE LOS JINETES No. 139 COL. LAS ARBOLEDAS

C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Monofasicos RAB

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: -30% +20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120 o 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

-.25% + 15% de la Tensión Nominal

Tensión de Salida:

./- 5% de la tensión nominal

Tiempo de respuesta:

0.5 ciclos, 2 condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX. KGS
LAN-11RAB	1	8	14	6.8
LAN-12RAB	2	16	12	8.2
LAN-13RAB	3	24	12	19
LAN-14RAB	4	32	10	21
LAN-15RAB	5	40	8	23

DIMENSIONES

GABINETE

C-35

ALTURA (H)

18 cm

ANCHO (A)

22 cm

FONDO (F)

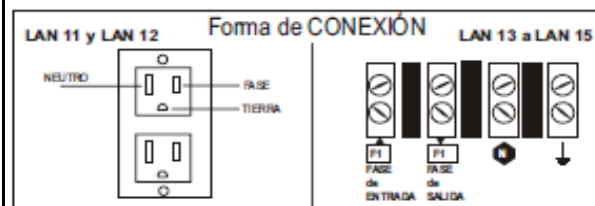
36.5 cm

** Calibre minimo recomendado para la instalación eléctrica



RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.



Conexión a través de clavija y contacto **POLARIZADO**

Diseño, desarrollo y Fabricación de:

ENFIL de México, S.A. DE C.V.

Pais de Origen:

México

Normatividad:

NOM-001-SCFI-1993

NOM-003-SCFI-2000

Compatibilidad en Normas de Seguridad Extranjeras:

Con UL y CSA

Nuestros

Acondicionadores

son fabricados

especialmente

para las condiciones

de voltaje de México

(Rangos de protección

MAS AMPLIOS)



NOM



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CALZ. DE LOS JINETES No. 139 COL. LAS ARBOLEDAS

C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Monofásicos RAA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMÁTICA Por Alto y bajo voltaje: +30%-20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automático.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120 o 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

+.25% -15% de la Tensión Nominal

Tensión de Salida:

./- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES

GABINETE

C-35

ALTURA (H)

18 cm

ANCHO (A)

22 cm

FONDO (F)

36.5 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-13RAA	3	24	12	19
LAN-14RAA	4	32	10	21
LAN-15RAA	5	40	8	23

** Calibre mínimo recomendado para la instalación eléctrica

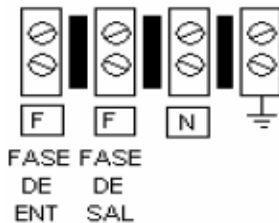


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete



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Normatividad:

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Ficha Técnica para Acondicionadores Electrónicos de Línea Monofasicos RA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/- 35% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120 ó 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 30% de la Tensión Nominal

Tensión de Salida:

.+/- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo

color BEIGE

MODELO	Capacidad KVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-15RA	5	40	8	50
LAN-18RA	8	64	6	60

DIMENSIONES

GABINETE

G-9

ALTURA (H)

67 cm

ANCHO (A)

35 cm

FONDO (F)

74 cm

** Calibre minimo recomendado para la instalacion electrica

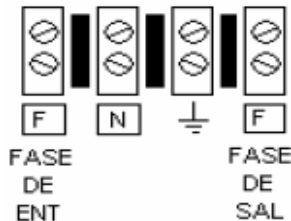


RECUERDE

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FORMA DE CONEXIÓN

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Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +30%-20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de término Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

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Tensión Nominal:

120 ó 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+25%-15 de la Tensión Nominal

Tensión de Salida:

.+/- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo

color BEIGE

MODELO	Capacidad KVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-18RAA	8	64	6	60
LAN-110RAA	10	80	4	68
LAN-115RAA	15	120	2	76

DIMENSIONES

GABINETE

G-9

ALTURA (H)

67 cm

ANCHO (A)

35 cm

FONDO (F)

74 cm

** Calibre minimo recomendado para la instalacion electrica

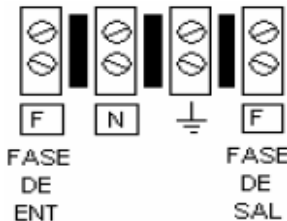


RECUERDE

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Tablilla de conexiones ubicada en el interior del gabinete



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Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +20%-30% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120 ó 127 VCA RMS

1 Fase + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+15%-25 de la Tensión Nominal

Tensión de Salida:

.+/- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo

color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-18RAB	8	64	6	60
LAN-110RAB	10	80	4	68
LAN-115RAB	15	120	2	76

DIMENSIONES

GABINETE

G-9

ALTURA (H)

67 cm

ANCHO (A)

35 cm

FONDO (F)

74 cm

** Calibre minimo recomendado para la instalacion electrica

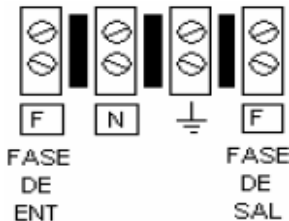


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete



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Normatividad:

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C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Bifásicos RA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/-35% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

2 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

./-30% de la Tensión Nominal

Tensión de Salida:

./- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	Peso aprox. Kg.
LAN-210RA	10	40	8	91
LAN-216RA	16	64	6	100
LAN-220RA	20	80	4	182
LAN-230RA	30	120	2	226

GABINETE G-120
DIMENSIONES
ALTO (H) 135 cm
ANCHO (A) 55 cm
FONDO (F) 75 cm

** Calibre minimo recomendado para la instalación eléctrica

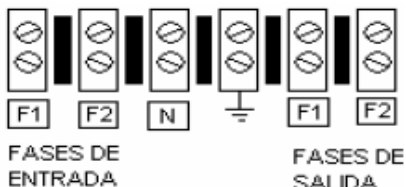


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



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Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +30% -25% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de **térmico Bimetálico.**



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 o 127/220 VCA RMS

2 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

+.25% -15% de la Tensión Nominal

Tensión de Salida:

./- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES	
GABINETE	
G-9	
ALTURA (H)	78 cm
ANCHO (A)	35 cm
FONDO (F)	60 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-216RAA	16	64	6	85

** Calibre minimo recomendado para la instalacion electrica

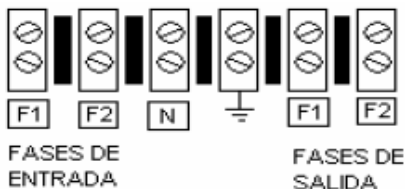


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



Diseño, desarrollo y Fabricación de:

ENFIL de México, S.A. DE C.V.

Pais de Origen:

México

Normatividad:

NOM-001-SCFI-1993

NOM-003-SCFI-2000

Compatibilidad en Normas de Seguridad Extranjeras:

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(Rangos de protección

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CALZ. DE LOS JINETES No. 139 COL. LAS ARBOLEDAS

C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Bifásicos RAB

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +20% -30% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de **térmico Bimetálico.**



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 o 127/220 VCA RMS

2 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+15% -25% de la Tensión Nominal

Tensión de Salida:

.+/- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES	
GABINETE	
G-9	
ALTURA (H)	78 cm
ANCHO (A)	35 cm
FONDO (F)	60 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-216RAB	16	64	6	85

** Calibre minimo recomendado para la instalacion electrica

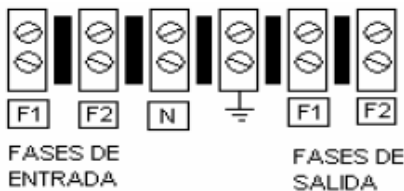


RECUERDE

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FORMA DE CONEXIÓN

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Ficha Técnica para Acondicionadores Electrónicos de Línea Bifásicos RAA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMÁTICA Por Alto y bajo voltaje: +30% -25% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automático.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos ó 5 minutos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de **térmico Bimetálico.**



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 o 127/220 VCA RMS

2 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

±25% -15% de la Tensión Nominal

Tensión de Salida:

±5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES	
GABINETE	
G-8	
ALTURA (H)	100 cm
ANCHO (A)	41 cm
FONDO (F)	74 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-220RAA	20	80	4	91
LAN-230RAA	30	120	2	113

** Calibre mínimo recomendado para la instalación eléctrica

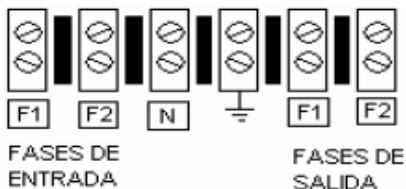


RECUERDE

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FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



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DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +20% -30% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

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DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 o 127/220 VCA RMS

2 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+15% -25% de la Tensión Nominal

Tensión de Salida:

.+/- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES	
GABINETE	
G-8	
ALTURA (H)	100 cm
ANCHO (A)	41 cm
FONDO (F)	74 cm

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-220RAB	20	80	4	91
LAN-230RAB	30	120	2	113

** Calibre minimo recomendado para la instalacion electrica

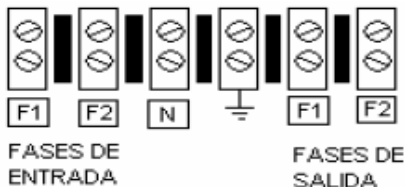


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Tablilla de conexiones ubicada en el interior del gabinete.



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Ficha Técnica para Acondicionadores Electrónicos de Línea Bifásicos RAA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: -20% +30% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

2 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

-15% +25% de la Tensión Nominal

Tensión de Salida:

./- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad KVA	AMP X FASE	Calibre AWG**	PESO <small>aprox.</small> KGS
LAN-22RAA	2	8	14	25
LAN-24RAA	4	16	12	32
LAN-26RAA	6	24	10	36
LAN-28RAA	8	32	8	38
LAN-210RAA	10	40	8	40

DIMENSIONES

GABINETE

G-6

ALTURA (H)

48 cm

ANCHO (A)

26 cm

FONDO (F)

43 cm

** Calibre minimo recomendado para la instalación eléctrica

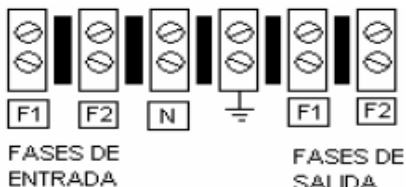


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



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Ficha Técnica para Acondicionadores Electrónicos de Línea Bifásicos RAB

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: -30% +20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

2 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

-.25% +15% de la Tensión Nominal

Tensión de Salida:

./- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX KGS
LAN-22RAB	2	8	14	25
LAN-24RAB	4	16	12	32
LAN-26RAB	6	24	10	36
LAN-28RAB	8	32	8	38
LAN-210RAB	10	40	8	40

DIMENSIONES

GABINETE

G-6

ALTURA (H)

48 cm

ANCHO (A)

26 cm

FONDO (F)

43 cm

** Calibre minimo recomendado para la instalación eléctrica

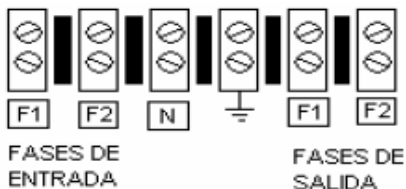


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C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Bifásicos RA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/- 35% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 o 127/220 VCA RMS

2 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 30% de la Tensión Nominal

Tensión de Salida:

.+/- 3% Tipico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO APROX. KGS
LAN-22RA	2	8	14	48
LAN-24RA	4	16	12	62
LAN-26RA	6	24	10	75

DIMENSIONES

GABINETE G-9

ALTURA (H)
78 cm

ANCHO (A)
35 cm

FONDO (F)
60 cm

** Calibre minimo recomendado para la instalacion electrica

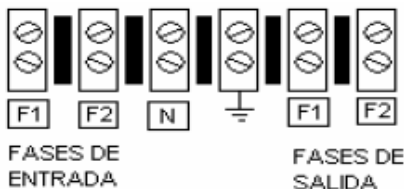


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



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Pais de Origen:

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Normatividad:

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Compatibilidad en Normas de Seguridad Extranjeras:

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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos RA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMÁTICA Por Alto y bajo voltaje: +/-35% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automático.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

+/-30% de la Tensión Nominal

Tensión de Salida:

+/- 3% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	Peso aprox Kg
LAN-315RA	15	40	8	220
LAN-324RA	24	64	6	212
LAN-330RA	30	80	4	233
LAN-345RA	45	120	2	290

GABINETE G-120
DIMENSIONES
ALTO (H) 135 cm
ANCHO (A) 55 cm
FONDO (F) 75 cm

** Calibre mínimo recomendado para la instalación eléctrica

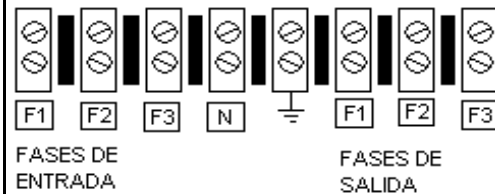


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



Diseño, desarrollo y Fabricación de:

ENFIL de México, S.A. DE C.V.

País de Origen:

México

Normatividad:

NOM-001-SCFI-1993

NOM-003-SCFI-2000

Compatibilidad en Normas de Seguridad Extranjeras:

Con UL y CSA

Nuestros

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para las condiciones

de voltaje de México

(Rangos de protección

MAS AMPLIOS)



NOM



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CALZ. DE LOS JINETES No. 139 COL. LAS ARBOLEDAS

C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos RAA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: + 30 - 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+ 25% .-15% de la Tensión Nominal

Tensión de Salida:

.+/- 5% Tipico 6% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO aprox KGS
LAN-324RAA	24	64	6	125
LAN-330RAA	30	80	4	137
LAN-345RAA	45	120	2	170

DIMENSIONES	
GABINETE G-8	
ALTURA (H)	100 cm
ANCHO (A)	41 cm
FONDO (F)	74 cm

** Calibre minimo recomendado para la instalacion electrica

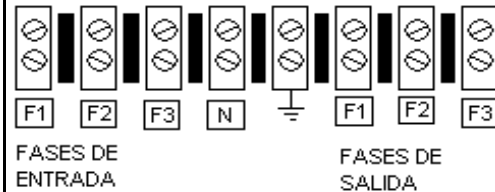


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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos RAB

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: + 20 - 30% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+ 15% .-25% de la Tensión Nominal

Tensión de Salida:

.+/- 5% Tipico 6% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	PESO Aprox KGS
LAN-324RAB	24	64	6	125
LAN-330RAB	30	80	4	137
LAN-345RAB	45	120	2	170

DIMENSIONES	
GABINETE G-8	
ALTURA (H)	100 cm
ANCHO (A)	41 cm
FONDO (F)	74 cm

** Calibre minimo recomendado para la instalacion electrica

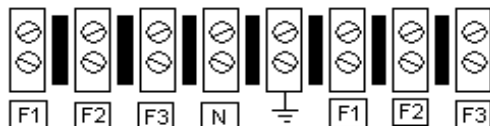


RECUERDE

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FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



FASES DE ENTRADA

FASES DE SALIDA

Diseño, desarrollo y Fabricación de:

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Pais de Origen:

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Normatividad:

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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos RA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMÁTICA Por Alto y bajo voltaje: +/- 35% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de término Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 30% de la Tensión Nominal

Tensión de Salida:

.+/- 3% de la tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox. 99%

Factor de Potencia:

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE	Calibre AWG**	Peso aprox Kg
LAN-33RA	3	8	14	64
LAN-36RA	6	16	12	76
LAN-310RA	10	28	10	88

** Calibre minimo recomendado para la instalación eléctrica

DIMENSIONES	
GABINETE G-9	
ALTURA (H)	78 cm
ANCHO (A)	35 cm
FONDO (F)	60 cm

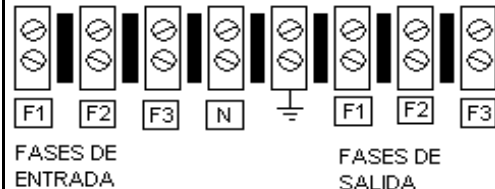


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



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Pais de Origen:

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Normatividad:

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Compatibilidad en Normas de Seguridad Extranjeras:

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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos RAA

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: + 30 - 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+ 25% .-15% de la Tensión Nominal

Tensión de Salida:

.+/- 5% Tipico 6% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES

GABINETE

G-7

ALTURA (H)

63 cm

ANCHO (A)

26 cm

FONDO (F)

56 cm

MODELO	CAP KVA	AMP X FASE	CALIBRE AWG **	PESO Kg.
LAN-33-RAA	3	8	14	32
LAN-36-RAA	6	16	12	45
LAN-310-RAA	10	27	10	50
LAN-315-RAA	15	40	8	60

** Calibre mínimo recomendado para la instalación eléctrica

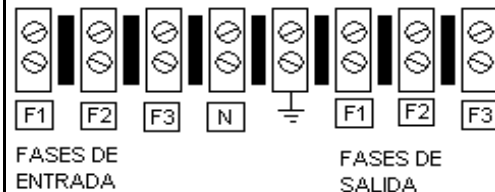


RECUERDE

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FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos RAB

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: + 20 - 30% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208 ó 127/220 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+ 15% .-25% de la Tensión Nominal

Tensión de Salida:

.+/- 5% Tipico 6% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES

GABINETE

G-7

ALTURA (H)

63 cm

ANCHO (A)

26 cm

FONDO (F)

56 cm

MODELO	CAP KVA	AMP X FASE	CALIBRE AWG **	PESO Kg.
LAN-33-RAB	3	8	14	32
LAN-36-RAB	6	16	12	45
LAN-310-RAE	10	27	10	50
LAN-315-RAE	15	40	8	60

** Calibre minimo recomendado para la instalacion electrica

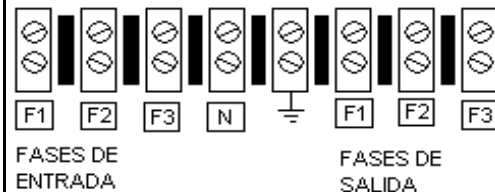


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C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Serie Internacional AC6050 Con Cables

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- Verificación visual del nivel de protección
- Aprobado según la norma UL 1449 (Recognized)
- Capacidad de corriente de 50K A 8/20 μ s por MOV L-N
- Capacidad de corriente de 40K A 8/10 μ s por tubo de gas (GDT) N-T

La Serie Internacional AC6050 de AC Data cubre sus necesidades de protección contra los sobrevoltajes de CA a un precio asequible. Su diseño compacto para sistemas trifásicos de 380/220 y 415/240 VAC, le convierte en el protector idóneo para aplicaciones internacionales que requieran de supresores con cables.

La Serie Internacional AC6050 utiliza varistores de óxido de metal (MOVs) entre L-N y tubos de gas (GDT) entre N-T para proteger sus delicados equipos electrónicos de los devastadores efectos de los sobrevoltajes transitorios. Cada fase posee un indicador de estatus de LED que verifica el nivel de protección. Cuando las luces están encendidas, el supresor funciona correctamente. Los indicadores sólo se apagan cuando el supresor o la CA fallan.

La Serie Internacional AC6050 le indica cuál es su nivel de protección en todo momento.



Desde que recibimos su pedido, hasta que se completa el envío, AC Data ofrece la más alta calidad y un servicio a clientes personalizado.



Cualquier duda o información adicional:

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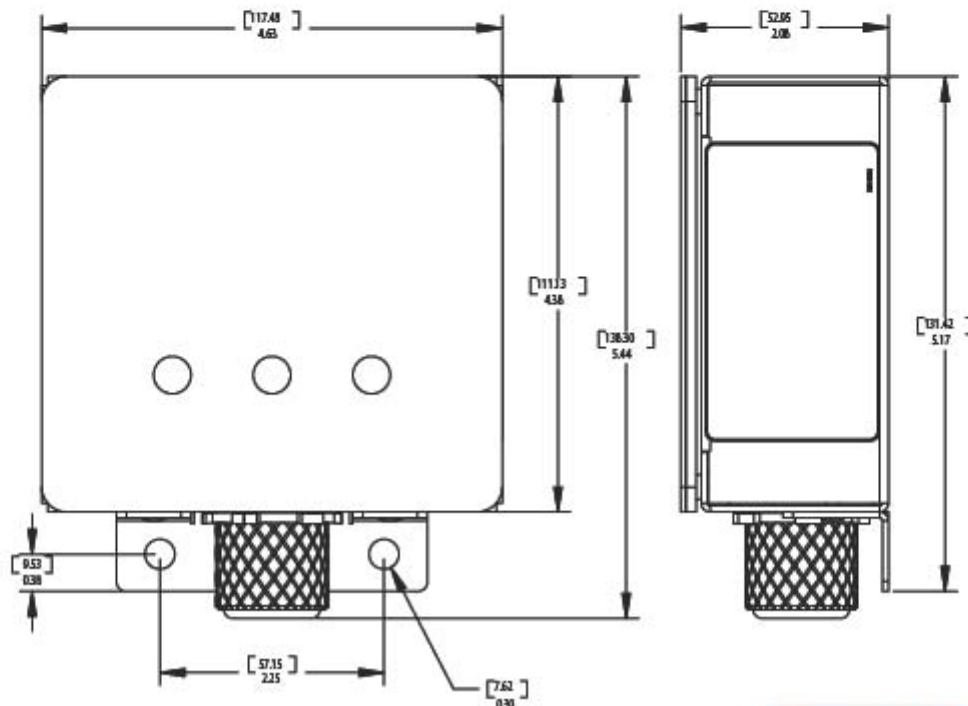
Serie Internacional AC6050 Con Cables

CARACTERÍSTICAS DE SUPRESIÓN

Modelo	AC6050	AC6050M	AC6050H
Voltaje Nominal	380/220 ó 415/240 VAC, 3 Ø Y	380/220 ó 415/240 VAC, 3 Ø Y	380/220 ó 415/240 VAC, 3 Ø Y
Capacidad de Supresión (L-N)	50 pk Amps - MOV	50 pk Amps - MOV	50 pk Amps - MOV
Capacidad de Supresión (N-T)	40K pk Amps - tubo de gas	40K pk Amps - tubo de gas	40K pk Amps - tubo de gas
Energía Máxima	1320 Joules	1528 Joules	1720 Joules
MCOV (L-N)	275 VAC	320 VAC	390 VAC

ESPECIFICACIONES MECÁNICAS

Peso	1.8 kg (4 lbs)	1.8 kg (4 lbs)	1.8 kg (4 lbs)
Método de Conexión del Supresor	Cables (cinco hilos 10 AWG)	Cables (cuatro hilos 10 AWG)	Cables (cuatro hilos 10 AWG)
Temperatura de Operación	-20 C a +80 C	-20 C a +80 C	-20 C a +80 C



ACData
SOLUTIONS

Todos los supresores de AC Data se someten a parámetros rigurosos al examinarlos en Ryan Labs®.



Cualquier duda o información adicional:

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Serie ACXM Con Cables

Supresión de Sobrevoltajes de CA

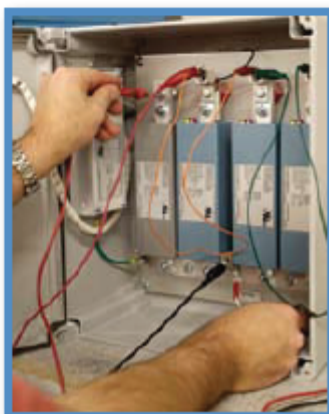
CARACTERÍSTICAS

- Aprobado por la norma UL 1449 2da Edición Febrero 2007
- Filtro EMI/RFI y seguimiento de ondas senoidales
- MOVs con Diseño Térmico
- Modo común de supresión
- Verificación visual y a distancia
- Corriente de descarga de >100 kA, 8/20 μ s[†] por fase

La Serie ACX100M de ACData ofrece soluciones de supresión de sobrevoltajes de CA a bajo costo. Es su mejor opción para aplicaciones residenciales y de mediana industria, gracias a su tamaño compacto y su placa frontal montada a ras, disponible opcionalmente.

La Serie ACX100M utiliza varistores de óxido de metal (MOVs), para proteger sus delicados equipos electrónicos de los devastadores efectos de los sobrevoltajes. Cada fase posee un indicador de estatus de LED que verifica el nivel de protección. Cuando las luces están encendidas, el supresor funciona correctamente. Los indicadores sólo se apagan cuando el supresor o la CA fallan. Contactos secos de Forma Cy Filtros EMI/RFI incluidos.

La Serie ACX100M es ideal para aplicaciones residenciales y de mediana industria.



Todos los supresores de ACData se someten a parámetros rigurosos al examinarlos en Ryan Labs*.

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TLALNEPANTLA EDO. DE MEX.

Serie ACXM Con Cables

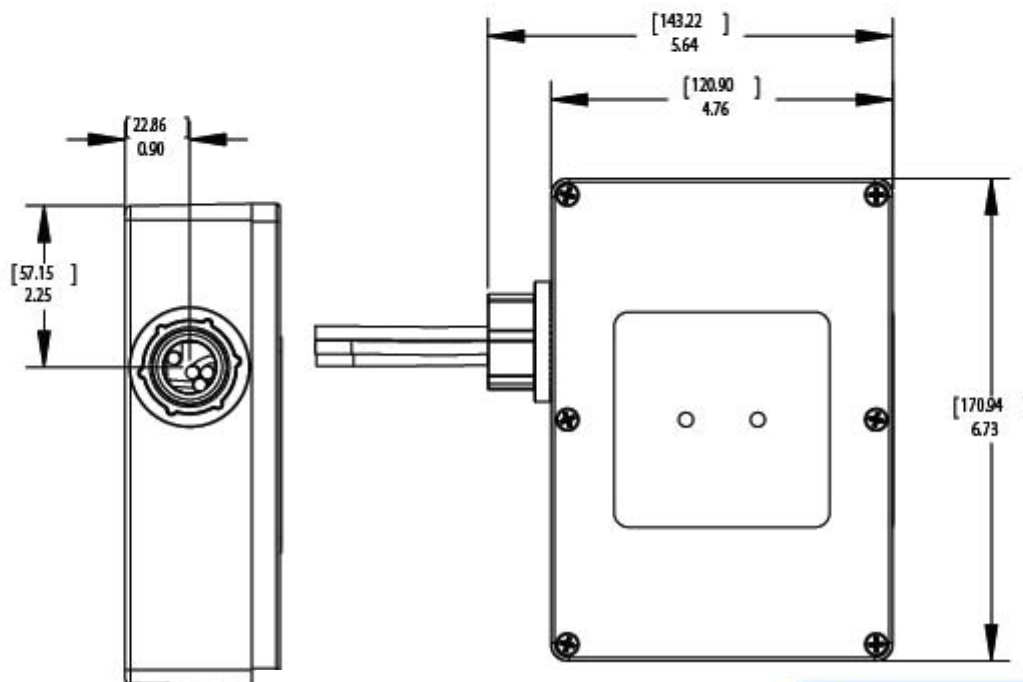
CARACTERÍSTICAS DE SUPRESIÓN

Modelo	AC2100M-F-07	AC4100M-F-07
Voltaje Nominal	1φ 127/240 3H+T	3φ 220Y/127 4H+T
Corriente de Descarga	100 kA 8/20 μs	100 kA 8/20 μs
Voltaje de Fijación	<500 V pk @ 500 Amps 8/20 μs L-N	<500 V pk @ 500 Amps 8/20 μs L-N
	<500 V pk @ 500 Amps 8/20 μs N-T	<500 V pk @ 500 Amps 8/20 μs N-T
Filtro EMI/RFI	40 dB	40 dB

ESPECIFICACIONES MECÁNICAS

Peso	3.0 lbs (1.5 kg)	3.0 lbs (1.5 kg)
Conexión del Supresor	Cables (cuatro hilos de 10 AWG)	Cables (cinco hilos de 10 AWG)
Conexión de Forma C	Cables (22 AWG)	Cables (22 AWG)
Temperatura de Operación	-20° C a +80° C	-20° C a +80° C
Caja	Aluminio - Tipo NEMA 3R	Aluminio - Tipo NEMA 3R

¡Según pruebas reales, realizadas en Ryan Labs.



ACData
SOLUTIONS

Desde que recibimos un pedido hasta que se completa el envío, ACData ofrece la más alta calidad y un servicio a clientes personalizado.



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TELS. (55) 53-78-20-77 (55) 53-78-14-98	TALNEPANTLA EDO. DE MEX.

Serie Internacional AMF *Con Filtro, Para Todos los Modos* Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- Contactos Secos de Forma C incluidos
- Verificación visual del nivel de protección
- Componentes MOV y límite termal individual
- Filtro EMI/RFI y seguimiento de ondas senoidales

La Serie Internacional AMF de AC Data ofrece protección contra sobrevoltajes en todos los modos, e incluye un circuito de seguimiento de ondas senoidales y filtro EMI/RFI. Disponible en una gran variedad de configuraciones, la Serie Internacional AMF es su mejor opción para supresión con filtro en todos los modos.

La Serie Internacional AMF utiliza varistores de óxido de metal (MOVs) entre los modos L-N, L-L y L-T, y tubos de gas (GDT) entre N-T para proteger sus delicados equipos electrónicos de los devastadores efectos de los sobrevoltajes. Cada fase posee un indicador de LED que verifica el nivel de protección. Cuando las luces están encendidas, el supresor funciona correctamente. Los indicadores sólo se apagan cuando el supresor o la CA fallan.

La Serie Internacional AMF es ideal para aplicaciones que requieren supresión con filtro para todos los modos.



Todos los supresores de AC Data se someten a parámetros rigurosos al examinarlos en Ryan Labs*.



Cualquier duda o información adicional:

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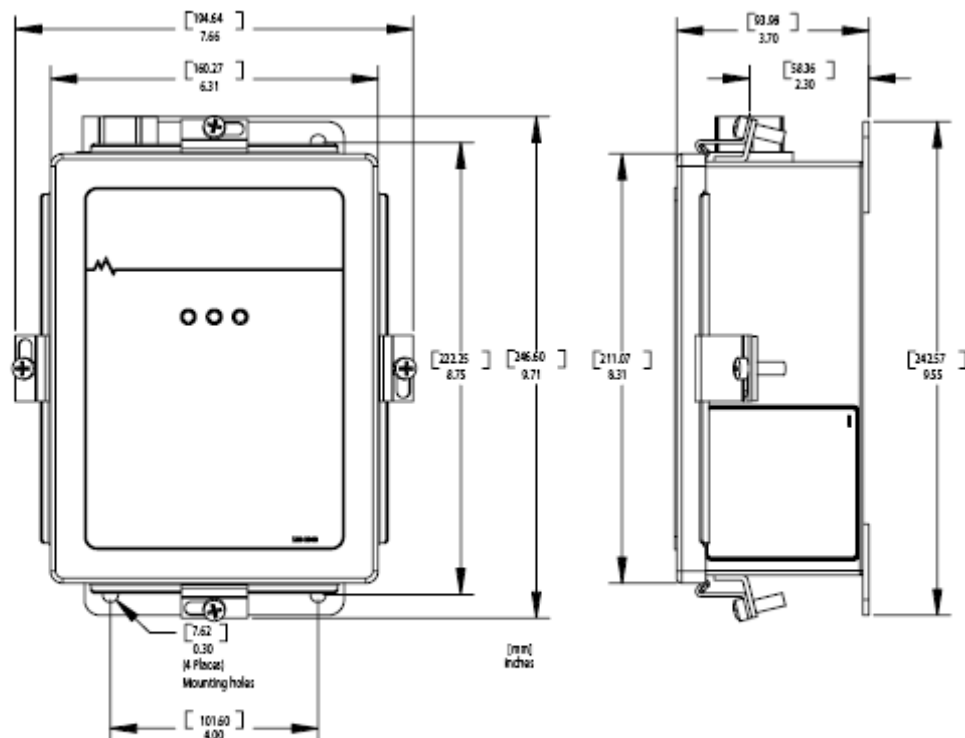
Serie Internacional AM6100 Con Filtro, Para Todos los Modos

CARACTERÍSTICAS DE SUPRESIÓN

Modelo	AM6100-F-SG	AM6100M-F-SG	AM6100H-F-SG
Voltaje Nominal	220/380 VAC, 6 240/415 VAC 3 Ø Y, 4 hilos + tierra	220/380 VAC, 6 240/415 VAC 3 Ø Y, 4 hilos + tierra	220/380 VAC, 6 240/415 VAC 3 Ø Y, 4 hilos + tierra
Máx. Voltaje Operativo Continuo (MCOV)	275 L-N 485 L-T 485 L-L	320 L-N 550 L-T 550 L-L	390 L-N 680 L-T 680 L-L
Capacidad Máxima de Sobrevoltaje (por modo)	108 kA L-N 36 kA L-T 100 kA N-T 36 kA L-L	108 kA L-N 36 kA L-T 100 kA N-T 36 kA L-L	108 kA L-N 36 kA L-T 100 kA N-T 36 kA L-L
Capacidad en Joules	2220 L-N 1080 L-T 1080 L-L	2532 L-N 1200 L-T 1200 L-L	2970 L-N 1400 L-T 1400 L-L
Máxima Corriente de Línea	Ilimitada - Mecanismo en Conexión Paralela		
Modos de Protección	10 modos: cada L-N, cada L-T, cada L-L, N-T		

ESPECIFICACIONES MECÁNICAS

Peso	5 kg (12 lbs)	5 kg (12 lbs)	5 kg (12 lbs)
Tipo de Caja	Acero - NEMA 4 (IEC IP 66)	Acero - NEMA 4 (IEC IP 66)	Acero - NEMA 4 (IEC IP 66)
Temperatura de Operación	-20 C a +70 C	-20 C a +70 C	-20 C a +70 C
Conexión del Supresor	Cables (de conexión flexible, #10 AWG (5.3mm ²)), hilo de cobre		
Conexión de Forma C	Bloque de Terminales (#18-#10 AWG (0.33 mm ² -0.82 mm ²))		



ACData
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Serie AMF Con Filtro, Para Todos los Modos

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- Contactos Secos de Forma C incluidos
- Verificación visual del nivel de protección
- Componentes MOV y límite termal individual
- Aprobado por las normas UL 1449 y UL 1283
- Filtros EMI/RFI y seguimiento de ondas senoidales

La Serie AMF de AC Data ofrece protección contra sobrevoltajes transitorios en todos los modos, e incluye un circuito de seguimiento de ondas senoidales y filtro EMI/RFI. Disponible en una gran variedad de configuración de voltajes de servicio, la Serie AMF es su mejor opción para supresión con filtro en todos los modos.

La Serie AMF utiliza varistores de óxido de metal (MOVs), para proteger sus delicados equipos electrónicos de los devastadores efectos de los sobrevoltajes. Cada fase posee un indicador de estatus de LED que verifica el nivel de protección. Cuando las luces están encendidas, el supresor funciona correctamente. Los indicadores sólo se apagan cuando el supresor o la CA fallan. Contactos secos de Forma C disponibles.



La Serie AMF de AC Data, la mejor supresión en todos los modos



Todos los supresores de AC Data se someten a parámetros rigurosos al examinarlos en Ryan Labs®.



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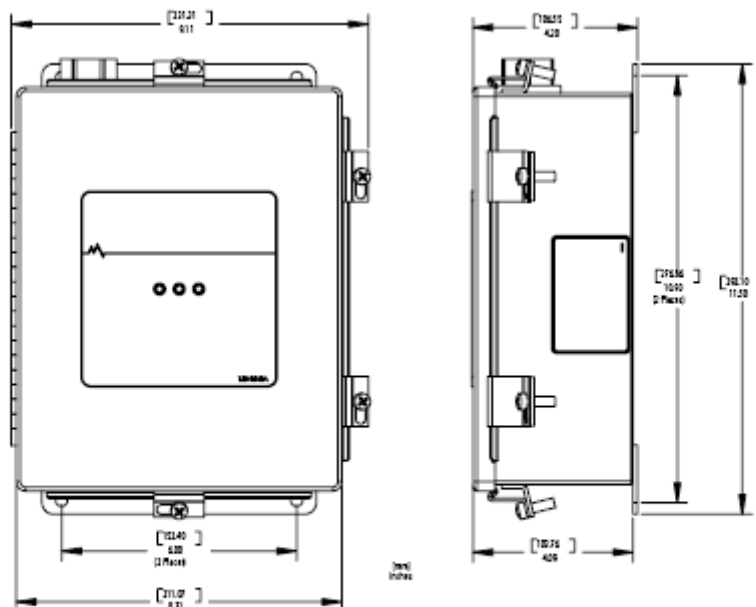
C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

CARACTERÍSTICAS DE SUPRESIÓN

	AM2080-F	AM2080M-F	AM4080-F	AM4080M-F	AM7100-F	AM8100-F
Voltaje Nominal	240/120 VAC, 1 Ø, 3 hilos + Tierra	240/120 VAC, 1 Ø, 3 hilos + Tierra Latinoamérica	208Y/120 VAC, 3 Ø, 4 hilos + Tierra	220Y/127 VAC, 3 Ø, 4 hilos + Tierra Latinoamérica	480Y/277 VAC, 3 Ø, 4 hilos + Tierra	480 VAC, 3 Ø, Delta, 3 hilos + Tierra
Capacidad de Corriente	192kA/fase	192kA/fase	192kA/fase	192kA/fase	216kA/fase	108kA/fase
Capacidad Máx. de Sobrevoltaje (por modo)	96 kA L-N 96 kA L-T 96 kA N-T 96 kA L-L	96 kA L-N 96 kA L-T 96 kA N-T 96 kA L-L	96 kA L-N 96 kA L-T 96 kA N-T 96 kA L-L	96 kA L-N 96 kA L-T 96 kA N-T 96 kA L-L	108 kA L-N 108 kA L-T 108 kA N-T 108 kA L-L	N/A 108 kA L-T N/A 108 kA L-L
Capacidad en Joules	1440 L-N 1440 L-T 1440 N-T 2640 L-L	1600 L-N 1600 L-T 1600 N-T 3056 L-L	1440 L-N 1440 L-T 1440 N-T 2640 L-L	1600 L-N 1600 L-T 1600 N-T 3056 L-L	2220 L-N 2220 L-T 2220 N-T 3240 L-L	N/A 3240 L-T N/A 3240 L-L
Máx. Corriente Continua	Ilimitada - Mecanismo con Conexión Paralela					
Máx. Voltaje Operativo Continuo (MCOV)	140 L-N 140 L-T 140 N-T 275 L-L	175 L-N 175 L-T 175 N-T 320 L-L	140 L-N 140 L-T 140 N-T 275 L-L	175 L-N 175 L-T 175 N-T 320 L-L	320 L-N 320 L-T 320 N-T 550 L-L	N/A 550 L-T N/A 550 L-L
Modos de Protección	6 modos: cada L-N, cada L-T, L-L, N-T		10 modos: cada L-N, cada L-T, cada L-L, N-T			6 modos: cada L-L, cada L-T
Ratificaciones de Agencias de Seguridad	Aprobado por la norma UL 1449, Segunda Edición, Archivo de UL Número E159139 Rastreo de ondas senoidales y filtro EMI/RFI, aprobados por UL 1283, Archivo de UL número E159139					
Corriente de Falla listada en UL	200 k AIC					
Voltaje Suprimido listado en UL, 500 A 8/20µs	330 V L-N 330 V L-T 400 V N-T 700 V L-L	400 V L-N 400 V L-T 400 V N-T 800 V L-L	330 V L-N 330 V L-T 400 V N-T 700 V L-L	400 V L-N 400 V L-T 400 V N-T 800 V L-L	800 V L-N 800 V L-T 800 V N-T 1500 V L-L	N/A 1500 V L-T N/A 1500 V L-L

ESPECIFICACIONES MECÁNICAS

Peso	6.0 lbs. (3 kg)	6.0 lbs. (3 kg)	6.0 lbs. (3 kg)	6.0 lbs. (3 kg)	10.0 lbs. (4.5 kg)	10.0 lbs. (4.5 kg)
Tipo de Caja	Acero -Tipo NEMA 4					
Temp. de Operación	-20 C a +80 C					
Conexión del Supresor	Cables (de conexión flexible de #10 AWG)					
Conexión de Forma C	Blanco - 1.25" (31.75 mm) x 1.25" (31.75 mm) x 1.25" (31.75 mm)					



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Serie Surge Blox[®] 200 Modular

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- Aprobado por la norma UL 1449
- Alarma visual, sonora y a distancia
- Reemplazo de módulos sin afectar el supresor
- Aumente el nivel de protección añadiendo módulos
- Capacidad de corriente de >200K A, 8/20 μ s por fase

Los módulos Surge Blox 200[®] de ACData ofrecen un alto nivel de protección, gracias al diseño patentado y al montaje de sus circuitos. Los módulos pueden instalarse individualmente, o apilarse verticalmente para aumentar el nivel de protección por fase. Los supresores Surge Blox 200 son su mejor opción para proteger la acometida de CA y el tablero de distribución, pues se ofrecen en una gran variedad de tamaños de caja y voltajes de servicio.

La serie Surge Blox 200 utiliza diodos de avalancha de silicio (SAD) o varistores de óxido de metal (MOV) en diseños modulares de fácil reparación y actualización. Los circuitos de SAD, y MOV y el sistema de alarma están electrónicamente aislados y son completamente independientes, por lo que proveen una protección confiable. Los indicadores de LED rojos y verdes verifican visualmente el estatus del supresor. Contactos secos de Forma C incluidos.



La serie Surge Blox 200 es idónea para la acometida de CA y para proteger el tablero de distribución.

Desde que recibimos un pedido hasta que se completa el envío, AC Data ofrece la más alta calidad y un servicio a clientes personalizado.



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Serie Surge Blox 200® Modular

ESPECIFICACIONES DEL SUPRESOR SURGE BLOX

Serie	Voltaje Nominal	Tipo de Caja	Tamaño	Opciones de Módulos
Serie L52	240/120 1 Ø	NEMA 4X Fibra de Vidrio	11.25" x 9.25" x 6.125" 29cm x 24cm x 16cm	J, R, F
Serie B82	240/120 1 Ø	NEMA 4X Fibra de Vidrio	15.25" x 13.25" x 7.5" 39cm x 34cm x 19cm	J, R, F
Serie B84	208/120 3 Ø	NEMA 4X Fibra de Vidrio	15.25" x 13.25" x 7.5" 39cm x 34cm x 19cm	J, R, F
Serie B86	415/240, 380/220 3 Ø	NEMA 4X Fibra de Vidrio	15.25" x 13.25" x 7.5" 39cm x 34cm x 19cm	D
Serie B87	480/277 3 Ø	NEMA 4X Fibra de Vidrio	15.25" x 13.25" x 7.5" 39cm x 34cm x 19cm	D

ESPECIFICACIONES DE LOS MÓDULOS SURGE BLOX

Módulos	Fijación de Voltaje (V)	Voltaje de L-N	Energía	Capac. Corriente - 8/20 µs
J	210	120	540 Joules SAD	19,800 A
F	270	120, 127	3,800 Joules MOV	200,000 A
R	240	120	5,040 Joules MOV	315,000 A
D	510	220, 240, 277	7,640 Joules MOV	200,000 A

OPCIONES DE LOS MÓDULOS SURGE BLOX*

-G Protección en Modo Común

-NA Sin alarma a distancia

*También ofrecemos Contadores de Transientes opcionalmente. Para más información, por favor pregunte a su gerente de ventas de AC Data

CONFIGURACIONES MÁS USUALES PARA SURGE BLOX 200

Modelo	Voltaje Nominal	Energía	Capac. Corriente - 8/20 µs
L52XXR	240/120 1Ø	5,040 Joules MOV	315K A
L52XXF	240/120 1Ø Latinoam.	3,800 Joules MOV	200K A
B82XXR	240/120 1Ø	5,040 Joules MOV	315K A
B82XJR	240/120 1Ø	540 Joules SAD, 5040 Joules MOV	315K A
B84XXR	208/120 3Ø	5,040 Joules MOV	315K A
B84XXF	220/127 3Ø	3,800 Joules MOV	200K A
B84XJR	208/120 3Ø	540 Joules SAD, 5040 Joules MOV	315K A
B86XXD	415/240, 380/240 3Ø	6,060 Joules MOV	200K A
B87XXD	480/277 3Ø	7,640 Joules MOV	200K A



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ACData
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Serie Surge Blox[®] Modular

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- Aprobado por la norma UL 1449
- Alarma visual, sonora y a distancia
- Reemplazo de módulos sin afectar el supresor
- Aumente el nivel de protección añadiendo módulos
- Capacidad de corriente de >400K A, 8/20 μ s por fase

Los módulos Surge Blox[®] de ACData ofrecen un alto nivel de protección, gracias al diseño patentado y al montaje de sus circuitos. Los módulos pueden instalarse individualmente, o apilarse verticalmente para aumentar el nivel de protección por fase. Los supresores Surge Blox son su mejor opción para proteger la acometida de CA y el tablero de distribución, pues se ofrecen en una gran variedad de tamaños de caja y voltajes de servicio.

La serie Surge Blox utiliza diodos de avalancha de silicio (SAD) o varistores de óxido de metal (MOV) en diseños modulares de fácil reparación y actualización. Los circuitos de SAD, y MOV y el sistema de alarma están electrónicamente aislados y son completamente independientes, por lo que proveen una protección confiable. Los indicadores de LED rojos y verdes verifican visualmente el estatus del supresor. Contactos secos de Forma C incluidos.



La serie Surge Blox es idónea para la acometida de CA y para proteger el tablero de distribución.



Todos los supresores de ACData se someten a parámetros rigurosos al examinarlos en Ryan Labs[®].

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Serie Surge Blox® Modular

ESPECIFICACIONES DEL SUPRESOR SURGE BLOX

Serie	Voltaje Nominal	Tipo de Caja	Tamaño	Opciones de Módulos
Serie B82	240/120 1 Ø	NEMA 4X Fibra de Vidrio	15.25" x 13.25" x 7.5" 39cm x 34cm x 19cm	A, K, S
Serie P24	208/120 3 Ø	NEMA 4 Acero	16" x 20" x 9" 41cm x 51cm x 23cm	A, K, S
Serie P37	480/277 3 Ø	NEMA 4 Acero	20" x 20" x 9" 51cm x 51cm x 23cm	V

ESPECIFICACIONES DE LOS MÓDULOS SURGE BLOX

Módulos	Fijación de Voltaje (V)	Voltaje de L-N	Energía	Capac. Corriente-8/20 µs
A	220	120	6,200 Joules MOV	400,000 A
K	210	120	540 Joules SAD	19,800 A
S	213	120	280 Joules SAD	9,600 A
V	510	277	16,808 Joules MOV	440,000 A

OPCIONES DE LOS MÓDULOS SURGE BLOX*

-G	Protección en Modo Común
-NA	Sin alarma a distancia

*También ofrecemos Contadores de Transientes opcionalmente. Para más información, por favor pregunte a su gerente de ventas de AC Data

CONFIGURACIONES MÁS USUALES PARA SURGE BLOX

Modelo	Voltaje Nominal	Energía	Capac. Corriente-8/20 µs
B82XXA-G	240/120 1Ø	6,200 Joules MOV	400K A
P24XXA-G	208/120 3Ø	6,200 Joules MOV	400K A
P24XSA	208/120 3Ø	280 Joules SAD, 6200 Joules MOV	400K A
P37XXV	480/277 3Ø	16,808 Joules MOV	440K A

Desde que recibimos un pedido hasta que se completa el envío, AC Data ofrece la más alta calidad y un servicio a clientes personalizado.



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TELS. (55) 53-78-20-77 (55) 53-78-14-98	C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Opciones para Surge Blox® Indicador Falla de CA

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- En diseños monofásico y trifásico
- Instalado en la fábrica para mayor comodidad
- Notifica cuando se interrumpe el suministro de CA
- Indica la pérdida de fase y la rotación o secuencia de fases

Los indicadores de falla de CA disponibles opcionalmente para supresores Surge Blox® detectan rápidamente cualquier interrupción en el suministro de corriente y le avisan inmediatamente.

Ofrecemos modelos para configuraciones de voltaje de una y tres fases, que se conectan fácilmente por medio del riel DIN que se incluye en los supresores Surge Blox®. Ambos modelos tienen contactos secos de Forma C para la alarma a distancia y, gracias a su luz piloto, es fácil identificar cualquier problema.

Los indicadores se instalan en la fábrica para simplificar la conexión del supresor en sitio, aunque requieren los interruptores y fusibles necesarios para conectarse a línea.



ACF1 – Módulo monofásico, indica si se interrumpe la corriente.



Nuestro equipo de ingenieros diseña los productos, y los respalda con su asistencia técnica.



ACF3 – Módulo trifásico, notifica de pérdidas de fase.

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Serie Surge Blox 200® Indicador de Falla de CA

ESPECIFICACIONES DEL MONOFÁSICO

Voltaje Nominal	220/240 V
Frecuencia de Operación	50/60 Hz
Contactos de Relé	Forma C
Luz Piloto	Encendida - funcionamiento normal, Apagada - Fallo de CA
Capacidad de Contacto	
10 A	240 VAC, 30 VDC
7.5 A	120 VAC, 30 VDC
Método de Conexión	Terminales, máx. cable #12 AWG
Método de Montaje	DIN de 35 mm
Temperatura de Almacenamiento	-20°C a +80°C
Temperatura de Operación	-20°C a +80°C
Certificados	Reconocido por UL, CSA, CE
Para usarse en los modelos Surge Blox®	Series B82, B92, BT2, y BR2

ESPECIFICACIONES DEL TRIFÁSICO

Voltaje Nominal	208/240 V
Frecuencia de Operación	50/60 Hz
Contactos de Relé	Forma C
Luz Piloto	Encendida - funcionamiento normal, Intermitente - Fallo de CA
Capacidad de Contacto	
10 A	240 VAC, 30 VDC
Método de Conexión	Terminales, máx. cable #12 AWG
Método de Montaje	DIN de 35 mm
Temperatura de Almacenamiento	-20°C a +80°C
Temperatura de Operación	-20°C a +80°C
Certificados	Listado en UL (Listed), CSA
Para usarse en los modelos Surge Blox®	Series B84, B94, BT4, y BR4

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Opciones para Surge Blox® Contador de eventos

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- Indicador de 8 Dígitos
- Pila de Litio de larga duración
- Registra sobrevoltajes de más de un joule
- Se resetea fácilmente presionando un botón
- No pierde la cuenta cuando falla la corriente
- Para supresores Serie Surge Blox y Surge Blox 200
- Sigue contando sobrevoltajes, incluso durante un apagón

Este cómodo contador registra los sobrevoltajes en los sitios que especifique, lo que le permite cubrir de forma precisa sus necesidades de supresión.



Desde que procesamos su pedido hasta que se le entrega el producto, AC Data le ofrece un excelente servicio a clientes, eficaz y personalizado.



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Serie TiQ Con Cables

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

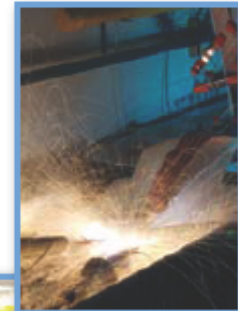
- MOVs con diseño térmico
- Filtración de ruido de hasta -40 dB
- Protege todos los modos L-N, L-L, L-T, y N-T
- Aprobado por la norma UL 1449, 2da Edición
- Seguimiento a distancia, contactos de Forma C
- Indicadores de LED verifican el nivel de protección
- Capacidad de corriente de 140,000 pKA por fase



La Serie TiQ se ofrece en una gran variedad de configuraciones de voltaje, para adaptarse a sus necesidades específicas.

La Serie TiQ con Cables de AC Data le protege de los sobrevoltajes de CA de forma confiable y asequible. Los supresores TiQ le ayudan a aprovechar al máximo su presupuesto, sin arriesgar su nivel de protección, y se ofrecen en una gran variedad de configuración de voltajes de servicio, para adaptarse a la mayoría de sistemas.

La serie TiQ con Cables utiliza varistores de óxido de metal (MOVs) para proteger sus delicados equipos electrónicos de los devastadores efectos de los sobrevoltajes. Cada fase posee un indicador de estatus de LED que verifica el nivel de protección. Cuando las luces están encendidas, el supresor funciona correctamente. Los indicadores sólo se apagan cuando el supresor o la CA fallan. Contactos secos de Forma C incluidos.



Todos los supresores de AC Data se someten a parámetros rigurosos al examinarlos en Ryan Labs®.



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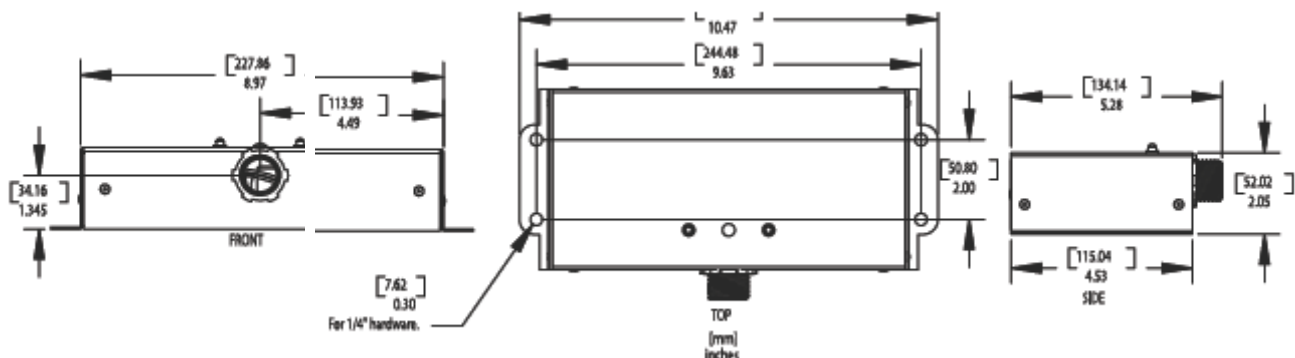
Serie TiQ Con Cable

CARACTERÍSTICAS DE SUPRESIÓN

	2H-90FX-G	4H-90FX-G	MH-90FX-G	7H-90FX-G	8H-90FX-G	BH-90FX-G	6H-90FX-G
Voltaje Nominal	240/140 VAC, 1 Ø, 3 Hilos + Tierra	208/120 VAC, 3 Ø, 4 Hilos + Tierra	240/140 VAC, Delta de Alta-Pierna + Tierra	480/277 VAC, 3 Ø, 4 Hilos + Tierra	480 VAC, Delta, 3 Hilos, + Tierra	240 VAC, Delta, 3 Hilos, + Tierra	380/220 VAC, 3 Ø, 4 Hilos, + Tierra
Capacidad de Corriente	140kA/fase	140kA/fase	140kA/fase	140kA/fase	140kA/fase	140kA/fase	140kA/fase
Energía Máxima	2160J/ fase	2160J/ fase	2160J/ fase	4584J/ fase	6120J/ fase	3960J/ fase	3960J/ fase
Rastreo Ondas Senoidales	Sí	Sí	Sí	Sí	Sí	Sí	Sí
Filtro EMI/RFI	-40dB	-40dB	-40dB	-40dB	-40dB	-40dB	-40dB
Max. Voltaje Operativo Continuo (MCOV)	140 Vrms	140 Vrms	140 Vrms	320 Vrms	550 Vrms	275 Vrms	275 Vrms
Capacidad de Supresión listada en UL (SVR)	400 L-N 400 L-T 400 N-T	400 L-N 400 L-T 400 N-T	400 L-N 400 L-T 400 N-T	900 L-N 900 L-T 900 N-T	1500 L-L 1500 L-T	800 L-L 800 L-T	800 L-L 800 L-T 800 N-T
Capacidad de Cortocircuito	22k AIC	22k AIC	22k AIC	22k AIC	22k AIC	22k AIC	22k AIC

ESPECIFICACIONES MECÁNICAS

Peso	4.0 lbs. (1.81 kg)
Tipo de Caja	Acero - NEMA 1
Temperatura de Operación	-20 C a +80 C
Método de Conexión	Cables en paralelo (cinco cables #10 AWG)
Conexión de Contacto Seco de Forma C	Cables (#22 AWG)



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Serie TiQ Modular 140

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- Hasta 200k AIC de capacidad
- Filtración de ruido de hasta -40 dB
- Protege todos los modos L-N, L-L, L-T y N-T
- Aprobado por la norma UL 1449 2da Edición
- Indicadores de LED verifican el nivel de protección
- Capacidad de corriente de 140,000 pA por fase

La Serie TiQ Modular 140 de AC Data le protege de los sobrevoltajes de CA con su práctico diseño de enchufe de alta capacidad. Su diseño y desempeño han revolucionado el mercado de supresores de sobrevoltajes, pues resisten numerosos golpes de más de 100kA sin quemarse, sufrir soldaduras frías, ni desgastar el sistema de contacto.

La Serie TiQ Modular 140 utiliza varistores de óxido de metal (MOVs) para proteger sus delicados equipos electrónicos de los devastadores efectos de los sobrevoltajes. Cada fase posee un indicador de estatus de LED que verifica el nivel de protección. Cuando las luces están encendidas, el supresor funciona correctamente. Los indicadores sólo se apagan cuando el supresor o la CA fallan.



La Serie TiQ no necesita herramientas para actualizaciones y reemplazo de módulos.



Todos los supresores de AC Data se someten a parámetros rigurosos al examinarlos en Ryan Labs®.

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Serie TiQ Modular 140

CARACTERÍSTICAS DE SUPRESIÓN

	TIQ-4M-140FM	TIQ-2M-140FM	TIQ-7M-140FX
Voltaje Nominal	208/120 VAC ó 220/127 VAC 3 Ø, 4 Hilos + Tierra	120/240 ó 127 VAC 1 Ø 3 Hilos + Tierra	480/277 VAC, 3 Ø 4 Hilos + Tierra
Capacidad de Corriente	140k A/fase (8 x 20 µs)	140k A/fase (8 x 20 µs)	140k A/fase (8 x 20 µs)
Energía Máxima	2000 J/Modo	2000 J/Modo	3820 J/Modo
Rastreo de Ondas Senoidales	Sí	Sí	Sí
Filtro EMI/RFI	-40 dB	-40 dB	-40 dB
Tiempo de Reacción	5-15 ns	5-15 ns	5-15 ns
Máx. Voltaje Operativo Continuo (MCOV)	180 Vrms	180 Vrms	320 Vrms
Capacidad de Supresión listada en UL (SVR)	500 L-N 500 N-T* 800 L-L	500 L-N 500 N-T* 800 L-L	700 L-N 700 N-T* 1500 L-L
Capacidad de Cortocircuito	200k AIC	200k AIC	10k AIC

*Añada -G tras el nombre del modelo para añadir la opción Neutro a Tierra.

ESPECIFICACIONES MECÁNICAS

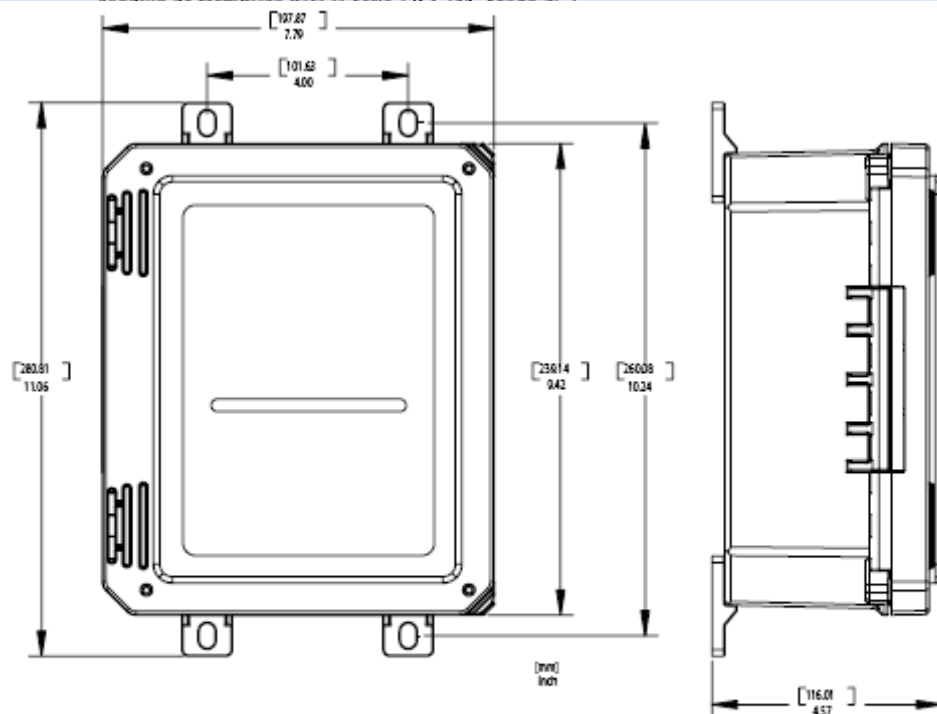
Tipo de Caja	NEMA 4X
Temperatura de Operación	-20 C a +80 C
Peso	4.0 lbs. (1.81 kg)

Módulos de Reemplazo

TR1xxA	Módulo de reemplazo para las Series TIQ-4M y -2M, Modo L-N
TR1xxA-G	Módulo de reemplazo para las Series TIQ-4M y -2M, Modo N-T
TR4xxA	Módulo de reemplazo para la Serie TIQ-7M, Modo L-N
TR4xxA-G	Módulo de reemplazo para la Serie TIQ-7M, Modo N-T



La Serie TiQ utiliza módulos de MOV para protegerle de las sobrevoltajes.



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ACData
SOLUTIONS

Serie ACXM Con Cables

Supresión de Sobrevoltajes de CA

CARACTERÍSTICAS

- Listado en la 3ra Edición de UL 1449
- Filtro EMI/RFI y seguimiento de ondas senoidales
- MOVs con Diseño Térmico
- Modo común de supresión
- Verificación visual y a distancia
- Corriente de descarga de $>100 \text{ kA}$, $8/20 \mu\text{s}^\dagger$ por modo

La Serie ACX100M de ACData ofrece soluciones de supresión de sobrevoltajes de CA a bajo costo. Es su mejor opción para aplicaciones residenciales y de mediana industria, gracias a su tamaño compacto y su placa frontal montada a ras, disponible opcionalmente.

La Serie ACX100M utiliza varistores de óxido de metal (MOVs), para proteger sus delicados equipos electrónicos de los devastadores efectos de los sobrevoltajes. Cada fase posee un indicador de estatus de LED que verifica el nivel de protección. Cuando las luces están encendidas, el supresor funciona correctamente. Los indicadores sólo se apagan cuando el supresor o la CA fallan. Contactos de Forma C y Filtros EMI/RFI incluidos.

La Serie ACX100M es ideal para aplicaciones residenciales y de mediana industria.



Todos los supresores de ACData se someten a parámetros rigurosos al examinarlos en Ryan Labs®.

Serie ACXM Con Cables

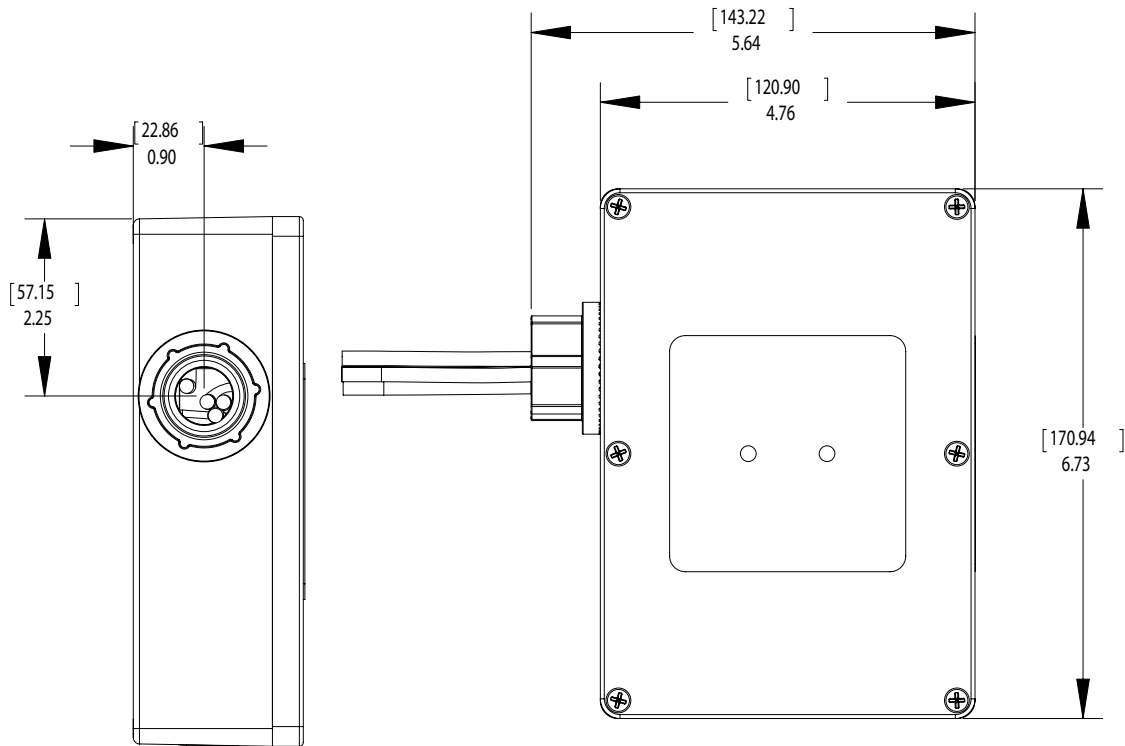
CARACTERÍSTICAS DE SUPRESIÓN

Modelo	AC4100M-F-07	AC2100M-F-07
Voltaje Nominal	3φ 220Y/127 4H+T	1φ 127/240 3H+T
Corriente de Descarga†	100 kA 8/20 μs	100 kA 8/20 μs
Voltaje de Fijación	<400 V pk @ 500 Amps 8/20 μs L-N	<400 V pk @ 500 Amps 8/20 μs L-N
	<400 V pk @ 500 Amps 8/20 μs N-T	<400 V pk @ 500 Amps 8/20 μs N-T
Filtro EMI/RFI	40 dB	40 dB

ESPECIFICACIONES MECÁNICAS

Peso	3.0 lbs (1.5 kg)	3.0 lbs (1.5 kg)
Conexión del Supresor	Cables (cuatro hilos de 10 AWG)	Cables (cinco hilos de 10 AWG)
Conexión de Forma C	Cables (22 AWG)	Cables (22 AWG)
Temperatura de Operación	-20° C a +80° C	-20° C a +80° C
Caja	Aluminio - Tipo NEMA 4	Aluminio - Tipo NEMA 4

† Corriente de Descarga basada en pruebas reales, realizadas en Ryan Labs.



ACData

SOLUTIONS

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EATON

Powerware

Powerware® 5110 UPS Uninterruptible Power System

Product Focus

500-1500 VA power protection for PC, telephone and networking equipment



Features

- Protect the integrity of your data and applications by shielding electronic equipment from power outages, surges, sags, brownouts, and overvoltage conditions.
- Save space with a compact design that can be deployed as a tower, under a computer monitor, or in a rack.
- Protect loads on eight outlets—four with surge suppression and battery backup, four with surge suppression only.
- Deliver consistent, clean output with automatic voltage regulation (AVR) that doesn't drain battery power.
- Extend UPS service life with user-replaceable batteries.
- Protect networked equipment from "back door" power surges coming through LAN or telephone lines.
- Stay informed of power problems and battery conditions with audible alarms and remote alarm notification via e-mail, pager, the Web, or SNMP.
- Deliver short-term mobile power with start-on-battery capability.
- USB port and cables are standard.
- Rest easy with a two-year limited warranty, five-year pro-rated warranty, and \$150,000 load protection guarantee (US and Canada). Optional multi-year Gold Plan service is available to provide repair and replacement coverage that goes beyond the provisions of the limited warranty.

Product Snapshot

Power Rating:	500–1500 VA
Voltage:	120V and 230V
Frequency:	50 Hz and 60 Hz, auto-sensing
Configuration:	Plug-and-play tower, under monitor, or 2U rackmount
Topology:	Line-interactive

As much as business depends on electric power, public utility power is anything but dependable. By law, public utilities do not have to supply computer-grade power. That's bad news in an age when sensitive computer systems form the core of virtually all business functions. Advances in processing capacity and miniaturization make these systems more susceptible than ever to power fluctuations—and make system crashes and data losses more costly than ever.

According to National Power Laboratories (NPL) and the Electric Power Research Institute, the typical power customer location can experience an average of 24 power disturbances each month, costing the US economy \$119 billion to \$188 billion every year.

You don't have to be a part of those statistics. Effective protection is here, at a very attractive price.

Introducing the Powerware 5110 UPS

The Powerware 5110 uninterruptible power system (UPS) provides a layer of defense between your equipment and raw utility power. This line-interactive UPS constantly safeguards your systems from power outages, surges, sags, brownouts, and overvoltage conditions—and provides varying degrees of protection from other power problems as well. If utility power is interrupted, even briefly, the Powerware 5110 UPS transfers to battery power.

Affordable protection for small to medium organizations

Incorporating more than 40 years of UPS design experience, the Powerware 5110 UPS provides cost-effective power management, backup power, and power quality for office

workstations, PBX or key telephone systems, servers, small network nodes, point-of-sale systems, and computer peripheral devices. This UPS is ideal for any small- to mid-sized business or institutional setting where reliable power must be provided at an affordable price.

Automatic Voltage Regulation (AVR)—clean power without draining the battery

The Powerware 5110 UPS uses AVR to smooth out wide fluctuations in input voltage. If input voltage varies as much as 25 percent over or 23 percent under nominal voltage—which can easily happen when running on generator power or in severe environments—the Powerware 5110 UPS accepts this inconsistent voltage and delivers clean, consistent output for protected equipment.

AVR enables you to work through even the most frequent brownouts and power sags.

Unlike typical line-interactive systems, the Powerware 5110 UPS does not switch back and forth to battery power to accomplish this voltage regulation—which would shorten battery life and increase battery replacement costs. As a result, battery power is conserved for when you really need it.

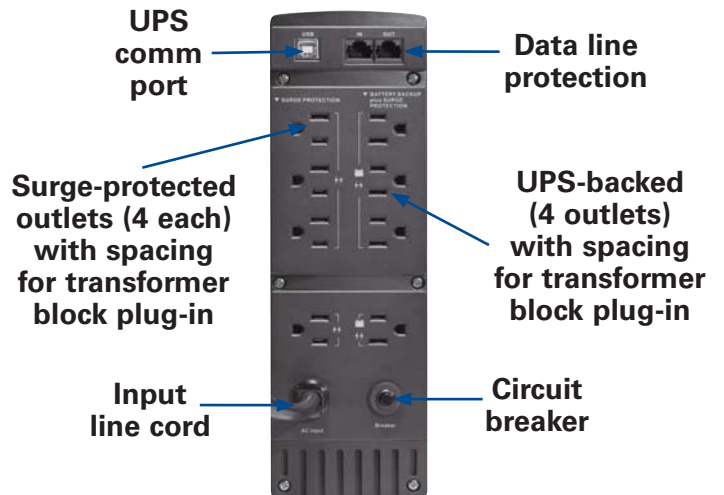
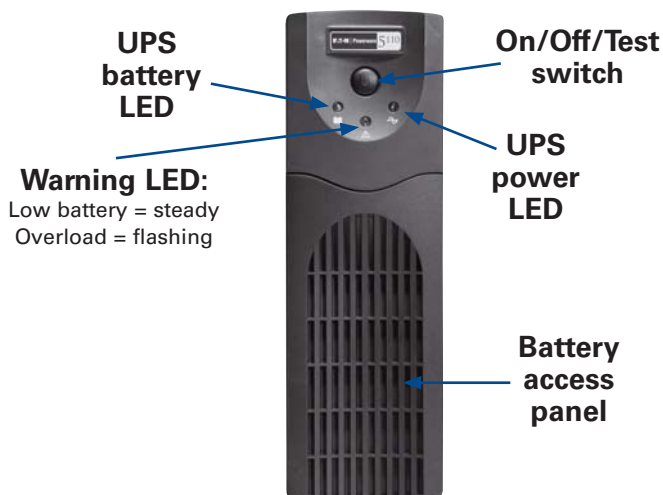
Eight outlets in a low-profile tower or rackmount package

The Powerware 5110 UPS occupies a small footprint—about the size of a dictionary for low-power units (500–700 VA), or a sleek tower for higher-rated models (1000–1500 VA). This tower package fits easily under a monitor or can be rackmounted in only 2U of rack space.

The cost-effective design features eight outlets, four with surge protection and battery backup and four with surge protection only. You can plug less critical equipment, such as printers or monitors, into surge-protection-only outlets that do not drain battery power.

Protection for data lines

Incoming power lines aren't the only source of damaging surges. Power also travels across network links, such as LANs and telephone lines. The Powerware 5110 UPS uses an integral network transient protector to safeguard network-connected equipment—such as fax machines, modems, or electronic telephones—from "back door" power surges coming through network or phone wiring.



The Powerware 5110 UPS delivers confidence—confidence that your vital business equipment is protected and confidence that Eaton will be there with you for the long term.

Short-term power for mobile applications

The Powerware 5110 UPS supports start-on-battery capability, which means you can unplug the UPS from utility power, then restart and run it from battery power elsewhere. This capability offers tremendous flexibility for short-term powering needs, such as in mobile offices or service vans.

User-replaceable batteries for extended service life

Many UPS products in this range are useful only up to the service life of their batteries. When the battery fails, the unit is worthless. Not so with the Powerware 5110 UPS. You can replace the batteries yourself—a simple process that can be performed by easy access through the front panel. When the audible alarm indicates that batteries need replacing, you can safely and easily install supplied batteries and remove

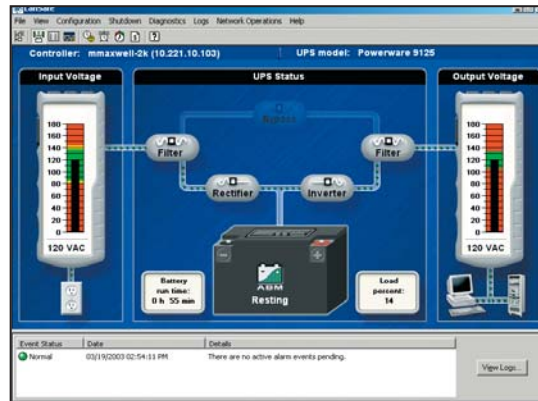
the old batteries for proper disposal and recycling. You can also choose to return the entire unit for repair or battery replacement under our warranty and service programs.

Easy-to-understand LEDs and audible alarms

You never have to guess about the status and condition of your Powerware 5110 UPS. Simple LED indicators and audible alarms warn of power problems and low battery conditions. The Battery LED illuminates when the UPS is operating on battery power. The Warning LED turns on when the battery is low and flashes under overload conditions.

Remote UPS monitoring from anywhere

You don't have to be within sight of the UPS to stay informed. You can connect the Powerware 5110 UPS to a network using the built-in USB



port, and monitor its working status. The UPS comes with Powerware LanSafe™ software, free of charge. This UPS management software gives you control and visibility over all your UPSs, using an intuitive, graphical interface.

Warranty coverage with load protection guarantee

Rest easy with industry-leading protection from Eaton. The Powerware 5110 UPS is backed by a two-year limited warranty, a ten-year pro-rated warranty,

and a \$150,000 load protection guarantee. We're that confident of the performance and reliability of the Powerware 5110 UPS.

To find out more about how the Powerware 5110 UPS can protect your critical equipment, applications, and data:

www.powerware.com
800-356-5794

BATTERY RUN TIMES (IN MINUTES)

VA	50W	100W	150W	200W	250W	350W	400W	500W	600W	700W	800W	900W
500	43	17	11	6	4							
700	53	30	14	9	7	4	3					
1000	X	64	X	28	X	X	12	8	5			
1500	X	74	X	35	X	X	14	10	7	6	5	4

This guide provides typical application information. Battery run times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Powerware 5110 Technical Specifications

MODEL NUMBER	PW 5110 500	PW 5110 700	PW 5110 1000	PW 5110 1500
Part numbers	103004256-5501	103004257-5501	103004258-5501	103004259-5501

MODEL NUMBER	PW 5110 500i	PW 5110 700i	PW 5110 1000i	PW 5110 1500i
Part numbers	103004261-5501	103004262-5501	103004263-5501	103004264-5501

Capacity	500VA / 300W	700VA / 420W	1000VA/ 600W	1440VA/ 900W
Dimensions (HxWxD)	10.2x10.6x3.4 in	10.2x10.6x3.4 in	15.1x10.6x3.4 in	15.1x10.6x3.4 in
Unit weight	12.1lb/13.4lb	15.2lb/16.5lb	28.0lb/29.1lb	29.1lb/30.2lb
Input connections	6' Line cord with 90 deg.5-15P / IEC C14 inlet, 1.8 meter line patch cord IEC to IEC			
Output connections	8 Outlets (4 battery backup & surge protection; 4 surge protection only) 5-15R IEC C 13			

OPERATION

Input voltage range	0-160Vac/0-300Vac
Output voltage range	Nominal -23% to +25%
On battery output voltage	Nominal -12% to +10%
Frequency	50/60 Hz auto sensing
Lighting / surge protection	120v models 320 joules; 230v models 476 joules
Safety	UL 1778, designed to meet UL497A, CAN/CSAOC22.2 No107.1/IEC 62040-1-1: CE low voltage directive
EMI	FCC Class B/IEC 62040-2, EN55022: Class B: CE EMC directive
Transfer time to battery/AC	2-6 msec. typical
Battery type	Sealed, maintenance free lead-acid battery
Typical backup time	3 minutes at full rated load
Internet / phone / fax protection	RJ11/RJ45
Short circuit protection	Circuit breaker
Communication port	USB

ENVIRONMENTAL

Operation temperature	0°C ~ 40°C
Operation relative humidity	0 to 95% non-condensing
Storage temperature	-15°C ~ 50°C

SOFTWARE

Powerware LanSafe Software is included free of charge.

SERVICE PLANS

POWERWARE PRODUCT	LENGTH OF SERVICE	GOLD PLAN PART NUMBER
5110 500-1500VA	3 YR	3XXGX5100XALLCX
5110 500-1500VA	5 YR	5XXGX5100XALLCX

REPLACEMENT BATTERIES

MODEL NUMBER	PART NUMBER	DESCRIPTION
PW5110 500VA	106711159-001	BATT. KIT 500VA PW5110
PW5110 700VA	106711160-001	BATT. KIT 700VA PW5110
PW 5110 1000VA	106711161-001	BATT. KIT 1000VA PW5110
PW5110 1500VA	106711162-001	BATT. KIT 1500VA PW5110

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México: 52.55.5488.5252

EUROPE/MIDDLE EAST/AFRICA
Denmark: 45.3686.7910
Finland: 358.94.52.661
France: 33.1.6012.7400
Germany: 49.0.7841.604.0
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

ASIA PACIFIC
Australia/NZ: 61.2.9693.9366
China: 86.21.6361.5599
HK/Korea/Taiwan: 852.2745.6682
India: 91.11.2649.9414 to 18
Singapore/SEA: 65.6825.1668

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Powerware

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Powerware

Powerware® 5115 IU Rackmount UPS

Product Focus

500-1500 VA



Features

- 1U rack height conserves valuable rack space
- Unique chassis design adapts to rackmount, wall mount, side cabinet (zero U), and bench top applications
- ABM® Technology significantly extends battery service life
- True sine wave output delivers smooth, continuous power
- Buck and Boost Automatic Voltage Regulation corrects incoming voltage fluctuations
- Load segments enable scheduled shutdowns and extend backup time for critical devices
- Hot-swappable batteries minimize downtime, simplify service and extend service life of UPS
- Standard USB and RS232 serial ports extend communication capacity
- X-Slot™ card communication options extend power management capability
- Power management software (included) ensures data integrity
- Provides investment protection with a two-year limited warranty, 10-year pro-rated warranty, \$150,000 load protection guarantee (U.S. and Canada)

Product Snapshot

Power Rating:	500-1500 VA
Input/Output Voltage:	120 & 230
Volts AC	
Frequency:	50/60 Hz (auto-sensing)
Configurations:	Multi-mount 19 inch rack, 23 inch rack, zero U, & wall mount

The Powerware 5115 Rackmount UPS is the ideal high-density power protection solution ideal for servers, storage systems, network equipment and other critical devices. The slim design and wide range of installation possibilities make the Powerware 5115 Rackmount the most versatile UPS available. Occupying only 1U of rack height, the 5115 conserves valuable rack space for other critical devices while delivering powerful performance.

Unlike other UPSs that use simulated sine wave, the Powerware 5115 Rackmount UPS provides pure sine wave output during battery operation. As a result, the connected devices continue to receive high quality electrical input and operate smoothly even during power outages. In addition, this unique UPS corrects incoming

voltage fluctuations to further protect the connected equipment.

The Powerware 5115 Rackmount UPS incorporates ABM Technology, which doubles battery service life, optimizes recharge time for quick recovery after power outages, and provides advanced warning at the end of useful battery life. When alarm notification indicates that the end of battery life is near, the batteries can be easily hot-swapped without powering down the connected load. User-friendly design allows batteries to be exchanged through the front of the unit.

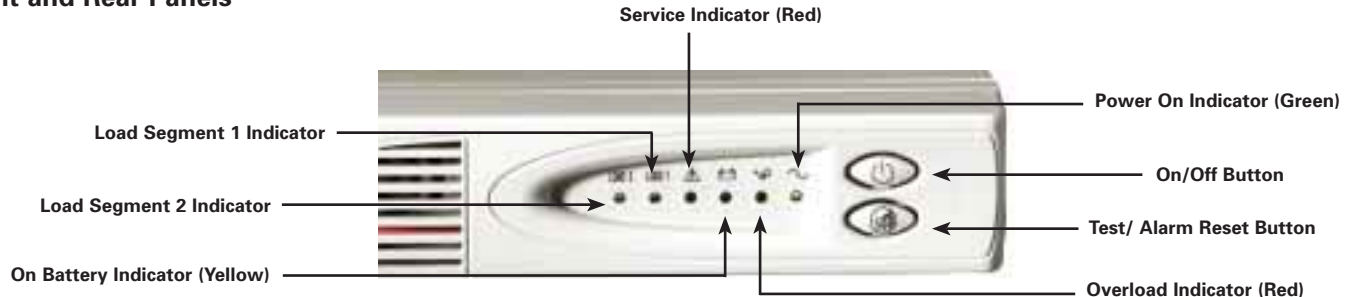
Simple plug-and-play operation makes installing the Powerware 5115 RM UPS fast and easy. The sophisticated communications are flexible, allowing for local, network or remote

monitoring and management. This UPS arrives with the latest version of the Powerware Software Suite with complete cabling, which provides power monitoring and unattended shutdown software. The Powerware 5115 Rackmount UPS additionally comes standard with a USB port, RS232 serial port and X-Slot communication bay to provide further connectivity. In addition, the Network Transient Protector isolates equipment from "back door" power surges traveling through network and phone lines.

With the Powerware 5115 Rackmount UPS, Powerware delivers a best-in-class solution for critical network loads and the growing need for reliable, ultra-compact power protection. All models are manufactured to ISO 9001 standards and meet or exceed worldwide specifications for safety, performance and excellence. Safeguarding against power problems has never been easier.

Powerware 5115 Rackmount Special Features

Front and Rear Panels



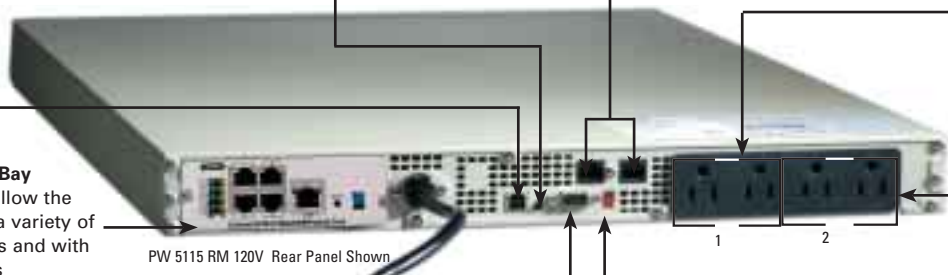
USB Communications Port communicates with a USB-compliant computer when used with included LanSafe® power management software

Site Wire Fault Indicator offers instant notification of site wiring problems

Network Transient Protector isolates your modem, fax machine, telephone and other communications equipment

4 UPS Protected Outlets offer long-lasting battery power during power failures and complete Series 5 power protection

X-Slot Communications Bay (Optional) X-Slot Cards allow the UPS to communicate in a variety of networking environments and with different types of devices



6-ft. Power Cord with 5-15 Plug

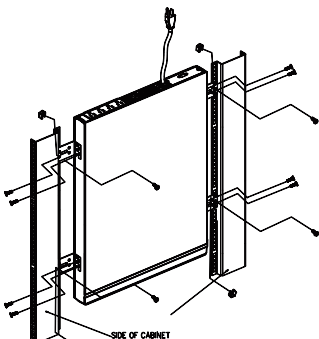
RS232 Communications Port provides unattended shutdown and remote UPS monitoring capability when used with included power management software and communication cable

Input and Output Voltage Configuration DIP Switches configure the output voltage and input voltage range

Load Segments 1 & 2 are sets of receptacles that can be controlled by power management software, providing an orderly shutdown and startup of your equipment

Mounting Configurations

The Powerware 5115 RM UPS packs the same technology of the tower model into a compact design for various applications. By limiting the rack height (1U) of the UPS, the Powerware 5115 RM saves room for other critical equipment such as servers and disk arrays. Adaptable to rackmount, wall mount, side-mount and bench-top applications, the Powerware 5115 RM is the most versatile UPS available. And all mounting accessories are included with every UPS.



Side mount (zero-U) applications

19 inch and 23 inch rackmount applications

Wall-mount applications

Battery Features and Runtimes

Hot-Swappable Batteries

The batteries are easily accessible via the tool-free front access panel. The Powerware 5115 RM UPS allows users to hot-swap batteries without powering down the connected load or removing the unit from the rack. This makes it possible to extend the life of the UPS without returning the unit for service and ensures connected equipment always stays up and running.



Powerware 5115 RM shown with front cover removed and battery sliding out.

BATTERY RUNTIMES (IN MINUTES)

Load (VA/Watts)	PW5115 500 RM(i)	PW5115 750 RM(i)	PW5115 1000 RM(i)	PW5115 1500 RM(i)
200/130	19	37	41	76
300/190	11	25	29	58
500/320	5	13	15	28
600/400		9	12	21
750/520		6	8	16
900/600			6	11
1000/670			5	9
1200/800				8
1440/1000				5

Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Software and Connectivity Options

The industry's most comprehensive software bundle, the Powerware Software Suite, is included with every Powerware 5115 RM UPS.

- Provides advanced power management
- Ensures data integrity
- Enables graceful, unattended shutdown
- Remote monitoring and manageability through SNMP or Web-based networks
- Free updates on www.powerware.com
- Optional X-Slot Communication Cards

-ConnectUPSTM Web/SNMP Card adds control and monitoring through SNMP/Web-based networks

-Relay Card adds integration to building management systems

-USB Card allows UPS to communicate with USB compliant computers

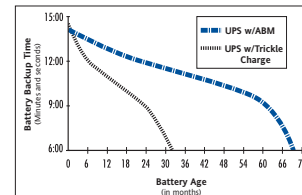


ConnectUPS-X Web/SNMP/xHub Card



Powerware Software Suite

ABM Technology



Data based upon tests performed by an independent battery manufacturer.

ABM Technology significantly extends battery service life. The lead-acid batteries typically used in a UPS are considered viable as long as they can maintain backup times of at least half that of new batteries. The illustration above shows that batteries that are constantly trickle charged (as are virtually all other UPSs on the market today) reach the end of their useful life in less than half the time of batteries charged using ABM. This unique process uses a proprietary three-stage charging technique that not only doubles battery service life, but also optimizes recharge time and provides up to a 60-day advanced notification of the end of useful battery life.

Order Number	Description
103002974-5501	ConnectUPS-X Web/SNMP/xHub Card
05146508-5501	X-Slot USB Card
1018460	X-Slot Relay Card

POWERWARE 5115 RACKMOUNT 1U MODEL SELECTION GUIDE

Model Number ¹	Power Rating (VA / Watt)	Input Connection	Output Receptacles ³	Dimensions H x W x D (in / mm) ⁴	Unit Weight (lb/kg)
120 Vac Models²					
PW5115 RM 500	500 / 320	5-15P	(4) 5-15R	1.73 x 17.3 x 22.8/445 x 440 x 578	35.2/15.9
PW5115 RM 750	750 / 520	5-15P	(4) 5-15R	1.73 x 17.3 x 22.8/445 x 440 x 578	41.4/18.8
PW5115 RM 1000	1000 / 670	5-15P	(4) 5-15R	1.73 x 17.3 x 22.8/445 x 440 x 578	41.4/18.8
PW5115 RM 1500	1440 / 1000	5-15P	(4) 5-15R	1.73 x 17.3 x 22.8/445 x 440 x 578	48.6/22.0
230 Vac Models²					
PW5115 RM 500i	500 / 320	IEC-320-10A	(4) IEC-320-10A (C13)	1.73 x 17.3 x 22.8/445 x 440 x 578	35.2/15.9
PW5115 RM 750i	750 / 520	IEC-320-10A	(4) IEC-320-10A (C13)	1.73 x 17.3 x 22.8/445 x 440 x 578	41.4/18.8
PW5115 RM 1000i	1000 / 670	IEC-320-10A	(4) IEC-320-10A (C13)	1.73 x 17.3 x 22.8/445 x 440 x 578	41.4/18.8
PW5115 RM 1500i	1500 / 1000	IEC-320-10A	(4) IEC-320-10A (C13)	1.73 x 17.3 x 22.8/445 x 440 x 578	48.6/22.0

1. 50/60 automatic frequency selection. 2. 120V models are 110V, 120V, user-selectable. 230V models are 220V, 230V, 240V user-selectable. 3. divided into (2) Load Segments (receptacle groups). 4. Unit fits into standard 19 & 23 inch racks or can be wall-mounted and zero U rack-mounted. Mounting hardware supplied.

Technical Specifications¹

Electrical Input

Nominal Voltage	120V models are 110V or 120V user-selectable; 230V models are 220V, 230V or 240V user-selectable
Input voltage ranges	+/- 20% for nominal voltage at full load for user-selectable voltages
Operating Frequency	50/60Hz, Auto-sensing
Frequency Range	46-65Hz

Electrical Output

On Utility Voltage Regulation	-10% to +6% of nominal
On Battery voltage Regulation	±5% RMS
Voltage Wave Shape (on battery)	Sine Wave
Output protection	Electronic current limit

Communications

User Interface	LED status display with AC power on, load Group, Overload, On Battery and General Alarm indicators, Site Wiring Fault Indicator on rear panel for low volt models.
Audible Alarms	For various UPS alarm conditions, including: On Battery, Low Battery, Overload, UPS fault
Network Transient Protector	UL 497 A, In/out jacks RJ45 (high voltage models network protection) & RJ11 (low voltage models modem protection)
X-Slot Optional	ConnectUPS-X Web/SNMP/xHub Card;
Communication Cards	USB card ; X-Slot Relay card
Standard Communications	1 x RS-232 Serial Port & 1 x USB Port
Cable	6-foot communications cable included
Power Management Software	Powerware Software Suite CD-ROM (bundled with UPS)

1. Specifications are subject to change without notice due to continuing product improvement programs.

Battery

Battery Type	Sealed, lead-acid; maintenance free
Battery Run time	See Battery Run Time chart
Battery Replacement	Hot-swappable internal batteries
Recharge Time	<3 hours to 90% usable capacity
Start-On-Battery	Allows start of UPS without utility input

General

Diagnostics	Self-test @ power up
Transfer Time	2-4 ms typical
Dimensions and weights	See Model Selection Guide
Overload (normal operation)	110% overload, shutdown after 3 minutes. 150% overload, shut down 10 cycles

Environmental

Safety Markings	120V Models UL; cUL; 230V Models C-Tick; CE, TUV, cUL, UL
Safety Conformance	120V Models: UL 1778; UL497A; cUL (CAN/CSA C22.2, No. 107.1) 230V Models: UL1778, UL 497A (data line only); cUL (CAN/CSA C22.2, No. 107.1); EN 50091-1-1 and IEC 60950
EMC Compliance	120V Models: FCC Part 15 subpart J Class A, ICES-003; 230V Models: EN 50091-2. FCC Part 15 subpart J Class A , ICES-003
Operating Temperature	0 to 40° C (32 to 104° F)
Storage Temperature	-15 to 50° C (5 to 122° F)
Relative Humidity	5% to 95% non-condensing
Surge Suppression	ANSI C62.41 Category A (formerly IEEE 587)
Audible Noise	Less than 40 dBA typical
Altitude	Up to 3000M (10,000 ft) without derating

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France: 33.1.6012.7400
Germany: 49.7841.666.0
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

ASIA PACIFIC
Australia/NZ: 61.2.9693.9366
China: 86.21.6361.5599
HK/Korea/Taiwan: 852.2745.6682
India: 91.11.2649.9414 to 18
Singapore/SEA: 65.6829.8888

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April 2006



Powerware

Powerware® 5115 Uninterruptible Power System

Product Focus

500-1400 VA



Product Snapshot

Tower Rating: 500-1400 VA

Input/Output Voltage: 110/120 Vac;
220/230/240 Vac

Frequency: 50/60 Hz
(auto-sensing)

Configuration: Tower

Features

- Extends battery service life and provides advanced warning of the end of useful battery life with ABM® Technology
- Delivers smooth, continuous power with pure sine wave output
- Regulates power fluctuations with Buck and Boost voltage regulation
- Protects equipment connected by network or phone wiring from “back door” power surges with a Network Transient Protector
- Minimizes downtime with hot-swappable batteries
- Communicates with LanSafe® power management software via serial and USB ports
- Ensures data integrity with the Software Suite CD
- Provides investment protection with a two-year limited warranty, 10-year pro-rated warranty, \$150,000 load protection guarantee (U.S. and Canada)

The cost-effective Powerware 5115 uninterruptible power system (UPS) is designed to protect NT workstations, small servers, hubs, routers, PCs, and other electronic equipment from power disturbances. Ideally suited for small to medium-sized businesses, the Powerware 5115 UPS features both USB and serial ports to facilitate LanSafe software communication.

To prolong battery service life, the Powerware 5115 incorporates ABM Technology, which increases battery service life, optimizes recharge time for quick recovery after power outages, and provides advanced warning of the end of useful battery life. In addition, incoming voltage fluctuations are corrected so they do not affect the performance of connected equipment.

Unlike other competitive UPSs in its class, which use a simulated sine wave, the Powerware 5115 provides pure sine wave output during battery operation. As a result, the connected load continues to receive a quality electrical waveform and operates smoothly even during power outages.

To preserve data integrity, the Powerware 5115 is bundled with the Powerware Software Suite, which contains exclusive power management software featuring extensive power monitoring and control capabilities. Backed by superior performance, the Powerware 5115 UPS keeps your equipment up and running without interruption.



Contract Holder

Powerware 5115 Features

USB and Serial Communication Ports

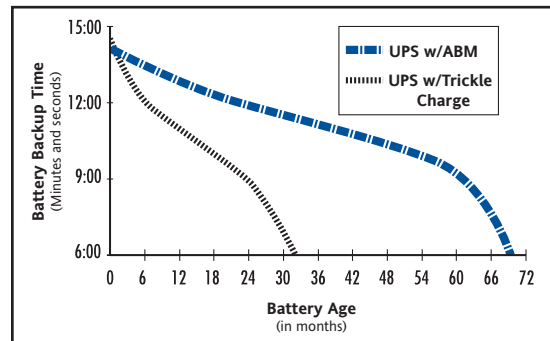
With both USB and serial ports, you can determine the most effective means of LanSafe software communication and eliminate the need for another UPS or special cabling.

Network Transient Protector

The Network Transient Protector isolates your modem, fax machine, or other electronic equipment from “back door” power surges. Located on the rear panel is one in/out port for a telephone/modem line (120V models only) or an RJ45 for a 10Base-T network cable.

ABM Technology Significantly Extends Battery Service Life

The lead-acid batteries typically used in a UPS are considered viable as long as they can maintain backup times of at least half that of new batteries. The illustration to the right shows that batteries that are constantly trickle charged (as are virtually all other UPS batteries on the market today) reach the end of their useful life in less than half the time of batteries charged using ABM. ABM uses a three-stage charging technique that increases battery service life, optimizes battery recharge time, and provides advanced notification of the end of useful battery life.



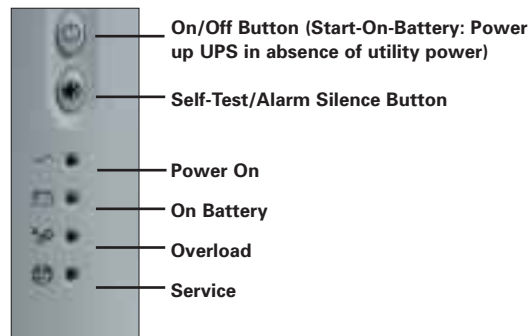
Data based on tests performed by an independent battery manufacturer.

Informative and User-Friendly Interface

The front panel of the Powerware 5115 indicates the UPS status and identifies potential power problems.

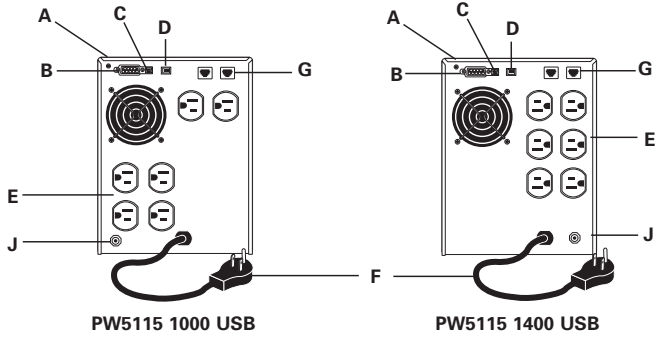
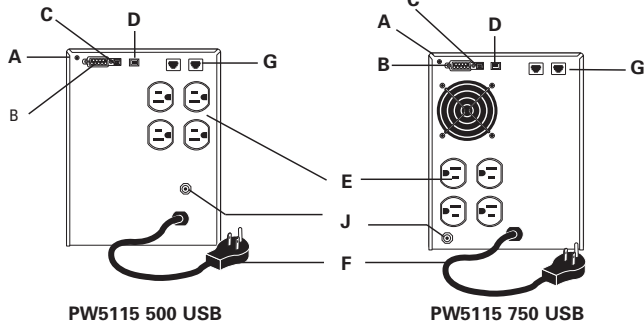
Hot-Swappable Batteries

Hot-swap and service the batteries without powering down the connected load. This makes it possible to extend the service life of your UPS without returning the unit for service.

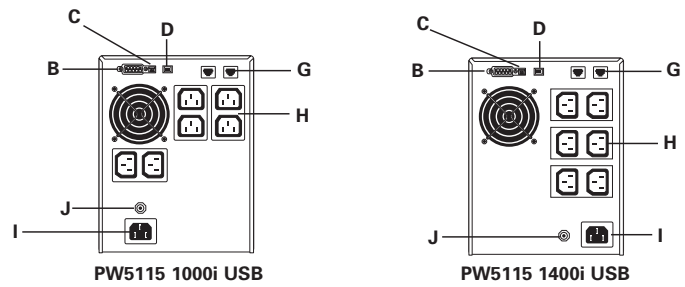
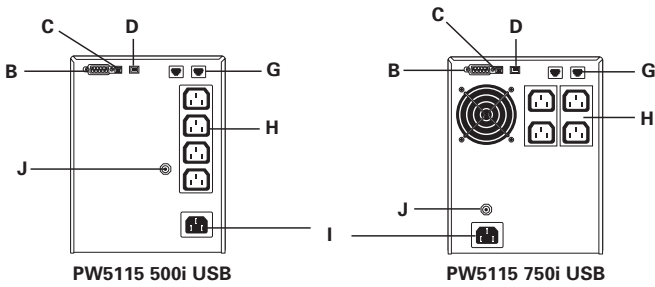


Powerware 5115 Rear Panels

120V Models



230V Models



- A. Site Wiring Fault Indicator
- B. Serial Communications Port
- C. DIP Switches (voltage selection)
- D. USB Communication Port
- E. 5-15 Receptacles
- F. 5-15 Plug (90° angle)
- G. Network Transient Protector
- H. 10A, IEC-320 Receptacles
- I. 10A, IEC-320 Input Connector
- J. Input Overcurrent Protector

BATTERY RUNTIMES (IN MINUTES)

Load	PW5115 500(i)	PW5115 750(i)	PW5115 1000(i)	PW5115 1400(i)
200 VA/128W	17	38	41	58
300 VA/192W	11	27	28	41
500 VA/320W	5	14	15	28
600 VA/402W		9	10	19
750 VA/503W		6	8	14
900 VA/603W			6	10
1000 VA/670W			5	8
1200 VA/804W				6
1400 VA/938W				5

This guide provides typical application information. Battery runtimes are approximate and may vary with equipment, configuration, disk access, battery age, temperature, etc.

POWERWARE 5115 MODEL SELECTION GUIDE

Model Number	Power Out (VA/Watts)	Input Connection	Output Connections	Dimensions (HxWxD, in./mm)	Unit Weight (lb/kg)
120 Vac¹; 50/60 Hz auto-sensing					
PW5115 500 USB	500/320	5-15P	(4) 5-15R	7.6 x 5.9 x 10.6/193 x 150 x 270	17.2/7.8
PW5115 750 USB	750/500	5-15P	(4) 5-15R	7.6 x 5.9 x 13.2/193 x 150 x 335	27.3/12.4
PW5115 1000 USB	1000/670	5-15P	(6) 5-15R	7.6 x 5.9 x 13.2/193 x 150 x 335	27.8/12.6
PW5115 1400 USB	1400/950	5-15P	(6) 5-15R	7.6 x 5.9 x 15.4/193 x 150 x 390	37.0/16.8
230 Vac¹; 50/60 Hz auto-sensing					
PW5115 500i USB	500/320	IEC-320, 10A	(4) IEC-320	7.6 x 5.9 x 10.6/193 x 150 x 270	17.2/7.8
PW5115 750i USB	750/500	IEC-320, 10A	(4) IEC-320	7.6 x 5.9 x 13.2/193 x 150 x 335	27.3/12.4
PW5115 1000i USB	1000/670	IEC-320, 10A	(6) IEC-320	7.6 x 5.9 x 13.2/193 x 150 x 335	27.8/12.6
PW5115 1400i USB	1400/950	IEC-320, 10A	(6) IEC-320	7.6 x 5.9 x 15.4/193 x 150 x 390	37.0/16.8

1. Also user-selectable for 110V via rear panel DIP switches. 2. 230V default; also user-selectable for 220 and 240V via rear panel DIP switches.

Technical Specifications¹

Electrical Input

Voltage	120 and 230 Vac nominal; see Model Selection Guide for user-selectable voltages
Online Voltage Range	±20% of nominal voltage at full load
Nominal Input	45-65 Hz, 50/60 Hz, auto-sensing
Frequency	
Input Protection	120V models: Resettable circuit breaker 230V models: AC source overcurrent protection device (required)
Connection	See Rear Panels above

Electrical Output

Power Levels	500-1400 VA
Online Regulation	-10%, +6% of nominal voltage
On Battery Voltage Regulation	±5% of nominal voltage; -10% after low battery warning
On Battery Frequency	±0.1 Hz of nominal frequency
Regulation	
Voltage Wave Shape	Sine wave (during normal and battery operation)
Interconnecting Cords (230V models)	2 ea. IEC-320, 10A

Indicators and Controls

Front Panel LEDs	Power on, on battery, overload, and battery fault
Front Panel Buttons	On/Off and alarm silence/self-test
Communications Port	DB9 female or USB (UPS ships with USB and serial communications cables)
Power Factor	500 VA: 0.64; 750/1000 VA: 0.67; 1400 VA: 0.

1. Due to continuing improvement, program specifications are subject to change without notice. Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Battery

Battery Type	Sealed, maintenance-free lead-acid; starved electrolyte
Battery Description	500 VA: (1) 12V, 9 Ah 750 VA: (2) 12V, 7.2 Ah 1000 VA: (2) 12V, 9 Ah 1400 VA: (3) 12V, 9 Ah
Battery Recharge	<3 hours to 90% capacity
Battery Runtime	5 minutes minimum; See Battery Runtimes table
Start-On-Battery	Startup with UPS batteries in absence of utility power

General

Topology	Line-interactive
Dimensions and Weight	See Model Selection Guide
Network Transient	In and out RJ11 jack for telephone/modem protection
Protector	(120V models only) or RJ45 for 10Base-T network cable; UL497A tested

Environmental and Safety

Safety Markings	UL, cUL, and CSA; 230V models also CE and TUV
Safety Conformance	UL 1778, CAN/CSA C22.2, No. 107.1; 230V models also EN 50091-1-1 and IEC 60950
EMC Markings	FCC Class B; 230V models also CE (EN50091-2) and C-Tick
Surge Suppression	ANSI C62.41 Category A (formerly IEEE 587)
Immunity	IEC 801-2, -3, -4
Operating Temp	0 to 40°C (32 to 104°F); UL tested 25° (77° F)
Transit/Storage Temp	-15 to 55°C (5 to 131°F)
Audible Noise	<45 dBA, typical
Relative Humidity	5-95% non-condensing

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Germany: 49.7841.666.0
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

ASIA PACIFIC
Australia/NZ: 61.2.9693.9366
China: 86.21.6361.5599
HK/Korea/Taiwan: 852.2745.6682
India: 91.11.2649.9414 to 18
Singapore/SEA: 65.6829.8888

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Powerware

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EATON

Powerware

Powerware® 5125 Family Uninterruptible Power System

Product Focus



Powerware 5125 tower model 1000 to 2200 VA



Powerware 5125 two-in-one form factor 1000 to 3000 VA

Features

- Protects connected equipment from common power anomalies including surges, sags, brownouts, and over-voltage
- Provides more real wattage in less space with a .9 power factor—protecting more equipment and leaving more room for expansion.
- Available in two-in-one form factor (1000-3000 VA) and rack mount (5000/6000 VA) products
- Offers the choice of rackmount or tower installation—space-saving 2U packaging for 1000-3000 VA, 3U for 5000/6000 VA models—including batteries
- Increases battery life through microprocessor-controlled Advanced Battery Management (ABM)® technology
- Enables prioritized shutdown of non-essential equipment during outages to maximize backup time for critical devices
- Increases uptime with hot-swappable batteries and electronics, without interrupting power to connected systems (2400–6000 VA models)
- Ensures data and system integrity with a complete suite of power management software and connectivity options
- Provides a two-year limited warranty with next business day replacement, 10-year pro-rated warranty, and \$150,000 load protection guarantee; optional Gold Plans available (US and Canada*)



Powerware 5125 rackmount 5000 to 6000 VA

Introducing the expanded Powerware 5125 family of UPSs

The Powerware® 5125 family of uninterruptible power systems (UPSs) resolves the five primary problems with incoming utility power—outages, sags, surges, brownouts, and over-voltage conditions—and supplies clean, conditioned power to all connected equipment. It also offers varying degrees of protection from other problems, such as line noise, frequency variation, harmonics, and switching transients.

years of UPS design experience, Powerware 5125 UPSs deliver power protection for PC/workstation clusters, enterprise networking systems, server farms, and data center systems—anywhere continuous, clean power must be provided in a compact package at an affordable price.

This proven family of UPSs—which already included models for 1000-3000 VA—has been expanded with new 5000 VA and 6000 VA models that offer space-saving designs and innovative features at competitive prices to deliver greater return from your IT investment.

Incorporating more than 40

Product Snapshot

- Power Rating:** 1000–2200 VA tower models
1000–3000 VA - two-in-one models (rackmount and tower)
5000–6000 VA rackmount models
- Voltage:** 200, 208, 220, 230, 240 Vac
- Frequency:** 50/60 Hz (auto-sensing)
- Configuration:** tower, two-in-one form factor or rackmount



Power more servers in less space

Powerware 5125 models in the 1000-3000 VA range only occupy 2U. For maximum deployment flexibility, the standard chassis (available in beach gray or black) can be deployed as a tower unit or in a rack.

Up to 6000 VA of UPS power is packed into three units (3U) of rack space—a mere 5.25" high, including batteries. This space-saving 3U design is one of the most power-dense 5000-6000 VA UPSs you can buy. That means more rack space is available for other critical equipment, such as servers, disk arrays, and extra batteries.

In addition to occupying less rack space than competing alternatives, Powerware 5125 UPSs deliver significantly more wattage—more power to protected equipment for the same utility dollar. The Powerware 5125 5000 VA and 6000 VA models power 30 percent more servers in 40 percent less space compared to the leading competitive offering.

The difference is a .9 power factor—a measure of apparent power versus real power. By delivering more real output power, the Powerware 5125 can actually power more servers than another UPS of equivalent VA rating. This feature applies to two-in-one and rack mount models.

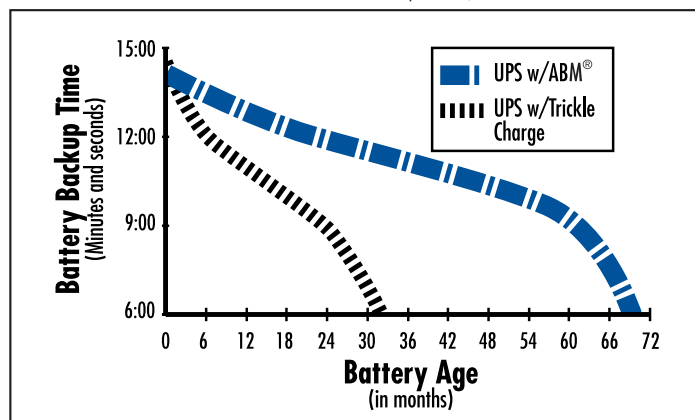
Line-interactive design shields systems from silent threats

The line-interactive 5125-series UPSs regulate voltage by boosting input utility voltage up or moderating it down as necessary before allowing it to pass to the protected equipment.

And if input voltage varies as much as 20 percent over

nominal voltage or 30 percent under—which can easily happen when running on generator power—the Powerware 5125 accepts this inconsistent voltage and delivers clean, consistent output.

Unlike typical line-interactive systems, Powerware 5125 UPSs do not switch back and forth to battery power to accomplish this (which would shorten battery life and increase battery replacement costs), and do not send disruptive voltage spikes when boosting power up to specification.



Data based on tests performed by an independent battery manufacturer.

Extend battery life with Advanced Battery Management (ABM)® technology

Most UPS manufacturers in the market today offer batteries that are constantly 'trickle-charged'—a process that degrades the battery's internal chemical composition, reducing potential battery service life by as much as 50 percent. In contrast, Powerware ABM technology uses sophisticated sensing circuitry and an innovative three-stage charging technique that increases the useful service life of UPS batteries while optimizing battery recharge time.

The Powerware 5125 provides up to 60 days' notice of the end of useful battery service life, to allow ample time to hot-swap batteries without ever having to shut down connected equipment.

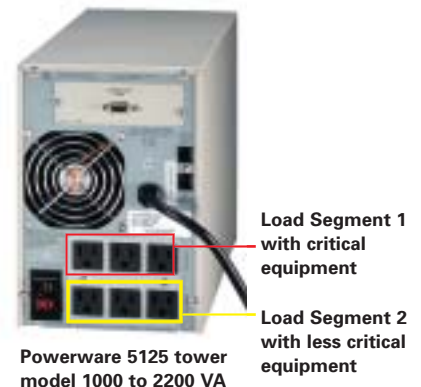
POWERWARE 5125 BATTERY RUNTIME CHART (MINS. FULL/HALF LOAD)

Load VA	Internal	1 EBM	2 EBMs	3 EBMs	4 EBMs
Tower models					
1000	5/14	25/60	55/170	83/199	109/228
1500	6/17	33/79	63/146	92/174	120/201
2200	5/14	26/60	55/170	81/198	106/224
Two-in-one (rackmount and tower) models					
1000	7/19	33/68	58/120	82/166	105/214
1500	5/13	23/57	49/161	73/172	96/205
2400	7/19	35/73	60/124	85/177	110/229
3000	5/15	25/61	49/103	69/146	90/190
Rackmount models					
5000	7/19	24/61	46/106	67/156	89/210
6000	5/15	19/49	36/85	53/125	71/168

* Up to 4 EBMs can be connected to all models. EBM runtimes include internal batteries. Runtime chart provides typical information. Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Load Segments feature maximizes battery back-up for critical systems

Using Powerware LanSafe™ power management software, you can independently control "Load Segments," which are groups of receptacles on the rear panel of the Powerware 5125 UPS. This feature enables you to manage scheduled shutdowns and sequential startups of protected loads. During a power outage, you could shut down power to non-critical devices (Load Segment 2), thereby extending battery backup time available for critical devices (Load Segment 1). When the Load Segments feature is used with Powerware connectivity cards, users can remotely re-boot locked-up network equipment. Simply connect to the interface card over the network, and toggle the password-protected Load Segment controller to get your network back online.



Add battery modules for even more backup capacity

Up to four Extended Battery Modules can be added to provide additional battery backup capacity as necessary. Batteries are hot-swappable and can be replaced at any time without interrupting UPS operation and load protection.

Extended Battery Modules are available in three forms: tower models, 2U and 3U rack mount models, designed to install tightly in tandem with the UPS for a clean look that enhances the appearance of the data center while saving precious space.

Hot-swappable battery modules - when batteries reach the end of their useful life, replace battery modules without powering down connected equipment (available on all models)

Hot-swappable electronic modules - replace electronics modules without shutting down connected equipment (available on 2400 VA to 6000 VA models)



Powerware 5000/6000 VA rackmount model



EMP

ConnectUPS-X Web/SNMP card

Powerware 5125 6000 VA rack mount hardwired model

Easily service the UPS without interrupting power to protected systems

LEDs on the front panel of the Powerware 5125 indicate the presence of alarm conditions, battery utilization, bad or low batteries, site wiring faults, and incoming utility power, as well as current load levels relative to UPS capacity.

When batteries reach the end of their useful life, or electronics modules require service, replacement is easy. With simple access through the front panel, users can install new battery and electronics modules without ever powering down connected servers or removing the unit from the rack.

The key is an internal automatic bypass feature (available on 2400 VA–6000 VA models) that allows the UPS to continuously provide power to critical equipment while you're working on the system. Even if you pull out the electronics, the UPS keeps doing its job.

Connectivity options offer maximum flexibility

Connectivity options are available to suit nearly any communication requirement. The standard unit is equipped with a RS-232 serial communications port and a built-in USB port (5000 and 6000 VA models) to interface with power management software. You can customize your UPS by adding any of the following X-Slot interface options for other types of communications:

- ConnectUPS Web/SNMP Interface Card enables direct control and monitoring in SNMP-based networks, plus the ability to monitor UPS status and meters through a Web browser (includes built-in switch hub)
- Multi-server Card enables up to six serially connected devices of mixed operating systems to be independently managed and controlled by a single UPS
- Relay Interface Card provides dry-contact interface between the UPS and any relay-connected device, including the IBM® eServer® iSeries (AS/400) and a variety of industrial applications
- Environmental Monitoring Probe (EMP) works with the ConnectUPS Web/SNMP card, remotely monitoring temperature, humidity, and the status of two contacts/sensors, such as smoke detector and open-door detector





Powerware 5125 2U and 3U rackmount models

Power management software unifies and centralizes UPS management

Every Powerware 5125 UPS comes with a CD that includes multimedia demonstrations, product data sheets, and the following power management software:

- Free LanSafe power management software for network shutdown
- 30-day trial version of Powerware PowerVision® UPS performance analysis and monitoring software



Powerware LanSafe power management software gives you control and visibility over all your UPS systems, using an intuitive, graphical interface and SNMP (Simple Network Management Protocol).

Using Eaton's innovative Powerware management software, you can securely monitor UPS and battery performance over your LAN or the Web, establish prioritized shutdown of network devices and client/server applications, test all networked UPS systems from one node, analyze trends and network conditions, and stay informed of potential power problems by pager and email.

Gain a new level of confidence

The culmination of 40 years of R&D excellence, the newly expanded Powerware 5125 UPS family delivers confidence—confidence that your organization's critical electronics are protected by reliable and effective line-interactive protection, and confidence that Eaton will be there with you for the long term with warranty coverage and expert technical support.

Eaton offers a comprehensive, two-year limited warranty covering parts and labor. For warranty service on your Powerware 5125, we will ship a replacement unit via overnight express.

For added confidence, your Powerware 5125 UPS is also covered by a 10-year pro-rated warranty and \$25,000 load protection guarantee.

To find out more, visit our Web site at www.powerware.com, or contact us at 1-800-356-5794.

AVAILABLE OPTIONS

Order Number	Description
05141562-0021	4-post rackmount kit (1000-3000 VA rackmount models) fits 19-inch racks
05146726-5501	2-post rackmount kit (1000-3000 VA rackmount models) fits 19-inch racks
05146871-5501	3-Slot seismic mounting kit (1000/1500 rackmount models only)
05146875-5501	5-Slot seismic mounting kit (1000/1500 rackmount models only)
05146447-5502	Multi-server card
05146508-5501	USB card
1018460	Relay card
103002974-5501	ConnectUPS Web/SNMP card
103002510-5501	Modbus card
103003637-5501	Environmental Monitoring Probe (EMP)
05146519-001	Powerpass® Distribution Module (1000/1500 rackmount models only)
05146401-5501	Power Distribution Unit 250 VA 0U form factor. Side cabinet mount (5000/6000 VA)

MODEL SELECTION GUIDE - POWERWARE 5125

MODEL NUMBER ¹	POWER RATING (VA,WATT)	INPUT/OUTPUT VOLTAGE (VAC) ²	INPUT CONNECTION	OUTPUT RECEPTACLES ⁴	DIMENSIONS HxWxD (IN/MM)	WEIGHT (LBS/KG)	PART NUMBER/ UPC CODE
Tower Models (North America)							
PW 5125 1000	1000/700	120	5-15P, 6 ft line cord	(6) 5-15R	9.45 x 6.38 x 15.79/ 240 x 162 x 401	34.3/15.6	05146629-5501/ 790341032937
PW 5125 1500	1440/1050	120	5-15P, 6 ft line cord	(6) 5-15R	9.84 x 6.38 x 18.39/ 250 x 162 x 467	50.7/23.0	05146632-5501/ 790341032968
PW 5125 2200	1920/1600	120	5-20P, 6 ft line cord	(6) 5-15R, (2) 5-20R	9.84 x 8.07 x 19.41/ 250 x 205 x 493	68.3/31.0	05146635-5501/ 790341032999
PW 5125 2200b	2080/1600	208	IEC-320-15A, Inlet ³	(9) IEC-320-10A (C13)	9.84 x 8.07 x 19.41/ 250 x 205 x 493	68.3/31.0	05146636-5501/ 790341033002
Tower Models (International)							
PW 5125 1000i	1000/700	230	IEC-320-10A, Inlet ³	(6) IEC-320-10A (C13)	9.45 x 6.38 x 15.79/ 240 x 162 x 401	34.3/15.6	05146630-5501/ 790341032944
PW 5125 1500i	1500/1050	230	IEC-320-10A, Inlet ³	(6) IEC-320-10A (C13)	9.84 x 6.38 x 18.39/ 250 x 162 x 467	50.7/23.0	790341032975/ 790341032975
PW 5125 2200i	2200/1600	230	IEC-320-10A, Inlet ³	(9) IEC-320-10A (C13)	9.84 x 8.07 x 19.41/ 250 x 205 x 493	68.3/31.0	05146637-5501/ 790341033019
Two-in-One (Rackmount and Tower) Form Factor Models⁵ (North America)							
PW 5125 1000 RM	1000/900	120	5-15P, 6 ft line cord	(6) 5-15R	3.5 x 17.0 x 19.4/ 89 x 432 x 494	61.0/27.67	05146666-5501/ 790341033033
PW 5125 1500 RM	1440/1340	120	5-15P, 6 ft line cord	(6) 5-15R	3.5 x 17.0 x 19.4/ 89 x 432 x 494	61.0/27.67	05146669-5501/ 790341033064
PW 5125 2400 RM	2400/2250	120	L5-30P, (12' attached)	(1) L5-30R, (6) 5-15R	3.5 x 19.0 x 24.5/ 89 x 483 x 623	89.0/40.40	05147564-5501/ 790341035310
PW 5125 3000 RM	2880/2700	120	L5-30P, (12' attached)	(1) L5-30R, (6) 5-15R	3.5 x 19.0 x 24.5/ 89 x 483 x 623	89.0/40.40	05147152-5501/ 790341035273
Two-in-One (Rackmount and Tower) Form Factor Models⁵ (International)							
PW 5125 1000i RM	1000/900	230	IEC-320-10A, Inlet ³	(6) IEC-320-10A (C13)	3.5 x 17.0 x 19.4/ 89 x 432 x 494	61.0/27.67	05146667-5501/ 790341033040
PW 5125 1500i RM	1500/1340	230	IEC-320-10A, Inlet ³	(6) IEC-320-10A (C13)	3.5 x 17.0 x 19.4/ 89 x 432 x 494	61.0/27.67	05146670-5501/ 790341033071
PW 5125 2400i RM	2400/2250	230	IEC-309 16A P, (12' attached)	(1) IEC-320-16A (C19) (9) IEC-320-10A (C13)	3.5 x 19.0 x 24.5/ 89 x 483 x 623	89.0/40.40	05147565-5501/ 790341035327
PW 5125 3000g RM	3000/2700	200-240	IEC-320-16A, receptacle	(1) IEC-320-16A (C19) (9) IEC-320-10A (C13)	3.5 x 19.0 x 24.5/ 89 x 483 x 623	89.0/40.40	05147155-5501/ 790341035297
PW 5125 3000e RM	3000/2700	230	IEC-320-16A, receptacle	(1) IEC-320-16A (C19) (9) IEC-320-10A (C13)	3.5 x 19.0 x 24.5/ 89 x 483 x 623	89.0/40.40	05147641-5501/ 790341035921
PW 5125 3000i RM	3000/2700	230	IEC-309 16A P	(1) IEC-320-16A (C19) (12' attached)	3.5 x 19.0 x 24.5/ (9) IEC-320-10A (C13)	89.0/40.40	05147154-5501/ 790341035280
Rackmount Models Only⁶							
PW 5125 5000 RM	5000/4500	200/208, 220, 230, 240	L6-30P	L6-30R on short cord, (2) L6-20 (4) C13	5.25 x 17.50 x 26.0/ 133 x 445 x 661	161/73	103003611-5501/ 790341043414
PW 5125 6000 RM HW	6000/5400	200-240	HW (terminal block)	HW, (4)C19, (4)C13	5.25 x 17.50 x 26.0/ 133 x 445 x 661	161/73	103003610-5501/ 790341043582
PW 5125 6000i RM	6000/5400	220, 230, 240	IEC309-32A	IEC309-32A on short cord, (4)C19, (4)C13	5.25 x 17.50 x 26.0/ 133 x 445 x 661	161/73	103003612-5501/ 790341043421
Optional Extended Battery Modules (EBMs)							
For use with PW 5125 24 V EBM 1000 VA tower models only	N/A	N/A	N/A	N/A	9.84 x 6.38 x 18.66/ 250 x 162 x 474	59.5/27.0	05146638-5501/ 790341033088
For use with PW 5125 48 V EBM 1500/2200 VA tower models only	N/A	N/A	N/A	N/A	9.84 x 6.38 x 18.66/ 250 x 162 x 474	59.5/27.0	05146639-5501/ 790341033095
For use with PW 5125 48 V EBM RM 1000/1500 VA RM models only	N/A	N/A	N/A	N/A	3.5 x 17.0 x 19.4/ 89 x 432 x 494	65.0/29.5	05147148-5501/ 790341033101
For use with PW 5125 120 RM 2400/3000 VA RM models only	N/A	N/A	N/A	N/A	3.5 x 19.0 x 24.5/ 89 x 483 x 622	121.0/54.9	05147156-5501/ 790341035303
For use with PW 5125 240 EBM (beach grey) 5000/6000 VA RM models only	N/A	N/A	N/A	N/A	5.25 x 17.50 x 24.75/ 133 x 445 x 629	169/76	103003387-5501/ 790341041007
For use with PW 5125 240 EBM (black) 5000/6000 VA RM models only	N/A	N/A	N/A	N/A	5.25 x 17.50 x 24.75/ 133 x 445 x 629	169/76	103003387-6501/ 790341041014

1. 50/60 automatic frequency selection. 2. 120 V models are 110 V, 120 V, 127 V user-selectable. 230 V models are 220 V, 230 V, 240 V user-selectable. 208 V models are 208 V, 220 V, 230 V, 240 V user-selectable. 3. Includes (2) each IEC interconnect cables. 4. 1000-1500 VA models are divided into (2) Load Segments (receptacle groups). 2200-3000 VA models are divided into (3) Load Segments (receptacle groups). 5000/6000VA models are divided into (2) Load Segments. 5. Unit fits into standard 19-inch racks. Mounting kits are sold separately. 6. 5000/6000 VA models ship with both black and beige front panel bezels; models include rail kits and mounting hardware; factory installed ConnectUPS Web/SNMP/xHub card available by inserting -5507 for -5501.

Technical Specifications¹

Electrical Input	1000–2200 VA	2400–3000 VA	5000/6000 VA
Nominal Voltage ²	120, 208 and 230 Vac ²	120, 208 and 230 Vac ²	200/208, 220, 230 and 240 Vac ²
Input Voltage Ranges (for user-selectable voltages)	low voltage: 77-152 V high voltage: 154-288 V		160-288
Operating Frequency	50/60 Hz, auto-sensing		
Frequency Range	46-54 hz for 50 hz; 56-64 hz for 60 hz		

Electrical Output

On Utility Voltage Regulation	-10% to +6% of nominal
On Battery Voltage Regulation	±5% RMS
Voltage Wave Shape (on battery)	sine wave
Output Protection	short circuit protection

Battery

Battery Type	sealed, lead-acid; maintenance free
Battery Runtime	see Battery Run Time table
Battery Replacement	hot-swappable internal batteries and external batteries modules
Recharge Time	<3 hours to 90% usable capacity
Start-On-Battery	allows start of UPS without utility input

General

Electrical Power Module Replcmnt	no	yes, hot-swap	yes, hot-swap
Diagnostics	full system self-test on power up		
UPS Bypass	no bypass	internal bypass	
Transfer Time	4ms typical, 6ms max		
Dimensions and Weights	see Model Selection Guide		
Overload (normal operation)	110% overload, shutdown after 3 minutes 150% overload, shut down 10 cycles	100-102 % indefinite	103-112% 2 minutes and > 112% 12 line cycles

Communications

User Interface	front control panel		
Audible Alarms	for various UPS alarm conditions, including: on battery, low battery, overload, UPS fault		
Network Transient Protector	UL 497 A, in/out jacks RJ45 (high voltage models network protection) & RJ11 (low voltage models modem protection)	No	
REPO Port	meets NEC code 645-11 intent and UL requirements		
Communication Ports	see Communications Slot	native USB and serial port	
Communication Slot	RS-232 single serial module (standard) options available, see options chart	Web/SNMPxHub card factory installed; other options also available	
Cable	6-foot communications cable included		
Power Management Software	Powerware Software Suite CD-ROM (bundled with UPS)		

Environmental

Safety Certifications	UL; cUL; NOM; C-Tick; CE marking		UL; cUL; NOM; C-Tick; CE marking TUV/VDE, GS
EMC Compliance	FCC Part 15, EN50091-2, Class A for 2.2 KVA and RM; Class B for 1000 and 1500 VA tower models	FCC Part 15	EN50091-2, Class A
Operating Temperature	0 to 40°C (32 to 104°F)		10°C to 40°C
Storage Temperature	-15 to 50°C (5 to 122°F)		-25°C to 55°C
Relative Humidity	0% to 95% non-condensing		
Lightning & Surge Protection	ANSI/IEEE C62.41 (IEEE 587), IEC61000-4-5		
Surge Energy Rating	high-energy 6500 A peak		
Audible Noise	less than 40 dBA typical	less than 45 dBA typical	
Altitude	3000m (10,000 ft) without derating		

1. Specifications are subject to change without notice due to continuing product improvement programs. 2. See Model Selection Guide for user-selectable voltages.

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France: 33.1.6012.7400
Germany: 49.7841.666.0
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

ASIA PACIFIC
Australia/NZ: 61.2.9878.5000
China: 86.21.6361.5599
HK/Korea/Taiwan: 852.2745.6682
India: 91.11.2649.9414 to 18
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Eaton 5PX UPS

Integrated Power Management. Discover what you've been missing.

The Eaton 5PX provides advanced power conditioning and unparalleled battery backup for network closets and small data centers.

Eaton 5PX features and benefits:

Efficiency: The Eaton 5PX provides industry leading efficiency of up to 99 percent.

Manageability:

- **Energy metering:** The 5PX meters energy consumption right down to the outlet segments. No other UPS in the industry offers this capability.
- **UPS management:** By integrating Eaton's free Intelligent Power® Software Suite, you can monitor and manage the power devices on your network.

LCD display: Eaton's next generation LCD offers a graphical interface which provides all critical UPS information in a single screen view. The user friendly menu allows you to view information and control settings at the push of a button.

More power: The 5PX protects more devices by providing 28 percent more wattage compared to traditional UPSs.

Battery life: Eaton's exclusive ABM® technology increases battery service life by 50 percent. ABM uses an advanced, three-stage charging technique and closely monitors battery health to provide advanced notice when batteries need replacement.

Intelligent Power Software Suite

By integrating the suite with the Eaton 5PX, you gain:

- Compatibility with VMware® and Microsoft® virtualization platforms
- Seamless integration with VMware's vCenter™ dashboard
- The ability to trigger vMotion™ and Live Migration™ and move virtual machines during a power failure
- Graceful shutdown of computers and virtual machines/servers during an extended power outage

To learn more, please visit:

www.eaton.com/intelligentpower

Services and support

Eaton provides product support 24 hours a day, 7 days a week. From battery replacement to full UPS service plans, Eaton has one of the top service models in the industry.

Three-year warranty

The 5PX warranty covers both the UPS and the batteries for three years. No other manufacturer in the industry offers as comprehensive a warranty.



Add extended battery modules for hours of runtime.



Powering Business Worldwide

5PX MODEL SELECTION GUIDE*

Catalog Number	Rating (VA/Watts)	Input connection	Output receptacles	Dimensions (H x W x D), in	Net weight, lb
120V, 50/60 Hz					
5PX1000RT	1000/1000	5-15P	(8) 5-15R	3.4 x 17.4 x 20.6	62
5PX1500RT	1440/1440				65
5PX2200RT	1950/1920				65
5PX3000RT2U	3000/2700	L5-30P	(1) L5-30R (6) 5-20R	3.4 x 17.4 x 25.4	87
5PX3000RT3U					86
208V or 230V, 50/60 Hz					
5PX1500iRT	1500/1350	C14-10A	(8) C13-10A	3.4 x 17.4 x 20.6	61
5PX2200iRT	2200/1980	C20-16A	(1) C19-16A		63
5PX3000iRT2U	3000/2700		(8) C13-10A	3.4 x 17.4 x 25.4	84
Extended Battery Modules					
DC voltage	For use with	Max qty / UPS	Dimensions (H x W x D), in	Net weight, lb	
48V	5PX1000RT 5PX1500RT 5PX2200RT	4	3.4 x 17.4 x 20.6	72	
	5PX3000RT2U		3.4 x 17.4 x 25.4	102	
72V	5PX3000RT3U		5.1 x 17.4 x 19.6	98	

*Due to continuous product improvement programs, all specifications are subject to change without notice. Please visit www.eaton.com/5PX to view complete and updated product specifications.

Additional Options	Catalog Number	For use with
Connectivity		
ConnectUPS-MS Network Management Card	103006826	All models
Power Distribution & Bypass		
HotSwap Maintenance Bypass (MBP) The HotSwap Maintenance Bypass allows you to exchange or service the UPS without shutting down the connected load	EHBPL1500R-PDU1U	5PX1000RT 5PX1500RT
	EHBPL2000R-PDU1U	5PX2200RT
	EHBPL3000R-PDU1U	5PX3000RT2U 5PX3000RT3U
Mounting Hardware		
2-post rail kit	103007018-5591	5PX1000RT 5PX1500RT 5PX2200RT 5PX3000RT2U

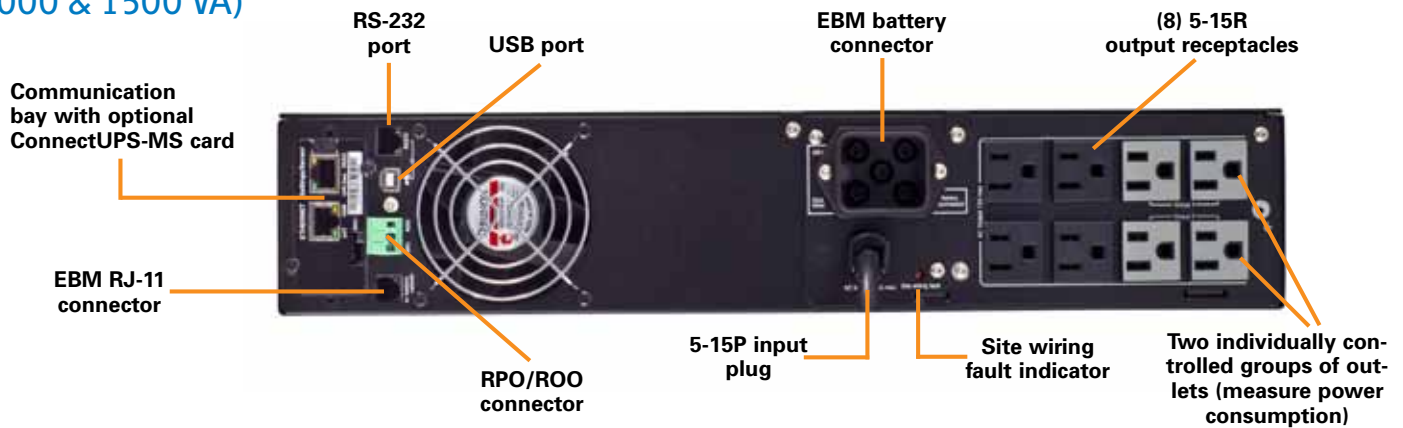
What's in the box

- Tower pedestals
- Four-post rail kit
- User manual CD
- Intelligent Power Software Suite CD
- Quick start guide
- RS-232 serial cable
- USB cable
- Phillips Head screw driver
- 2 IEC to IEC jumper cables (208V/230V models)

Battery runtime

You can get up to five hours of battery runtime using the internal batteries and extended battery modules. For a detailed, interactive battery runtime chart, please visit: www.eaton.com/5PX - then view the individual technical pages for details of each UPS.

5PX UPS rear panel (1000 & 1500 VA)



To interact with the Eaton 5PX UPS, please visit: www.eaton.com/5PX

Eaton Corporation
8609 Six Forks Road
Raleigh, NC 27615
United States
800.356.5794

Eaton.com/powerquality

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The 5PX is part of the UPSgrade program



www.eaton.com/UPSgrade

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Eaton 9130 UPS



Vistazo del producto

Rango:	700 a 3000 VA
Voltaje	20 Vac, 208–240V
Frecuencia	50/60 H (auto-sensing)
Configuración:	Montaje en rack o torre

Protección avanzada de energía para:

- Tecnologías de información y ambientes de redes
- Servidores, networking
- Telecomunicaciones, VoIP, sistemas de seguridad
- Sistemas médicos
- Diagnósticos y seguimiento médico
- Archivos de historial de pacientes
- Sistemas de manufactura
- Fabricación de chips
- Producción de farmacéuticos
- Procesamiento de químicos

Características

- Protege contra el tiempo fuera de operación, pérdida de datos e interrupciones de proceso proporcionando energía limpia y continua.
- Ofrece un desempeño premium con un factor de potencia de 0.9 y más de 95% de eficiencia.
- Incrementa la vida útil de la batería con el sistema ABM® battery charging technology.
- Permite el funcionamiento prolongado de equipos esenciales durante fallas de energía mediante la desconexión remota de equipos no-críticos.
- Proporciona flexibilidad de instalación con la opción de diseño en rack o torre, ambas configuraciones ahorrando espacio.
- Asegura la integridad de datos y el sistema con el software LanSafe®
- Proporciona una garantía limitada de 2 años, una garantía extendida, los servicios Flex™ y PowerTrust™, y una garantía de protección de carga de \$250,000 (EU y Canada)

Eaton® provee soluciones de clase mundial en protección, administración y distribución de energía con productos que incluyen sistemas de alimentación ininterrumpible (UPSs), sistema de fuerza de corriente directa, software de administración de la energía con premios a nivel mundial y servicios de primer nivel. Los UPSs Powerware® series son reconocidos por los usuarios y expertos de la industria porque ofrecen el mayor valor y satisfacción, además porque demuestran responder a las necesidades de los clientes.

La más reciente adición a nuestra línea Powerware series, el Eaton 9130 UPS, resuelve los problemas de alimentación de energía y entrega una protección superior a los equipos de redes y de TI, sistemas médicos, control del proceso de manufactura o cualquier equipo o aplicación crítica que requiera energía continua y limpia.

Diseño de Doble conversión para una protección superior

El 9130 monitorea constantemente las condiciones de la energía, regulando el voltaje y la frecuencia. Aún cuando se presentan los problemas de energía más severos, la entrega del UPS se mantiene dentro del tres por ciento del voltaje nominal.

Con un rango amplio del voltaje de entrada, el 9130 no depende de las baterías para controlar fluctuaciones de energía menores. Las baterías se conservan para las veces en las que la entrada de energía es altamente inestable o inexistente. Si ocurre una pérdida de energía, el 9130 transfiere a baterías sin interrupción en la salida de energía. Por tanto, este UPS es ideal para equipos altamente sensibles o críticos.

Más energía real por menor costo

Más energía real. El alto factor de potencia de salida de 0.9 permite que el 9130 provea su capacidad a equipos modernos de TI que pueden tener un amplio rango de factores de potencia. El factor de potencia de entrada de 0.99 permite al UPS evitar los disturbios que algunos transformadores pueden causar.

Alta eficiencia. Mientras más eficiente es un UPS, menores los gastos de energía y de acondicionamiento de aire. Incluso un pequeño incremento en la eficiencia puede representar miles de dólares en ahorros. Cuando las condiciones de

operación son aceptables, el 9130 puede operar con una eficiencia de de 95 por ciento o más, la cual es realmente alta.

Diseño avanzado y auto-monitoreo

El 9130 monitorea continuamente el voltaje, la temperatura, funciones de elementos internos, la vida útil de baterías, estado de carga de las baterías y tiempo de soporte restante. Si el UPS detecta un problema potencial con alguna de estas medidas, manda alarmas o realiza una acción correctiva, sin interrumpir el suministro de energía. Al final de la condición de alarma, el 9130 automáticamente regresa de bypass a operación normal.

Mayor duración de las baterías con el exclusivo sistema ABM technology

La mayoría de los fabricantes de UPS utilizan un sistema de recarga de baterías lento, que puede reducir potencialmente la vida útil de las baterías hasta en un 50 por ciento. En cambio, el sistema ABM technology utiliza sofisticados circuitos sensibles y una innovadora técnica de carga de tres etapas que extiende significativamente la vida útil de las baterías del UPS al mismo tiempo que optimiza su tiempo de recarga.

El 9130 detecta con más de 60 días de anticipación el final de la vida útil de las baterías, brindando un

amplio margen para reemplazarlas sin necesidad de apagar o desconectar los equipos alimentados.

Módulos de baterías externos para mayor tiempo de respaldo

Durante una caída de energía, las baterías internas del 9130 mantienen la carga el tiempo suficiente para apagar los equipos conectados. Sin embargo, se pueden añadir hasta cuatro módulos de baterías externos para respaldar por horas los equipos en caso de ser necesario. Los módulos se pueden reemplazar rápidamente sin necesidad de apagar el UPS o los equipos conectados. También es posible iniciar el UPS y alimentar la carga con energía proveniente de las baterías.

BATTERY RUNTIMES

	Internal batteries		+1 EBM		+2 EBMs		+3 EBMs		+4 EBMs	
	100% Load	50% Load	100% Load	50% Load	100% Load	50% Load	100% Load	50% Load	100% Load	50% Load
Rack models										
PW9130L700R-XL2U	9	24	41	85	72	140	105	205	130	270
PW9130L1000R-XL2U	5	17	30	69	55	125	83	191	108	257
PW9130G1000R-XL2U	7	14	29	68	51	113	81	192	98	246
PW9130G1000R-XL2UEU	7	14	29	68	51	113	81	192	98	246
PW9130I1000R-XL2U	7	14	29	68	51	113	81	192	98	246
PW9130L1500R-XL2U	5	12	23	63	48	112	67	167	91	209
PW9130I1500R-XL2U	5	14	24	60	44	68	72	172	89	190
PW9130L2000R-XL2U	6	17	33	70	59	136	88	190	112	254
PW9130G2000R-XL2U	6	16	33	71	59	129	88	183	119	260
PW9130G2000R-XL2UEU	6	16	33	71	59	129	88	183	119	260
PW9130I2000R-XL2U	6	16	33	71	59	129	88	183	119	260
PW9130L2500R-XL2U	4	11	26	45	47	86	71	140	95	209
PW9130G2500R-XL2U	4	12	28	45	49	92	71	141	97	207
PW9130G2500R-XL2UEU	4	12	28	45	49	92	71	141	97	207
PW9130L3000R-XL2U	3	10	20	48	36	90	53	123	71	164
PW9130G3000R-XL2U	3	9	18	45	34	84	53	122	69	165
PW9130G3000R-XL2UEU	3	9	18	45	34	84	53	122	69	165
PW9130I3000R-XL2U	3	9	18	45	34	84	53	122	69	165
Tower models										
PW9130L700T-XL	6	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PW9130I700T-XL	6	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PW9130L1000T-XL	5	17	30	69	55	125	83	191	108	257
PW9130G1000T-XL	7	14	29	68	51	113	81	192	98	246
PW9130G1000T-XLEU	7	14	29	68	51	113	81	192	98	246
PW9130I1000T-XL	7	14	29	68	51	113	81	192	98	246
PW9130L1500T-XL	5	12	23	63	48	112	67	167	91	209
PW9130I1500T-XL	5	14	24	60	44	68	72	172	89	190
PW9130L2000T-XL	10	25	43	91	79	152	102	207	126	270
PW9130G2000T-XL	10	24	42	91	78	145	100	200	134	270
PW9130G2000T-XLEU	10	24	42	91	78	145	100	200	134	270
PW9130I2000T-XL	10	24	42	91	78	145	100	200	134	270
PW9130L3000T-XL	5	15	26	56	47	101	72	138	92	168
PW9130G3000T-XL	5	14	24	53	45	95	72	137	90	170
PW9130G3000T-XLEU	5	14	24	53	45	95	72	137	90	170
PW9130I3000T-XL	5	14	24	53	45	95	72	137	90	170

Máximo respaldo para sistemas críticos.

Utilizando el software LanSafe de manejo de la energía, se puede controlar independientemente segmentos de carga, que son grupos de contactos en la parte posterior del UPS. Esta característica permite realizar programas para apagar o prender equipos secuencialmente de la carga protegida. Durante una falla de energía, se pueden apagar aparatos no críticos para poder extender el tiempo de respaldo con baterías a sistemas críticos. También se puede utilizar esta característica para reiniciar remotamente equipos bloqueados.

Utilización flexible con opciones de comunicación

Una plataforma, dos configuraciones y decenas de opciones. Más de 3000 VA sólo utilizan 2 unidades de espacio en rack. La opción en torre es del tamaño de una PC compacta y moderna, utilizando sólo 1.5 pies cuadrados para acomodar la base. Se pueden elegir de decenas de modelos que ofrecen el tipo de conexión de entrada, enchufes y voltajes que necesitas.

Monitorea y maneja el UPS desde cualquier lugar. Las opciones de conectividad están disponibles para cualquier tipo de redes. La unidad standard viene con los puertos de comunicación USB y RS-232 de serie. Se pueden añadir al UPS las opciones del BestDock interface para otro tipo de comunicaciones, como:

- Control y monitoreo del status y mediciones del UPS via SNMP o Web browser
- Monitoreo y apagado de diversos servidores con diferentes sistemas operativos
- Envío de alarmas y notificaciones a sistemas de seguridad remotos

Intuitivos controles de monitoreo y manejo

Un usuario en sitio puede configurar y monitorear muchas características del 9130 usando un brillante display. Tiene una navegación fácil y simple y se puede escoger una gran variedad de idiomas. Los LEDs proporcionan información rápida del status del UPS.

El 9130 incluye el software de administración de energía LanSafe, el cual proporciona control y visibilidad en todos los sistemas de UPS, utilizando una interfase gráfica e intuitiva, así como el sistema SNMP.

Desde un punto central, se tiene la visibilidad y control que se necesita para asegurar el continuo funcionamiento. Por ejemplo, se puede establecer un apagado por prioridad de dispositivos de redes y aplicaciones de cliente/servidor, probar todos los UPS comunicados desde un nodo, analizar tendencias y condiciones de la red, y mantenerse informado de los problemas de energía eléctrica por e-mail o radio-localizador

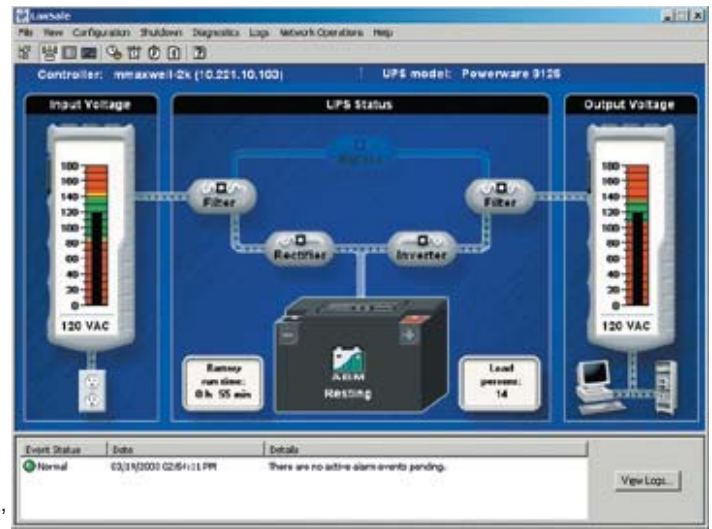
El software Lan Safe incluye también demostraciones multimedia y pruebas gratuitas que permiten explorar software opcional para el monitoreo y análisis del desempeño del UPS y administración del centro de datos.

Mejora tu UPS con las opciones complementarias

Cuenta con Eaton para soluciones de calidad de energía e infraestructura solutions. Puede complementar tu 9130 con opciones que crean una instalación centro de datos más efectivo, manejable y resistente. Por ejemplo:

- Un bypass de mantenimiento que permite quitar la carga al UPS de manera que se le pueda dar mantenimiento de una forma segura sin necesidad de dejar de alimentar sistemas críticos.

Su atractivo diseño proporciona espacio organizado para centros de datos, closets de conexión,



LanSafe responde a las preguntas clave de los administradores de redes con un display visual intuitivo

- ¿El voltaje de entrada está dentro del rango aceptable?
- ¿Si no hay energía, cuanto tiempo el UPS puede funcionar con energía de baterías?
- ¿El UPS está funcionando con energía de baterías justo ahora?
- ¿Existen eventos activos de los que necesite saber?
- ¿El UPS está funcionando justo ahora en modo bypass?
- ¿El voltaje de salida está dentro de los límites aceptables?
- ¿Qué porcentaje de la capacidad del UPS está siendo utilizada?
- ¿Las baterías están siendo cargadas o se están descargando?

ambientes de oficina y almacenes o bodegas.

- Las unidades de distribución de energía racionalizan la distribución de ésta a través de un centro de datos o rack.
- Los sistemas de monitoreo como LanSafe, brindan una perspectiva completa para administrar efectivamente la instalación y la infraestructura eléctrica.
- Servicios de soporte. El monitoreo remoto eNotify asegura que la infraestructura eléctrica sea diseñada inteligentemente, monitoreando continuamente y administrando las operaciones que necesitan funcionar todo el tiempo.

Eaton, tu aliado confiable en calidad de energía.

Representando más de 40 años de investigación y desarrollo de excelencia, el nuevo Eaton 9130 UPS entrega más poder real, de manera

que puede proporcionar energía sin importar las alteraciones de la misma protegiendo sus sistemas confiable y eficientemente. Eaton estará ahí en largo plazo con una garantía premium y soporte técnico de expertos.

Cuando pienses en máxima tranquilidad, confía en el servicio Eaton eNotify Remote Monitoring. Con este servicio 7x24, nuestro centro de confiabilidad del cliente (CustomerReliability Center) monitorea de manera remota tu UPS y te contacta en caso de una emergencia. Prueba este servicio gratuitamente por 90 días. Visita www.powerware.com/eNotify y sigue las instrucciones.

Para encontrar mas información del 9130 y otras soluciones de calidad de la energía visita nuestro Web site en: www.powerware.com/9130

TOWER MODELS

Número de catálogo	Número de estilo	Entrada (VA/Watts)	Conexión de entrada	Receptáculos de Salida	Dimensiones (Alto, Ancho, Prof.)en (mm)	Peso, lb (kg)
North American Tower Models: 120V, 50/60 Hz						
PW9130L700T-XL	103006426-6591	700/630	5-15P	(6) 5-15R	9.1 x 6.3 x 13.8 (230 x 160 x 350)	26.9 (12.2)
PW9130L1000T-XL	103006427-6591	1000/900	5-15P	(6) 5-15R	9.1 x 6.3 x 15.0 (230 x 160 x 380)	32.0 (14.5)
PW9130L1500T-XL	103006428-6591	1500/1350	5-15P	(6) 5-15R	9.1 x 6.3 x 16.9 (230 x 160 x 430)	41.9 (19.0)
PW9130L2000T-XL	103006429-6591	2000/1800	5-20P	(1) L5-20, (4) 5-15/20R	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130L3000T-XL	103006430-6591	3000/2700	L5-30P	(4) 5-15/20R, (1) L5-30R	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
Global Tower Models: 208V, 50/60 Hz						
PW9130G1000T-XL	103006431-6591	1000/900	L6-20P*	(1) L6-20R, (2) 6-20R	9.1 x 6.3 x 15.0 (230 x 160 x 380)	32.0 (14.5)
PW9130G2000T-XL	103006432-6591	2000/1800	L6-20P*	(1) L6-20R, (4) 6-20R	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130G3000T-XL	103006446-6591	3000/2700	L6-20P**	(1) L6-30R, (1) L6-20R, (2) 6-20R	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130G1000T-XLEU	103006477-6591	1000/900	L6-20P*	(6) C13	9.1 x 6.3 x 15.0 (230 x 160 x 380)	32.0 (14.5)
PW9130G2000T-XLEU	103006478-6591	2000/1800	L6-20P*	(8) C13, (1) C19	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130G3000T-XLEU	103006479-6591	3000/2700	L6-20P**	(8) C13, (1) C19	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
International Tower Models: 230V, 50/60 Hz						
PW9130i700T-XL	103006433-6591	700/630	C14	(6) C13	9.1 x 6.3 x 13.8 (230 x 160 x 350)	26.9 (12.2)
PW9130i1000T-XL	103006434-6591	1000/900	C14	(6) C13	9.1 x 6.3 x 15.0 (230 x 160 x 380)	32.0 (14.5)
PW9130i1500T-XL	103006435-6591	1500/1350	C14	(6) C13	9.1 x 6.3 x 16.9 (230 x 160 x 430)	41.9 (19.0)
PW9130i2000T-XL	103006436-6591	2000/1800	C14	(8) C13, (1) C19	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130i3000T-XL	103006437-6591	3000/2700	C20	(8) C13, (1) C19	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
Tower Extended Battery Modules						
PW9130N1000T-EBM	103006438-6591	NA	NA	NA	9.1 x 6.3 x 15.0 (230 x 160 x 380)	40.8 (18.5)
PW9130N1500T-EBM	103006439-6591	NA	NA	NA	9.1 x 6.3 x 16.9 (230 x 160 x 430)	53.6 (24.3)
PW9130N3000T-EBM	103006440-6591	NA	NA	NA	12.8 x 8.4 x 16.1 (325 x 214 x 410)	110.3 (50.0)

RACK MODELS

Número de catálogo	Número de estilo	Entrada (VA/Watts)	Conexión de entrada	Receptáculos de Salida	Dimensiones (Alto, Ancho, Prof.)en (mm)	Peso, lb (kg)
North American Rack Models: 120V, 50/60 Hz						
PW9130L700R-XL2U	103006447-6591	700/630	5-15P	(6) 5-15R	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130L1000R-XL2U	103006448-6591	1000/900	5-15P	(6) 5-15R	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130L1500R-XL2U	103006449-6591	1500/1350	5-15P	(6) 5-15R	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	54.9 (24.9)
PW9130L2000R-XL2U	103006450-6591	2000/1800	5-20P	(6) 5-15/20R, (1) L5-20R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	68.1 (30.9)
PW9130L2500R-XL2U	103006451-6591	2500/2250	L5-30P	(6) 5-15/20R, (1) L5-30R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
PW9130L3000R-XL2U	103006452-6591	3000/2700	L5-30P	(6) 5-15/20R, (1) L5-30R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
Global Rack Models: 208V, 50/60 Hz						
PW9130G1000R-XL2U	103006461-6591	1000/900	L6-20P*	(1) L6-20R, (2) 6-20R	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130G2000R-XL2U	103006462-6591	2000/1800	L6-20P*	(1) L6-20R, (4) 6-20R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	54.9 (24.9)
PW9130G2500R-XL2U	103006453-6591	2500/2250	L6-20P**	(1) L6-30R, (1) L6-20R, (2) 6-20R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
PW9130G3000R-XL2U	103006454-6591	3000/2700	L6-20P**	(1) L6-30R, (1) L6-20R, (2) 6-20R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
PW9130G1000R-XL2UEU	103006480-6591	1000/900	L6-20P*	(6) C13	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130G2000R-XL2UEU	103006481-6591	2000/1800	L6-20P*	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	54.9 (24.9)
PW9130G2500R-XL2UEU	103006482-6591	2500/2250	L6-20P**	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
PW9130G3000R-XL2UEU	103006483-6591	3000/2700	L6-20P**	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
International Rack Models: 230V, 50/60 Hz						
PW9130i1000R-XL2U	103006455-6591	1000/900	C14	(6) C13	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130i1500R-XL2U	103006456-6591	1500/1350	C14	(6) C13	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	54.9 (24.9)
PW9130i2000R-XL2U	103006457-6591	2000/1800	C14	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	68.1 (30.9)
PW9130i3000R-XL2U	103006463-6591	3000/2700	C20	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	68.1 (30.9)
Rack Extended Battery Modules						
PW9130N1000R-EBM2U	103006458-6591	NA	NA	NA	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	62.0 (28.1)
PW9130N1500R-EBM2U	103006459-6591	NA	NA	NA	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	62.0 (28.1)
PW9130N3000R-EBM2U	103006460-6591	NA	NA	NA	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	84.0 (38.1)

*C14, w/ detach L6-20P

** C20, w/ detach L6-20P

Especificaciones Técnicas

General

Interfase de usuario	Pantalla LCD con luz de fondo azul con idiomas Inglés, Francés, Alemán, Ruso y Español
LEDs	4 LEDs indicadores de status
Topología	Verdaderamente en línea, doble conversión
Diagnósticos	Auto diagnóstico completo del sistema
Bypass del UPS	Automático
Dimensiones	Ver tabla de modelos
Kit de rieles	Incluido en todos las modelos de rack

Entrada Eléctrica

Voltaje nominal	120V: 208–240V
Rango de Voltaje	120V: 90-138 Vac (con FP de carga de 0.7) 208/230V: 160–276 Vac (con FP de carga de 0.7)
Consumo del UPS	700: 5.8A @120V, 3.4A @208V, 3.0A @230V 1000: 8.3A @120V, 4.8A @208V, 4.3A @230V 1500: 12.5A @120V, 7.2A @208V, 6.5A @230V 2000: 16.6A @120V, 9.6A @208V, 8.7A @230V 2500: 20.8A @120V, 12.0A @208V, 10.9A @230V 3000: 25.0A @120V, 14.4A @208V, 13.0A @230V
Circuito dedicado	120V:
Rango de breaker	700-1500 VA: 15A 2000 VA: 20A 2500–3000 VA: 30A 208/230V: 700–2000 VA: 10A 3000 VA: 16A
Frecuencia	50/60 Hz
Rango de Frecuencia	45-65 Hz

Salida Eléctrica

Factor de Potencia	0.9
Regulación del voltaje de entrada	±3% del voltaje nominal
Regulación del voltaje de baterías	±3% del voltaje nominal
Eficiencia	>95% en modo de alta eficiencia; >86% en modo en-línea
Regulación de frecuencia	±3% Hz en línea
Factor de cresta en la carga	3 a 1

Baterías

Tipo de baterías	VRLA 12V/9 Ah (internas y externas)
Tiempo de baterías	>3 minutos con baterías internas @100% de carga (0.7FP)
Reemplazo de baterías	Sistema de cambio rápido en baterías internas y externas
Baterías para arranque	Permiten el arranque del UPS sin necesidad de energía de entrada

Comunicaciones

Puerto serial	RS-232 estándar, para interfase del software de administración de energía
Puerto USB	HID estándar para comunicación con computadoras con sistemas Windows 98 y ME
Relevador de salida	Alarma estándar
Puerto de comunicaciones	Puertos opcionales de comunicación (BD Slot)
Tarjetas de comunicación opcionales	Tarjeta SNMP/Web para control directo y monitoreo en redes SNMP, monitoreo del status del UPS y parámetros vía Web browser. Tarjeta de relevador para integración con ambientes industriales y sistemas de administración de edificios y apagado remoto para sistemas IBM AS/400

Medio ambiente

Medidas de seguridad	120/208V: UL, CUL, VCCI 230V: CE, GS
Medidas EMC	120V: FCC Class B, EN55022 Class B (1.5 kVA and below); FCC Class A, EN55022 Class A (2.0 kVA) <2kVA 230V: CE (per IEC/EN62040-2: Emissions, Category C1; Immunity, Category C2)
Ruido audible	<50 dB
Ambiente de operación	0°C (32°F) a +40°C (104°F)
Almacenamiento	-20°C (-4°F) to +40°C (104°F) con baterías y -25°C (-13°F) to +55°C (131 °F) sin baterías
Humedad relativa	5–90% sin condensación

Disipación de calor para todos los voltajes: 230/208 y 120V

9130 model	Modo normal, BTUs/hr	En baterías, BTUs/hr
700 VA	350	554
1000 VA	500	674
1500 VA	750	1,011
2000 VA	838	1,348
2500 VA	1,047	1,463
3000 VA	1,257	1,755

EATON

Powerware

Powerware® 9125 Uninterruptible Power System

Product Focus

700-6000 VA



Powerware 9125 6000 VA

Features

- Protects mission-critical applications from downtime, data loss and corruption, and process interruption by providing continuous, clean power
- Secures connected equipment from damage or degradation caused by power anomalies
- Increases battery life through Advanced Battery Management (ABM)® technology, resulting in more uptime and fewer battery replacements
- Offers Load Segments (on 700-3000 VA units) that enable orderly shutdown of non-essential equipment during power outages to extend backup power time for critical systems
- Delivers deployment flexibility while conserving valuable rack space, by offering rackmount or tower installation choices
- Ensures data and system integrity with a complete power management software suite
- Provides investment protection with a two-year limited warranty, 10-year pro-rated warranty, \$250,000 load protection guarantee (US and Canada)

Product Snapshot

Power Rating: 700-6000 VA

Voltage: 120, 208 and 230 Vac

Frequency: 50/60 Hz (auto-sensing)

Configuration: Rackmount or tower

When your work depends on constant availability, the potential dangers of utility power simply cannot factor into the equation. In your business, mission-critical means just that, and downtime equals "dead time." Where can you turn for a power quality solution that is just as dedicated as you are? Enter the Powerware 9125 UPS, designed by Eaton to alter the face of power management forever.

Combining superior power quality with a cache of innovative features, the Powerware 9125 UPS delivers the ultimate in protection, truly isolating your equipment from all nine of the common power anomalies lurking in public utility power. Available as either a rack-

mount or stand-alone unit, the compact and elegant 9125 supplies continuous, conditioned power to all connected equipment, delivering large-scale power protection in a sleek package small enough to fit beneath your desk.

The ideal solution for banking and security systems, manufacturing process control, heavily configured servers, or any critical application, the Powerware 9125 makes power-related downtime a thing of the past. We invite you to read on, and discover more of what has made the Powerware 9125 UPS an industry legend.

Incorporating more than 40 years of UPS design experience, the Powerware 9125

UPS delivers superior power protection for banking and security systems, manufacturing process control, heavily configured servers, and telecommunications/PBX equipment. Combining superior performance with innovative features, the Powerware 9125 is the ultimate UPS in its class.

Double-conversion, online design offers superior reliability and protection

The Powerware 9125 is a double-conversion online UPS, which means it is constantly conditioning and controlling AC output during normal operating conditions.

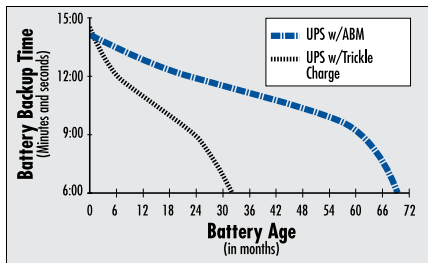


Powerware 9125 3000 VA

commercially-available technologies, a double-conversion online design assures that in the event of a utility power failure, there is zero delay transferring to backup power.

The double-conversion architecture incorporates both a rectifier and inverter to completely isolate the output power from all input anomalies. Only a true online system such as the Powerware 9125 protects connected equipment from all nine of the most common power problems: outages, sags, surges, spikes, brownouts, line noise, frequency variation, switching transients, and harmonic distortion.

Even when presented with the most severe power problems, power output remains stable, within three percent of nominal voltage. The Powerware 9125 supports a wide range of input voltages, so it is not consuming battery capacity during minor power fluctua-



Data based on tests performed by an independent battery

tions. Battery capacity is saved for times when utility power is completely lost. If an outage occurs, the Powerware 9125 transfers to battery with no break in power, making it an ideal UPS for equipment sensitive to voltage fluctuations.

Double battery life with Advanced Battery Management (ABM)[®] technology

Most UPS manufacturers in the market today offer batteries that are constantly “trickle-charged” —a process that degrades the battery’s internal chemical composition, reducing potential battery service life by as much as 50 percent. In contrast, Powerware ABM technology uses sophisticated sensing circuitry and an innovative three-stage charging technique that doubles the useful service life of UPS batteries while optimizing battery recharge time. The Powerware 9125 provides up to 60 days’ notice of the end of useful battery service life, to allow ample time to hot-swap batteries without ever having to shut down connected equipment.

Maximize battery backup time for critical systems

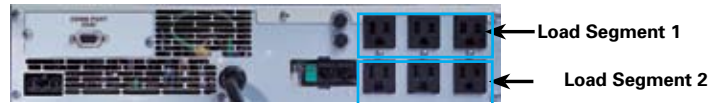
Powerware Lansafe[®] power management software enables independent control of Load Segments, which are groups of receptacles on the rear panel of the Powerware 9125 UPS (700-3000 VA). This feature allows users to manage scheduled shutdowns and sequential startups of protected loads. During a power outage, users can shut down power to non-critical devices, thereby extending battery backup time available for critical devices. When the Load Segments feature



is used with Powerware ConnectUPS connectivity cards, users can remotely re-boot locked-up network equipment. Simply link to the ConnectUPS connectivity card over the network, and toggle the password-protected Load Segment controller to get your network back online.

Add battery modules for even more backup capacity

Up to four Extended Battery Modules (EBMs) can be added to provide additional battery backup capacity as necessary. These battery modules are hot-swappable and can be replaced at any time without interrupting UPS operation and load protection.



Battery Runtimes (in minutes)

Load	Standard Internal Batteries	1 EBM	2 EBMs	3 EBMs	4 EBMs
700/1000 VA Models					
200 VA/140W	37	271	546	-	-
400 VA/280W	19	142	278	-	-
700 VA/490W	9	72	156	-	-
850 VA/595W	6	59	124	-	-
1250 VA/875W	11	46	87	-	-
1000 VA/700W	5	48	104	-	-
1250-2000 VA Models					
400 VA / 280W	46	177	331	501	682
700 VA/490W	25	96	180	272	370
850 VA/595W	21	76	142	214	292
1000 VA/700W	16	61	115	174	237
1250 VA/875W	11	46	87	131	179
1500 VA/1050W	8	37	70	106	144
1800 VA/1260W	6	30	57	85	116
2000 VA/1400W	5	26	49	74	100
2500/3000 VA Models					
1250 VA/875W	16	57	90	150	200
2500 VA/1750W	7	28	48	68	88
1500 VA/1050W	13	55	72	120	160
3000 VA/2100W	5	25	38	54	70
5000/6000 VA Models					
1000 VA / 700W	64	179	308	448	-
2000 VA / 1400W	38	108	186	271	362
3000 VA / 2100W	34	70	122	178	237
4000 VA / 2800W	19	49	86	125	168
5000 VA / 3500W	13	37	65	96	128
6000 VA / 4200W	10	30	52	76	102

This table provides typical information. Runtimes are approximate and vary with equipment, configuration, battery age, temperature, etc.

Design and connectivity options offer maximum flexibility

Up to 3000 VA of UPS power is packed into only two units (2U) of rack space; only five units (5U) for the 5000 and 6000 VA models. The standard chassis (available in beach gray or black) can be deployed as a tower unit or in a rack. Pedestal kits are standard with units up to 3000 VA. Optional rack kits are available for all

models. An optional seismic kit is also available for select units. Connectivity options are available to suit nearly any communication requirement. The standard unit is equipped with an RS-232 serial communications port. You can customize your UPS by adding X-Slot™ interface options for other types of communications:

ConnectUPS Web/SNMP card



Enables a direct connection to the Ethernet network and the Internet. Monitor and manage your UPS with a standard Web browser.

Multi-server card



Provides serial connections for monitoring and graceful shutdown of up to five computer systems running various operating systems.

Modbus card



Enables real-time monitoring of power conditions through Building Management Systems (BMS).

Relay card



Provides simple alarm notification via isolated contacts to signal a change of state in UPS operation (typical in IBM® eServer® iSeries applications).

Unify the management of UPS functions and connections

The Powerware 9125 comes complete with the Powerware Software Suite CD, including SNMP-compatible LanSafe® power management software to provide control and visibility over multiple UPSs. From a central vantage point, you can perform all requisite management processes for power protection, such as establishing a prioritized shutdown of network devices and client/server applications, testing all networked UPSs from one node, analyzing trends and network conditions, and staying informed of power problems via email broadcasts to mobile phones or pagers.

The Software Suite CD includes multimedia demonstrations of the various Powerware software packages that Eaton offers: LanSafe v. 5, PowerVision® software, and Foreseer® software. Additionally, a 30-day trial version of PowerVision is included on the CD for exploration.

Service the UPS without interrupting power to downstream systems

Powerware 9125 UPS models from 700 VA to 6000 VA offer optional PowerPass® power distribution modules (PDMs) with the following capabilities:

- Maintenance Bypass Switch in the PowerPass module enables users to upgrade or replace the UPS while continuously providing power to critical equipment
- Step-down transformer (2500-6000 VA) enables the UPS to be connected to energy-saving 208V or 240V input voltage, while providing appropriate output voltage combinations of 120V and 208V through 240V for connected equipment
- Extra receptacles match the unique requirements for your protected equipment

Backed by a comprehensive warranty program, the Powerware 9125 delivers the most reliable, efficient, and full-featured protection available for your organization's critical electronics.

MODEL SELECTION GUIDE - POWERWARE 9125

Model Number ¹	Part Number ²	Power Rating (VA/Watt)	Input Connection	Output Receptacles	Dimensions HxWxD (in / mm)	Unit Wt. (lb/kg) ⁶
120 Vac Models³						
PW9125 700	05146012-5501	700 / 490	5-15P	(6) 5-15R	3.5 x 17.0 x 19.4 / 89 x 432 x 494	34/15
PW9125 1000	05146002-5501	1000 / 700	5-15P	(6) 5-15R	3.5 x 17.0 x 19.4 / 89 x 432 x 494	34/15
PW9125 1250	05146008-5501	1250 / 875	5-15P	(6) 5-15R	3.5 x 17.0 x 19.4 / 89 x 432 x 494	50/23
PW9125 1500	05146005-5501	1500 / 1050	5-15P	(6) 5-15R	3.5 x 17.0 x 19.4 / 89 x 432 x 494	50/23
PW9125 2000	05146001-5501	2000 / 1400	5-20P	(6) 5-15R	3.5 x 17.0 x 19.4 / 89 x 432 x 494	50/23
PW9125 2000 20R	05146001-5516	2000 / 1400	5-20P	(2) 5-15R, (4) 5-20R	3.5 x 17.0 x 19.4 / 89 x 432 x 494	50/23
PW9125 2500	103002716-5501	2500 / 1750	L5-30P	(2) 5-15R, (2) 5-20R, (1) L5-30R	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37
PW9125 3000	103002717-5501	3000 / 2100	L5-30P	(2) 5-15R, (2) 5-20R, (1) L5-30R	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37

208 Vac Models⁴

PW9125 2500EU	103002718-5501	2500 / 1750	Detachable L6-20	(4) IEC 320-C13, (1) IEC 320-C19	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37
PW9125 3000EU	103002719-5501	3000 / 2100	Detachable L6-20	(4) IEC 320-C13, (1) IEC 320-C19	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37
PW9125 2500EUHW	103002720-5501	2500 / 1750	Hardwired	Hardwired	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37
PW9125 3000EUHW	103002721-5501	3000 / 2100	Hardwired	Hardwired	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37

230 Vac Models⁵

PW9125 700i	05146622-5501	700 / 490	IEC 320-C14	(6) IEC 320-C13	3.5 x 17.0 x 19.4 / 89 x 432 x 494	34/15
PW9125 1000i	05146011-5501	1000 / 700	IEC 320-C14	(6) IEC 320-C13	3.5 x 17.0 x 19.4 / 89 x 432 x 494	34/15
PW9125 1250i	05146009-5501	1250 / 875	IEC 320-C14	(6) IEC 320-C13	3.5 x 17.0 x 19.4 / 89 x 432 x 494	50/23
PW9125 1500i	05146006-5501	1500 / 1050	IEC 320-C14	(6) IEC 320-C13	3.5 x 17.0 x 19.4 / 89 x 432 x 494	50/23
PW9125 2000i	05146003-5501	2000 / 1400	IEC 320-C14	(6) IEC 320-C13	3.5 x 17.0 x 19.4 / 89 x 432 x 494	50/23
PW9125 2500E	103002722-5501	2500 / 1750	IEC 320-C20	(4) IEC 320-C13, (1) IEC 320-C19	3.5 x 17.0 x 23.9 / 89 x 432 x 607	50/23
PW9125 3000E	103002723-5501	3000 / 2100	IEC 320-C20	(4) IEC 320-C13, (1) IEC 320-C19	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37
PW9125 2500EH	103002724-5501	2500 / 1750	Hardwired	Hardwired	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37
PW9125 3000EH	103002725-5501	3000 / 2100	Hardwired	Hardwired	3.5 x 17.0 x 23.9 / 89 x 432 x 607	81.5/37
PW9125 5000g HW	103003623-5501	5000 / 3500	Hardwired	Hardwired	8.63 x 17.37 x 24.94 / 219 x 441 x 633	206/93.4
PW9125 5000g	103003633-5501	5000 / 3500	L6-30P	L6-30R	8.63 x 17.37 x 24.94 / 219 x 441 x 633	206/93.4
PW9125 6000g HW	103003625-5501	6000 / 4200	Hardwired	Hardwired	8.63 x 17.37 x 24.94 / 219 x 441 x 633	206/93.4
PW9125 6000g	103003635-5501	6000 / 4200	L6-30P	L6-30R	8.63 x 17.37 x 24.94 / 219 x 441 x 633	206/93.4

1. 50/60 automatic frequency selection. 2. Black Chassis Option, change order number from -5501 to -6501 (for 700 VA -2000 VA & 5000/6000 VA models only). 3. 120V models are 110V, 120V, 127V user-selectable. 4. 208V Models are 208V, 220V, 230V, 240V user-selectable. 5. 230V models are 208V, 220V, 230V, 240V user-selectable. 6. add 8.5 lbs for shipping weight.

OPTIONAL EXTENDED BATTERY MODULES (EBMS)

Model ¹	Part Number	Dimensions (H x W x D)	Weight (lb)
PW9125 24 EBM For 700/1000VA Models Only	05146502-5501	3.5 x 19.0 x 19.4	65
PW9125 48 EBM For 1250,1500,2000VA Models Only	05146074-5501	3.5 x 19.0 x 19.4	65
PW9125 72 EBM For 2500 & 3000 Models Only	103002836-5501	3.5 x 17.0 x 23.9	93
PW9125 240 EBM For 5000 & 6000 Models Only	103003387-5501	5.25 x 17.0 x 24.75	169
PW9125 48Vdc Extended Battery Cabinet	124100014-002	17.2 x 24.6 x 28.3	665

1. Black Chassis Option, change order number from -5501 to -6501 (for 700 VA -2000 VA & 5000/6000 VA models only)

OPTIONAL POWERPASS DISTRIBUTION MODULES (PPDMS)

Model ¹	Part Number	Input Voltage (VAC)	Output Voltage (VAC)	Input Connection	Output Receptacles	Dimensions (H x W x D)	Weight (lb)
700 - 2000 VA Models							
PPDM 700-1500 VA	05146519-001	120	120	6-ft, L5-15P attached power cord	(6) 5-15R, (1) L5-15R for Laser Printer Unprotected	3.5 x 11.0 x 4.5	2.5
PPDM 2000 VA	05146520-001	120	120	6-ft, L5-20P attached power cord	(6) 5-15R	3.5 x 11.0 x 4.5	2.5
PPDM 700-2000 VA	05146519-002	230	230	IEC 320-C14 Input Connector	(6) IEC 320-C13, (1) IEC 320-C13 for Laser Printer Unprotected	3.5 x 11.0 x 4.5	2.5
2500/3000 VA Models							
PPDM2-LV-US-P1	103002742-5501	120	120	6-ft, L5-30P attached power cord	(6) 5-20R, (1) L5-30R	3.0 x 17.0 x 23.9	20
PPDM1-HV-US-P1	103002739-5501	208-240	208-240 / 120	16A, IEC 320-C20 input connector Country-specific, detachable power cord	(6) 5-20R, (1) L14-30R	3.0 x 17.0 x 23.9	50
PPDM1-HV-US-P2	103002730-5501	208-240	120	16A, IEC 320-C20 input connector Country-specific, detachable power cord	(6) 5-20R, (1) L5-30R	3.0 x 17.0 x 23.9	50
PPDM1-HV-US-P3	103002731-5501	208-240	120	16A, IEC 320-C20 input connector Country-specific, detachable power cord	(6) 5-20R	3.0 x 17.0 x 23.9	50
PPDM1-HV-US-HW	103002732-5501	208-240	208-240/120	30A Terminal block (3 terminals)	30A Terminal block (4 terminals)	3.0 x 17.0 x 23.9	50
PPDM2-HV-US-P1	103002733-5501	208-240	208-240	16A, IEC 320-C20 input connector Country-specific, detachable power cord	(1) L6-30R	3.0 x 17.0 x 23.9	20
PPDM2-HV-EU-P2	103002740-5501	208-240	208-240	16A, IEC 320-C20 input connector Country-specific, detachable power cord	(2) 16A, IEC 320-C19	3.0 x 17.0 x 23.9	20
PPDM2-US-HW	103002734-5501	208-240	208-240	30A Terminal block (3 terminals)	30A Terminal block (3 terminals)	3.0 x 17.0 x 23.9	20
PPDM2-LV-US-HW	103002735-5501	120	120	30A Terminal block (3 terminals)	30A Terminal block (3 terminals)	3.0 x 17.0 x 23.9	20
5000/6000 VA Models							
PPDM, L6-30	103003214-5501	208-240	208-240/120	L6-30P	(1) L6-30R, (8) 5-15R	5.25 x 17.37 x 24.75	106
PPDM, L6-20	103003214-5502	208-240	208-240/120	L6-30P	(1) L6-20R, (8) 5-15R	5.25 x 17.37 x 24.75	106
PPDM, L5-30	103003214-5503	208-240	208-240/120	L6-30P	(1) L5-30R, (8) 5-15R	5.25 x 17.37 x 24.75	106
PPDM, L14-30	103003214-5504	208-240	208-240/120	L6-30P	(1) 14-30R, (8) 5-15R	5.25 x 17.37 x 24.75	106
PPDM, HW	103003214-5505	208-240	208-240/120	Hardwired	Hardwired	5.25 x 17.37 x 24.75	106
PPDM, EURO HW	103003214-5506	208-240	208-240/120	Hardwired	Hardwired	5.25 x 17.37 x 24.75	106
PPDM, L6-30&L14-30	103003214-5507	208-240	220-240/120	L6-30P	(1) L6-30R, (1) L14-30R, (4) 5-15R	5.25 x 17.37 x 24.75	106
PPDM, L6-30 (2)	103003214-6508	208-240	208-240/120	L6-30P	(2) L6-30R, (4) 5-20R	5.25 x 17.37 x 24.75	106
PPDM, L6-20 (2)	103003214-6509	208-240	208-240/120	L6-30P	(2) L6-30R, (4) 5-20R	5.25 x 17.37 x 24.75	106

1. 5000/6000 VA PPDM Black Chassis Option, change order number from -55XX to -65XX.

OPTIONAL MOUNTING HARDWARE

Description	Part Number
PW9215 700 - 3000 VA Mounting Rail Kit, 2-post 2U,	05146726-5501
PW9215 700 - 3000 VA Mounting Rail Kit, 4-post 2U,	05141562-0021
PW9125 - 3000 VA Mounting Rail Kit, 4-post	103002291-002
PW9125 5000/6000 VA Mounting Rail Kit, Beach Grey	103003226
PW9125 5000/6000 VA Mounting Rail Kit, Black	103003226-001
PW9125 5000/6000 VA Pedestal Kit, Beach Grey	103003227
PW9125 5000/6000 VA Pedestal Kit, Black	103003227-001
PW9125 700 - 3000 VA Seismic Kit, Three Unit (For 3 UPSs or EBMs)	05146871-5501
PW9125 700 - 3000 VA Seismic Kit, Five Unit (For 5 UPSs or EBMs)	05146875-5501
PW9125 5000/6000 Seismic Kit 3-unit (1-UPS, 2 PPDM or Battery) Beach Grey	103003229-5501
PW9125 5000/6000 Seismic Kit 3-unit (1-UPS, 2 PPDM or Battery) Black	103003229-6501

CONNECTIVITY OPTION CARDS

Model	Part Number	Dimensions (H x W x D)
X-Slot ConnectUPS-X Web/SNMP/xHub Card	103002974-5501	Fits in rear panel slot
X-Slot ConnectUPS-M Card	05146288-5501	Fits in rear panel slot
X-Slot Multi-Server Card	05146447-5502	Fits in rear panel slot
X-Slot Relay Card (AS/400 compatible)	1018460	Fits in rear panel slot
X-Slot USB Card	05146508-5501	Fits in rear panel slot
X-Slot Modbus Card	103002510-5501	Fits in rear panel slot
Expansion Chassis (equipped with Modbus card)	5147063	

Notes: 1.LanSafe cable DB9f to DB9m P/N 60420064-002 is shipped with the UPS.

Technical Specifications¹

Electrical Input	700 – 3000 VA	5000/6000 VA
Nominal Voltage	120 Vac, 208 - 240 Vac	208 - 240 Vac
Voltage Range	120V: 80-144V (without using batteries) 208/230V: 160-288 (without using batteries)	160-288V (without using batteries)
Input Power Factor	>.95, typical	>.96 in any mode
Frequency	50 or 60 Hz, auto-sensing	
Frequency Range	45-65 Hz	50 Hz: 47-53 Hz 60 Hz: 57-63 Hz

Electrical Output

On Utility Voltage Regulation	± 3% of nominal	
On Battery Voltage Regulation	± 3% of nominal	
Efficiency	89-92%, depending on load	>85% Online Mode; >90% High-efficiency Mode
Frequency Regulation	± 3 Hz online; ± 1 Hz on battery	± 3 Hz online; ± 1 Hz on battery; ± 3 Hz High-Efficiency Mode
Load Crest Factor	3 to 1	

Battery

Internal Battery Type	9 Ah, Sealed, lead-acid; maintenance free	7 Ah, Sealed, lead-acid; maintenance free
EBM Battery Type	9 Ah, Sealed, lead-acid; maintenance free	9 Ah, Sealed, lead-acid; maintenance free
Battery Runtime	See Battery Runtimes table	
Battery Replacement	Hot-swappable internal and external batteries	
Recharge Time	<2 hrs. From complete discharge to 80% capacity at nominal line conditions	
Start-On-Battery	Allows start of UPS without utility input	

General

Topology	True online, double-conversion	
Diagnostics	Full system self-test on power up	
UPS Bypass	Automatic on overload or UPS failure	
Dimensions and Weights	See Model Selection Guide	

Communications

Serial Port	RS-232 communications port standard; optional X-Slot modules available	RS-232 and USB communications port standard; optional X-Slot modules available
Communications Cable	6-foot communications cable included	

Environmental

Safety Markings	120 V: UL, CSA, and NOM; 230 V: UL, CSA, VDE, CE S, D, N, FI, B, NOM, R; 208 V: UL, CSA	UL, cUL, VDE, CE, NOM, NYCE, GS
EMC Markings	FCC Class B and VCCI Class II 3000 FCC Class A	FCC-A, VCCI-A, BSMI-A, C-Tick, CE Compliance
Surge Suppression	IEEE/ANSI C62.41 Category B (formerly 587)	ANSI C62.41 Category B3, and EN61000-4-5 Level 3 Criteria B
Audible Noise	<45 dBA (on utility); <50 dBA (on battery)	
Ambient Operating/ Heat Dissipation	0 to 40° C (32 to 104° F) 2066 BTU/hr. Max	
Leakage Current	< .6 mA Typical	
Storage Temperature	0 to 25° C (32 to 77° F)	
Relative Humidity	0 to 90%, non-condensing	5 to 90%, non-condensing
REPO Port	NEC Code 645-11 intent and UL requirements	
Network Transient Protector	In and out jack for models only or 10 Base-T network cable; protection. UL497A tested	N/A

1. Specifications are typical and subject to change without notice due to continuing product improvement programs.

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Powerware

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Eaton 9130 UPS



Vistazo del producto

Rango:	700 a 3000 VA
Voltaje	20 Vac, 208–240V
Frecuencia	50/60 H (auto-sensing)
Configuración:	Montaje en rack o torre

Protección avanzada de energía para:

- Tecnologías de información y ambientes de redes
- Servidores, networking
- Telecomunicaciones, VoIP, sistemas de seguridad
- Sistemas médicos
- Diagnósticos y seguimiento médico
- Archivos de historial de pacientes
- Sistemas de manufactura
- Fabricación de chips
- Producción de farmacéuticos
- Procesamiento de químicos

Características

- Protege contra el tiempo fuera de operación, pérdida de datos e interrupciones de proceso proporcionando energía limpia y continua.
- Ofrece un desempeño premium con un factor de potencia de 0.9 y más de 95% de eficiencia.
- Incrementa la vida útil de la batería con el sistema ABM® battery charging technology.
- Permite el funcionamiento prolongado de equipos esenciales durante fallas de energía mediante la desconexión remota de equipos no-críticos.
- Proporciona flexibilidad de instalación con la opción de diseño en rack o torre, ambas configuraciones ahorrando espacio.
- Asegura la integridad de datos y el sistema con el software LanSafe®
- Proporciona una garantía limitada de 2 años, una garantía extendida, los servicios Flex™ y PowerTrust™, y una garantía de protección de carga de \$250,000 (EU y Canada)

Eaton® provee soluciones de clase mundial en protección, administración y distribución de energía con productos que incluyen sistemas de alimentación ininterrumpible (UPSs), sistema de fuerza de corriente directa, software de administración de la energía con premios a nivel mundial y servicios de primer nivel. Los UPSs Powerware® series son reconocidos por los usuarios y expertos de la industria porque ofrecen el mayor valor y satisfacción, además porque demuestran responder a las necesidades de los clientes.

La más reciente adición a nuestra línea Powerware series, el Eaton 9130 UPS, resuelve los problemas de alimentación de energía y entrega una protección superior a los equipos de redes y de TI, sistemas médicos, control del proceso de manufactura o cualquier equipo o aplicación crítica que requiera energía continua y limpia.

Diseño de Doble conversión para una protección superior

El 9130 monitorea constantemente las condiciones de la energía, regulando el voltaje y la frecuencia. Aún cuando se presentan los problemas de energía más severos, la entrega del UPS se mantiene dentro del tres por ciento del voltaje nominal.

Con un rango amplio del voltaje de entrada, el 9130 no depende de las baterías para controlar fluctuaciones de energía menores. Las baterías se conservan para las veces en las que la entrada de energía es altamente inestable o inexistente. Si ocurre una pérdida de energía, el 9130 transfiere a baterías sin interrupción en la salida de energía. Por tanto, este UPS es ideal para equipos altamente sensibles o críticos.

Más energía real por menor costo

Más energía real. El alto factor de potencia de salida de 0.9 permite que el 9130 provea su capacidad a equipos modernos de TI que pueden tener un amplio rango de factores de potencia. El factor de potencia de entrada de 0.99 permite al UPS evitar los disturbios que algunos transformadores pueden causar.

Alta eficiencia. Mientras más eficiente es un UPS, menores los gastos de energía y de acondicionamiento de aire. Incluso un pequeño incremento en la eficiencia puede representar miles de dólares en ahorros. Cuando las condiciones de

operación son aceptables, el 9130 puede operar con una eficiencia de de 95 por ciento o más, la cual es realmente alta.

Diseño avanzado y auto-monitoreo

El 9130 monitorea continuamente el voltaje, la temperatura, funciones de elementos internos, la vida útil de baterías, estado de carga de las baterías y tiempo de soporte restante. Si el UPS detecta un problema potencial con alguna de estas medidas, manda alarmas o realiza una acción correctiva, sin interrumpir el suministro de energía. Al final de la condición de alarma, el 9130 automáticamente regresa de bypass a operación normal.

Mayor duración de las baterías con el exclusivo sistema ABM technology

La mayoría de los fabricantes de UPS utilizan un sistema de recarga de baterías lento, que puede reducir potencialmente la vida útil de las baterías hasta en un 50 por ciento. En cambio, el sistema ABM technology utiliza sofisticados circuitos sensibles y una innovadora técnica de carga de tres etapas que extiende significativamente la vida útil de las baterías del UPS al mismo tiempo que optimiza su tiempo de recarga.

El 9130 detecta con más de 60 días de anticipación el final de la vida útil de las baterías, brindando un

amplio margen para reemplazarlas sin necesidad de apagar o desconectar los equipos alimentados.

Módulos de baterías externos para mayor tiempo de respaldo

Durante una caída de energía, las baterías internas del 9130 mantienen la carga el tiempo suficiente para apagar los equipos conectados. Sin embargo, se pueden añadir hasta cuatro módulos de baterías externos para respaldar por horas los equipos en caso de ser necesario. Los módulos se pueden reemplazar rápidamente sin necesidad de apagar el UPS o los equipos conectados. También es posible iniciar el UPS y alimentar la carga con energía proveniente de las baterías.

BATTERY RUNTIMES

	Internal batteries		+1 EBM		+2 EBMs		+3 EBMs		+4 EBMs	
	100% Load	50% Load	100% Load	50% Load	100% Load	50% Load	100% Load	50% Load	100% Load	50% Load
Rack models										
PW9130L700R-XL2U	9	24	41	85	72	140	105	205	130	270
PW9130L1000R-XL2U	5	17	30	69	55	125	83	191	108	257
PW9130G1000R-XL2U	7	14	29	68	51	113	81	192	98	246
PW9130G1000R-XL2UEU	7	14	29	68	51	113	81	192	98	246
PW9130I1000R-XL2U	7	14	29	68	51	113	81	192	98	246
PW9130L1500R-XL2U	5	12	23	63	48	112	67	167	91	209
PW9130I1500R-XL2U	5	14	24	60	44	68	72	172	89	190
PW9130L2000R-XL2U	6	17	33	70	59	136	88	190	112	254
PW9130G2000R-XL2U	6	16	33	71	59	129	88	183	119	260
PW9130G2000R-XL2UEU	6	16	33	71	59	129	88	183	119	260
PW9130I2000R-XL2U	6	16	33	71	59	129	88	183	119	260
PW9130L2500R-XL2U	4	11	26	45	47	86	71	140	95	209
PW9130G2500R-XL2U	4	12	28	45	49	92	71	141	97	207
PW9130G2500R-XL2UEU	4	12	28	45	49	92	71	141	97	207
PW9130L3000R-XL2U	3	10	20	48	36	90	53	123	71	164
PW9130G3000R-XL2U	3	9	18	45	34	84	53	122	69	165
PW9130G3000R-XL2UEU	3	9	18	45	34	84	53	122	69	165
PW9130I3000R-XL2U	3	9	18	45	34	84	53	122	69	165
Tower models										
PW9130L700T-XL	6	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PW9130I700T-XL	6	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PW9130L1000T-XL	5	17	30	69	55	125	83	191	108	257
PW9130G1000T-XL	7	14	29	68	51	113	81	192	98	246
PW9130G1000T-XLEU	7	14	29	68	51	113	81	192	98	246
PW9130I1000T-XL	7	14	29	68	51	113	81	192	98	246
PW9130L1500T-XL	5	12	23	63	48	112	67	167	91	209
PW9130I1500T-XL	5	14	24	60	44	68	72	172	89	190
PW9130L2000T-XL	10	25	43	91	79	152	102	207	126	270
PW9130G2000T-XL	10	24	42	91	78	145	100	200	134	270
PW9130G2000T-XLEU	10	24	42	91	78	145	100	200	134	270
PW9130I2000T-XL	10	24	42	91	78	145	100	200	134	270
PW9130L3000T-XL	5	15	26	56	47	101	72	138	92	168
PW9130G3000T-XL	5	14	24	53	45	95	72	137	90	170
PW9130G3000T-XLEU	5	14	24	53	45	95	72	137	90	170
PW9130I3000T-XL	5	14	24	53	45	95	72	137	90	170

Máximo respaldo para sistemas críticos.

Utilizando el software LanSafe de manejo de la energía, se puede controlar independientemente segmentos de carga, que son grupos de contactos en la parte posterior del UPS. Esta característica permite realizar programas para apagar o prender equipos secuencialmente de la carga protegida. Durante una falla de energía, se pueden apagar aparatos no críticos para poder extender el tiempo de respaldo con baterías a sistemas críticos. También se puede utilizar esta característica para reiniciar remotamente equipos bloqueados.

Utilización flexible con opciones de comunicación

Una plataforma, dos configuraciones y decenas de opciones. Más de 3000 VA sólo utilizan 2 unidades de espacio en rack. La opción en torre es del tamaño de una PC compacta y moderna, utilizando sólo 1.5 pies cuadrados para acomodar la base. Se pueden elegir de decenas de modelos que ofrecen el tipo de conexión de entrada, enchufes y voltajes que necesitas.

Monitorea y maneja el UPS desde cualquier lugar. Las opciones de conectividad están disponibles para cualquier tipo de redes. La unidad standard viene con los puertos de comunicación USB y RS-232 de serie. Se pueden añadir al UPS las opciones del BestDock interface para otro tipo de comunicaciones, como:

- Control y monitoreo del status y mediciones del UPS via SNMP o Web browser
- Monitoreo y apagado de diversos servidores con diferentes sistemas operativos
- Envío de alarmas y notificaciones a sistemas de seguridad remotos

Intuitivos controles de monitoreo y manejo

Un usuario en sitio puede configurar y monitorear muchas características del 9130 usando un brillante display. Tiene una navegación fácil y simple y se puede escoger una gran variedad de idiomas. Los LEDs proporcionan información rápida del status del UPS.

El 9130 incluye el software de administración de energía LanSafe, el cual proporciona control y visibilidad en todos los sistemas de UPS, utilizando una interfase gráfica e intuitiva, así como el sistema SNMP.

Desde un punto central, se tiene la visibilidad y control que se necesita para asegurar el continuo funcionamiento. Por ejemplo, se puede establecer un apagado por prioridad de dispositivos de redes y aplicaciones de cliente/servidor, probar todos los UPS comunicados desde un nodo, analizar tendencias y condiciones de la red, y mantenerse informado de los problemas de energía eléctrica por e-mail o radio-localizador

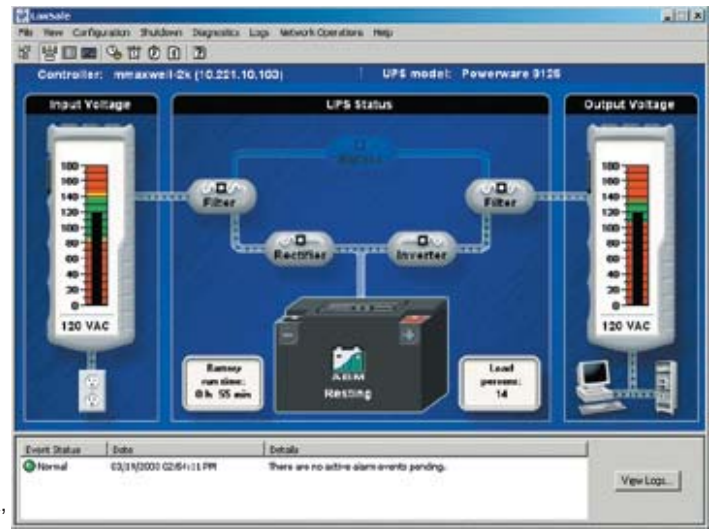
El software Lan Safe incluye también demostraciones multimedia y pruebas gratuitas que permiten explorar software opcional para el monitoreo y análisis del desempeño del UPS y administración del centro de datos.

Mejora tu UPS con las opciones complementarias

Cuenta con Eaton para soluciones de calidad de energía e infraestructura solutions. Puede complementar tu 9130 con opciones que crean una instalación centro de datos más efectivo, manejable y resistente. Por ejemplo:

- Un bypass de mantenimiento que permite quitar la carga al UPS de manera que se le pueda dar mantenimiento de una forma segura sin necesidad de dejar de alimentar sistemas críticos.

Su atractivo diseño proporciona espacio organizado para centros de datos, closets de conexión,



LanSafe responde a las preguntas clave de los administradores de redes con un display visual intuitivo

- ¿El voltaje de entrada está dentro del rango aceptable?
- ¿Si no hay energía, cuanto tiempo el UPS puede funcionar con energía de baterías?
- ¿El UPS está funcionando con energía de baterías justo ahora?
- ¿Existen eventos activos de los que necesite saber?
- ¿El UPS está funcionando justo ahora en modo bypass?
- ¿El voltaje de salida está dentro de los límites aceptables?
- ¿Qué porcentaje de la capacidad del UPS está siendo utilizada?
- ¿Las baterías están siendo cargadas o se están descargando?

ambientes de oficina y almacenes o bodegas.

- Las unidades de distribución de energía racionalizan la distribución de ésta a través de un centro de datos o rack.
- Los sistemas de monitoreo como LanSafe, brindan una perspectiva completa para administrar efectivamente la instalación y la infraestructura eléctrica.
- Servicios de soporte. El monitoreo remoto eNotify asegura que la infraestructura eléctrica sea diseñada inteligentemente, monitoreando continuamente y administrando las operaciones que necesitan funcionar todo el tiempo.

Eaton, tu aliado confiable en calidad de energía.

Representando más de 40 años de investigación y desarrollo de excelencia, el nuevo Eaton 9130 UPS entrega más poder real, de manera

que puede proporcionar energía sin importar las alteraciones de la misma protegiendo sus sistemas confiable y eficientemente. Eaton estará ahí en largo plazo con una garantía premium y soporte técnico de expertos.

Cuando pienses en máxima tranquilidad, confía en el servicio Eaton eNotify Remote Monitoring. Con este servicio 7x24, nuestro centro de confiabilidad del cliente (CustomerReliability Center) monitorea de manera remota tu UPS y te contacta en caso de una emergencia. Prueba este servicio gratuitamente por 90 días. Visita www.powerware.com/eNotify y sigue las instrucciones.

Para encontrar mas información del 9130 y otras soluciones de calidad de la energía visita nuestro Web site en: www.powerware.com/9130

TOWER MODELS

Número de catálogo	Número de estilo	Entrada (VA/Watts)	Conexión de entrada	Receptáculos de Salida	Dimensiones (Alto, Ancho, Prof.)en (mm)	Peso, lb (kg)
North American Tower Models: 120V, 50/60 Hz						
PW9130L700T-XL	103006426-6591	700/630	5-15P	(6) 5-15R	9.1 x 6.3 x 13.8 (230 x 160 x 350)	26.9 (12.2)
PW9130L1000T-XL	103006427-6591	1000/900	5-15P	(6) 5-15R	9.1 x 6.3 x 15.0 (230 x 160 x 380)	32.0 (14.5)
PW9130L1500T-XL	103006428-6591	1500/1350	5-15P	(6) 5-15R	9.1 x 6.3 x 16.9 (230 x 160 x 430)	41.9 (19.0)
PW9130L2000T-XL	103006429-6591	2000/1800	5-20P	(1) L5-20, (4) 5-15/20R	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130L3000T-XL	103006430-6591	3000/2700	L5-30P	(4) 5-15/20R, (1) L5-30R	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
Global Tower Models: 208V, 50/60 Hz						
PW9130G1000T-XL	103006431-6591	1000/900	L6-20P*	(1) L6-20R, (2) 6-20R	9.1 x 6.3 x 15.0 (230 x 160 x 380)	32.0 (14.5)
PW9130G2000T-XL	103006432-6591	2000/1800	L6-20P*	(1) L6-20R, (4) 6-20R	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130G3000T-XL	103006446-6591	3000/2700	L6-20P**	(1) L6-30R, (1) L6-20R, (2) 6-20R	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130G1000T-XLEU	103006477-6591	1000/900	L6-20P*	(6) C13	9.1 x 6.3 x 15.0 (230 x 160 x 380)	32.0 (14.5)
PW9130G2000T-XLEU	103006478-6591	2000/1800	L6-20P*	(8) C13, (1) C19	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130G3000T-XLEU	103006479-6591	3000/2700	L6-20P**	(8) C13, (1) C19	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
International Tower Models: 230V, 50/60 Hz						
PW9130i700T-XL	103006433-6591	700/630	C14	(6) C13	9.1 x 6.3 x 13.8 (230 x 160 x 350)	26.9 (12.2)
PW9130i1000T-XL	103006434-6591	1000/900	C14	(6) C13	9.1 x 6.3 x 15.0 (230 x 160 x 380)	32.0 (14.5)
PW9130i1500T-XL	103006435-6591	1500/1350	C14	(6) C13	9.1 x 6.3 x 16.9 (230 x 160 x 430)	41.9 (19.0)
PW9130i2000T-XL	103006436-6591	2000/1800	C14	(8) C13, (1) C19	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
PW9130i3000T-XL	103006437-6591	3000/2700	C20	(8) C13, (1) C19	12.8 x 8.4 x 16.1 (325 x 214 x 410)	76.1 (34.5)
Tower Extended Battery Modules						
PW9130N1000T-EBM	103006438-6591	NA	NA	NA	9.1 x 6.3 x 15.0 (230 x 160 x 380)	40.8 (18.5)
PW9130N1500T-EBM	103006439-6591	NA	NA	NA	9.1 x 6.3 x 16.9 (230 x 160 x 430)	53.6 (24.3)
PW9130N3000T-EBM	103006440-6591	NA	NA	NA	12.8 x 8.4 x 16.1 (325 x 214 x 410)	110.3 (50.0)

RACK MODELS

Número de catálogo	Número de estilo	Entrada (VA/Watts)	Conexión de entrada	Receptáculos de Salida	Dimensiones (Alto, Ancho, Prof.)en (mm)	Peso, lb (kg)
North American Rack Models: 120V, 50/60 Hz						
PW9130L700R-XL2U	103006447-6591	700/630	5-15P	(6) 5-15R	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130L1000R-XL2U	103006448-6591	1000/900	5-15P	(6) 5-15R	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130L1500R-XL2U	103006449-6591	1500/1350	5-15P	(6) 5-15R	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	54.9 (24.9)
PW9130L2000R-XL2U	103006450-6591	2000/1800	5-20P	(6) 5-15/20R, (1) L5-20R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	68.1 (30.9)
PW9130L2500R-XL2U	103006451-6591	2500/2250	L5-30P	(6) 5-15/20R, (1) L5-30R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
PW9130L3000R-XL2U	103006452-6591	3000/2700	L5-30P	(6) 5-15/20R, (1) L5-30R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
Global Rack Models: 208V, 50/60 Hz						
PW9130G1000R-XL2U	103006461-6591	1000/900	L6-20P*	(1) L6-20R, (2) 6-20R	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130G2000R-XL2U	103006462-6591	2000/1800	L6-20P*	(1) L6-20R, (4) 6-20R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	54.9 (24.9)
PW9130G2500R-XL2U	103006453-6591	2500/2250	L6-20P**	(1) L6-30R, (1) L6-20R, (2) 6-20R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
PW9130G3000R-XL2U	103006454-6591	3000/2700	L6-20P**	(1) L6-30R, (1) L6-20R, (2) 6-20R	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
PW9130G1000R-XL2UEU	103006480-6591	1000/900	L6-20P*	(6) C13	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130G2000R-XL2UEU	103006481-6591	2000/1800	L6-20P*	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	54.9 (24.9)
PW9130G2500R-XL2UEU	103006482-6591	2500/2250	L6-20P**	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
PW9130G3000R-XL2UEU	103006483-6591	3000/2700	L6-20P**	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	69.2 (31.4)
International Rack Models: 230V, 50/60 Hz						
PW9130i1000R-XL2U	103006455-6591	1000/900	C14	(6) C13	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	49.4 (22.4)
PW9130i1500R-XL2U	103006456-6591	1500/1350	C14	(6) C13	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	54.9 (24.9)
PW9130i2000R-XL2U	103006457-6591	2000/1800	C14	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	68.1 (30.9)
PW9130i3000R-XL2U	103006463-6591	3000/2700	C20	(8) C13, (1) C19	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	68.1 (30.9)
Rack Extended Battery Modules						
PW9130N1000R-EBM2U	103006458-6591	NA	NA	NA	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	62.0 (28.1)
PW9130N1500R-EBM2U	103006459-6591	NA	NA	NA	3.4 x 17.2 x 17.7 (86.5 x 438 x 450)	62.0 (28.1)
PW9130N3000R-EBM2U	103006460-6591	NA	NA	NA	3.4 x 17.2 x 23.6 (86.5 x 438 x 600)	84.0 (38.1)

*C14, w/ detach L6-20P

** C20, w/ detach L6-20P

Especificaciones Técnicas

General

Interfase de usuario	Pantalla LCD con luz de fondo azul con idiomas Inglés, Francés, Alemán, Ruso y Español
LEDs	4 LEDs indicadores de status
Topología	Verdaderamente en línea, doble conversión
Diagnósticos	Auto diagnóstico completo del sistema
Bypass del UPS	Automático
Dimensiones	Ver tabla de modelos
Kit de rieles	Incluido en todos las modelos de rack

Entrada Eléctrica

Voltaje nominal	120V: 208–240V
Rango de Voltaje	120V: 90-138 Vac (con FP de carga de 0.7) 208/230V: 160–276 Vac (con FP de carga de 0.7)
Consumo del UPS	700: 5.8A @120V, 3.4A @208V, 3.0A @230V 1000: 8.3A @120V, 4.8A @208V, 4.3A @230V 1500: 12.5A @120V, 7.2A @208V, 6.5A @230V 2000: 16.6A @120V, 9.6A @208V, 8.7A @230V 2500: 20.8A @120V, 12.0A @208V, 10.9A @230V 3000: 25.0A @120V, 14.4A @208V, 13.0A @230V
Circuito dedicado	120V:
Rango de breaker	700-1500 VA: 15A 2000 VA: 20A 2500–3000 VA: 30A 208/230V: 700–2000 VA: 10A 3000 VA: 16A
Frecuencia	50/60 Hz
Rango de Frecuencia	45-65 Hz

Salida Eléctrica

Factor de Potencia	0.9
Regulación del voltaje de entrada	±3% del voltaje nominal
Regulación del voltaje de baterías	±3% del voltaje nominal
Eficiencia	>95% en modo de alta eficiencia; >86% en modo en-línea
Regulación de frecuencia	±3% Hz en línea
Factor de cresta en la carga	3 a 1

Baterías

Tipo de baterías	VRLA 12V/9 Ah (internas y externas)
Tiempo de baterías	>3 minutos con baterías internas @100% de carga (0.7FP)
Reemplazo de baterías	Sistema de cambio rápido en baterías internas y externas
Baterías para arranque	Permiten el arranque del UPS sin necesidad de energía de entrada

Comunicaciones

Puerto serial	RS-232 estándar, para interfase del software de administración de energía
Puerto USB	HID estándar para comunicación con computadoras con sistemas Windows 98 y ME
Relevador de salida	Alarma estándar
Puerto de comunicaciones	Puertos opcionales de comunicación (BD Slot)
Tarjetas de comunicación opcionales	Tarjeta SNMP/Web para control directo y monitoreo en redes SNMP, monitoreo del status del UPS y parámetros vía Web browser. Tarjeta de relevador para integración con ambientes industriales y sistemas de administración de edificios y apagado remoto para sistemas IBM AS/400

Medio ambiente

Medidas de seguridad	120/208V: UL, CUL, VCCI 230V: CE, GS
Medidas EMC	120V: FCC Class B, EN55022 Class B (1.5 kVA and below); FCC Class A, EN55022 Class A (2.0 kVA) <2kVA 230V: CE (per IEC/EN62040-2: Emissions, Category C1; Immunity, Category C2)
Ruido audible	<50 dB
Ambiente de operación	0°C (32°F) a +40°C (104°F)
Almacenamiento	-20°C (-4°F) to +40°C (104°F) con baterías y -25°C (-13°F) to +55°C (131 °F) sin baterías
Humedad relativa	5–90% sin condensación

Disipación de calor para todos los voltajes: 230/208 y 120V

9130 model	Modo normal, BTUs/hr	En baterías, BTUs/hr
700 VA	350	554
1000 VA	500	674
1500 VA	750	1,011
2000 VA	838	1,348
2500 VA	1,047	1,463
3000 VA	1,257	1,755

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Powerware



PowerChain
Management®

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Eaton 9135 UPS



Product snapshot

Power rating: 5 kVA/3.5 kW; 6 kVA/4.2 kW

Voltage: 208V or 230V nominal, 200–250 Vac range

Frequency: 50/60 Hz (auto-sensing)

Configuration: Rackmount (3U) or tower

Features

- Provides clean, continuous power to protect critical equipment and applications from power-related downtime, data loss and corruption, and process interruption
- Saves valuable rack space by delivering up to 6000 VA/4200W in only 3U
- Provides deployment versatility by offering rack and tower installation options with rail kits and pedestal provided
- Increases availability with hot-swappable batteries and power module and an optional external maintenance bypass
- Offers extended battery runtime options to power essential systems for more than an hour during an outage
- Simplifies UPS monitoring and management with a bright LCD user interface, intuitive LanSafe® software and optional eNotify service from Eaton®
- Provides investment protection with a two-year limited warranty, an extended warranty, Flex™ and PowerTrust™ service contracts, and a \$250,000 load protection guarantee (US and Canada)

If you operate a facility or data center, you know the reality well: utility power voltages can vary significantly from their specified value. Electricity from local utilities is typically plagued with surges, sags, electrical noise, harmonics, load fluctuations, outages and other interferences. These anomalies can corrupt data, cause process interruptions, and damage or destroy connected equipment.

The new **Eaton 9135 UPS** from our Powerware® series resolves these power problems and supplies continuous, conditioned power. You get clean power for valuable IT and networking equipment, battery backup to gracefully handle utility outages, and on-demand visibility into UPS status from anywhere.

The 9135 delivers superior power protection for medium-density data centers, banking and security systems, manufacturing process control, retail point-of-sale systems and telecommunications/VoIP equipment. Combining premium performance with innovative features, the 9135 is an exceptional UPS in its class.

Get more usable power for every utility dollar.

The 9135 provides exactly the level of power protection needed under the conditions of the moment—optimizing for both efficiency and performance. When this optional feature is activated, the UPS monitors incoming power and operates in high-efficiency mode unless power conditions warrant an automatic switch to double-conversion mode.

With this technology, the UPS can operate at up to 97 percent efficiency under normal conditions—and up to 91 percent when poor power conditions require the UPS to work harder to deliver clean power. High efficiency leads to a greener IT infrastructure—one that uses less energy and dissipates less heat, which in turn reduces power and cooling costs.

EATON

Powering Business Worldwide

Double conversion design offers superior reliability and protection.

The 9135 continuously conditions and controls AC output during normal operating conditions—regulating both voltage and frequency. Even when presented with the most severe power problems, UPS output remains within two percent of nominal voltage.

Unlike other commercially-available UPS topologies, a double conversion design fully protects connected equipment from all nine of the most common power problems: outages, sags, surges, spikes, brown-outs, line noise, frequency variation, switching transients and harmonic distortion.

With a wide range of acceptable input voltages, this UPS does not depend on batteries to smooth out power fluctuations. Batteries are conserved for those times when utility power is highly unstable or completely out. If an outage occurs, the 9135 transfers to battery with no break in power, making this an ideal UPS for equipment sensitive to voltage fluctuations.

High-density packaging provides space-saving flexibility.

The 9135 increases power density, delivering up to 6000 VA/4200W in only 3U of rack space. Rail kits and tower stands are included with every 9135 for flexible installation.

This UPS is even more user-friendly than the Eaton 9125 UPS—and offers greater distribution capabilities, with four L6-30 outlets (and IEC options) to power multiple pieces of equipment without a PDU.

You can combine the 9135 with an Eaton enclosure PDU (ePDU™) to power an entire rack of equipment from a single power cord input. ePDU outlets can be monitored, switched, sequenced and managed individually, providing maximum flexibility in distributing power from the 9135.

Service the UPS without interrupting power to downstream systems.

The 9135 features hot-swappable components and an automatic internal bypass. The UPS automatically switches to an alternate power path within the unit if it senses a trouble condition with an internal component. Users can even remove and replace the battery and power modules without powering down the UPS or interrupting power to loads.

With an optional external maintenance bypass—a PowerPass® power distribution module (PPDM) that occupies only 3U of rack space—you can even remove and upgrade or replace the entire UPS without disrupting power to critical equipment.

The 9135 PPDM integrates a step-down transformer that enables the UPS to be connected to energy-saving 208V or 240V input voltage, while providing appropriate output voltages for connected equipment.

With the growth in servers with dual or triple cords, users will also appreciate the extra receptacles that come with the PPDM for added plug-and-play flexibility.

Extend runtime for hours during power outages.

During a power outage, internal batteries in the 9135 keep loads running long enough to gracefully shut down systems. Add up to four external battery modules (EBMs) to deliver more than an hour of extended runtime at full load—or hours under lighter loads. Each EBM occupies only 3U of rack space. These battery modules are hot-swappable and can be replaced at any time without interrupting UPS operation and load protection.

Maximize battery backup time for critical systems.

For IEC versions of the 9135, LanSafe power management software enables independent control of load segments. With this feature, you can manage scheduled shutdowns and sequential startups of protected loads. During a power outage, you could shut down power to less essential loads to extend battery backup time for more critical devices.

When the load segments feature is used with optional ConnectUPS connectivity cards, users can remotely re-boot locked-up network equipment. Simply access the ConnectUPS card over the network, and toggle the password-protected load segment controller to get your network back online.

LanSafe answers administrators' key questions with an intuitive visual display.

Is input voltage within the acceptable range?

If the power went out right now, how long could the UPS run on battery power?

Is the UPS running on battery power right now?

Are there any active events I need to know about?

Is the UPS online or in bypass mode?

Is output voltage within acceptable limits?

What percent of UPS capacity is being used right now?

Is the battery being charged or discharged?



The 9135 fits easily into a rack, using only 3U of space and leaving plenty of room for other equipment, such as EBMs or PPDMs.

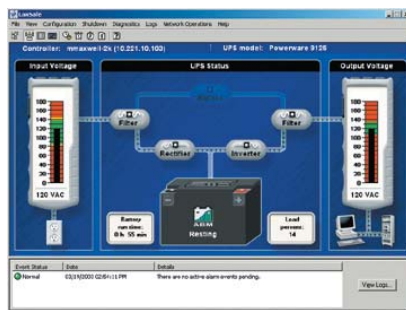


Even non-technical users can easily replace the hot-swappable batteries or power modules without interrupting power to loads.



Independently control groups of output receptacles.

(IEC versions only)



See UPS status at a glance.

An intuitive LCD interface provides detailed information and menu-driven functions for UPS management. The entire display rotates for the best orientation, whether the UPS is used vertically as a tower unit or horizontally in a rack.



The blue, backlit LCD screen displays four lines of alphanumeric information.

LEDs clearly display UPS status:

- Load Protected
- Downgraded Operation
- Load Not Protected

Navigate the display with buttons to scroll up, scroll down, select or escape.

UPS ON/OFF button

Monitor and manage the UPS from anywhere.

Connectivity options are available to suit nearly any communication requirement. The standard unit is equipped with native USB and RS-232 serial communication ports and a DB-9 dry contact port. You can customize your UPS by adding X-Slot® interface options for other types of communications, such as:



- A direct connection to the Ethernet network and the Internet, with the ability to monitor and manage the UPS from a standard Web browser
- Serial connection for monitoring and graceful shutdown of up to five servers running various operations systems
- Serial connection for simple alarm notification via isolated contacts to signal a change of state in UPS operation (typical in IBM® eServer® iSeries applications)

1. Optional communication card slot for Web/SNMP interface
2. USB port
3. DB 9 serial port
4. DB 9 with five dry output contacts
5. Remote power off



9135 Ethernet cards

The 9135 offers the high-end features you need—such as double conversion design, extended battery runtime options and remote monitoring—yet it is easy for even non-technical users to manage.

Unify the management of UPS functions and connections.

The 9135 comes complete with the Eaton Software Suite CD, including SNMP-compatible LanSafe power management software. LanSafe provides control and visibility over multiple UPSs, using an intuitive, graphical interface.

From a central vantage point, you can perform all requisite management processes for power protection, such as establishing a prioritized shutdown of network devices and client/server applications, testing all networked UPSs from one node, analyzing trends and network conditions, and staying informed of power problems via email broadcasts to mobile phones or pagers.

The Software Suite CD also includes multimedia demonstrations of various other software packages that Eaton offers—and a free 30-day trial for you to explore PowerVision® software for UPS performance monitoring and analysis as well as facility and data center management.

Versatility for your power protection strategy

The 9135 offers the versatility you need for resilient, adaptable power protection. For example, its high-density design frees more rack space for IT equipment. A single chassis can be used as a rack or tower unit; the display rotates to match. A choice of operating modes offers maximum protection or maximum energy efficiency. With a choice of output receptacle combinations, it powers more equipment without requiring a PDU. And it enables you to swap out batteries and the power module—even the whole UPS—without disrupting power to loads. *That's versatility.*

From Eaton, your trusted ally for power quality

Eaton is a technology leader in power protection, power distribution and infrastructure solutions, with the award-winning Powerware series of products, 350+ customer support engineers in North America and one of the largest patent portfolios in the industry.

For more than 40 years—from the first commercial UPS to the latest high-efficiency, high-density models—our power protection systems have set the standard and earned industry acclaim. Tens of thousands of Eaton UPSs are in use around the globe, protecting critical systems in every imaginable market, from medical to military, financial to aerospace, industrial to telecom.

To find out more about Eaton power protection solutions, visit our Web site at www.powerware.com or contact us at 1-800-356-5794. For more about the 9135, visit www.powerware.com/9135.



Technical specifications

General

User interface	Graphical LCD with blue backlight and text in English, French, German, Portuguese, Italian and Spanish
LEDs	Four status-indicating LEDs
Topology	Double-conversion
Diagnostics	Full system self-test
UPS bypass	Automatic bypass
Dimensions	See model selection guide
Rail kit	Included with all units

Electrical input

Nominal voltage	208V, 230V 200V, 208V, 220V, 230V, 240V and 250V user-selectable
Voltage range	156–280 Vac (output PF 0.7)
Power draw of UPS (full load)	5000 VA: 24.0A @208V 6000 VA: 28.8A @208V
Recommended input breaker rating	35A
Frequency	50/60 Hz autoselect
Frequency range	40–70 Hz

Electrical output

Power factor	0.7
On utility voltage regulation	±2% of nominal
On battery voltage regulation	±2% of nominal
Efficiency	>97% in high-efficiency mode; 91% in normal mode
Frequency regulation	±3% Hz online
Load crest factor	3 to 1

Battery

Internal battery type	5.5 Ah, sealed, lead-acid; maintenance free
External battery modules	Up to four per 9135, rail kits included for rack mounting
EBM battery type	5.5 Ah, sealed, lead-acid; maintenance free
Battery runtime	Four (4) minutes with internal batteries @100% load (0.7 PF) For additional details, see battery runtime chart
Battery recharge time	Six (6) hours to recover 90 percent of nominal backup time after 100 percent RCD load discharge
Battery replacement	Hot-swappable internal and external batteries
Start-on-battery	Allows start of UPS without utility input

Communications

Serial port	RS-232 as standard, RS-232 cable provided
USB port	As standard (HID)
Relay output	DB-9 Dry Contact—common alarm as standard
Communications slot	Optional communication slots (Mini X-Slot)
Software	LanSafe UPS monitoring and management software

Environmental

Safety markings	208V: UL, NOM, NYCE 230V: CE, C-Tick, UL, GS
EMC markings	208/230V: FCC-A, VCCI-A, BSMI-A, C-Tick, CE Compliance
Audible noise	Max 46 dB
Ambient operating	0°C (32°F) to +40°C (104°F)
Storage temperature	-20°C (-4°F) to +40°C (104°F) with batteries and -25°C (-13°F) to +55°C (131°F) without batteries
Relative humidity	5–90% non-condensing

Heat dissipation (BTUs/hour)

Operating mode	Efficiency	5 kVA	6 kVA
Normal	91%	1150	1350
Battery	86%	1650	1960
High efficiency	97%	370	450

Back panel configurations

Choose from a variety of output receptacle combinations.



Hardwired models—230V



Hardwired models—208V



Power-corded models—208V

Back panel configurations vary by model type.

Models

Catalog number	Style number	Rating (VA/Watts)	Input plug	Output receptacles	Dimensions H x W x D, in (mm)	Weight, lb (kg)
North American Rack/Tower Models: 208V, 50/60 Hz						
PW9135G5000-XL3UHW	103006717-6591	5000/3500	Hardwired	Hardwired + (4) L6-30R	5.14 (3U) x 17.5 x 29.2 (130 x 444 x 741)	125.7 (57.0)
PW9135G5000-XL3U	103006718-6591	5000/3500	L6-30P	Hardwired + (4) L6-30R	5.14 (3U) x 17.5 x 29.2 (130 x 444 x 741)	125.7 (57.0)
PW9135G6000-XL3UHW	103006719-6591	6000/4200	Hardwired	Hardwired + (4) L6-30R	5.14 (3U) x 17.5 x 29.2 (130 x 444 x 741)	125.7 (57.0)
PW9135G6000-XL3U	103006720-6591	6000/4200	L6-30P	Hardwired + (4) L6-30R	5.14 (3U) x 17.5 x 29.2 (130 x 444 x 741)	125.7 (57.0)
International Rack/Tower Models: 230V, 50/60 Hz						
PW9135G5000-XL3UEU	103006721-6591	5000/3500	Hardwired	Hardwired + (2) C19, (8) C13	5.14 (3U) x 17.5 x 29.2 (130 x 444 x 741)	125.7 (57.0)
PW9135G6000-XL3UEU	103006722-6591	6000/4200	Hardwired	Hardwired + (2) C19, (8) C13	5.14 (3U) x 17.5 x 29.2 (130 x 444 x 741)	125.7 (57.0)
Extended Battery Modules						
PW9135N6000-EBM3U	103006723-6591	N/A	N/A	N/A	5.14 (3U) x 17.5 x 25.6 (130 x 444 x 650)	155.4 (77.5)

Battery Backup Times (in minutes)

Load (VA/Watts)	Standard Internal Batteries	+1 EBM	+2 EBMs	+3 EBMs	+4 EBMs
1000/700	36	132	232	332	433
2000/1400	13	52	95	140	184
3000/2100 *	10	40	74	110	146
4000/2800	7	29	53	80	107
5000/3500	5	22	41	62	83
6000/4200 *	4	18	33	50	68

* Runtimes available for the 6 kVA model only.



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Finland: 358.94.52.661
France: 33.1.6012.7400
Germany: 49.0.7841.604.0
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

ASIA PACIFIC
Australia: 61.2.9693.9366
New Zealand: 64.0.3.343.3314
China: 86.21.6361.5599
HK/Korea/Taiwan: 852.2745.6682
India: 91.11.2649.9414 to 18
Singapore/SEA: 65.6825.1668

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EATON

Powerware

Powerware 9155

Stand-alone UPS solutions up to 15 kVA
Hot Sync® UPS solutions up to 3 + 1 configuration



Features

- Hot Sync® redundancy/capacity up to 3 + 1 configuration
- Advanced Battery Management (ABM™), providing monitor and improved battery life time
- Active input PFC, providing up to 5% THD(i) harmonics
- High performance PWM inverter providing 0.9 p.f. output rating for modern IT loads
- Configurable and multilingual LCD control panel with user-friendly back light
- Web/SNMP monitoring enabled (optional)

Powerware 9155, a Series 9 UPS, is designed to protect high 0.9 p.f. rated, critical computers and servers. The centralised UPS protection is an essential part of IT infrastructure in today's IT, telecom, healthcare, banking and industrial automation applications. The Powerware 9155 features active input power factor control (PFC) and low <5% THD(i) with active rectifier technology.

The Powerware 9155 operates using the unique Advanced Battery Management (ABM) feature. While traditional UPS charges batteries continuously, ABM charges batteries only when necessary, thus preventing battery corrosion. This exceptional ABM function prolongs the service life of batteries significantly.

A wide range of models and options ensures the double conversion online Powerware 9155, with single phase output, is the ideal UPS system for power protection applications.

The Powerware 9155 protects all network devices and has the additional advantage (Software Suite) of providing an orderly network shutdown in the event of an extended power outage. If required, the 9155 can also be integrated to any Network Management (Web/SNMP), Industrial Automation (Relays) and Building Management (ModBus/Jbus) system.

Technical Specifications

Brief Technical Specifications

General		Battery	
Output rating	8-10 kVA 0.9 p.f. (1-phase input) 8-15 kVA 0.9 p.f. (3-phase input)	Type	Maintenance free VRLA batteries
Efficiency	up to 92% at modern IT load	Battery charging	Advanced Battery Management (ABM™)
Audible noise	<50 dB (A)	Temp. compensation	Standard
Input		Battery voltage	384V (32 blocks)
Nominal voltage	230/400 V (3-phase input) 230 V (1-phase input)	Charging current	3 A (default), max. 20 A
Frequency	45-65 Hz	Accessories	
Power factor	0,99 (<5% THD(i) at nominal load)	Output transformer, Long-life batteries, Hot Sync tie cabinet X-slot connectivity	
Output		Markings	CE
Selectable voltage	220/230/240 VAC; 50 or 60 Hz	Communication	
Regulation	±2% static	X-slots	2 communication bays
Power factor	0.9 (e.g. 9 kW at 10 kVA)	Serial ports	1 available
		Inputs/Outputs	2/1 programmable

Stand-alone UPS with 1-phase input

Part nro	Description	Rating	Back-up (pf. 0.7)	Dimensions (HxWxD)	Weight
1022532	9155-8-S-9-32x7Ah	8 kVA / 7.2 kW	10 min	817x305x702 mm	155 kg
1022533	9155-8-S-14-32x9Ah	8 kVA / 7.2 kW	15 min	817x305x702 mm	160 kg
1022534	9155-8-S-28-64x7Ah	8 kVA / 7.2 kW	28 min	1214x305x702 mm	265 kg
1022535	9155-8-S-33-64x9Ah	8 kVA / 7.2 kW	33 min	1214x305x702 mm	275 kg
1022536	9155-10-S-10-32x9Ah	10 kVA / 9 kW	10 min	817x305x702 mm	160 kg
1022537	9155-10-S-20-64x7Ah	10 kVA / 9 kW	20 min	1214x305x702 mm	265 kg
1022538	9155-10-S-25-64x9Ah	10 kVA / 9 kW	25 min	1214x305x702 mm	275 kg

Stand-alone UPS with 3-phase input

Part nro	Description	Rating	Back-up (pf. 0.7)	Dimensions (HxWxD)	Weight
1022480	9155-8-N-10-32x7Ah	8 kVA / 7.2 kW	10 min	817x305x702 mm	155 kg
1022481	9155-8-N-15-32x9Ah	8 kVA / 7.2 kW	15 min	817x305x702 mm	160 kg
1022482	9155-8-N-28-64x7Ah	8 kVA / 7.2 kW	28 min	1214x305x702 mm	265 kg
1022483	9155-8-N-33-64x9Ah	8 kVA / 7.2 kW	33 min	1214x305x702 mm	275 kg
1022484	9155-10-N-10-32x9Ah	10 kVA / 9 kW	10 min	817x305x702 mm	160 kg
1022485	9155-10-N-20-64x7Ah	10 kVA / 9 kW	20 min	1214x305x702 mm	265 kg
1022486	9155-10-N-25-64x9Ah	10 kVA / 9 kW	25 min	1214x305x702 mm	275 kg
1022487	9155-12-N-8-32x9Ah	12 kVA / 10.8 kW	8 min	817x305x702 mm	165 kg
1022488	9155-12-N-15-64x7Ah	12 kVA / 10.8 kW	15 min	1214x305x702 mm	270 kg
1022489	9155-12-N-20-64x9Ah	12 kVA / 10.8 kW	20 min	1214x305x702 mm	280 kg
1022490	9155-15-N-5-32x9Ah	15 kVA / 13.5 kW	5 min	817x305x702 mm	165 kg
1022491	9155-15-N-10-64x7Ah	15 kVA / 13.5 kW	10 min	1214x305x702 mm	270 kg
1022492	9155-15-N-15-64x9Ah	15 kVA / 13.5 kW	15 min	1214x305x702 mm	280 kg

External battery cabinets

Part nro	Description	Rating	Back-up (pf. 0.7)	Dimensions (HxWxD)	Weight
1022561	9X55-BAT5-64x7Ah	2x32x7 Ah	See runtime spec.	817x305x699 mm	195 kg
1022562	9X55-BAT5-96x7Ah	3x32x7 Ah	See runtime spec.	1214x305x699 mm	310 kg

In the interests of continual product improvement all specifications are subject to change without notice.

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Powerware

Powerware® 9170+ Online Uninterruptible Power System



Features

- N+X redundancy for both power and logic eliminates system-level single point-of-failure
- Easily scalable to adapt to changing IT environments by simply adding power and/or battery modules
- True double-conversion online design
- Advanced Battery Management (ABM)® technology doubles battery service life
- Universal components fit in any order without affecting UPS operation
- Provides protection against all nine power problems
- Complete offering of power management software included to ensure data integrity
- Warranty (US and Canada)
 - 2-year limited warranty
 - 10-year pro-rated warranty
 - \$25,000 load protection guarantee

Product Snapshot

Power Rating:	3-18 kVA
Input Voltage:	200-240 Vac
Output Voltage:	200-240 Vac
Frequency:	50/60 Hz (auto-sensing)
Configuration:	Tower or rackmount

The emergence of the e-business economy has demonstrated a new standard in system availability: zero downtime. This standard ranges from the largest data centers of the Internet and e-business infrastructure, to the server farms, networks, telecommunications and Internet service providers (ISPs) that are quickly becoming the foundation of all business worldwide. This in turn has been driving the most aggressive wave of innovation in power technologies, specifically UPS solutions, in decades. The new e-business economy demands that technological solutions be quickly and easily deployed on a global scale.

The Powerware 9170+ is unique-

ly designed to meet these ever-changing customer needs. Built for a global audience, the 9170+ is a scalable, modular, flexible solution that combines the highest level of reliability with the lowest cost of ownership in the 3-18 kVA range.

The 9170+ enables customers to build a power solution specific to their needs, with an expandable level of redundancy and increases runtimes through plug-and-play 3 kVA UPS and battery modules. The 9170+ can be configured to fit three-, six-, nine- or twelve-slot enclosures, and is available for tower and rackmount applications. The 9170+ also features a new Power Saver mode, a user-selectable feature that increases

unit efficiency from 88% in normal operating mode to 97% in Power Saver mode. With its low initial investment, double conversion online technology, ABM battery management system, and new high-efficiency Power Saver mode, you will never have to compromise reliability for efficiency.

Unique to the 9170+ is its global deployment capability. By using a high frequency design, housing both logic and power in the power module, and offering a single cabinet design, distributors and purchasing departments around the world will have fewer system components to contend with, regardless of where the system is deployed.

Technical Spotlight: Network-level N+X redundancy

As business moves from a “bricks and mortar” model to “clicks and mortar,” the need for system availability at all levels of enterprise is rising exponentially. From servers to routers to telecommunication installations, the interdependence of the technological components of the wired world can make systems vulnerable to downtime. Many precautions and preventive measures are taken when designing the network, including power protection.

In this shifting world, however, it’s becoming more evident

that simple power protection isn’t enough. A new level of reliability is needed, one with redundancy, and thereby system availability. Today users can opt for an even greater degree of redundancy, with N+1, N+2, N+3, etc. However, this level of redundancy can quickly become cost prohibitive if the user is creating redundant systems with a single module UPS. The 9170+ overcomes this potential obstacle with its modular design. Redundancy comes from the 3 kVA power modules plugged into the system. For example, if you have a 9 kVA solution, and are looking for N+2 redundancy, you only need a 15 kVA UPS (five power modules) with the

9170+, instead of 18 kVA. That’s because the five UPS modules run in parallel within the system, giving you N+2 redundancy, without the additional cost and space requirements.

Powerware 9170+ eliminates a system-level single point-of-failure. Because both the logic and power are housed in the module and not in the enclosure, there is a redundancy for the entire UPS. This is a critical distinction when looking for multiple levels of redundancy in the UPS, as there is inherent vulnerability in a UPS that limits redundancy in any part of the system.



Powerware Software Suite

The industry’s most comprehensive software bundle, the Powerware Software Suite, is free and included with every Powerware 9170+ UPS.

- Software Wizard guides you through software selection and installation
- In addition to multimedia demonstrations, product data sheets, and video clips, the Software Suite contains the following power management software:
 - LanSafe™ III network shutdown for UPSs
 - OnliNet® software (Vista and Centro): SNMP-based network shutdown and monitoring for UPSs
 - PowerVision® software (30-day trial version): UPS performance analysis monitoring
 - Foreseer® software (demonstration): Facility and data center management

Technical Specifications¹

ELECTRICAL INPUT

Voltage	208-240V or 200/100, 208/120, 220/110, 240/120 Vac
Voltage Range	176-276V
Input Power Factor	.98
Frequency	50/60 Hz (±3 Hz)

ELECTRICAL OUTPUT

On Utility Voltage Regulation	±3% of nominal
On Battery Voltage Regulation	±3% of nominal
Efficiency	88% normal operation; 97% power saver mode (optional programmable)
Frequency Regulation	±3 Hz online; ±0.1 Hz on battery

COMMUNICATIONS

LCD Display	4 x 20 character backlit display, programmable
Language Support	English, French, Spanish and German
Communication ports	RS232, (DB9) (std)
Communication slots	2 Slots (standard)
SNMP capability	SNMP/Web enabled card options
Contact Closures	Relay Card option
Emergency Power off (EPO)General	Input for external EPO

GENERAL

Topology	True online, double-conversion
Diagnostics	Full system self-test on power up
UPS bypass	Automatic on overload or UPS failure
Dimensions & weights	See Model Selection Guide

ENVIRONMENTAL AND SAFETY

Safety markings	UL, CUL
EMC markings	FCC class A
Surge suppression	IEEE/ANSI C62.41
Audible noise	<50dBA
Ambient operating/ storage temperature	0 to 40°C (32 to 104°F)/ -20 to 40°C (60°C w/o batt) -4 to 104°F (140° F w/o batt)
Relative humidity	5% to 95%, non-condensing
REPO port	Meets NEC code 645-11 intent and UL requirements

BATTERY

Internal battery type	Sealed, lead-acid; maintenance free
Battery runtime	See Battery Runtimes on back page
Battery replacement	Hot-swappable
Recharge time	<4 hours standard

1. Due to continuing product improvement programs, specifications are subject to change without notice.

MODEL SELECTION TABLE - POWERWARE 9170+ UPS

MODEL NUMBER		POWER RATING	INPUT CONNECTION	OUTPUT CONNECTIONS	DIMENSIONS HXWXD (IN/CM)	WEIGHT (LB/KG)
PRE-CONFIGURED SYSTEMS WITH HARDWIRE INPUT AND OUTPUT						
PW3S3K includes:	(1) 3 slot enclosure (1) power module (1) power module (1) caster kit	3 kVA expandable to 3 kVA N+1	Hardwired	Hardwired	19.5 x 17.0 x 25.5/ 49.5 x 43.0 x 65.0	155.0/69.9
PW6S3K includes:	(1) 6 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 9 kVA N+X	Hardwired	Hardwired	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	155.0/69.9
PW6S6K includes:	(1) 6 slot enclosure (2) power modules (4) battery modules (1) caster kit	6 kVA expandable to 9 kVA N+X	Hardwired	Hardwired	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	232.0/104.8
PW6S9K includes:	(1) 6 slot enclosure (3) power modules (6) battery modules (1) caster kit	9 kVA expandable to 9 kVA N+X	Hardwired	Hardwired	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	346.0/156.7
PW9S9K includes:	(1) 9 slot enclosure (3) power modules (6) battery modules	9 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	47.0 x 24.0 x 28.5/ 119.5 x 61.0 x 72.5	389.0/176.7
PW12S9K includes:	(1) 12 slot enclosure (3) power modules (6) battery modules	9 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	427.0/193.7
PW12S12K includes:	(1) 12 slot enclosure (4) power modules (8) battery modules	12 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	504.0/228.6
PW12S15K includes:	(1) 12 slot enclosure (5) power modules (10) battery modules	15 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	581.0/263.5
PW12S18K includes:	(1) 12 slot enclosure (6) power modules (12) battery modules	18 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	658.0/298.4
PRE-CONFIGURED SYSTEMS WITH HARDWIRE INPUT AND RECEPTACLES OUTPUT OPTIONS						
PW6S3K-PD includes:	(1) 6 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 9 kVA N+X	Hardwired	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	192.0/86.9
PW6S6K-PD includes:	(1) 6 slot enclosure (2) power modules (4) battery modules (1) caster kit	6 kVA expandable to 9 kVA N+X	Hardwired	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	269.0/121.8
PW6S9K-PD includes:	(1) 6 slot enclosure (3) power modules (6) battery modules (1) caster kit	9 kVA expandable to 9 kVA N+X	Hardwired	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	346.0/160.7
PW9S9K-PD includes:	(1) 9 slot enclosure (3) power modules (6) battery modules	9 kVA expandable to 18 kVA N+X	Hardwired	(2) L14-30R, (2) L6-30R, (12) 5-20R	47.0 x 24.0 x 28.5/ 119.5 x 61.0 x 72.5	389.0/176.7

Notes: 50/60 Hz automatic frequency selection. Input/Output voltages 208-240V or 100/200,120/208, 127/220, 110/220 and 120/240V. Split phase power module offers both high and low output voltage. Universal power module offers only high output voltage. (3) and (6) slot enclosure dimensions include caster kit.

MODEL NUMBER		POWER RATING	INPUT CONNECTION	OUTPUT CONNECTIONS	DIMENSIONS HXWXD (IN/CM)	WEIGHT (LB/KG)
PRE-CONFIGURED SYSTEMS WITH HARDWIRE INPUT AND RECEPTACLES OUTPUT OPTIONS						
PW12S9K-PD includes:	(1) 12 slot enclosure (3) power modules (6) battery modules	9 kVA expandable to 18 kVA N+X	Hardwired	(3) L14-30R, (3) L6-30R, (12) 5-20R	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	427.0/193.7
PW12S12K-PD includes:	(1) 12 slot enclosure (4) power modules (8) battery modules	12 kVA expandable to 18 kVA N+X	Hardwired	(3) L14-30R, (3) L6-30R, (12) 5-20R	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	504.0/228.6
PW12S15K-PD includes:	(1) 12 slot enclosure (5) power modules (10) battery modules	15 kVA expandable to 18 kVA N+X	Hardwired	(3) L14-30R, (3) L6-30R, (12) 5-20R	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	581.0/263.5
PW12S18K-PD includes:	(1) 12 slot enclosure (6) power modules (12) battery modules	18 kVA expandable to 18 kVA N+X	Hardwired	(3) L14-30R, (3) L6-30R, (12) 5-20R	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	658.0/298.4
PRE-CONFIGURED SYSTEMS WITH LINE CORD INPUT AND RECEPTACLES OUTPUT OPTIONS						
PW3S3K-LPD includes:	(1) 3 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 3 kVA N+1	L14-30P	(1) L14-30R, (1) L6-30R, (4) 5-20R	19.5 x 17.0 x 25.5/ 49.5 x 43.0 x 65.0	155.0/69.9
PW6S3K-LPD includes:	(1) 6 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 9 kVA N+X	14-50P	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	192.0/86.9
PW6S6K-LPD includes:	(1) 6 slot enclosure (2) power modules (4) battery modules (1) caster kit	6 kVA expandable to 9 kVA N+X	14-50P	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	269.0/121.8
UPS CABINET ENCLOSURES WITH HARDWIRE INPUT AND OUTPUT CONNECTIONS						
PW9170+ 3 Slot		3 kVA	Hardwired	Hardwired	17.8 x 17.0 x 25.5/ 45.0 x 43.0 x 65.0	66.0/30.0
PW9170+ 6 Slot		3 to 9 kVA	Hardwired	Hardwired	31.5 x 17.0 x 25.0/ 80.0 x 43.0 x 65.0	103.0/47.0
PW9170+ 9 Slot		3 to 18 kVA	Hardwired	Hardwired	47.0 x 24.0 x 28.5/ 119.5 x 61.0 x 72.5	158.0/72.0
PW9170+ 12 Slot		3 to 18 kVA	Hardwired	Hardwired	60.8 x 24.0 x 28.5/ 154.0 x 61.0 x 72.5	196.0/89.0
BATTERY CABINET ENCLOSURES						
6 slot battery cabinet	-		DC interconnect option ASY-0525 required	-	31.5 x 17.0 x 25.0/ 80.0 x 43.0 x 65.0	93.0/42.2
9 slot battery cabinet	-		DC interconnect option ASY-0525 required	-	47.0 x 24.0 x 28.5/ 119.5 x 61.0 x 72.5	148.0/67.1
12 slot battery cabinet	-		DC interconnect option ASY-0525 required	-	60.8 x 24.0 x 28.5/ 154.0 x 61.0 x 72.5	186.0/84.4
AVAILABLE MODULES						
Split phase power module		3 kVA/2.5 kw	-	-	4.2 x 14.1 x 15.3/ 10.6 x 35.8 x 38.9	17.0/7.7
Universal phase power module		3 kVA/2.1 kw	-	-	4.2 x 14.1 x 15.3/ 10.6 x 35.8 x 38.9	17.0/7.7
Battery module		-	-	-	4.2 x 7.0 x 14.8/ 10.6 x 17.8 x 37.6	30.0/13.6
20 Amp charger module		3 kVA	-	-	4.2 x 14.1 x 15.3/ 10.6 x 35.8 x 38.9	17.0/7.7



Powerware 9170+ 6 slot configuration

LCD panel



Communication cards



3 kVA power or charger module
(1 per slot)



Battery module (2 per slot)

Maximum Performance

- The lowest overall cost of ownership is a direct result of the low initial investment, higher operating efficiencies and programmable high efficiency
- A UPS solution that is as easy to install and operate as a PC – Universal components fit in any order in any slot without affecting the operation of the system or its protection of the critical load
- Featuring user-friendly LCD display and two internal communication slots, which accept a wide variety of connectivity devices and the new SNMP/ Web adapter card
- Lightweight, high-performance power and battery modules weigh under 30 lbs. for easy service and hot-swapping

Maximum Reliability

- N+X power and logic redundancy eliminates single point-of-failure, providing highest reliability and availability
- Redundant modularity virtually eliminates downtime and enhances serviceability
- Advanced Battery Management ABM® technology doubles battery service life

Maximum Availability

- Double-conversion online technology is universally recognized as providing the highest availability in an internet-centric global marketplace
- Provides protection against all nine common power problems

Maximum Service Plans

- Powerware Gold Plan Plus: Enhance and extend your standard UPS warranty with added assurance of knowing your UPS is installed and operating properly from the start
- Comprehensive coverage for the entire UPS
- On-site start-up by authorized Powerware product representative
- Replacement UPS or module delivered to your location
- Original UPS or module picked up from your location
- Please call for details

Maximum Flexibility

- Modular design delivers scalable, flexible solutions to constantly changing equipment requirements
- Easily expanded by installing additional power, charger, or battery modules to support additional critical applications and devices
- Internal options: galvanic isolation, line cord, receptacles, communications
- External options: rackmount kit, casters (standard on 9- and 12-slot enclosures), extended runtime battery cabinets (housing up to 8 hours of additional runtime), wall-mounted maintenance bypass cabinets



Rackmount configurations

Adding yet another level of flexibility to the unique design of the Powerware 9170+ is the ability to configure it into a rackmount solution. Imagine all the standard benefits of the Powerware 9170+ installed in a standard 19 inch computer rack.

Powerware 9170+ Runtime Charts

RUNTIME CHART IN MINUTES (FULL LOAD / HALF LOAD) SPLIT-PHASE MODULE ASY-0673 Load (VA) Number of strings (2 battery modules per string)

	1 STRING	2 STRING	3 STRING	4 STRING	5 STRING	6 STRING	7 STRING	8 STRING	9 STRING	10 STRING	11 STRING	12 STRING
3 kVA	6.5/16	16/40	27.5/67.5	40/98	53.5/132	67.5/167	83/204	98/242	115/283	132/324	149/365	167/408
6 kVA	6.5/16	11/27.5	16/40	21.5/53.5	27.5/68	33.5/83	40/98	46.5/115	53.5/132	60.5/149	67.5/167	
9 kVA		6.5/16	9.5/23.5	13/31.5	16/40	20/49	23.5/58	27.5/67.5	31.5/78	35.5/88	40/98	
12 kVA			6.5/16	9/21.5	11/27.5	13.5/33.5	16/40	19/46.5	21.5/53.5	24.5/60.5	27.5/68	
15 kVA				6.5/16	8/20.5	10/25	12/30	14/35	16/40	18.5/45	20.5/50.5	
18 kVA					6.5/16	8/20	9.5/23.5	11/27.5	12.5/30	14.5/35.5	16/40	

	13 STRING	14 STRING	15 STRING	16 STRING	17 STRING	18 STRING	19 STRING	20 STRING	21 STRING	22 STRING	23 STRING	24 STRING
3 kVA	185/456	204/501	223/549	242/595	262/640	283/692	302/750	323/790	345/850	365/900	387/955	408/1015
6 kVA	75/185	83/204	90/223	98/242	106/262	115/285	123/302	132/324	140/345	149/365	157/388	167/408
9 kVA	44/109	49/120	53.5/132	58/143	63/154	68/167	73/179	78/191	83/204	88/210	93/229	98/242
12 kVA	30.5/75	33.5/83	37/90	40/98	43/106	46.5/115	50/123	53.5/132	57/140	60/149	64/157	68/167
15 kVA	23/56	25/62	27.5/67.5	30/73.5	32.5/79.5	35/86	37.5/92	40/98	42.5/105	45/111	48/118	51/124
18 kVA	18/44	20/49	21.5/53.5	23.5/58	25.5/63	27.5/68	29.5/73	31.5/78	33.5/83	35.5/88	38/93	40/98

RUNTIME CHART IN MINUTES (FULL LOAD / HALF LOAD) SPLIT-PHASE MODULE ASY-0673 Load (VA) Number of strings (2 battery modules per string)

	1 STRING	2 STRING	3 STRING	4 STRING	5 STRING	6 STRING	7 STRING	8 STRING	9 STRING	10 STRING	11 STRING	12 STRING
3 kVA	8/24	24/59	43/95	58/140	80/175	95/215	119/240	135/290	155/335	65/365	200/395	215/450
6 kVA	8/24	16/40	24/59	32/83	40/103	49/114	58/140	69/156	83/175	90/190	103/205	
9 kVA		8/24	13/35	18/46	24/59	29/63	35/86	40/103	46/115	54/125	58/140	
12 kVA			8/24	13/33	16/40	19.5/43.5	24/59	29/70	33/80	36/90	41/100	
15 kVA				8/24	11.5/31	14.5/31.5	18/46	20.5/51	24/58	28/66	31/73	
18 kVA					8/24	11/31.5	13/36	15.5/41	18/45	20.5/51	24/58	

	13 STRING	14 STRING	15 STRING	16 STRING	17 STRING	18 STRING	19 STRING	20 STRING	21 STRING	22 STRING	23 STRING	24 STRING
3 kVA	225/500	245/540	270/600	290/620	315/650	335/690	350/720	365/780	375/850	395/890	425/920	450/950
6 kVA	113/335	123/255	135/273	143/290	148/315	156/333	165/350	175/365	183/385	190/395	198/420	205/440
9 kVA	63/150	73/165	80/178	86/190	93/200	100/210	107/225	115/240	121/255	125/270	135/280	143/290
12 kVA	47/110	52/121	56/130	58/140	65/147	70/156	75/165	80/175	85/185	90/195	95/205	100/215
15 kVA	34/83	38/94	41.5/103	44.5/113	46.5/117	51/127	56/130	58/140	61/149	66/158	71/165	73/170
18 kVA	27/65	31.5/72	34.5/77	36/83	38/94	41/100	44/105	45/115	48/122	54/131	57/137	58/140

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Norway: 47.23.03.65.50
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FERRUPS® FE Series 60Hz

Unrivalled reliability in configurable power protection for computers and telecommunications equipment.

Features

- ▶ Active Voltage Regulation converts power from almost any AC source into computer grade Power
- ▶ Eliminates harmful harmonic currents from entering a building's wiring, where they can disrupt computer operations
- ▶ Enhanced diagnostics initiates automatic startup and scheduled tests on the logic board, battery and other critical systems
- ▶ Provides regulated output voltage without drawing power from batteries keeping the batteries fully charged from unexpected blackouts
- ▶ Complete offering of power management software included to ensure data integrity

Warranty

- ▶ 2-Year Limited Warranty
- ▶ \$25,000 Load Protection Guarantee (U.S. and Canada)



Powerware FERRUPS® uninterruptible power systems furnish unmatched reliability in configurable power protection for computers and telecommunications equipment. Patented ferroresonant technology delivers "bulletproof" power protection, overcoming spikes, sags, surges, noise, and lightning. Powerware-exclusive SineSense™ provides clean, reliable power while conserving batteries during blackouts.

Extensive configurability and customization options make FERRUPS the ideal power protection solution with a wide range of voltages, frequencies, runtimes, power cords, and receptacles. FERRUPS prevents the backfeed of harmonic currents into building wiring which can disrupt computer operations.

Product Snapshot

Rating:	500 VA - 18kVA
Input Voltage:	120/208/240, 208/240
Output Voltage:	120/208/240
Frequency:	60 Hz
Configuration:	Tower

Redundant power paths assure high fault-tolerance and optimum uptime. Galvanic isolation separates input from output, filtering line noise and surges. FERRUPS also features precision voltage regulation with no battery discharge down to 38% below nominal (depending upon load); and over 80 user-programmable diagnostic and communications functions.

FERRUPS has won Midrange Systems' "Buyer's Choice" award six of the last eight years. FERRUPS models include free Powerware Software Suite power management software with connectivity cable, and are BestLink™ SNMP/WEB-ready for remote management. FERRUPS covers up to US\$25,000 for damage to connected equipment resulting from a spike or surge (U.S. and Canada only).

FE Series, 60Hz Specifications

Models	500VA	700VA	850VA	1.15kVA	1.4kVA	1.8kVA	2.1kVA	3.1kVA	4.3kVA	5.3kVA	7kVA	10kVA	12.5kVA	18kVA	
Part Number	FE500VA	FE700VA	FE850VA	FE1.15kVA	FE1.4kVA	FE1.8kVA	FE2.1kVA	FE3.1kVA	FE4.3kVA	FE5.3kVA	FE7kVA	FE10kVA	FE12.5kVA	FE18kVA	
Capacity (kVA/kW)	.5/.35	.7/.5	.85/.6	1.15/.8	1.4/1	1.8/1.25	2.1/1.5	3.1/2.2	4.3/3	5.3/3.7	7/5	10/7.5	12.5/10	18/15	
Dimensions (inches)	12 x 10 x 21.25			15.1 x 15.2 x 20.2			21.2 x 15.25 x 22.9			29.5 x 15.5 x 25			36.5 x 19 x 32**		
H x W x D (mm)	305 x 255 x 540			385 x 390 x 515			540 x 390 x 585			750 x 395 x 635			930 x 485 x 815**		
Weight (lbs)	62	79	85	132	154	183	196	256	359	505	604	875	1089	1362	
	28	36	39	60	70	83	89	116	163	229	274	397	494	618	
Input Connection	6 ft. cord w/NEMA 5-15P*					6 ft. cord w/NEMA 5-20P*		6 ft. cord w/NEMA 5-20P*		120V/40A 208V/25A 240V/20A	120V/40A 208V/30A 240V/25A	120V/40A 208V/40A 240V/35A	208V/60A 240V/50A	208V/75A 240V/65A	208V=115A 240V=100A
Output Connection (quantity)	4			6			6			Hardwired output is standard					
(type)	NEMA 5-15R			NEMA 5-15R			NEMA 5-15R			Contact Factory for receptacle options					
Typical Runtime: (Full Load)	9	11	9	8	11	11	9	14	10	20	12	11	18	10	
(minutes) (Half Load)	23	28	23	21	28	30	25	35	24	50	33	26	48	26	

Operation

Nominal Input Voltage	120/208/240													
Input Voltage Range	+15%, -20%													
Input Power Factor	0.98													
Nominal Output Voltage	120/208/240													
Output Voltage Regulation	± 3% for input voltages of +15% to -20%													
Output Voltage Waveform	Sine wave													
Output Voltage THD	5% or less at rated kW load													
Overload Capacity	150% surge and 125% for 10 min. on line, 150% surge and 110% for 10 minutes on inverter													
Transfer Time	0 ms													
Lightning, Surge & Noise Protection	2000:1 spike attenuation using ANSI/IEEE C62.41 and C62.45 Category A and Category B tests. Common Mode - >120 dB. Normal Mode - >60dB													
Efficiency	85	86	85	88	88	90	90	91	90	90	90	90	91	92
Safety Certification	UL, CSA (cUL)													
EMI Compliance	FCC Class A													
Testing Standards	ANSI/EEE C62.41 (1980); ANSI/EEE C62.45 (1987); IEC 801-2, 801-4, 801-5													
Communication	RS-232 serial port (DB-25), plus contact closures													

Environmental

Operating Temperature	0 to 40° C													
Storage Temperature	-20° C to +60° C													
Relative Humidity	5 to 95% without condensation													
Audible Noise at 1m	41	41	47	49	49	51	51	51	50	51	54	55	56	57
Altitude	3, 050m (10,000 ft.) maximum													

All specifications typical and are subject to change without notice.

Powerware offers a complete line of Uninterruptible Power Systems from 250VA to more than 4000kVA.

*120 V Standard Configuration

**Batteries in second cabinet. Contact factory for weights and dimensions.

Invensys Powerware Division

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Finland: 358 94 52 661
France: 33 1 6012 7400
Germany: 49 721 961790
Italy: 39 02 6600661 2
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Singapore: 65 6861 0377

China and North Asia

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Brazil

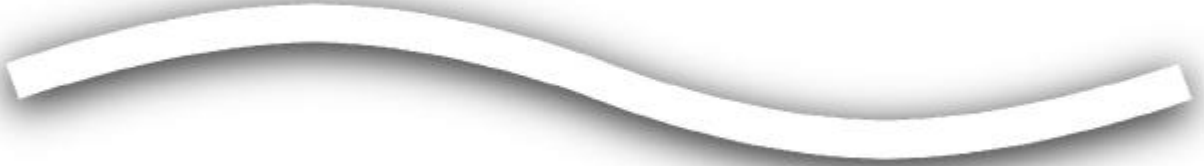
Sao Paulo, Brazil:
55 11 3842 7740

Mexico

Col. Napoles, Mexico:
525.488.3333



FERRUPS CTO Configuration Guide



FERRUPS FES1.15kVA 60 HZ Rackmount

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FER16GDE
February 15, 2002


POWERWARE[®]
UNINTERRUPTIBLE POWER SYSTEMS

FES1.15kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RB000BB2A0A0A0A. See page 1.15k-4 for a CTO worksheet.

External bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FES1.15kVA, 60 Hz Rackmount	RB	\$2183

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
19 minute internal (40 m half load)	standard	0	\$216
Set up for internal (less batteries)	standard	3	\$108

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 1.15k-3.

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$ 0
120 volt	5-15P	B	\$15
208 or 240 volt	6-15P	E	\$60

FES1.15kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity of the receptacles.

- Two output slots available.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel
		Type	Qty	
Any	Hardwired ¹	A	___	\$0
120 volt	5-15R Duplex	B	___	\$50
	5-20R Duplex (UL)	C	___	\$50
208 or 240 volt	6-15R Duplex	D	___	\$75
	6-20R Duplex	E	___	\$75
120 volt	L5-15R Duplex	G	___	\$75
	L5-20R	H	___	\$75
	L5-30R	I	___	\$75
208 or 240 volt	L6-15R Duplex	J	___	\$75
	L6-20R	K	___	\$75
	L6-30R	L	___	\$75
120/240 volt	L14-20R	M	___	\$75
	L14-30R	N	___	\$75
Receptacle Output Connection CTO Order Code		__	__	<u>A 0</u> <u>A 0</u>
Hardwire Output Connection CTO Order Code		A 0	A 0	A 0 A 0

¹ Hardwired output requires hardwired input

Internal Options

Option	CTO Order Code	Option Price
No other option	A	\$0
Neutral to Ground bond removal (For shipboard use)	Q	\$25

FES1.15kVA CTO Configuration Guide

External Options

External bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Maintenance Bypass Switches¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

FES1.15kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FES1.15kVA, 60 Hz Rack	RB								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch				0		-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	RB			0					
UPS Subtotal									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE1.15kVA 60 HZ

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FER04GDE
February 15, 2002


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FE1.15kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FD000BB2A0A0A0A. See page 1.15k-6 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE1.15kVA, 60 Hz Tower	FD	\$1589

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150
220	127/220	7	\$150

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
8 minute internal	standard	0	\$200
30 minute internal	standard	1	\$428
70 minute internal	standard	2	\$478
Set up for internal (less batteries)	standard	3	\$98
set up for external battery pack ¹	standard	4	\$46
set up for external battery pack ¹	15 amp internal upgrade ²	6	\$691

¹ Includes External Battery Connector
Order desired external battery pack as a separate line.
See page 1.15k-5.

² Required for external battery pack 10me

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 1.15k-5.

FE1.15kVA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A	\$40
120 volt	5-15P ²	B	\$ 0
	5-20P ³	C	\$25 ³
208, 220, 240	6-15P	E	\$ 0
	L6-20P	K	\$60
	L6-30P	L	\$60
	IEC320 – Jumper Cord ⁴	O	\$15

¹ Hardwired input requires hardwired output

² Cannot be used with 15 Amp battery charger

³ 5-20P option price is \$0 if 15 Amp battery charger is selected

⁴ Limits output connections to two panels

FE1.15kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles.

- Three output slots available when a NEMA line cord is selected
- Two output slots available when an international line cord is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	___	\$0	
120 volt Choose up to three panels	5-15R Duplex	B	___	\$0	
	5-20R Duplex (UL)	C	___	\$50	
208, 220, or 240 volt Choose up to three panels	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt Choose up to three panels	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt Choose up to three panels	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt Choose up to three panels	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
208, 220, 240 only Choose up to two panels	IEC320 10A (Qty 2 per panel)	U	___	\$50	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A 0</u>
Hardwire Output Connection CTO Order Code		<u>A 0</u>	<u>A 0</u>	<u>A 0</u>	<u>A 0</u>

¹ Hardwired output requires hardwired input

FE1.15kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
AVR (recommended when loads contain PFC power supplies)	B	\$100
Caster Kit (if ordered with unit)	C	\$120
Anchor Kit for structural slab floor	D	\$200
Anchor Kit for raised or access floor	E	\$200
Caster Kit and Anchor Kit for structural slab floor	F	\$300
Caster Kit and Anchor Kit for raised or access floor	G	\$300
AVR and Caster Kit	H	\$220
AVR and Anchor Kit for structural slab floor	I	\$300
AVR and Anchor Kit for raised or access floor	J	\$300
AVR, Caster Kit and Anchor Kit for structural slab floor	K	\$400
AVR, Caster Kit and Anchor Kit for raised or access floor	L	\$400
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and AVR (For Shipboard Use)	R	\$125

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE1.15kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs

Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
3h15m/9h11m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	8me	\$1,230
3h50m/10h50m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	9me	\$1,430
6h30m/18h23m	15 Amp Battery Charger Upgrade ¹	10me	\$2,421

¹Order battery charger as part of UPS. See page 1.15k-1.

External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 8me – 10me.	BCS-0108	\$50

External Maintenance Bypass Switches¹ (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208, 220	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options

Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
Casters (if ordered as separate item)	CAA-0005	\$120
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

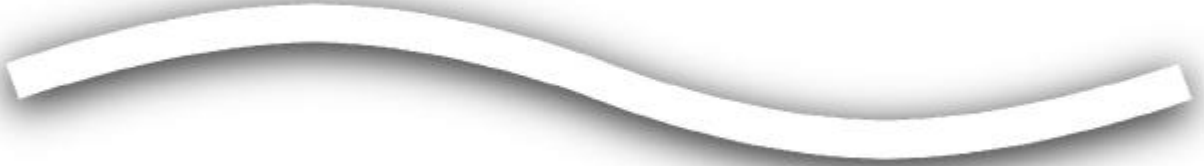
All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE1.15kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE1.15kVA, 60 Hz Tower	FD								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch				0		-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FD			0					
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
Casters (if ordered as separate item)					CAA-0005				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FES1.4kVA 60 HZ Rackmount

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February 15, 2002


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FES1.4kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RC000BB2A0A0A0A. See page 1.4k-4 for a CTO worksheet.

External bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FES1.4kVA, 60 Hz Rackmount	RC	\$2383

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
14 minute internal (36 m half load)	standard	0	\$216
Set up for internal (less batteries)	standard	3	\$108

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 1.4k-3.

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$ 0
120 volt	5-15P	B	\$15
208 or 240 volt	6-15P	E	\$60

FES1.4kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity of the receptacles.

- Two output slots available.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel
		Type	Qty	
Any	Hardwired ¹	A	___	\$0
120 volt	5-15R Duplex	B	___	\$50
	5-20R Duplex (UL)	C	___	\$50
208 or 240 volt	6-15R Duplex	D	___	\$75
	6-20R Duplex	E	___	\$75
120 volt	L5-15R Duplex	G	___	\$75
	L5-20R	H	___	\$75
	L5-30R	I	___	\$75
208 or 240 volt	L6-15R Duplex	J	___	\$75
	L6-20R	K	___	\$75
	L6-30R	L	___	\$75
120/240 volt	L14-20R	M	___	\$75
	L14-30R	N	___	\$75
Receptacle Output Connection CTO Order Code		__	__	<u>A 0</u> <u>A 0</u>
Hardwire Output Connection CTO Order Code		<u>A 0</u>	<u>A 0</u>	<u>A 0</u> <u>A 0</u>

¹ Hardwired output requires hardwired input

Internal Options

Option	CTO Order Code	Option Price
No other option	A	\$0
Neutral to Ground bond removal (For shipboard use)	Q	\$25

FES1.4kVA CTO Configuration Guide

External Options

External bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Maintenance Bypass Switches¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

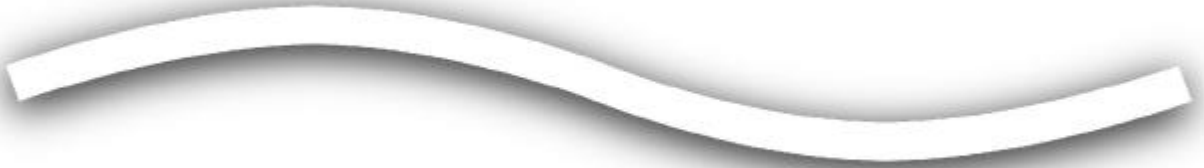
Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

FES1.15kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FES1.4kVA, 60 Hz Rack	RC								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch			0			-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	RC			0					
UPS Subtotal									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE1.4kVA 60 HZ

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www.powerware.com

FER05GDE
February 15, 2002


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FE1.4kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FE000BB2A0A0A0A. See page 1.4k-6 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE1.4kVA, 60 Hz Tower	FE	\$1799

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150
220	127/220	7	\$150

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
11 minute internal	standard	0	\$200
22 minute internal	standard	1	\$404
45 minute internal	standard	2	\$454
Set up for internal (less batteries)	standard	3	\$86
set up for external battery pack ¹	standard	4	\$22
set up for external battery pack ¹	15 amp internal upgrade ²	6	\$667

¹ Includes External Battery Connector
Order desired external battery pack as a separate line.
See page 1.4k-5.

² Required for external battery pack 10me

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 1.4k-5.

FE1.4kVA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A	\$40
120 volt	5-15P ²	B	\$ 0
	5-20P ³	C	\$25 ³
208, 220, 240	6-15P	E	\$ 0
	L6-20P	K	\$60
	L6-30P	L	\$60
	IEC320 – Jumper Cord ⁴	O	\$15

¹ Hardwired input requires hardwired output

² Cannot be used with 15 Amp battery charger

³ 5-20P option price is \$0 if 15 Amp battery charger is selected

⁴ Limits output connections to two panels

FE1.4kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles.

- Three output slots available when a NEMA line cord is selected
- Two output slots available when an international line cord is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	0	\$0	
120 volt Choose up to three panels	5-15R Duplex	B	___	\$0	
	5-20R Duplex (UL)	C	___	\$50	
208, 220, or 240 volt Choose up to three panels	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt Choose up to three panels	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt Choose up to three panels	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt Choose up to three panels	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
208, 220, 240 only Choose up to two panels	IEC320 10A (Qty 2 per panel)	U	___	\$50	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A 0</u>
Hardwire Output Connection CTO Order Code		<u>A 0</u>	<u>A 0</u>	<u>A 0</u>	<u>A 0</u>

¹ Hardwired output requires hardwired input

FE1.4kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
AVR (recommended when loads contain PFC power supplies)	B	\$100
Caster Kit (if ordered with unit)	C	\$120
Anchor Kit for structural slab floor	D	\$200
Anchor Kit for raised or access floor	E	\$200
Caster Kit and Anchor Kit for structural slab floor	F	\$300
Caster Kit and Anchor Kit for raised or access floor	G	\$300
AVR and Caster Kit	H	\$220
AVR and Anchor Kit for structural slab floor	I	\$300
AVR and Anchor Kit for raised or access floor	J	\$300
AVR, Caster Kit and Anchor Kit for structural slab floor	K	\$400
AVR, Caster Kit and Anchor Kit for raised or access floor	L	\$400
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and AVR (For Shipboard Use)	R	\$125

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE1.4kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs

Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
2h20m/6h35m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	8me	\$1,230
3h10m/8h57m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	9me	\$1,430
5h20m/15h5m	15 Amp Battery Charger Upgrade ¹	10me	\$2,421

¹Order battery charger as part of UPS. See page 1.4k-1.

External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 8me – 10me.	BCS-0108	\$50

External Maintenance Bypass Switches¹ (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208, 220	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options

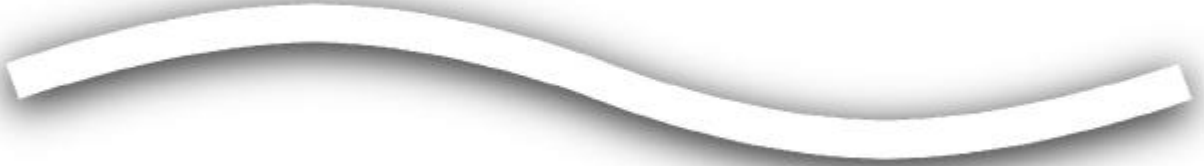
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
Casters (if ordered as separate item)	CAA-0005	\$120
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE1.4kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE1.4kVA, 60 Hz Tower	FE								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch				0		-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FE			0					
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
Casters (if ordered as separate item)					CAA-0005				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

FERRUPS CTO Configuration Guide



FERRUPS FER1.8kVA 60 HZ Rackmount
FERRUPS FES1.8kVA 60 HZ Rackmount

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February 15, 2002


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FER(S)1.8kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RD000CB2A0A0A0A. See page 1.8k-5 for a CTO worksheet.

External bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER1.8kVA, 60 Hz Rackmount (Long Cabinet)	RG	\$2,567
FES1.8kVA, 60 Hz Rackmount (Short Cabinet)	RD	\$2,717

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150

Battery and Battery Charger			
FER Rackmount (Long Cabinet)			
Battery Configuration	Cabinet / Battery Charger	CTO Order Code	Option Price
31 minute internal (73 m half load)	long / standard	0	\$432
Set up for internal (less batteries)	long / standard	3	\$216
set up for external battery pack ¹	long / standard	4	\$ 0
FES Rackmount (Short Cabinet)			
Battery Configuration	Cabinet / Battery Charger	CTO Order Code	Option Price
9 minute internal (23 m half load)	short / standard	0	\$432
Set up for internal (less batteries)	short / standard	3	\$216
set up for external battery pack ¹	short / standard	4	\$ 0
¹ Includes External Battery Connector Order desired external battery pack as a separate line. See page 1.8k-4.			

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 1.8k-4.

FER(S)1.8kVA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ^{1, 2}	A	\$0
120 volt	5-20P	C	\$25
	5-50P	D	\$90
	L5-30P	J	\$60
208 or 240 volt	6-15P	E	\$60
	L6-20P	K	\$60
	L6-30P	L	\$60

¹ Hardwired input requires hardwired output

² Limits output connections to two slots

FER(S)1.8kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity of the receptacles.

- Three output slots available with line cord input connection.
- Two output slots available with hardwire input connection.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	___	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208 or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208 or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A</u> <u>0</u>
Hardwire Output Connection CTO Order Code		<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>

¹ Hardwired output requires hardwired input

Internal Options

Option	CTO Order Code	Option Price
No other option	A	\$0
DVR ¹ (recommended when loads contain PFC power supplies)	B ¹	\$150
Neutral to Ground bond removal (For shipboard use)	Q	\$25

¹ Cannot be used with short rackmount cabinet option or internal or less battery options.

FER(S)1.8kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs¹

Runtime Full/Half	Battery Charger Required	Order Number	List Price
2h12m/4h53m	Standard Battery Charger	1re	\$1,830
3h38m/8h22m	Standard Battery Charger	2re	\$3,092

¹ UPS must be ordered set up for external battery pack. See page 1.8k-1.

External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 1re and 2re.	BCS-0108	\$50

External Maintenance Bypass Switches¹ (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options

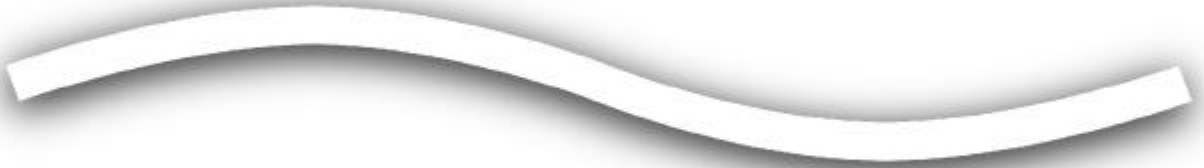
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

FER(S)1.8kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FER(S)1.8kVA 60Hz Rack	R_								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch			0			-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	R_			0					
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
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FERRUPS CTO Configuration Guide



FERRUPS FE1.8kVA 60 HZ

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February 15, 2002


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FE1.8kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FF000CC3A0A0A0A. See page 1.8k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE1.8kVA, 60 Hz Tower	FF	\$2399

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$161
208	120/240	2	\$161
240	120/240	3	\$161
240	240 (International Models)	6	\$161
220	127/220	7	\$161

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
11 minute internal	standard	0	\$449
86 minute internal	standard	1	\$793
Set up for internal (less batteries)	standard	3	\$233
set up for external battery pack ¹	standard	4	\$98
set up for external battery pack ¹	15 amp internal upgrade ²	6	\$743

¹ Includes External Battery Connector

Order desired external battery pack as a separate line. See page 1.8k-5.

² Required for external battery packs 12me – 15me

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 1.8k-5.

FE1.8kVA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A	\$43
120 volt	5-20P ²	C	\$ 0
	5-50P ³	D	\$90 ³
	L5-20P ²	I	\$25
	L5-30P ²	J	\$60
208, 220, 240	6-15P ²	E	\$ 0
	L6-20P ⁴	K	\$60
	L6-30P	L	\$60
	IEC320 – Jumper Cord ^{2,5}	O	\$15
	IEC309 16A ^{5,6}	S	\$60

¹ Hardwired input requires hardwired output

² Cannot be used with 15 Amp battery charger

³ 5-50P option price is \$0 if 15 Amp battery charger is selected. Cannot be used with 86 minute internal runtime.

⁴ L6-20P option price is \$0 if 15 Amp battery charger is selected.

⁵ Limits output connections to two panels

⁶ Cannot be used with standard battery charger

FE1.8kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 1.8k-6.

- Three output slots available when a NEMA line cord is selected
- Two output slots available when an international line cord is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	___	\$0	
120 volt Choose up to three panels	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL) ²	C	___	\$50 ²	
208, 220, or 240 volt Choose up to three panels	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt Choose up to three panels	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt Choose up to three panels	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt Choose up to three panels	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
208, 220, 240 only Choose up to two panels	IEC320 10A (Qty 2 per panel)	U	___	\$50	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A 0</u>
Hardwire Output Connection CTO Order Code		<u>A 0</u>	<u>A 0</u>	<u>A 0</u>	<u>A 0</u>
¹ Hardwired output requires hardwired input ² If three 5-20R (UL), CTO Order Code C3A0A0A0, are selected option price is \$0.					

FE1.8kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$150
Caster Kit (if ordered with unit)	C	\$145
Anchor Kit for structural slab floor	D	\$215
Anchor Kit for raised or access floor	E	\$215
Caster Kit and Anchor Kit for structural slab floor	F	\$323
Caster Kit and Anchor Kit for raised or access floor	G	\$323
DVR and Caster Kit	H	\$295
DVR and Anchor Kit for structural slab floor	I	\$365
DVR and Anchor Kit for raised or access floor	J	\$365
DVR, Caster Kit and Anchor Kit for structural slab floor	K	\$473
DVR, Caster Kit and Anchor Kit for raised or access floor	L	\$473
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and DVR (For Shipboard Use)	R	\$175

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE1.8kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
2h12m/4h53m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	9me	\$1,430
3h38m/8h22m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	10me	\$2,421
5h09m/11h30m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	11me	\$3,075
6h07m/14h06m	15 Amp Battery Charger Upgrade ¹	12me	\$3,524
8h30m/18h53m	15 Amp Battery Charger Upgrade ¹	13me	\$4,504
12h08m/27h06m	15 Amp Battery Charger Upgrade ¹	14me	\$6,149
18h52m/44h45m	15 Amp Battery Charger Upgrade ¹	15me	\$8,471

¹Order battery charger as part of UPS. See page 1.8k-1.

External Battery Accessories		
Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 9me – 15me.	BCS-0108	\$50

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208, 220	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹Bypass Switch must be mounted on the wall near the UPS.

FE1.8kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-0474	\$535
Casters (if ordered as separate item)	CAA-0006	\$145
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

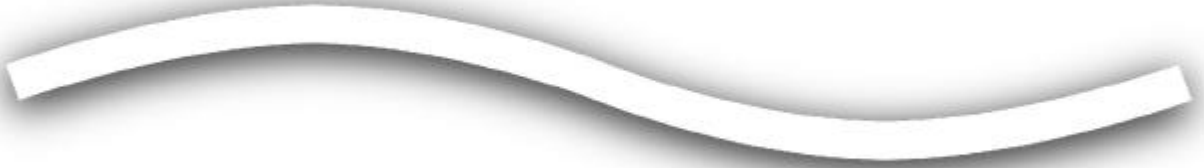
All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE1.8kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE1.8kVA, 60 Hz Tower	FF								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch			0			-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FF			0					
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-0474				
Casters (if ordered as separate item)					CAA-0006				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
PDU (Power Distribution Unit)					PDU-____				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE10kVA 60 HZ

Invensys Powerware Division
2727 Kurtz Street
San Diego, CA 92110 U.S.A.
800.356.5794
www.powerware.com

FER12GDE
February 15, 2002


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UNINTERRUPTIBLE POWER SYSTEMS

FE10kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FL340AA0A0A0A0A. See page 10k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE10kVA, 60 Hz Tower	FL	\$7665

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
240	240 (International Models)	6	\$0

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
12 minute internal (30 m half load) Floor Saver Cabinet	standard	0	\$2820
set up for external battery pack ¹	standard	4	\$0
set up for external battery pack ¹	10 amp internal upgrade ²	5	\$435
set up for external battery pack ¹	20 amp internal upgrade ³	7	\$775

¹ Order desired external battery pack as a separate line. See page 10k-5.

² Required for external battery packs 12fe – 13fe

³ Required for external battery packs 14fe – 15fe

FE10kVA CTO Configuration Guide

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option ^{1,2}	0	\$0
Internal maintenance bypass switch option – MBB ³	1	\$900
Internal maintenance bypass switch option - BBM	2	\$800
Internal maintenance bypass switch option – MBB with iSeries ^{3,4}	3	\$900
Internal maintenance bypass switch option – BBM with iSeries ⁴	4	\$800

¹ Internal maintenance bypass switch required for receptacle or circuit breaker output connections.

² External maintenance bypass switch also available. Order desired maintenance bypass switch as a separate line item on your order. See page 10k-5.

³ Cannot be used with 208 volt input

⁴ iSeries option formerly referred to as AS/400 option

Input Connection ¹			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0

¹ Line Cord input connection not available for 10kVA models

FE10kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 10k-6.

- Internal maintenance bypass switch required for receptacle or circuit breaker output connections
- Eight output slots available when internal maintenance bypass switch option is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection ¹	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208, 220, or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
120 volt	15 Amp / 1 pole Circuit Breaker	V	___	\$60	
All voltages except 120 volt	15 Amp / 2 pole Circuit Breaker	W	___	\$60	
120 volt	20 Amp / 1 pole Circuit Breaker	X	___	\$60	
All voltages except 120 volt	20 Amp / 2 pole Circuit Breaker	Y	___	\$60	
120 volt	30 Amp / 1 pole Circuit Breaker	Z	___	\$60	
All voltages except 120 volt	30 Amp / 2 pole Circuit Breaker	2	___	\$60	
Receptacle Output Connection CTO Order Code		___	___	___	___
Hardwire Output Connection CTO Order Code		A0	A0	A0	A0

¹ Internal maintenance bypass switch required for receptacle or circuit breaker output connections

FE10kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$200
Anchor Kit for structural slab floor	D	\$300
Anchor Kit for raised or access floor	E	\$300
DVR and Anchor Kit for structural slab floor	I	\$500
DVR and Anchor Kit for raised or access floor	J	\$500
Neutral to Ground bond removal (For shipboard use)	Q	\$25
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$225

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE10kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
11m/26m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	EBPS10F	\$1,780
27m/1h10m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	8fe	\$2,640
41m/1h48m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	9fe	\$3,650
1h13m/2h59m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	10fe	\$5,280
1h51m/4h16m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	11fe	\$6,800
2h59m/5h02m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	12fe	\$7,920
3h07m/7h04m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	13fe	\$10,450
4h26m/10h04m	20 Amp Battery Charger Upgrade ¹	14fe	\$13,600
7h20m/16h38m	20 Amp Battery Charger Upgrade ¹	15fe	\$20,400

¹Order battery charger as part of UPS. See page 10k-1.

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
208, 220, 240 volt	BBM (Break Before Make)	BPE04BBM1A	\$550
	BBM with AS/400 (iSeries) Option	BPE04BBMAS1A	\$550
	BBM with Locking Handle	BPE04BBM1A/L	\$750
220, 240 volt	MBB (Make Before Break)	BPE04MBB1A	\$650
	MBB with AS/400 (iSeries) Option	BPE04MBBAS1A	\$650
	MBB with Locking Handle	BPE04MBB1A/L	\$850

¹Bypass Switch must be mounted on the wall near the UPS.

FE10kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V Use with UPS models having a 5 Amp battery charger.	TRN-0240	\$1,200
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V Use with UPS models having a 10 or 20 Amp battery charger.	TRN-0245	\$1,670
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

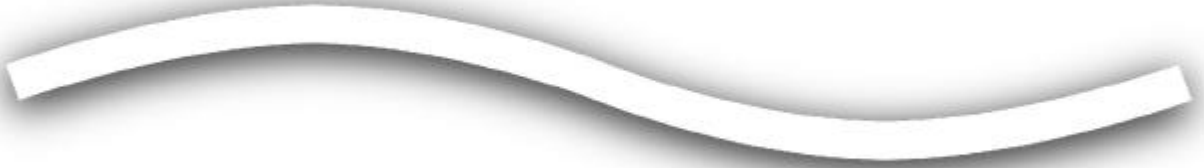
All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE10kVA Quote Sheet

The UPS CTO Worksheet										
	UPS CTO Order Code					List Price	Discount	Net Price		
Base Unit: FE10kVA, 60 Hz Tower	FL									
Input / Output Voltage										
Battery and Battery Charger										
Internal Maintenance Bypass Switch						-	-	-		
Input Connection										
Output Connection										
Internal Options										
Complete UPS CTO Number	FL									
UPS Subtotal										
External Battery Pack										
Battery Pack Selected:										
Other External Battery Options Selected:										
External Maintenance Bypass Switch										
External Maintenance Bypass Switch Selected:										
Other External Options										
Voltage Matching Transformer					TRN-____					
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001					
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002					
EnviroCom™ I					ENV-0100					
EnviroCom II					ENV-0200					
BestLink SNMP/WEB Adapter					IPK-0318					
Hand-held Remote Control Panel with Cable					RCK-0007					
Signal Splitter Box					IPK-0022					
PDU (Power Distribution Unit)					PDU-____					
Sub Total										
							Freight			
							Insurance			
							Tax/Duty			
							Quote Total			
Special Instructions:										

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE12.5kVA 60 HZ

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2727 Kurtz Street
San Diego, CA 92110 U.S.A.
800.356.5794
www.powerware.com

FER13GDE
February 15, 2002


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FE12.5kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FM340AA0A0A0A0A. See page 12.5k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE12.5kVA, 60 Hz Tower	FM	\$8205

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
240	240 (International Models)	6	\$0

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
8 minute internal (20 m half load) Floor Saver Cabinet	standard	0	\$2820
set up for external battery pack ¹	standard	4	\$0
set up for external battery pack ¹	10 amp internal upgrade ²	5	\$435
set up for external battery pack ¹	20 amp internal upgrade ³	7	\$775

¹ Order desired external battery pack as a separate line. See page 12.5k-5.

² Required for external battery packs 12fe – 13fe

³ Required for external battery packs 14fe – 15fe

FE12.5kVA CTO Configuration Guide

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option ^{1,2}	0	\$0
Internal maintenance bypass switch option – MBB ³	1	\$900
Internal maintenance bypass switch option - BBM	2	\$800
Internal maintenance bypass switch option – MBB with iSeries ^{3,4}	3	\$900
Internal maintenance bypass switch option – BBM with iSeries ⁴	4	\$800

¹ Internal maintenance bypass switch required for receptacle or circuit breaker output connections.

² External maintenance bypass switch also available. Order desired maintenance bypass switch as a separate line item on your order. See page 12.5k-5.

³ Cannot be used with 208 volt input

⁴ iSeries option formerly referred to as AS/400 option

Input Connection ¹			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0

¹ Line Cord input connection not available for 12.5kVA models

FE12.5kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 12.5k-6.

- Internal maintenance bypass switch required for receptacle or circuit breaker output connections
- Eight output slots available when internal maintenance bypass switch option is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection ¹	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208, 220, or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
120 volt	15 Amp / 1 pole Circuit Breaker ²	V	___	\$60	
All voltages except 120 volt	15 Amp / 2 pole Circuit Breaker ²	W	___	\$60	
120 volt	20 Amp / 1 pole Circuit Breaker ²	X	___	\$60	
All voltages except 120 volt	20 Amp / 2 pole Circuit Breaker ²	Y	___	\$60	
120 volt	30 Amp / 1 pole Circuit Breaker ²	Z	___	\$60	
All voltages except 120 volt	30 Amp / 2 pole Circuit Breaker ²	2	___	\$60	
Receptacle Output Connection CTO Order Code		__	__	__	__
Hardwire Output Connection CTO Order Code		A0	A0	A0	A0

¹ Internal maintenance bypass switch required for receptacle or circuit breaker output connections

FE12.5kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$200
Anchor Kit for structural slab floor	D	\$300
Anchor Kit for raised or access floor	E	\$300
DVR and Anchor Kit for structural slab floor	I	\$500
DVR and Anchor Kit for raised or access floor	J	\$500
Neutral to Ground bond removal (For shipboard use)	Q	\$25
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$225

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE12.5kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
18m/48m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	EBPS12F	\$2,640
27m/1h13m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	9fe	\$3,650
49m/2h07m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	10fe	\$5,280
1h12m/3h04m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	11fe	\$6,800
1h38m/4h05m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	12fe	\$7,920
2h12m/5h05m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	13fe	\$10,450
3h08m/7h14m	20 Amp Battery Charger Upgrade ¹	14fe	\$13,600
5h10m/11h57m	20 Amp Battery Charger Upgrade ¹	15fe	\$20,400

¹Order battery charger as part of UPS. See page 12.5k-1.

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
208, 240 volt	BBM (Break Before Make)	BPE04BBM1A	\$550
	BBM with AS/400 (iSeries) Option	BPE04BBMAS1A	\$550
	BBM with Locking Handle	BPE04BBM1A/L	\$750
240 volt	MBB (Make Before Break)	BPE04MBB1A	\$650
	MBB with AS/400 (iSeries) Option	BPE04MBBAS1A	\$650
	MBB with Locking Handle	BPE04MBB1A/L	\$850

¹Bypass Switch must be mounted on the wall near the UPS.

FE12.5kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V	TRN-0245	\$1,670
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

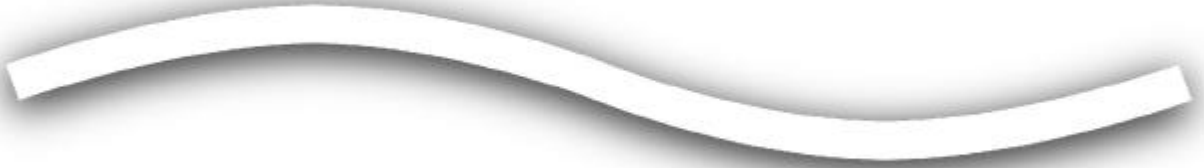
All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE12.5kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE12.5kVA, 60 Hz Tower	FM								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch						-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FM								
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
Other External Battery Options Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-0245				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
PDU (Power Distribution Unit)					PDU-____				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE18kVA 60 HZ

Invensys Powerware Division
2727 Kurtz Street
San Diego, CA 92110 U.S.A.
800.356.5794
www.powerware.com

FER14GDE
February 15, 2002


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FE18kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FN340AA0A0A0A0A. See page 18k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE18kVA, 60 Hz Tower	FN	\$10,630

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
240	240 (International Models)	6	\$0

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
4 minute internal (10m half load) Floor Saver Cabinet	standard	0	\$2820
set up for external battery pack ¹	standard	4	\$0
set up for external battery pack ¹	10 amp internal upgrade ²	5	\$435
set up for external battery pack ¹	20 amp internal upgrade ³	7	\$775

¹ Order desired external battery pack as a separate line. See page 18k-5.

² Required for external battery packs 19fe – 20fe

³ Required for external battery packs 21fe – 22fe

FE18kVA CTO Configuration Guide

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option ^{1,2}	0	\$0
Internal maintenance bypass switch option – MBB ³	1	\$1,075
Internal maintenance bypass switch option - BBM	2	\$975
Internal maintenance bypass switch option – MBB with iSeries ^{3,4}	3	\$1,075
Internal maintenance bypass switch option – BBM with iSeries ⁴	4	\$975

¹ Internal maintenance bypass switch required for receptacle or circuit breaker output connections.

² External maintenance bypass switch also available. Order desired maintenance bypass switch as a separate line item on your order. See page 18k-5.

³ Cannot be used with 208 volt input

⁴ iSeries option formerly referred to as AS/400 option

Input Connection ¹			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0

¹ Line Cord input connection not available for 18kVA models

FE18kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 18k-6.

- Internal maintenance bypass switch required for receptacle or circuit breaker output connections
- Eight output slots available when internal maintenance bypass switch option is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection ¹	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208, 220, or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
120 volt	15 Amp / 1 pole Circuit Breaker	V	___	\$60	
All voltages except 120 volt	15 Amp / 2 pole Circuit Breaker	W	___	\$60	
120 volt	20 Amp / 1 pole Circuit Breaker	X	___	\$60	
All voltages except 120 volt	20 Amp / 2 pole Circuit Breaker	Y	___	\$60	
120 volt	30 Amp / 1 pole Circuit Breaker	Z	___	\$60	
All voltages except 120 volt	30 Amp / 2 pole Circuit Breaker	2	___	\$60	
Receptacle Output Connection CTO Order Code		___	___	___	___
Hardwire Output Connection CTO Order Code		A0	A0	A0	A0

¹ Internal maintenance bypass switch required for receptacle or circuit breaker output connections

FE18kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$200
Anchor Kit for structural slab floor	D	\$300
Anchor Kit for raised or access floor	E	\$300
DVR and Anchor Kit for structural slab floor	I	\$500
DVR and Anchor Kit for raised or access floor	J	\$500
Neutral to Ground bond removal (For shipboard use)	Q	\$25
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$225

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
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FE18kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
10m/26m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	EBPS18F	\$2,640
14m/39m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	16fe	\$3,650
27m/1h10m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	17fe	\$5,280
37m/1h46m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	18fe	\$6,800
48m/2h04m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	19fe	\$7,920
1h13m/3h01m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	20fe	\$10,450
1h49m/4h17m	20 Amp Battery Charger Upgrade ¹	21fe	\$13,600
3h04m/7h05m	20 Amp Battery Charger Upgrade ¹	22fe	\$20,400

¹Order battery charger as part of UPS. See page 18k-1.

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
208, 240 volt	BBM (Break Before Make)	BPE05BBM1A	\$725
	BBM with AS/400 (iSeries) Option	BPE05BBMAS1A	\$725
	BBM with Locking Handle	BPE05BBM1A/L	\$925
240 volt	MBB (Make Before Break)	BPE05MBB1A	\$825
	MBB with AS/400 (iSeries) Option	BPE05MBBAS1A	\$825
	MBB with Locking Handle	BPE05MBB1A/L	\$1,025

¹Bypass Switch must be mounted on the wall near the UPS.

FE18kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V	TRN-0599	\$2,190
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE18kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE18kVA, 60 Hz Tower	FN								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch						-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FN								
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
Other External Battery Options Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-0599				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
PDU (Power Distribution Unit)					PDU-____				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
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FERRUPS CTO Configuration Guide



FERRUPS FER2.1kVA 60 HZ Rackmount
FERRUPS FES2.1kVA 60 HZ Rackmount

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FER19GDE
February 15, 2002


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FER(S)2.1kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RE000CC2A0A0A0A. See page 2.1k-5 for a CTO worksheet.

External bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER2.1kVA, 60 Hz Rackmount (Long Cabinet)	RH	\$2,967
FES2.1kVA, 60 Hz Rackmount (Short Cabinet)	RE	\$3,117

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150

Battery and Battery Charger			
FER Rackmount (Long Cabinet)			
Battery Configuration	Cabinet / Battery Charger	CTO Order Code	Option Price
24 minute internal (58 m half load)	long / standard	0	\$432
Set up for internal (less batteries)	long / standard	3	\$216
set up for external battery pack ¹	long / standard	4	\$ 0
FES Rackmount (Short Cabinet)			
Battery Configuration	Cabinet / Battery Charger	CTO Order Code	Option Price
7 minute internal (18 m half load)	short / standard	0	\$432
Set up for internal (less batteries)	short / standard	3	\$216
set up for external battery pack ¹	short / standard	4	\$ 0
¹ Includes External Battery Connector Order desired external battery pack as a separate line. See page 2.1k-4.			

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 2.1k-4.

FER(S)2.1kVA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ^{1, 2}	A	\$0
120 volt	5-20P	C	\$25
	5-50P	D	\$90
	L5-30P	J	\$60
208 or 240 volt	6-15P	E	\$60
	L6-20P	K	\$60
	L6-30P	L	\$60

¹ Hardwired input requires hardwired output

² Limits output connections to two slots

FER(S)2.1kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity of the receptacles.

- Three output slots available with line cord input connection.
- Two output slots available with hardwire input connection.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	___	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208 or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208 or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A</u> <u>0</u>
Hardwire Output Connection CTO Order Code		<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>

¹ Hardwired output requires hardwired input

Internal Options

Option	CTO Order Code	Option Price
No other option	A	\$0
DVR ¹ (recommended when loads contain PFC power supplies)	B ¹	\$150
Neutral to Ground bond removal (For shipboard use)	Q	\$25

¹ Cannot be used with short rackmount cabinet option or internal or less battery options.

FER(S)2.1kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs¹

Runtime Full/Half	Battery Charger Required	Order Number	List Price
1h41m/3h54m	Standard Battery Charger	1re	\$1,830
2h50m/6h37m	Standard Battery Charger	2re	\$3,092

¹ UPS must be ordered set up for external battery pack. See page 2.1k-1.

External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 1re and 2re.	BCS-0108	\$50

External Maintenance Bypass Switches¹ (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options

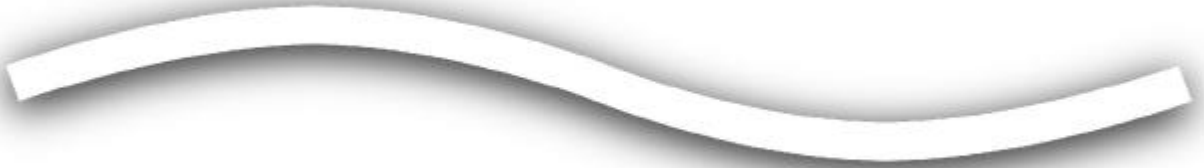
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

FER(S)2.1kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FER(S)2.1kVA 60Hz Rack	R_								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch				0		-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	R_			0					
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE2.1kVA 60 HZ

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FEBRUARY 15, 2002


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FE2.1kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FG000CC3A0A0A0A. See page 2.1k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE2.1kVA, 60 Hz Tower	FG	\$2710

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$161
208	120/240	2	\$161
240	120/240	3	\$161
240	240 (International Models)	6	\$161
220	127/220	7	\$161

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
9 minute internal	standard	0	\$449
66 minute internal	standard	1	\$793
Set up for internal (less batteries)	standard	3	\$233
set up for external battery pack ¹	standard	4	\$98
set up for external battery pack ¹	15 amp internal upgrade ²	6	\$743

¹ Includes External Battery Connector

Order desired external battery pack as a separate line. See page 2.1k-5.

² Required for external battery packs 12me – 15me

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 2.1k-5.

FE2.1kVA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A	\$43
120 volt	5-20P ²	C	\$ 0
	5-50P ³	D	\$90 ³
	L5-20P ²	I	\$25
	L5-30P ²	J	\$60
208, 220, 240	6-15P ²	E	\$ 0
	L6-20P ⁴	K	\$60
	L6-30P ⁵	L	\$60
	IEC320 – Jumper Cord ^{2,6}	O	\$15
	IEC309 16A ^{6,7}	S	\$60

¹ Hardwired input requires hardwired output

² Cannot be used with 15 Amp battery charger

³ 5-50P option price is \$0 if 15 Amp battery charger is selected. Cannot be used with 66 minute internal runtime.

⁴ L6-20P option price is \$0 if 15 Amp battery charger and 220 or 240 volt input is selected. Cannot be used with 15 Amp battery charger and 208 volt input.

⁵ L6-30P option price is \$0 if 15 Amp battery charger and 208 volt input is selected.

⁶ Limits output connections to two panels

⁷ Cannot be used with standard battery charger

FE2.1kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 2.1k-6.

- Three output slots available when a NEMA line cord is selected
- Two output slots available when an international line cord is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	___	\$0	
120 volt Choose up to three panels	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL) ²	C	___	\$50 ²	
208, 220, or 240 volt Choose up to three panels	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt Choose up to three panels	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt Choose up to three panels	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt Choose up to three panels	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
208, 220, 240 only Choose up to two panels	IEC320 10A (Qty 2 per panel)	u	___	\$50	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A 0</u>
Hardwire Output Connection CTO Order Code		<u>A 0</u>	<u>A 0</u>	<u>A 0</u>	<u>A 0</u>
¹ Hardwired output requires hardwired input ² If three 5-20R (UL), CTO Order Code C3A0A0A0, are selected option price is \$0.					

FE2.1kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$150
Caster Kit (if ordered with unit)	C	\$145
Anchor Kit for structural slab floor	D	\$215
Anchor Kit for raised or access floor	E	\$215
Caster Kit and Anchor Kit for structural slab floor	F	\$323
Caster Kit and Anchor Kit for raised or access floor	G	\$323
DVR and Caster Kit	H	\$295
DVR and Anchor Kit for structural slab floor	I	\$365
DVR and Anchor Kit for raised or access floor	J	\$365
DVR, Caster Kit and Anchor Kit for structural slab floor	K	\$473
DVR, Caster Kit and Anchor Kit for raised or access floor	L	\$473
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and DVR (For Shipboard Use)	R	\$175

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE2.1kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
1h41m/3h54m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	9me	\$1,430
2h50m/6h37m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	10me	\$2,421
4h03m/9h10m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	11me	\$3,075
4h46m/11h08m	15 Amp Battery Charger Upgrade ¹	12me	\$3,524
6h42m/15h04m	15 Amp Battery Charger Upgrade ¹	13me	\$4,504
9h33m/21h36m	15 Amp Battery Charger Upgrade ¹	14me	\$6,149
15h12m/36h28m	15 Amp Battery Charger Upgrade ¹	15me	\$8,471

¹Order battery charger as part of UPS. See page 2.1k-1.

External Battery Accessories		
Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 9me – 15me.	BCS-0108	\$50

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208, 220	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹Bypass Switch must be mounted on the wall near the UPS.

FE2.1kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1199	\$560
Casters (if ordered as separate item)	CAA-0006	\$145
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

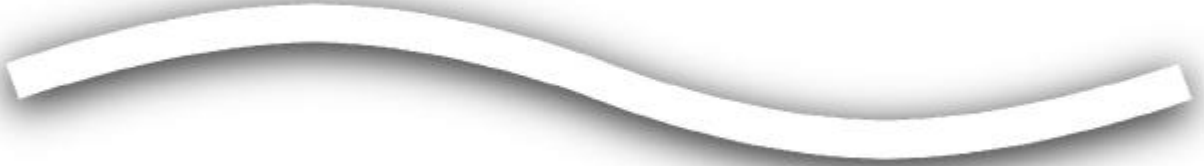
All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE2.1kVA Quote Sheet

The UPS CTO Worksheet										
	UPS CTO Order Code					List Price	Discount	Net Price		
Base Unit: FE2.1kVA, 60 Hz Tower	FG									
Input / Output Voltage										
Battery and Battery Charger										
Internal Maintenance Bypass Switch			0			-	-	-		
Input Connection										
Output Connection										
Internal Options										
Complete UPS CTO Number	FG			0						
UPS Subtotal										
External Battery Pack										
Battery Pack Selected:										
External Maintenance Bypass Switch										
External Maintenance Bypass Switch Selected:										
Other External Options										
Voltage Matching Transformer					TRN-1199					
Casters (if ordered as separate item)					CAA-0006					
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001					
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002					
EnviroCom™ I					ENV-0100					
EnviroCom II					ENV-0200					
BestLink SNMP/WEB Adapter					IPK-0318					
Hand-held Remote Control Panel with Cable					RCK-0007					
Signal Splitter Box					IPK-0022					
PDU (Power Distribution Unit)					PDU-____					
Sub Total										
							Freight			
							Insurance			
							Tax/Duty			
							Quote Total			
Special Instructions:										

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FER3.1kVA 60 HZ Rackmount
FERRUPS FES3.1kVA 60 HZ Rackmount

Invensys Powerware Division
2727 Kurtz Street
San Diego, CA 92110 U.S.A.
800.356.5794
www.powerware.com

FER20GDE
February 15, 2002


POWERWARE[®]
UNINTERRUPTIBLE POWER SYSTEMS

FER(S)3.1kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RF000JC2A0A0A0A. See page 3.1k-5 for a CTO worksheet.

External bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER3.1kVA, 60 Hz Rackmount (Long Cabinet)	RI	\$3,667
FES3.1kVA, 60 Hz Rackmount (Short Cabinet)	RF	\$3,817

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150

Battery and Battery Charger			
FER Rackmount (Long Cabinet)			
Battery Configuration	Cabinet / Battery Charger	CTO Order Code	Option Price
14 minute internal (35 m half load)	long / standard	0	\$432
Set up for internal (less batteries)	long / standard	3	\$216
set up for external battery pack ¹	long / standard	4	\$ 0
FES Rackmount (Short Cabinet)			
Battery Configuration	Cabinet / Battery Charger	CTO Order Code	Option Price
6 minute internal (17 m half load)	short / standard	0	\$432
Set up for internal (less batteries)	short / standard	3	\$216
set up for external battery pack ¹	short / standard	4	\$ 0
¹ Includes External Battery Connector Order desired external battery pack as a separate line. See page 3.1k-4.			

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 3.1k-4.

FER(S)3.1kVA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ^{1,2}	A	\$0
120 volt	5-50P	D	\$90
	L5-30P	J	\$60
208 or 240 volt	L6-20P	K	\$60
	L6-30P	L	\$60

¹ Hardwired input requires hardwired output

² Limits output connections to two slots

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity of the receptacles.

- Three output slots available with line cord input connection.
- Two output slots available with hardwire input connection.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	___	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208 or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208 or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A</u> <u>0</u>
Hardwire Output Connection CTO Order Code		<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>

¹ Hardwired output requires hardwired input

FER(S)3.1kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR ¹ (recommended when loads contain PFC power supplies)	B ¹	\$150
Neutral to Ground bond removal (For shipboard use)	Q	\$25

¹ Cannot be used with short rackmount cabinet option or internal or less battery options.

FER(S)3.1kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs¹

Runtime Full/Half	Battery Charger Required	Order Number	List Price
57m/2h27m	Standard Battery Charger	1re	\$1,830
1h41m/4h03m	Standard Battery Charger	2re	\$3,092

¹ UPS must be ordered set up for external battery pack. See page 3.1k-1.

External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 1re and 2re.	BCS-0108	\$50

External Maintenance Bypass Switches¹ (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options

Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

FER(S)3.1kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FER(S)3.1kVA 60Hz Rack	R_								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch			0			-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	R_			0					
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE3.1kVA 60 HZ

Invensys Powerware Division
2727 Kurtz Street
San Diego, CA 92110 U.S.A.
800.356.5794
www.powerware.com

FER08GDE
FEBRUARY 15, 2002


POWERWARE[®]
UNINTERRUPTIBLE POWER SYSTEMS

FE3.1kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FH000JC3A0A0A0A. See page 3.1k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE3.1kVA, 60 Hz Tower	FH	\$3312

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$161
208	120/240	2	\$161
240	120/240	3	\$161
240	240 (International Models)	6	\$161
220	127/220	7	\$161

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
14 minute internal	standard	0	\$449
37 minute internal	standard	1	\$793
Set up for internal (less batteries)	standard	3	\$233
set up for external battery pack ¹	standard	4	\$98
set up for external battery pack ¹	15 amp internal upgrade ²	6	\$743

¹ Includes External Battery Connector

Order desired external battery pack as a separate line. See page 3.1k-5.

² Required for external battery packs 12me – 15me

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 3.1k-5.

FE3.1kVA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A	\$43
120 volt	5-50P ³	D	\$90 ³
	L5-30P ²	J	\$ 0
208, 220, 240	6-15P ^{2,6}	E	\$ 0
	L6-20P ²	K	\$60
	L6-30P ⁴	L	\$60 ⁴
	IEC320 – Jumper Cord ^{2,5}	O	\$15

¹ Hardwired input requires hardwired output

² Cannot be used with 15 Amp battery charger

³ 5-50P option price is \$0 if 15 Amp battery charger is selected. Cannot be used with 37 minute internal runtime.

⁴ L6-30P option price is \$0 if 15 Amp battery charger is selected.

⁵ Limits output connections to two panels

⁶ Cannot be used with 208 volt input

FE3.1kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 3.1k-6.

- Three output slots available when a NEMA line cord is selected
- Two output slots available when an international line cord is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	0	\$0	
120 volt Choose up to three panels	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL) ²	C	___	\$50 ²	
208, 220, or 240 volt Choose up to three panels	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt Choose up to three panels	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt Choose up to three panels	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt Choose up to three panels	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
208, 220, 240 only Choose up to two panels	IEC320 10A (Qty 2 per panel)	U	___	\$50	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A 0</u>
Hardwire Output Connection CTO Order Code		<u>A 0</u>	<u>A 0</u>	<u>A 0</u>	<u>A 0</u>
¹ Hardwired output requires hardwired input ² If three 5-20R (UL), CTO Order Code C3A0A0A0, are selected, option price is \$0.					

FE3.1kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$150
Caster Kit (if ordered with unit)	C	\$145
Anchor Kit for structural slab floor	D	\$215
Anchor Kit for raised or access floor	E	\$215
Caster Kit and Anchor Kit for structural slab floor	F	\$323
Caster Kit and Anchor Kit for raised or access floor	G	\$323
DVR and Caster Kit	H	\$295
DVR and Anchor Kit for structural slab floor	I	\$365
DVR and Anchor Kit for raised or access floor	J	\$365
DVR, Caster Kit and Anchor Kit for structural slab floor	K	\$473
DVR, Caster Kit and Anchor Kit for raised or access floor	L	\$473
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and DVR (For Shipboard Use)	R	\$175

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE3.1kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
57m/2h27m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	9me	\$1,430
1h41m/4h03m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	10me	\$2,421
2h29m/5h44m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	11me	\$3,075
2h52m/6h50m	15 Amp Battery Charger Upgrade ¹	12me	\$3,524
4h07m/9h27m	15 Amp Battery Charger Upgrade ¹	13me	\$4,504
5h52m/13h30m	15 Amp Battery Charger Upgrade ¹	14me	\$6,149
9h41m/22h18m	15 Amp Battery Charger Upgrade ¹	15me	\$8,471

¹Order battery charger as part of UPS. See page 3.1k-1.

External Battery Accessories		
Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 9me – 15me.	BCS-0108	\$50

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120 ²	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208, 220	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

² Use 240 volt maintenance bypass switch if 15 Amp battery charger is selected. See page 3.1k-1.

FE3.1kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-0244	\$735
Casters (if ordered as separate item)	CAA-0006	\$145
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE3.1kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE3.1kVA, 60 Hz Tower	FH								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch			0			-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FH			0					
UPS Subtotal									

External Battery Pack

Battery Pack Selected:			
------------------------	--	--	--

External Maintenance Bypass Switch

External Maintenance Bypass Switch Selected:			
--	--	--	--

Other External Options

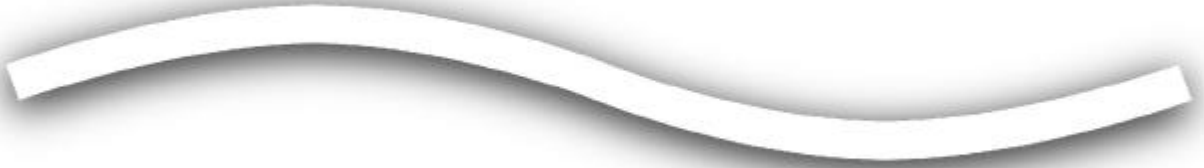
Voltage Matching Transformer	TRN-0244			
Casters (if ordered as separate item)	CAA-0006			
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001			
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002			
EnviroCom™ I	ENV-0100			
EnviroCom II	ENV-0200			
BestLink SNMP/WEB Adapter	IPK-0318			
Hand-held Remote Control Panel with Cable	RCK-0007			
Signal Splitter Box	IPK-0022			
PDU (Power Distribution Unit)	PDU-____			

Sub Total			
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		Freight	
		Insurance	
		Tax/Duty	
		Quote Total	

Special Instructions:

FERRUPS CTO Configuration Guide



FERRUPS FER4.3kVA 60 HZ Rackmount

Invensys Powerware Division
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FER21GDE
February 15, 2002


POWERWARE[®]
UNINTERRUPTIBLE POWER SYSTEMS

FER4.3kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RJ040DC2A0A0A0A. See page 4.3k-5 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit

Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER4.3kVA, 60 Hz Rackmount	RJ	\$4,085

Input / Output Voltage

Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$250
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
240	240 (International Models)	6	\$0

Battery and Battery Charger

Battery Configuration	Battery Charger	CTO Order Code	Option Price
set up for external battery pack ¹	standard	4	\$0
set up for external battery pack ¹	10 amp internal upgrade ²	5	\$270

¹ Order desired external battery pack as a separate line. See page 4.3k-3.

² Required for external battery packs 2rd – 3rd. See page 4.3k-3.

Internal Maintenance Bypass Switch

Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 4.3k-3.

Input Connection

Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0
120 volt	5-50P	D	\$120
208 or 240 volt	L6-30P	L	\$100
	IEC309 32A ¹	T	\$200

FER4.3kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 4.3k-4.

- Up to three output slots available.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208 or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208 or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A0</u>
Hardwire Output Connection CTO Order Code		A0	A0	A0	A0

¹ Hardwired output requires hardwired input

Internal Options

Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$200
iSeries option (Formerly AS/400 option)	M	\$0
iSeries option (Formerly AS/400 option) and DVR	N	\$200
Neutral to Ground bond removal (For shipboard use)	Q	\$25
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$225

FER4.3kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
26m/61m	Standard Battery Charger ¹ 10 Amp Battery Charger Upgrade Optional	EBPS4.3R	\$1,514
1h11m/2h51m	Standard Battery Charger ¹ 10 Amp Battery Charger Upgrade Optional	1rd	\$3,092
2h6m/4h49m	10 Amp Battery Charger Upgrade ¹	2rd	\$4,658
3h4m/6h46m	10 Amp Battery Charger Upgrade ¹	3rd	\$5,570

¹Order battery charger as part of UPS. See page 4.3k-1.

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
208 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
120, 240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹Bypass Switch must be mounted on the wall near the UPS.

FER4.3kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-0244	\$735
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FER4.3kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FER4.3kVA, 60 Hz Rack	RJ								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch						-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	RJ								
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
Other External Battery Options Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-0244				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
PDU (Power Distribution Unit)					PDU-____				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
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FERRUPS CTO Configuration Guide



FERRUPS FE4.3kVA 60 HZ

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FE4.3kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FI000DC4A0A0A0A. See page 4.3k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE4.3kVA, 60 Hz Tower	FI	\$4512

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$269
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
220	220	4	\$269
240	240 (International Models)	6	\$0

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
8 minute internal (20 m half load)	standard	0	\$432
27 minute internal (66 m half load)	standard	1	\$776
Set up for internal (less batteries)	standard	3	\$216
set up for external battery pack	standard	4	\$0
set up for external battery pack ¹	10 amp internal upgrade ²	5	\$270
set up for external battery pack ¹	20 amp internal upgrade ³	7	\$624

¹ Order desired external battery pack as a separate line. See page 4.3k-5.

² Required for external battery packs 4fe – 5fe

³ Required for external battery packs 6fe – 7fe

FE4.3kVA CTO Configuration Guide

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option ¹	0	\$0
Internal maintenance bypass switch option – MBB ²	1	\$725
Internal maintenance bypass switch option - BBM	2	\$625
Internal maintenance bypass switch option – MBB with iSeries ^{2,3}	3	\$725
Internal maintenance bypass switch option – BBM with iSeries ³	4	\$625

¹ External maintenance bypass switch also available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 4.3k-5.

² Cannot be used with 208 input voltage.

³ iSeries option formerly referred to as AS/400 option.

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0
120 volt	5-50P	D	\$120
208, 220, 240 volt	6-50P ¹	F	\$120
	14-50P ²	G	\$155
	L6-30P ¹	L	\$100
	L14-30 ²	M	\$125
	IEC309 32A ³	T	\$200

¹ Cannot be used with internal maintenance bypass switch.

² UPS must have internal maintenance bypass switch.

³ UPS is TUV listed when used with 220 or 240 volt.

FE4.3kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 4.3k-6.

- Two or four output slots available without internal maintenance bypass switch option.
- Up to four output slots available when internal maintenance bypass switch option is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208, 220, or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
120 volt	15 Amp / 1 pole Circuit Breaker ²	V	___	\$60	
All voltages except 120 volt	15 Amp / 2 pole Circuit Breaker ²	W	___	\$60	
120 volt	20 Amp / 1 pole Circuit Breaker ²	X	___	\$60	
All voltages except 120 volt	20 Amp / 2 pole Circuit Breaker ²	Y	___	\$60	
120 volt	30 Amp / 1 pole Circuit Breaker ²	Z	___	\$60	
All voltages except 120 volt	30 Amp / 2 pole Circuit Breaker ²	2	___	\$60	
Receptacle Output Connection CTO Order Code		__	__	__	__
Hardwire Output Connection CTO Order Code		A0	A0	A0	A0

¹ Hardwired output requires hardwired input

² Internal maintenance bypass switch option required for circuit breaker output connections

FE4.3kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$200
Anchor Kit for structural slab floor	D	\$323
Anchor Kit for raised or access floor	E	\$323
DVR and Anchor Kit for structural slab floor	I	\$523
DVR and Anchor Kit for raised or access floor	J	\$523
Neutral to Ground bond removal (For shipboard use)	Q	\$25
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$225

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
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FE4.3kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
40m/1h42m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	1fe	\$1,914
1h11m/2h51m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	2fe	\$2,421
1h49m/4h5m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	3fe	\$3,075
2h6m/4h49m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	4fe	\$3,524
3h4m/6h46m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	5fe	\$4,504
4h27m/9h39m	20 Amp Battery Charger Upgrade ¹	6fe	\$6,149
7h12m/15h56m	20 Amp Battery Charger Upgrade ¹	7fe	\$8,471

¹Order battery charger as part of UPS. See page 4.3k-1.

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
208, 220 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
120, 240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹Bypass Switch must be mounted on the wall near the UPS.

FE4.3kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-0244	\$735
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

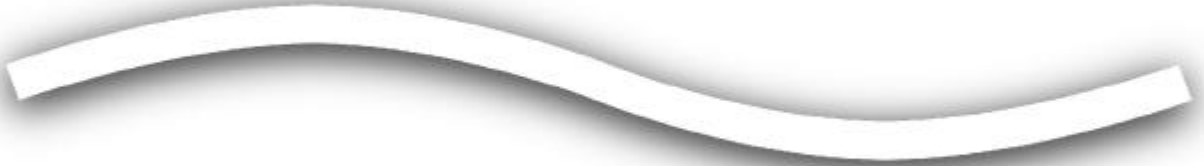
All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE4.3kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE4.3kVA, 60 Hz Tower	FI								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch						-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FI								
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
Other External Battery Options Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-0244				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
PDU (Power Distribution Unit)					PDU-____				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
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FERRUPS CTO Configuration Guide



FERRUPS FE5.3kVA 60 HZ

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FER10GDE
October 04, 2002


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FE5.3kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FJ000DC4A0A0A0A. See page 5.3k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE5.3kVA, 60 Hz Tower	FJ	\$4920

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$269
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
220	220	4	\$269
240	240 (International Models)	6	\$0

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
20 minute internal (50 m half load)	standard	0	\$776
Set up for internal (less batteries)	standard	3	\$388
set up for external battery pack	standard	4	\$0
set up for external battery pack ¹	10 amp internal upgrade ²	5	\$270
set up for external battery pack ¹	20 amp internal upgrade ³	7	\$624

¹ Order desired external battery pack as a separate line. See page 5.3k-5.

² Required for external battery packs 4fe – 5fe

³ Required for external battery packs 6fe – 7fe

FE5.3kVA CTO Configuration Guide

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option ¹	0	\$0
Internal maintenance bypass switch option – MBB ²	1	\$825
Internal maintenance bypass switch option - BBM	2	\$725
Internal maintenance bypass switch option – MBB with iSeries ^{2,3}	3	\$825
Internal maintenance bypass switch option – BBM with iSeries ³	4	\$725

¹ External maintenance bypass switch also available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 5.3k-5.

² Cannot be used with 208 input voltage.

³ iSeries option formerly referred to as AS/400 option

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0
120 volt	5-50P ¹	D	\$120
208, 220, 240 volt	6-50P ⁴	F	\$120
	14-50P ⁵	G	\$155
	L6-30P ^{2,3,4}	L	\$100
	L14-30 ^{2,3,5}	M	\$125
	IEC309 32A ^{2,6}	T	\$200

¹ Cannot be used with 10 or 20 Amp battery charger.

² Cannot be used with 208 volt and 20 Amp battery charger.

³ Cannot be used with 220 volt and 20 Amp battery charger.

⁴ Cannot be used with internal maintenance bypass switch.

⁵ UPS must have internal maintenance bypass switch.

⁶ Use with internal maintenance bypass switch limits output voltage to 208, 220, or 240 only

FE5.3kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 5.3k-6.

- Two or four output slots available without internal maintenance bypass switch option.
- Up to four output slots available when internal maintenance bypass switch option is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208, 220, or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
120 volt	15 Amp / 1 pole Circuit Breaker ²	V	___	\$60	
All voltages except 120 volt	15 Amp / 2 pole Circuit Breaker ²	W	___	\$60	
120 volt	20 Amp / 1 pole Circuit Breaker ²	X	___	\$60	
All voltages except 120 volt	20 Amp / 2 pole Circuit Breaker ²	Y	___	\$60	
120 volt	30 Amp / 1 pole Circuit Breaker ²	Z	___	\$60	
All voltages except 120 volt	30 Amp / 2 pole Circuit Breaker ²	2	___	\$60	
Receptacle Output Connection CTO Order Code		___	___	___	___
Hardwire Output Connection CTO Order Code		A0	A0	A0	A0

¹ Hardwired output requires hardwired input

² Internal maintenance bypass switch option required for circuit breaker output connections

FE5.3kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$200
Anchor Kit for structural slab floor	D	\$323
Anchor Kit for raised or access floor	E	\$323
DVR and Anchor Kit for structural slab floor	I	\$523
DVR and Anchor Kit for raised or access floor	J	\$523
Neutral to Ground bond removal (For shipboard use)	Q	\$25
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$225

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE5.3kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
27m/1h14m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	1fe	\$1,914
49m/2h10m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	2fe	\$2,421
1h12m/3h8m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	3fe	\$3,075
1h27m/3h39m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	4fe	\$3,524
2h13m/5h11m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	5fe	\$4,504
3h8m/7h22m	20 Amp Battery Charger Upgrade ¹	6fe	\$6,149
5h10m/12h10m	20 Amp Battery Charger Upgrade ¹	7fe	\$8,471

¹Order battery charger as part of UPS. See page 5.3k-1.

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE04MBB1A	\$650
	MBB with AS/400 (iSeries) Option	BPE04MBBAS1A	\$650
	MBB with Locking Handle	BPE04MBB1A/L	\$850
208, 220 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

FE5.3kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-0239	\$965
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

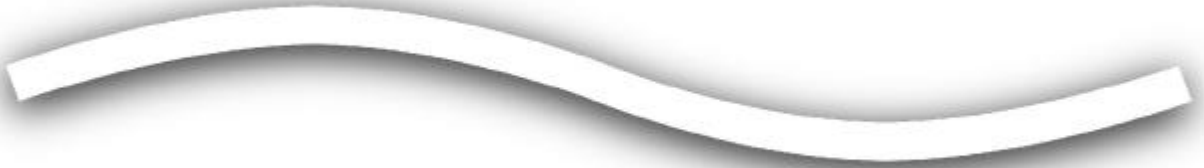
All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE5.3kVA Quote Sheet

The UPS CTO Worksheet							
	UPS CTO Order Code				List Price	Discount	Net Price
Base Unit: FE5.3kVA, 60 Hz Tower	FJ						
Input / Output Voltage							
Battery and Battery Charger							
Internal Maintenance Bypass Switch					-	-	-
Input Connection							
Output Connection							
Internal Options							
Complete UPS CTO Number	FJ						
UPS Subtotal							
External Battery Pack							
Battery Pack Selected:							
Other External Battery Options Selected:							
External Maintenance Bypass Switch							
External Maintenance Bypass Switch Selected:							
Other External Options							
Voltage Matching Transformer				TRN-0239			
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch				IPK-0001			
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch				IPK-0002			
EnviroCom™ I				ENV-0100			
EnviroCom II				ENV-0200			
BestLink SNMP/WEB Adapter				IPK-0318			
Hand-held Remote Control Panel with Cable				RCK-0007			
Signal Splitter Box				IPK-0022			
PDU (Power Distribution Unit)				PDU-____			
Sub Total							
						Freight	
						Insurance	
						Tax/Duty	
						Quote Total	
Special Instructions:							

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE500VA 60 HZ

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800.356.5794
www.powerware.com

FER01GDE
February 15, 2002


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FE500VA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FA000BB2A0A0A0A. See page 500-4 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE500VA, 60 Hz Tower	FA	\$849

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150
220	127/220	7	\$150

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
9 minute internal	standard	0	\$100
20 minute internal	standard	1	\$150
75 minute internal	standard	2	\$264
Set up for internal (less batteries)	standard	3	\$49
set up for external battery pack ¹	standard	4	\$48
set up for external battery pack ¹	15 amp internal upgrade ²	6	\$548

¹ Includes External Battery Connector
Order desired external battery pack as a separate line.
See page 500-3.

² Required for external battery packs 24me and 25me

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 500-3.

FE500VA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A	\$40
120 volt	5-15P ²	B	\$ 0
	L5-15P ²	H	\$15
208, 220, 240	6-15P ²	E	\$ 0
	IEC320 – Jumper Cord ³	O	\$15

¹ Hardwired input requires hardwired output

² NEMA line cord requires NEMA receptacles

³ International line cord requires international receptacles

Output Connection			
Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles.			
Output Voltage Required	Output Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A0A0A0A0	\$0
120 volt only	(2) 5-15R Duplex	B2A0A0A0	\$0
	(1) 5-15R Duplex (1) L5-15R Duplex	B1G1A0A0	\$75
	(2) L5-15R Duplex	G2A0A0A0	\$75
208, 220, 240 only	(2) 6-15R Duplex	D2A0A0A0	\$150
	(4) IEC320	U1A0A0A0	\$100
Mixed Voltages 120/208, 120/240, or 127/220	(1) 5-15R Duplex (1) 6-15R Duplex	B1D1A0A0	\$75
	(1) L5-15R Duplex (1) 6-15R Duplex	D1G1A0A0	\$150

¹ Hardwired output requires hardwired input

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
AVR (recommended when loads contain PFC power supplies)	B	\$100
Caster Kit (if ordered with unit)	C	\$100
Anchor Kit for structural slab floor	D	\$200
Anchor Kit for raised or access floor	E	\$200
AVR and Caster Kit	H	\$200
AVR and Anchor Kit for structural slab floor	I	\$300
AVR and Anchor Kit for raised or access floor	J	\$300
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and AVR (For Shipboard Use)	R	\$125

FE500VA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs

Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
3h40m/10h22m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	21me	\$638
7h50m/22h09m	15 Amp Battery Charger Upgrade ¹	24me	\$1,230
8h45m/24h44m	15 Amp Battery Charger Upgrade ¹	25me	\$1,430

¹Order battery charger as part of UPS. See page 500-1.

External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 21me – 25me.	BCS-0108	\$50

External Maintenance Bypass Switches¹ (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208, 220	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options

Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
Casters (if ordered as separate item)	CAA-0004	\$100
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE500VA Quote Sheet

The UPS CTO Worksheet							
	UPS CTO Order Code				List Price	Discount	Net Price
Base Unit: FE500VA, 60 Hz Tower	FA						
Input / Output Voltage							
Battery and Battery Charger							
Internal Maintenance Bypass Switch			0		-	-	-
Input Connection							
Output Connection							
Internal Options							
Complete UPS CTO Number	FA			0			
UPS Subtotal							
External Battery Pack							
Battery Pack Selected:							
External Maintenance Bypass Switch							
External Maintenance Bypass Switch Selected:							
Other External Options							
Voltage Matching Transformer				TRN-1175			
Casters (if ordered as separate item)				CAA-0004			
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch				IPK-0001			
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch				IPK-0002			
EnviroCom™ I				ENV-0100			
EnviroCom II				ENV-0200			
BestLink SNMP/WEB Adapter				IPK-0318			
Hand-held Remote Control Panel with Cable				RCK-0007			
Signal Splitter Box				IPK-0022			
Sub Total							
						Freight	
						Insurance	
						Tax/Duty	
						Quote Total	
Special Instructions:							

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE700VA 60 HZ

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FER02GDE
February 15, 2002


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FE700VA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FB000BB2A0A0A0A. See page 700-4 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE700VA, 60 Hz Tower	FB	\$949

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150
220	127/220	7	\$150

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
11 minute internal	standard	0	\$100
16 minute internal	standard	1	\$212
34 minute internal	standard	2	\$262
Set up for internal (less batteries)	standard	3	\$43
set up for external battery pack ¹	standard	4	\$36
set up for external battery pack ¹	15 amp internal upgrade ²	6	\$536

¹ Includes External Battery Connector
Order desired external battery pack as a separate line.
See page 700-3.

² Required for external battery packs 24me and 25me

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 700-3.

FE700VA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A	\$40
120 volt	5-15P ²	B	\$ 0
	L5-15P ²	H	\$15
208, 220, 240	6-15P ²	E	\$ 0
	IEC320 – Jumper Cord ³	O	\$15

¹ Hardwired input requires hardwired output

² NEMA line cord requires NEMA receptacles

³ International line cord requires international receptacles

Output Connection			
Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles.			
Output Voltage Required	Output Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A0A0A0A0	\$0
120 volt only	(2) 5-15R Duplex	B2A0A0A0	\$0
	(1) 5-15R Duplex (1) L5-15R Duplex	B1G1A0A0	\$75
	(2) L5-15R Duplex	G2A0A0A0	\$75
208, 220, 240 only	(2) 6-15R Duplex	D2A0A0A0	\$150
	(4) IEC320	U1A0A0A0	\$100
Mixed Voltages 120/208, 120/240, or 127/220	(1) 5-15R Duplex (1) 6-15R Duplex	B1D1A0A0	\$75
	(1) L5-15R Duplex (1) 6-15R Duplex	D1G1A0A0	\$150

¹ Hardwired output requires hardwired input

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
AVR (recommended when loads contain PFC power supplies)	B	\$100
Caster Kit (if ordered with unit)	C	\$100
Anchor Kit for structural slab floor	D	\$200
Anchor Kit for raised or access floor	E	\$200
AVR and Caster Kit	H	\$200
AVR and Anchor Kit for structural slab floor	I	\$300
AVR and Anchor Kit for raised or access floor	J	\$300
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and AVR (For Shipboard Use)	R	\$125

FE700VA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs

Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
2h10m/6h07m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	21me	\$638
5h40m/16h	15 Amp Battery Charger Upgrade ¹	24me	\$1,230
6h30m/18h23m	15 Amp Battery Charger Upgrade ¹	25me	\$1,430

¹Order battery charger as part of UPS. See page 700-1.

External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 21me – 25me.	BCS-0108	\$50

External Maintenance Bypass Switches¹ (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208, 220	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options

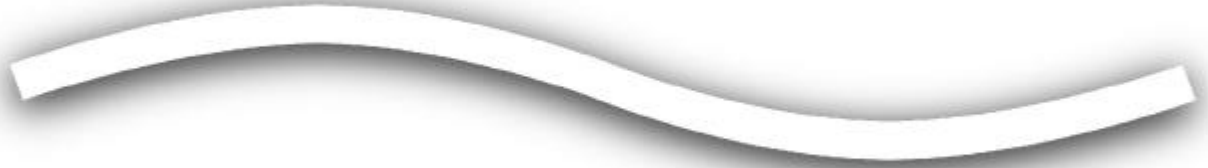
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
Casters (if ordered as separate item)	CAA-0004	\$100
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE700VA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE700VA, 60 Hz Tower	FB								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch			0			-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FB			0					
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
Casters (if ordered as separate item)					CAA-0004				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

FERRUPS CTO Configuration Guide



FERRUPS FER7VA 60 HZ Rackmount

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www.powerware.com

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February 15, 2002


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FER7kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RK140FC2L1A0A0A. See page 7k-5 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER7kVA, 60 Hz Rackmount	RK	\$5,785

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$250
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
240	240 (International Models)	6	\$0

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
set up for external battery pack ¹	standard	4	\$0
set up for external battery pack ¹	10 amp internal upgrade ²	5	\$270

¹ Order desired external battery pack as a separate line. See page 7k-3.

² Required for external battery packs 2rd – 3rd. See page 7k-3.

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 7k-3.

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0
208 or 240 volt	6-50P	F	\$120
	IEC309 32A ¹	T	\$200

FER7kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 7k-4.

- Up to three output slots available.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208 or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208 or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A0</u>
Hardwire Output Connection CTO Order Code		A0	A0	A0	A0

¹ Hardwired output requires hardwired input

Internal Options

Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$200
iSeries option (Formerly AS/400 option)	M	\$0
iSeries option (Formerly AS/400 option) and DVR	N	\$200
Neutral to Ground bond removal (For shipboard use)	Q	\$25
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$225

FER7kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
12m/33m	Standard Battery Charger ¹ 10 Amp Battery Charger Upgrade Optional	EBPS4.3R	\$1,514
33m/1h31m	Standard Battery Charger ¹ 10 Amp Battery Charger Upgrade Optional	1rd	\$3,092
58m/2h36m	10 Amp Battery Charger Upgrade ¹	2rd	\$4,658
1h28m/3h46m	10 Amp Battery Charger Upgrade ¹	3rd	\$5,570

¹Order battery charger as part of UPS. See page 7k-1.

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE04MBB1A	\$650
	MBB with AS/400 (iSeries) Option	BPE04MBBAS1A	\$650
	MBB with Locking Handle	BPE04MBB1A/L	\$850
208 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹Bypass Switch must be mounted on the wall near the UPS.

FER7kVA CTO Configuration Guide

Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-0239	\$965
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

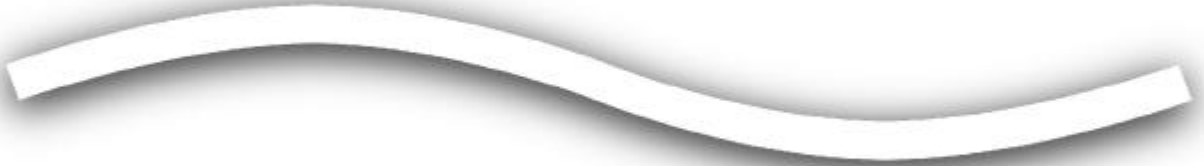
All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FER7kVA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FER7kVA, 60 Hz Rack	RK								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch						-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	RK								
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
Other External Battery Options Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-0239				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
PDU (Power Distribution Unit)					PDU-____				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE7kVA 60 HZ

Invensys Powerware Division
2727 Kurtz Street
San Diego, CA 92110 U.S.A.
800.356.5794
www.powerware.com

FER11GDE
October 04, 2002


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FE7kVA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FK300FC4A0A0A0A. See page 7k-7 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE7kVA, 60 Hz Tower	FK	\$6490

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$269
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
220	220	4	\$269
240	240 (International Models)	6	\$0

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
12 minute internal (33 m half load)	standard	0	\$776
18 minute internal (50 m half load)	standard	1	\$1080
Set up for internal (less batteries)	standard	3	\$388
set up for external battery pack	standard	4	\$0
set up for external battery pack ¹	10 amp internal upgrade ²	5	\$270
set up for external battery pack ¹	20 amp internal upgrade ³	7	\$624

¹ Order desired external battery pack as a separate line. See page 7k-5.

² Required for external battery packs 4fe – 5fe

³ Required for external battery packs 6fe – 7fe

FE7kVA CTO Configuration Guide

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option ¹	0	\$0
Internal maintenance bypass switch option – MBB ²	1	\$900
Internal maintenance bypass switch option - BBM	2	\$800
Internal maintenance bypass switch option – MBB with iSeries ^{2,3}	3	\$900
Internal maintenance bypass switch option – BBM with iSeries ³	4	\$800

¹ External maintenance bypass switch also available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 7k-5.

² Cannot be used with 208 volt input

³ iSeries option formerly referred to as AS/400 option

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0
208, 220, 240 volt	6-50P ¹	F	\$120
	14-50P ²	G	\$155
	IEC309 63A ³	T	\$280

¹ Cannot be used with internal maintenance bypass switch.

² UPS must have internal maintenance bypass switch.

³ Use with internal maintenance bypass switch limits output voltage to 208, 220, or 240 only

FE7kVA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles. Additional output connections can be achieved by ordering external power distribution units. See page 7k-6.

- Two or four output slots available without internal maintenance bypass switch option.
- Up to eight output slots available when internal maintenance bypass switch option is selected.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired ¹	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208, 220, or 240 volt	6-15R Duplex	D	___	\$75	
	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, 220, or 240 volt	L6-15R Duplex	J	___	\$75	
	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
120/240 volt	L14-20R	M	___	\$75	
	L14-30R	N	___	\$75	
120 volt	15 Amp / 1 pole Circuit Breaker ²	V	___	\$60	
All voltages except 120 volt	15 Amp / 2 pole Circuit Breaker ²	W	___	\$60	
120 volt	20 Amp / 1 pole Circuit Breaker ²	X	___	\$60	
All voltages except 120 volt	20 Amp / 2 pole Circuit Breaker ²	Y	___	\$60	
120 volt	30 Amp / 1 pole Circuit Breaker ²	Z	___	\$60	
All voltages except 120 volt	30 Amp / 2 pole Circuit Breaker ²	2	___	\$60	
Receptacle Output Connection CTO Order Code		___	___	___	___
Hardwire Output Connection CTO Order Code		A0	A0	A0	A0

¹ Hardwired output requires hardwired input

² Internal maintenance bypass switch option required for circuit breaker output connections

FE7kVA CTO Configuration Guide

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
DVR (recommended when loads contain PFC power supplies)	B	\$200
Anchor Kit for structural slab floor	D	\$323
Anchor Kit for raised or access floor	E	\$323
DVR and Anchor Kit for structural slab floor	I	\$523
DVR and Anchor Kit for raised or access floor	J	\$523
Neutral to Ground bond removal (For shipboard use)	Q	\$25
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$225

FE7kVA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs			
Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
34m/1h28m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	2fe	\$2,421
48m/2h13m	Standard Battery Charger ¹ 10 or 20 Amp Battery Charger Upgrade Optional	3fe	\$3,075
60m/2h33m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	4fe	\$3,524
1h32m/3h41m	10 Amp Battery Charger Upgrade ¹ 20 Amp Battery Charger Upgrade Optional	5fe	\$4,504
2h16m/5h14m	20 Amp Battery Charger Upgrade ¹	6fe	\$6,149
3h45m/8h39m	20 Amp Battery Charger Upgrade ¹	7fe	\$8,471

¹Order battery charger as part of UPS. See page 7k-1.

External Maintenance Bypass Switches ¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE04MBB1A	\$650
	MBB with AS/400 (iSeries) Option	BPE04MBBAS1A	\$650
	MBB with Locking Handle	BPE04MBB1A/L	\$850
208, 220 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

FE7kVA CTO Configuration Guide

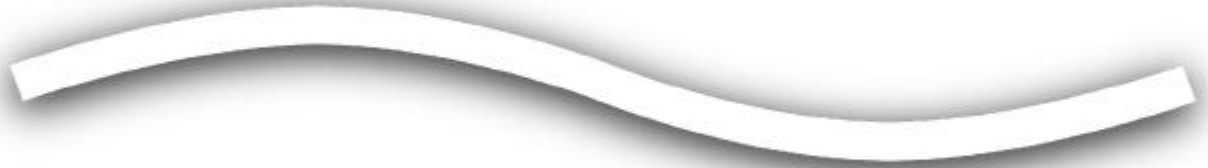
Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-0239	\$965
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

PDU (Power Distribution Unit)				
Voltage	Input Connection	Output Connections	Order Number	List Price
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (8) 6-15R	PDU-0007	\$600
120/240	6 ft. line cord with L14-30P	(4) 5-15R, (3) L6-30R	PDU-0008	\$400
120/240	6 ft. line cord with L14-30P	(12) 5-15R	PDU-0009	\$300
208 or 240	6 ft. line cord with L6-30P	(3) L6-20R, (1) L6-30R	PDU-0010	\$600
208 or 240	6 ft. line cord with L6-30P	(4) L6-30R	PDU-0011	\$400
120	6 ft. line cord with L5-30P	(8) 5-15R	PDU-0012	\$300

FE7kVA Quote Sheet

The UPS CTO Worksheet							
	UPS CTO Order Code				List Price	Discount	Net Price
Base Unit: FE7kVA, 60 Hz Tower	FK						
Input / Output Voltage							
Battery and Battery Charger							
Internal Maintenance Bypass Switch					-	-	-
Input Connection							
Output Connection							
Internal Options							
Complete UPS CTO Number	FK						
UPS Subtotal							
External Battery Pack							
Battery Pack Selected:							
Other External Battery Options Selected:							
External Maintenance Bypass Switch							
External Maintenance Bypass Switch Selected:							
Other External Options							
Voltage Matching Transformer				TRN-0239			
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch				IPK-0001			
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch				IPK-0002			
EnviroCom™ I				ENV-0100			
EnviroCom II				ENV-0200			
BestLink SNMP/WEB Adapter				IPK-0318			
Hand-held Remote Control Panel with Cable				RCK-0007			
Signal Splitter Box				IPK-0022			
PDU (Power Distribution Unit)				PDU-____			
Sub Total							
						Freight	
						Insurance	
						Tax/Duty	
						Quote Total	
Special Instructions:							

FERRUPS CTO Configuration Guide



FERRUPS FES850VA 60 HZ Rackmount

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800.356.5794
www.powerware.com

FER15GDE
February 15, 2002


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FES850VA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RA000BB2A0A0A0A. See page 850-4 for a CTO worksheet.

External bypass switches and other external options will need to be ordered as separate line items.

Base Unit

Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FES850VA, 60 Hz Rackmount	RA	\$1791

Input / Output Voltage

Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150

Battery and Battery Charger

Battery Configuration	Battery Charger	CTO Order Code	Option Price
11 minute internal (28 m half load)	standard	0	\$108
28 minute internal (71 m half load)	standard	1	\$216
Set up for internal (less batteries)	standard	3	\$54

Internal Maintenance Bypass Switch

Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 850-3.

Input Connection

Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$ 0
120 volt	5-15P	B	\$15
208, 220, 240	6-15P	E	\$60

FES850VA CTO Configuration Guide

Output Connection

Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity of the receptacles.

- Two output slots available.
- If multiple quantities of one type of receptacle is desired, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than four types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel
		Type	Qty	
Any	Hardwired ¹	A	___	\$0
120 volt	5-15R Duplex	B	___	\$50
	5-20R Duplex (UL)	C	___	\$50
208 or 240 volt	6-15R Duplex	D	___	\$75
	6-20R Duplex	E	___	\$75
120 volt	L5-15R Duplex	G	___	\$75
	L5-20R	H	___	\$75
	L5-30R	I	___	\$75
208 or 240 volt	L6-15R Duplex	J	___	\$75
	L6-20R	K	___	\$75
	L6-30R	L	___	\$75
120/240 volt	L14-20R	M	___	\$75
	L14-30R	N	___	\$75
Receptacle Output Connection CTO Order Code		__	__	<u>A 0</u> <u>A 0</u>
Hardwire Output Connection CTO Order Code		A 0	A 0	A 0 A 0

¹ Hardwired output requires hardwired input

Internal Options

Option	CTO Order Code	Option Price
No other option	A	\$0
Neutral to Ground bond removal (For shipboard use)	Q	\$25

FES850VA CTO Configuration Guide

External Options

External bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Maintenance Bypass Switches¹ (Recommended for hardwired units)			
UPS Input Voltage	Switch Type	Order Number	List Price
120 volt	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208 volt	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

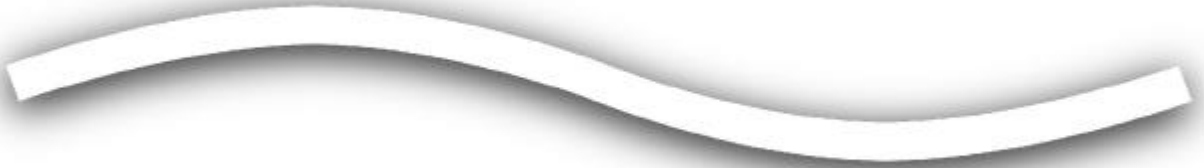
Other External Options		
Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

FES850VA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FES850VA, 60 Hz Rack	RA								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch				0		-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	RA			0					
UPS Subtotal									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS CTO Configuration Guide



FERRUPS FE850VA 60 HZ

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February 15, 2002


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FE850VA CTO Configuration Guide

Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: FC000BB2A0A0A0A. See page 850-4 for a CTO worksheet.

External battery packs, bypass switches and other external options will need to be ordered as separate line items.

Base Unit		
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FE850VA, 60 Hz Tower	FC	\$1129

Input / Output Voltage			
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150
220	127/220	7	\$150

Battery and Battery Charger			
Battery Configuration	Battery Charger	CTO Order Code	Option Price
9 minute internal	standard	0	\$100
38 minute internal	standard	1	\$212
Set up for internal (less batteries)	standard	3	\$43
set up for external battery pack ¹	standard	4	\$36
set up for external battery pack ¹	15 amp internal upgrade ²	6	\$536

¹ Includes External Battery Connector
Order desired external battery pack as a separate line.
See page 850-3.

² Required for external battery packs 24me and 25me

Internal Maintenance Bypass Switch		
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available ¹	0	\$0

¹ External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 850-3.

FE850VA CTO Configuration Guide

Input Connection			
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A	\$40
120 volt	5-15P ²	B	\$ 0
	L5-15P ²	H	\$15
208, 220, 240	6-15P ²	E	\$ 0
	IEC320 – Jumper Cord ³	O	\$15

¹ Hardwired input requires hardwired output

² NEMA line cord requires NEMA receptacles

³ International line cord requires international receptacles

Output Connection			
Output Connection Configuration is designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles.			
Output Voltage Required	Output Connection	CTO Order Code	Option Price
Any	Hardwired ¹	A0A0A0A0	\$0
120 volt only	(2) 5-15R Duplex	B2A0A0A0	\$0
	(1) 5-15R Duplex (1) L5-15R Duplex	B1G1A0A0	\$75
	(2) L5-15R Duplex	G2A0A0A0	\$75
208, 220, 240 only	(2) 6-15R Duplex	D2A0A0A0	\$150
	(4) IEC320	U1A0A0A0	\$100
Mixed Voltages 120/208, 120/240, or 127/220	(1) 5-15R Duplex (1) 6-15R Duplex	B1D1A0A0	\$75
	(1) L5-15R Duplex (1) 6-15R Duplex	D1G1A0A0	\$150

¹ Hardwired output requires hardwired input

Internal Options		
Option	CTO Order Code	Option Price
No other option	A	\$0
AVR (recommended when loads contain PFC power supplies)	B	\$100
Caster Kit (if ordered with unit)	C	\$100
Anchor Kit for structural slab floor	D	\$200
Anchor Kit for raised or access floor	E	\$200
AVR and Caster Kit	H	\$200
AVR and Anchor Kit for structural slab floor	I	\$300
AVR and Anchor Kit for raised or access floor	J	\$300
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and AVR (For Shipboard Use)	R	\$125

FE850VA CTO Configuration Guide

External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option.

External Battery Packs

Runtime Full/Half	Battery Charger Required ¹	Order Number	List Price
1h40m/4h42m	Standard Battery Charger ¹ 15 Amp Battery Charger Upgrade Optional	21me	\$638
3h50m/10h50m	15 Amp Battery Charger Upgrade ¹	24me	\$1,230
4h10m/11h47m	15 Amp Battery Charger Upgrade ¹	25me	\$1,430

¹Order battery charger as part of UPS. See page 850-1.

External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension Required for all external battery configurations except 21me – 25me.	BCS-0108	\$50

External Maintenance Bypass Switches¹ (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$400
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$400
208, 220	BBM (Break Before Make)	BPE02BBM1A	\$450
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$450
	BBM with Locking Handle	BPE02BBM1A/L	\$650
240	MBB (Make Before Break)	BPE02MBB1A	\$550
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$550
	MBB with Locking Handle	BPE02MBB1A/L	\$750

¹ Bypass Switch must be mounted on the wall near the UPS.

Other External Options

Option	Order Number	List Price
Voltage Matching Transformer – 208V input, 120/240V output Required for applications using MBB bypass with source voltage of 208V.	TRN-1175	\$490
Casters (if ordered as separate item)	CAA-0004	\$100
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch	IPK-0002	\$120
EnviroCom™ I	ENV-0100	\$439
EnviroCom II	ENV-0200	\$949
BestLink SNMP/WEB Adapter	IPK-0318	\$349
Hand-held Remote Control Panel with Cable	RCK-0007	\$250
Signal Splitter Box	IPK-0022	\$199

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FE850VA Quote Sheet

The UPS CTO Worksheet									
	UPS CTO Order Code					List Price	Discount	Net Price	
Base Unit: FE850VA, 60 Hz Tower	FC								
Input / Output Voltage									
Battery and Battery Charger									
Internal Maintenance Bypass Switch			0			-	-	-	
Input Connection									
Output Connection									
Internal Options									
Complete UPS CTO Number	FC			0					
UPS Subtotal									
External Battery Pack									
Battery Pack Selected:									
External Maintenance Bypass Switch									
External Maintenance Bypass Switch Selected:									
Other External Options									
Voltage Matching Transformer					TRN-1175				
Casters (if ordered as separate item)					CAA-0004				
IBM AS/400 (iSeries) Interface Kit – UPS without maintenance bypass switch					IPK-0001				
IBM AS/400 (iSeries) Interface Kit – UPS with maintenance bypass switch					IPK-0002				
EnviroCom™ I					ENV-0100				
EnviroCom II					ENV-0200				
BestLink SNMP/WEB Adapter					IPK-0318				
Hand-held Remote Control Panel with Cable					RCK-0007				
Signal Splitter Box					IPK-0022				
Sub Total									
							Freight		
							Insurance		
							Tax/Duty		
							Quote Total		
Special Instructions:									

All Prices F.O.B. Necedah, Wisconsin U.S.A. in U.S. dollars.
Product and pricing subject to change without notice.

FERRUPS® Rackmount 60Hz

Unmatched reliability in configurable power protection for computers and telecommunications equipment

Features

- ▶ Active Voltage Regulation converts power from almost any AC source into computer grade Power
- ▶ Eliminates harmful harmonic currents from entering a building's wiring, where they can disrupt computer operations
- ▶ Enhanced diagnostics initiates automatic startup and scheduled tests on the logic board, battery and other critical systems
- ▶ Provides regulated output voltage without drawing power from batteries keeping the batteries fully charged from unexpected blackouts
- ▶ Complete offering of power management software included to ensure data integrity

Warranty

- ▶ 2-Year Limited Warranty
- ▶ \$25,000 Load Protection Guarantee (U.S. and Canada)



Powerware FERRUPS® uninterruptible power systems furnish unmatched reliability in configurable power protection for computers and telecommunications equipment. Patented ferroresonant technology delivers "bulletproof" power protection, overcoming spikes, sags, surges, noise, and lightning. Powerware-exclusive SineSense™ provides clean, reliable power while conserving batteries during blackouts.

Extensive configurability and customization options make FERRUPS the ideal power protection solution with a wide range of voltages, frequencies, runtimes, power cords, and receptacles. FERRUPS prevents the backfeed of harmonic currents into building wiring which can disrupt computer operations. Redundant power paths assure high fault-tolerance and optimum uptime. Galvanic isolation separates input from output, filtering line noise and surges.

Product Snapshot

Rating:	850 VA - 7kVA
Input Voltage:	120/208/240
Output Voltage:	120/208/240
Frequency:	60 Hz
Configuration:	Rackmount

FERRUPS also features precision voltage regulation with no battery discharge down to 38% below nominal (depending upon load); and over 80 user-programmable diagnostic and communications functions. FERRUPS has won Midrange Systems' "Buyer's Choice" award six of the last eight years.

FERRUPS models include free Powerware Software Suite power management software with connectivity cable, and are BestLink™ SNMP/WEB-ready for remote management. FERRUPS covers up to US\$25,000 for damage to connected equipment resulting from a spike or surge (U.S. and Canada only).

FERRUPS® Rackmount 60 Hz Specifications

Model		850VA	1.15kVA	1.4kVA	1.8kVA	2.1kVA	3.1kVA	4.3kVA*	7kVA*	
Part No.		FES850VA	FES1.15kVA	FES1.4kVA	FER1.8kVA	FER2.1kVA	FER3.1kVA	FER4.3kVA	FER7kVA	
Capacity (kVA/kW)		.8/6	1.15/8	1.4/1	1.8/1.25	2.1/1.5	3.1/2.2	4.3/3	7/5	
Dimensions	inches	9.75 x 16 x 21.25			9.75 x 16 x 26.25*			19 x 16 x 26.25		
H x W x D	mm	248 x 406 x 540			248 x 406 x 667			483 x 406 x 667		
Front Panel	inches	10.5 x 19			10.5 x 19			19.25 x 19		
H x W	mm	267 x 483			267 x 483			489 x 483		
Battery Pack	inches	Internal			Internal			8.3 x 16.25 x 24.25		
H x W x D	mm							211 x 413 x 616		
Weight	lb	105	135	150	209	220	238	495	580	
(includes batteries)	kg	48	62	68	95	100	108	225	263	
Input - Hardwired Connection		120=10A	120=15A	120=15A	120=20A	120=25A	120=35A	120=40A	120=65A	
Circuit Breaker Requirement		208=5A	208=10A	208=10A	208=15A	208=15A	208=20A	208=25A	208=40A	
(Contact factory for powercord options.)		240=5A	240=5A	240=10A	240=10A	240=15A	240=15A	240=20A	240=35A	
Output Connection		Hardwired output is standard. Contact factory for receptacle options.								
Typical Runtime:	full load	11	19	14	31	24	14	26	12	
(minutes)	half load	28	49	36	73	58	35	61	33	

Operation									
Nominal Input Voltage	120/208/240								
Input Voltage Range	+15%, -20%								
Operating Frequency	60 Hz (on-line - ± 0.01 Hz to ± 3 Hz adjustable, on inverter - ± 0.005 Hz)								
Nominal Output Voltage	120/208/240								
Output Voltage Regulation	$\pm 3\%$ for input voltages +15%, -20% of nominal. +5%,-8.3% for any line , load or battery condition.								
Output Voltage Waveform	Sine Wave								
Output Voltage	THD 5% or less THD at rated kW load								
Overload Capacity	150% surge and 125% for 10 minutes on-line. 150% surge and 110% for 10 minutes on inverter.								
Transfer Time	0 ms								
Lightning, Surge, and Noise Protection	2000:1 spike attenuation using C62.41 and C62.45 Category A and Category B tests. Noise Rejection: Common Mode - >120 dB, Normal Mode - >60dB								
Efficiency % (on-line)	85	88	88	90	90	91	90	90	
Heat (on-line)	BTU/hr.	361	372	465	474	568	742	1138	1896
	kW/hr.	0.106	0.109	0.136	0.139	0.166	0.217	0.333	0.556
Battery Charger (DC)	12V, 4A	12V, 4A			48V, 4A			48V, 5A	
Safety Certification	UL, CSA (CUL)								
EMI Compliance	FCC Class A								
Testing Standards	ANSI/IEEE C62.41 (1980); ANSI/IEEE C62.45 (1987); IEC 801-2, 801-4, 801-5								
Communication	DB25 communication port with RS-232 serial communications, alarm and inverter contact closures, and EPO shutdown.†								

Environmental									
Operating Temperature	0° to 40° C								
Storage Temperature	-20° to +60° C (-20° to +40° C if battery not removed)								
Relative Humidity	5 to 95% without condensation								
Audible Noise (dBA)	48	50	50	50	50	51	50	52	
Altitude	3050 m (10,000 ft.) maximum								

*.8, 2.1 and 3.1kVA models can be configured with 21.25 inch depth. Consult factory. †4.3kVA and 7kVA models include front panel keypad and display. All specifications typical and are subject to change without notice.

Powerware offers a complete line of Uninterruptible Power Systems from 250VA to more than 4000kVA.

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Southeast Asia

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525.488.3333



A man in a light blue button-down shirt is kneeling in a server room, interacting with a black Powerware UPS unit. He is looking at a small blue LCD screen on the front of the unit. The server room has rows of black server racks in the background, with labels like 'C2.01' and 'C2.04' visible. The ceiling has fluorescent lights and exposed pipes.

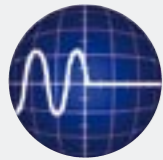
**Reliability
in tough places
easier than ever**

Powerware 9155

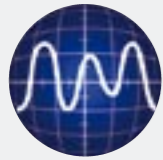
Powerware 9355

8-15 kVA

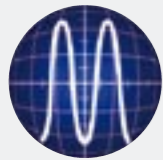
POWERWARE®



1. POWER FAILURE



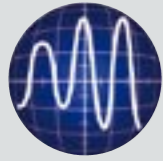
2. POWER SAG



3. POWER SURGE



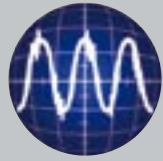
4. UNDERVOLTAGE



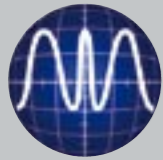
5. OVERVOLTAGE



6. SWITCHING TRANSIENT



7. LINE NOISE



8. FREQUENCY VARIATION



9. HARMONIC DISTORTION

Like never before

Eaton, under the Powerware brand, the number one UPS manufacturer in the world in the above-5-kVA category*, introduces a new high-end product. The new Powerware 9155 and 9355 combine good looks with uncompromised efficiency and reliability. It provides an affordable solution for 24/7 power protection across a wide range of critical IT and electrical engineering applications. The 9155 and 9355 cover the power range 8–15 kVA and can be paralleled for redundancy and capacity using Powerware's patented Hot Sync® technology.

**Frost & Sullivan: World UPS market 2003*

Never before has a UPS been so powerful, yet so slim.

And never before has a UPS had such a combination of features and benefits.

Powerware 9155 and 9355 combine style and small footprint with high performance. With its elegant black casing and its fully graphic, blue backlit LCD display, its strikingly modern appearance sets it clearly apart from the computer-grey masses of older equipment usually found in offices and server rooms.

Reliable

But good looks are just the surface. The 9155 and 9355 are a Series 9 UPSs, meaning that they protect from all of the nine types of most common power disturbances.



Thanks to Powerware's patented Hot Sync technology, two or more UPS units can be paralleled to provide no-compromise protection of the load even if one of the units is out of commission for service. More than that, the 9155 and 9355's design incorporate well thought-through solutions geared to keep their total life-cycle cost at the lowest possible level.

For example, they run at 92-% efficiency, provide a 0.99 input power factor and are rated for 0.9 output power factor loads.

Easy to use

Floor space is expensive. That is why the 9155 and 9355 were designed in a slim, compact tower to provide maximum power per square metre. Their small footprint also means that you will be able to increase your UPS capacity considerably without expanding your present server room. Not to mention easier transport and installation.

Even the standard battery configuration provides integral 25 minutes of backup time (at 10 kVA computer load), and you can extend it to several hours by adding extra battery packs.

The fully graphic LCD display with blue backlight make the 9155 and 9355 easy to control and monitor. For example, the inputs and outputs are configurable, enabling UPS customisation for the critical application.

With a bundled software suite and a wide range of communication options, the 9155 and 9355 are easy to run remotely using a variety of protocols.

The 9155 and 9355 offer you confidence that lets you stop worrying about power.

Powerware 9155 and 9355 feature inherent reliability. Only the most reliable hardware and technologies are used in their manufacture.

INFORMATION TECHNOLOGY SOLUTIONS

- Data networks, particularly in areas with frequent mains disturbances
- Web server hotels
- Telecom applications
- Financial institutions

ELECTRICAL ENGINEERING SOLUTIONS

- Office buildings
- Manufacturing machinery
- Process control

Reliable hardware, software and world-class service

If your business or application depends on a continuous power supply, look at the Powerware 9155 and Powerware 9355. They will provide you with the most reliable and affordable power protection today, packed in an elegant box.



Thanks to its new advanced rectifier technology, the 9155 and 9355 give you the best in input power factor control (0.99 PF). Through their low harmonics content (< 5% THDi), the 9155 and 9355 are extremely mains-friendly.

Reliability is increased by advanced battery management functions such as ABM™ (Advanced Battery Management), automatic discharge testing and temperature compensated charging voltage. Together, they can increase your battery lifetime considerably and will make sure your batteries — the most important component of the UPS — always remain in top condition!

Because the 9155 and 9355 come bundled with a software suite, you have total control over the system. The software package includes shutdown software, basic-level monitoring and integrates your UPS to your data network.

No mechanical device will run forever without servicing. That is why Powerware offers you additional peace of mind through a range of service agreement options that can easily be customised to your needs and budget. Your Powerware representative will be happy to tell you more.

Powerware 9155 and Powerware 9355

Feature	Benefit
Double conversion topology	Trouble-free output. Solution for critical 24/7 applications. Zero-break thyristor transfer to bypass for fault clearing.
Input power factor control (PFC)	Active 0.99 input power factor control leading to low current distortion in the input. Network friendly and reduces harmonics up to 5% THDi level.
Hot Sync®	Patented paralleling technology requires no communication between modules, eliminating a system-level single point of failure.
Advanced Battery Management (ABM™)	Reduced battery corrosion resulting in up to 50% longer battery lifetime.
Self-diagnostics	No unexpected failures. Digital DSP technology constantly monitors internal UPS operation.
High output power factor rating	0.9 output power factor is suitable for today's PFC computer and server loads.
Communication options	Wide range of options for network and building management uses, selectable Web/SNMP or ModBus/Jbus as needed.

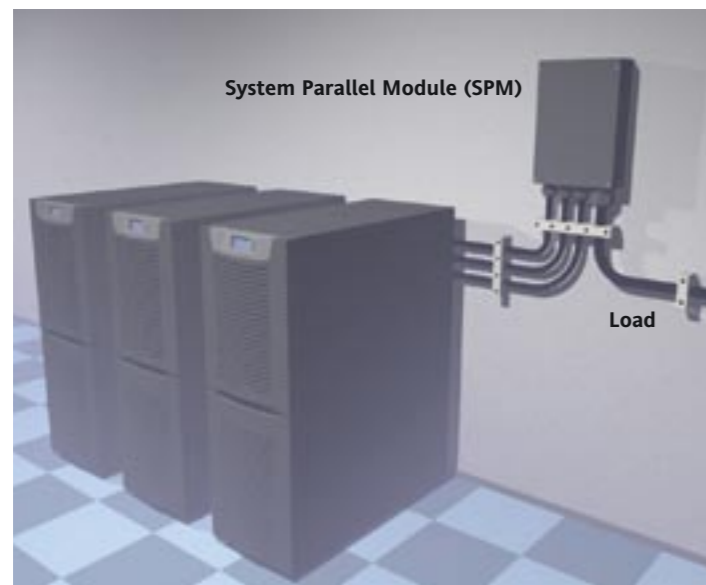
Highlights that (almost) let you forget about power

Active power factor control for less disturbances in low-voltage networks

Thanks to their cutting-edge active-front rectifier, the 9155 and 9355 provide a perfect sine-wave input and 0.99 input power factor. This means that they avoid disturbances in the feeding mains network that energy converters tend to cause. With minimal current distortion (5% THDi) the 9155 and 9355 are extremely "mains-friendly" and do not require special harmonics filtering.

Hot Sync—unbreakable security

Hot Sync parallels two or more UPS units. Units are capable of load sharing without the need for communications wiring, hitherto the most vulnerable point of failure in all UPS systems. Each Powerware module has the ability to synchronise and support the critical load independently of the other modules. Thus all critical loads are supported by UPS-grade power, whatever maintenance needs—scheduled or unscheduled—should arise.



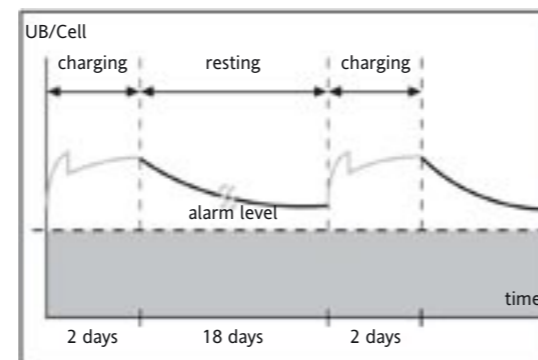
Hot Sync Redundant / Capacity

Hot Sync—redundant is an N+1 module system allowing full maintenance to be performed on all modules and the parallel cabinet without the need for an external maintenance bypass and without having to remove the critical load from conditioned power.

ABM—significantly more battery life

ABM constantly monitors battery charge status and only recharges when necessary. Compared with the traditional trickle-charging method, this reduces battery corrosion enough to provide significantly longer battery lifetimes! ABM compensates for changes in ambient temperature for proper charging.

Battery monitoring provides real-time information on battery string health and remaining runtime. This allows you to proactively plan maintenance operations instead of reacting to emerging problems. UPS tests the batteries regularly with the rectifier connected, thus providing consistent test results regardless of inverter load at testing time. Moreover, as the load is never supported by the battery alone, the UPS will keep your critical load adequately protected at all times.



ABM™ with the intermittent charging method

Communication options—connect anywhere

ConnectUPS Web/SNMP card is a complete UPS monitoring, control and shutdown solution in a networked IT environment. In case of alert the Web/SNMP card can notify users and administrators through email and SNMP traps. In case of a prolonged power failure the protected computer systems can be shut down in a graceful manner with NetWatch and LanSafe software.

HTTP, SNMP, e-mail, WAP and Telnet compatibility enable dynamic and versatile support for a large variety of system configurations.

The X-Slot card for the 9155 and 9355 also integrates a 3-port switching hub to support multiple PCs or networking equipment.

Environmental Monitoring Probe (EMP) enables you to remotely monitor environmental conditions as easily as you monitor power conditions. It adds temperature, humidity and two contact closure monitoring capabilities to ConnectUPS Web/SNMP card. It can trigger operating system shutdown if user-defined thresholds are exceeded or contact closure status changes.

Relay/AS400 card provides an easy connection to IBM AS/400 series computers as well as industrial and building management systems. You can also build a solution for a remote ON/OFF function with the relay card.

Powerware Modbus Card is an X-slot™ UPS connectivity device that provides continuous, reliable and accurate remote monitoring of your UPS system through a Building Management System (BMS) or Industrial Automation System (IAS). The card integrates data from the UPS into the user's management system using Modicon®, Modbus RTU Protocol. Key power quality and UPS status information may be monitored in real time



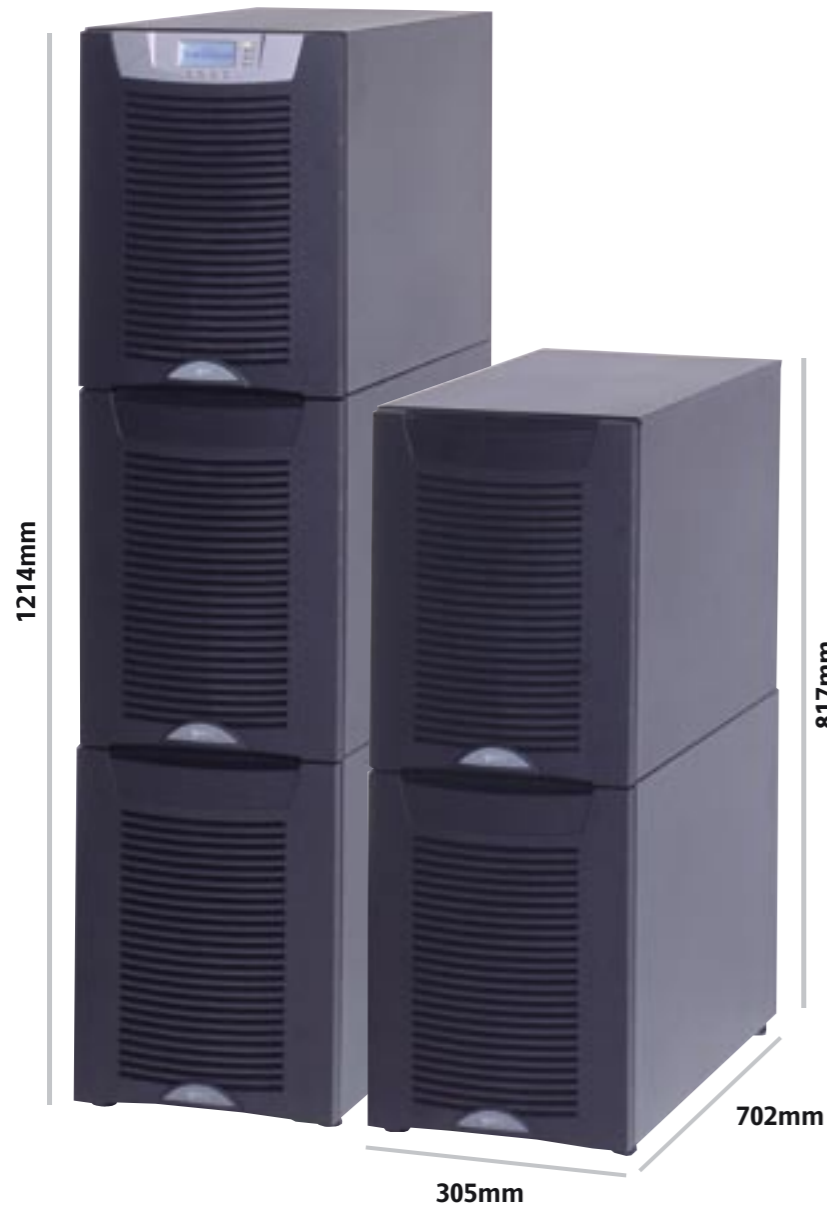
to aid in the management of the UPS and notification of potential power problems.

Multi-Server card is a power quality connectivity product designed to enable multiple devices connected to a single UPS system to be managed and controlled independently. The Multi-Server Card allows separate communication with up to six connected servers with mixed operating systems.

X-slot modem card connects your UPS device to Powerware's remote monitoring centre for a 24/7 software based, fully automatic remote UPS inspection over the telephone network.

Powerware software suite, our exclusive collection of software on a CD-rom, incorporates a full line of shutdown and monitoring software products to enhance the protection provided by Powerware UPSs. The software suite, conveniently packed on one CD-rom, follows every UPS free of charge.

Dimensions



Accessories	
External Mechanical Bypass Switch (EMBS)	
9155-MBS-15kVA	15 kg
9355-MBS-15kVA	17 kg
Battery cabinets (BAT)	
9X55-BAT5-64x7Ah	195 kg (5 years)
9X55-BAT5-96x7Ah	310 kg (5 years)
9X55-BAT10-64x7Ah	195 kg (10 years)
9X55-BAT10-96x7Ah	310 kg (10 years)
Connectivity	
X-slot: Web/SNMP	
X-slot: AS/400 relays	
X-slot: Modem	
X-slot: USB port	
X-slot: RS232 port	
X-slot: Modbus/Jbus	
X-slot: Hot Sync CanBUS	
Specials:	
Isolation output transformer	
Input isolation transformer	
Special colours	
MarineUPS version	

Technical specifications

Powerware 9155 and Powerware 9355

Rating	8 kVA	10 kVA	12 kVA	15 kVA
Part number	9155-8-S	9155-10-S	-	-
	9155-8-N	9155-10-N	9155-12-N	9155-15-N
	9355-8-N	9355-10-N	9355-12-N	9355-15-N
Capacity (VA/Watts)	8 / 7.2	10 / 9	12 / 10.8	15 / 13.5
Dimensions HxWxD (mm)	817x305x702	817x305x702	817x305x702	817x305x702
With extra runtime	1214x305x702	1214x305x702	1214x305x702	1214x305x702
Weight	155 kg	155 kg	160 kg	160 kg
	265 kg	265 kg	270 kg	270 kg
Input connection	UPS input, hardwired, bypass input (redundancy) hardwired			
Output connection	1-ph (9155), 3-ph (9355), UPS output hardwired			
Typical runtime	UPS+1xBAT	15 min	10 min	8 min
	UPS+2xBAT	33 min	25 min	20 min
Operational				
Nominal input voltage (Vac)	S models: 220/230/240 Vac single phase; N models: 220/380, 230/400, 240/415 Vac three phase			
Input voltage range	-15%, +10% from nominal at 100% load without depleting battery			
Operating frequency	50/60 Hz (45 to 65 Hz)			
Input power factor	0.99 (5% THD)			
Input current distortion	5% THD in normal network condition			
Nominal output voltage	220/230/240 VAC single phase (9155), 380/400/415 three phase (9355)			
Output voltage regulation	±2% static; ±5% dynamic at 100% load change, <1 ms response time			
Overload capacity	150% for 5 sec / 125% for 1 min (online), 1000% for 20 msec (bypass)			
Efficiency	92% with computer load. 93% with linear load			
User interface				
LCD display	Graphical LCD with blue backlight, English, German and Spanish languages, extendable			
LED	4 LED for notice and alarm			
Standard communication ports	1 x RS232 for local support, 2 x X-slot (empty); 1 x relay contact, 1 x emergency power-off input, 2 x environmental input			
Optional	External battery cabinets; isolation transformer; ext ernal mechanical bypass switch X-slot: Web/SNMP, Modbus/Jbus, relay card, RS232 port, Hot Sync card			
Environmental				
Operating temperature	0°C to +40 °C			
Storage temperature	-15°C to +40 °C			
Altitude	< 1000 m at +40 °C, < 3000 m at +25 °C			
Audible noise at 1 meter	50 dB(A) at 1 meter (10KVA); 53 dB(A) (15KVA)			
Certification				
Quality	ISO 9001: 2000 and ISO 14001: 1996			
Markings	CE and GOST markings			
Safety	IEC 62040-1-1, IEC 60950, EN 62040-1-1			
EMC	EN 50091-2 Class A			

Specifications subject to change without notice.

About Powerware Solutions

Eaton offers the largest selection of power management and protection solutions available in the industry, delivered under the Powerware brand. From the desktop to the data center, from AC-powered to DC-powered equipment, from hardware to software and services, Eaton is your one-stop partner for all your power needs.

Eaton's Powerware solutions provide the confidence that power problems will not disrupt your systems, data, and operation, delivered through more than 40 years of solid performance, in-depth knowledge of customer applications, continuous innovations and world-class services. Powerware solutions have been recognised by UPS users and industry experts for delivering highest customer value and satisfaction, as well as for demonstrating most insight into customer needs among all UPS vendors*.

Powerware UPSs are ranked number 1 in medium range and large UPSs above 5 kVA and number two in small system UPSs at or below 5 kVA**. Loyal customers range from home office users to leading blue-chip IT equipment providers, the largest global telecommunications companies, Fortune 100 business, and government agencies.

Powerware at your service:

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For more information visit
www.powerware.com

* Frost&Sullivan Award for Customer Value and Satisfaction and
Frost&Sullivan Award for Product Line Strategy

** Based on Frost &Sullivan 2004 World UPS Market Report data



Powerware

Powerware® 9315-225 Uninterruptible Power System

Product Focus

Model 225 225 kVA/202 kW/180 kW



Features

- DC Expert® battery management system featuring: +/- 3% battery runtime; Battery health indication
- Powerware Hot Sync™ technology for parallel redundancy and capacity scalability
- Large display panel provides metering, statistics, alarm history and an active mimic screen
- Prioritized cooling of components
- Power Management Software compatibility
 - PowerVision®, LanSafe®, FORESEER®
 - Software Suite CD is bundled with the UPS
- Connectivity options
 - ConnectUPS-X Web Card, Modbus Card, Single port serial Card
 - Environmental Monitoring Probe for ambient temperature and humidity monitoring (requires the Web Card option)
 - Expansion Chassis available for increased communications capabilities
- Intelligent input filter option

Output Specifications

Voltage THD:	Less than 5% (100% non-linear load with 3:1 crest factor); less than 3% (100% linear load)
Voltage regulation:	Better than ±1%
Transient response:	Less than 5% for 100% load step; full recovery within 2.5 ms
Frequency:	±0.005 Hz
Frequency sync range:	±0.5 Hz
Frequency slew rate:	1 Hz/second maximum
Output Power Factor Rating:	0.8 lagging to 0.9 leading without load derating

Environmental Specifications

Ambient temp:	0°C to +40°C
Storage:	-20°C to +70°C
Relative humidity:	Up to 95% non-condensing
Altitude:	1500 meters (5000ft.) at 40°C ambient temperature without load derating
Audible noise:	Less than 65 dBA at 1 meter; in accordance with ISO 7779
Electrostatic discharge:	Withstands 8 kV without damage or disturbance to the load; exceeds requirements of IEC 801-2
EMC:	Meets FCC Class A and EN 50091-2 (CISPR 22, Class A)

Safety

UL1778 Listed	cUL CAN/CSA C22.2 NO.107.1-M91 Listed EN 50091-1 All cabinets provide seismic mounting features Selectable DC ground fault detection capability
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This unit is also available in wireless, parallel, redundant and capacity configurations. See your Powerware product representative for more details.

Input Specifications

Voltage range:	(See chart on other side)
Frequency range:	(60 Hz) 57-63 Hz
Surge protection:	Meets ANSI C62.41, Category A & B, EN 50091-2 and EN 50082-2
Power factor:	0.95 typical at full load with input filter.
Input current distortion:	less than 7% with input filter

Battery Specifications

Matching cabinets:	Line-up and remote available
Battery type:	Sealed, valve regulated lead acid
Recharge time:	10-12 times the discharge time to 95%
Other battery options:	Wet cell batteries; open racks available

For battery runtimes and configurations, refer to Bulletin BAT01FXA

Communications

Software Compatibility:	PowerVision®, LanSafe™, FORESEER®
Communication Cards:	Connect UPS-X Web Card Modbus Card Single port serial Card Environmental Monitoring Probe (EMP)*

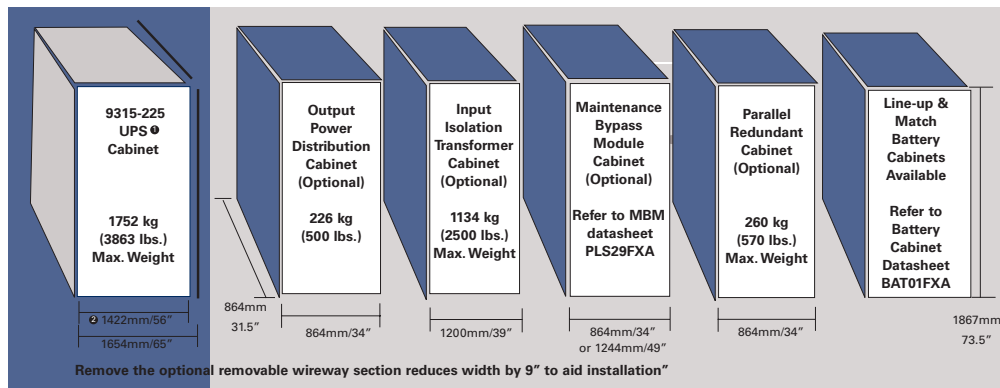
* Requires Connect UPS-X Web Card

POWERWARE 9315-225 PERFORMANCE CHARACTERISTICS

		225 kVA / 225 kVA / 225 kVA / 225 kVA / 225 kVA / 225 kVA /		225 kVA / 225 kVA / 225 kVA / 225 kVA / 225 kVA / 225 kVA /			
		180 kW	202 kW	180 kW	202 kW	180 kW	202 kW
Input voltage	volts	208	208 ^o	480	480 ^o	480	480 ^o
Output voltage	volts	208	208	208	208	480	480
Input voltage range							
Minimum	volts	177	177	408	408	408	408
Maximum	volts	229	229	528	528	528	528
Input/output frequency	Hz	60	60	60	60	60	60
AC input (with input filter)							
Nominal amps	amps	577	711	245	267	245	267
Maximum amps	amps	721	790	312	334	312	334
AC input (without input filter)							
Nominal amps	amps	640	792	288	356	288	356
Maximum amps	amps	800	880	360	396	360	396
Bypass input							
Nominal amps	amps	625	625	625	625	271	271
AC output							
Nominal amps	amps	625	625	625	625	271	271
10 minutes max.	amps	782	782	782	782	339	339

		225 kVA / 225 kVA / 225 kVA / 225 kVA / 225 kVA / 225 kVA /		225 kVA / 225 kVA / 225 kVA / 225 kVA / 225 kVA / 225 kVA /			
		180 kW	202 kW	180 kW	202 kW	180 kW	202 kW
DC link							
Nominal DC voltage	volts	480	480	480	480	480	480
Float voltage	volts	540	540	540	540	540	540
End of discharge	volts	401	401	401	401	401	401
Maximum amps @1.8v/cellamps		450	505	450	505	450	505
Physical attributes (w/o batt.)							
Installed weight	kg.	6363	6363	3863	3863	3863	3863
Installed width	inches	103	103	65	65	65	65
System efficiencies (typical)							
@ 100% load	%	92	92	93	93	94	94
@ 75% load	%	92	91.6	92	91.8	94	93.6
@ 50% load	%	91	91.4	92	91.5	93	92.4
Full load heat dissipation							
BTU/hr. (x1000)		53.7	62.8	46.2	54.3	39.2	46.1
KCal/hr. (x1000)		13.5	15.8	11.7	13.8	9.9	11.6
Inverter efficiency (full load)%		95	95	95	95	95	95

Physical Dimensions and Weights



- Optional .9 power factor.
- All accessories feature plug and play capability.
- Shipping pallet and packaging adds 50 to 300 lbs. per shipping unit.

Due to continuing improvement programs specifications are subject to change without notice. Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.



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Norway: 47.23.03.65.50
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

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Australia/NZ: 61.2.9693.9366
China: 86.21.6361.5599
HK/Korea/Taiwan: 852.2745.6682
India: 91.11.2649.9414 to 18
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March 2007

EAT•N

Powerware



Powerware

Powerware® 9315-300 Uninterruptible Power System

Product Focus

Model 225 225 kVA / 202 kW / 180 kW
Model 300 300 kVA / 270 kW / 240 kW



Features

- DC Expert® battery management system featuring: +/- 3% battery runtime; Battery health indication
- Powerware Hot Sync™ technology for parallel redundancy and capacity scalability
- Large display panel provides metering, statistics, alarm history and an active mimic screen
- Prioritized cooling of components
- Power Management Software compatibility
 - PowerVision®, LanSafe®, FORESEER®
 - Software Suite CD is bundled with the UPS
- Connectivity options
 - ConnectUPS-X Web Card, Modbus Card, Single port serial Card
 - Environmental Monitoring Probe for ambient temperature and humidity monitoring (requires the Web Card option)
 - Expansion Chassis available for increased communications capabilities
- Intelligent input filter option

Output Specifications

Voltage THD:	Less than 5% (100% non-linear load with 3:1 crest factor); less than 3% (100% linear load)
Voltage regulation:	Better than ±1%
Transient response:	Less than 5% for 100% load step; full recovery within 2.5 ms
Frequency:	±0.005 Hz
Frequency sync range:	±0.5 Hz
Frequency slew rate:	1 Hz/second maximum
Output Power Factor Rating:	0.8 lagging to 0.9 leading without load derating

Environmental Specifications

Ambient temp:	0°C to +40°C
Storage:	-20°C to +70°C
Relative humidity:	Up to 95% non-condensing
Altitude:	1500 meters (5000ft.) at 40°C ambient temperature without load derating
Audible noise:	Less than 65 dBA at 1 meter; in accordance with ISO 7779
Electrostatic discharge:	Withstands 8 kV without damage or disturbance to the load; exceeds requirements of IEC 801-2
EMC:	Meets FCC Class A and EN 50091-2 (CISPR 22, Class A)

Safety

UL1778 Listed	cUL CAN/CSA C22.2 NO.107.1-M91 Listed EN 50091-1 All cabinets provide seismic mounting features Selectable DC ground fault detection capability
---------------	--

This unit is also available in wireless, parallel, redundant and capacity configurations. See your Powerware Product Representative for more details.

Input Specifications

Voltage range:	(See chart on other side)
Frequency range:	(60 Hz) 57-63 Hz
Surge protection:	Meets ANSI C62.41, Category A & B, EN 50091-2 and EN 50082-2
Power factor:	0.95 typical at full load with input filter.
Input current distortion:	less than 7% with input filter

Battery Specifications

Matching cabinets:	Line-up and remote available
Battery type:	Sealed, valve regulated lead acid
Recharge time:	10-12 times the discharge time to 95%
Other battery options:	Wet cell batteries; open racks available

For battery runtimes and configurations, refer to Bulletin BAT01FXA

Communications

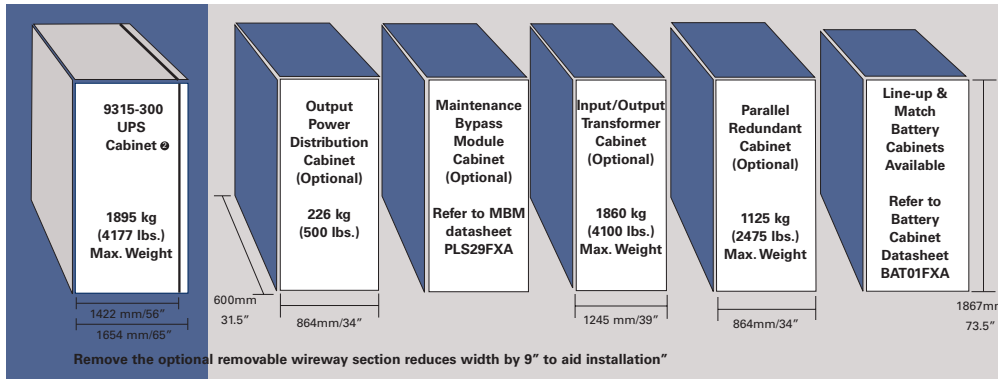
Software Compatibility:	PowerVision®, LanSafe™, FORESEER®
Communication Cards:	Connect UPS-X Web Card Modbus Card Single port serial Card Environmental Monitoring Probe (EMP)*

* Requires Connect UPS-X Web Card

POWERWARE 9315-300 PERFORMANCE CHARACTERISTICS

		Model 225						Model 300					
		225 kVA/ 180 kW	225 kVA/ 202 kW	225 kVA/ 180 kW	225 kVA/ 202 kW	225 kVA/ 180 kW	225 kVA/ 202 kW	300 kVA/ 240 kW	300 kVA/ 270 kW	300 kVA/ 240 kW	300 kVA/ 270 kW	300 kVA/ 240 kW	300 kVA/ 270 kW
Input voltage	volts	480	480 ^o	600	600 ^o	208	208 ^o	480	480 ^o	480	480 ^o	600	600 ^o
Output voltage	volts	480	480	600	600	208	208	208	208	480	480	600	600
Input voltage range													
Minimum	volts	408	408	510	510	177	177	408	408	408	408	510	510
Maximum	volts	528	528	660	660	229	229	528	528	528	528	660	660
Input/output frequency	Hz	60	60	60	60	60	60	60	60	60	60	60	60
AC input (with input filter)													
Nominal amps	amps	245	267	200	247	577	711	333	405	333	405	267	329
Maximum amps	amps	312	334	250	274	721	790	416	450	416	450	333	366
AC input (without input filter)													
Nominal amps	amps	288	356	236	291	640	792	384	476	384	476	314	389
Maximum amps	amps	360	396	294	323	800	880	480	529	480	529	392	432
Bypass input													
Nominal amps	amps	271	271	217	217	625	625	833	833	360	360	289	289
AC output													
Nominal amps	amps	271	271	217	217	625	625	833	833	360	360	289	289
10 minutes max.	amps	339	339	272	272	782	782	1040	1040	450	450	361	361
DC link													
Nominal DC voltage	volts	480	480	480	480	480	480	480	480	480	480	480	480
Float voltage	volts	540	540	540	540	540	540	540	540	540	540	540	540
End of discharge	volts	401	401	401	401	401	401	401	401	401	401	401	401
Maximum amps @1.8v/cell	amps	450	505	450	505	450	505	600	675	600	675	600	675
Physical attributes (w/o batt.)													
Installed weight	lbs	4177	4177	4177	4177	12,377	12,377	8277	8277	4177	4177	4177	4177
Installed width	inches	65	65	65	65	163	163	114	114	65	65	65	65
System efficiencies (typical)													
@ 100% load	%	93	93	92	92	92	92	93	93	94	94	92	92
@ 75% load	%	93	92.8	92	91.6	92	91.5	92	91.6	94	93.7	92	91.5
@ 50% load	%	92	92.4	91	90.8	91	90.6	92	91.4	93	92.6	92	91.0
Full load heat dissipation													
BTU/hr. (x1000)		53.7	62.8	61.7	72.2	82.4	96.5	61.7	72.6	71.7	83.9	82.4	96.5
KCal/hr. (x1000)		13.5	15.8	15.5	18.2	20.8	24.3	15.6	18.4	18.1	21.1	20.8	24.3
Inverter efficiency (full load)	%	95	95	95	95	95	95	95	95	95	95	95	95

Physical Dimensions and Weights

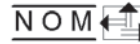


- Optional .9 power factor
- All accessories feature plug and play capability.

Shipping pallet and packaging adds 50 to 300 lbs. per shipping unit. Due to continuing improvement programs specifications are subject to change without notice. Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.



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Powerware



Powerware

Powerware® 9315-500 Uninterruptible Power System

Product Focus

Model 400 400 kVA/360 kW/320 kW
Model 500 500 kVA/450 kW/400 kW



Features

- DC Expert® battery management system featuring: +/- 3% battery runtime; Battery health indication
- Powerware Hot Sync™ technology for parallel redundancy and capacity scalability
- Large display panel provides metering, statistics, alarm history and an active mimic screen
- Prioritized cooling of components
- Power Management Software compatibility
 - PowerVision®, LanSafe®, FORESEER®
 - Software Suite CD is bundled with the UPS
- Connectivity options
 - ConnectUPS-X Web Card, Modbus Card, Single port serial Card
 - Environmental Monitoring Probe for ambient temperature and humidity monitoring (requires the Web Card option)
 - Expansion Chassis available for increased communications capabilities
- Intelligent input filter option

Output Specifications

Voltage THD:	Less than 5% (100% non-linear load with 3:1 crest factor); less than 3% (100% linear load)
Voltage regulation:	Better than ±1%
Transient response:	Less than 5% for 100% load step; full recovery within 1 cycle
Frequency:	(free run) ±0.005 Hz
Frequency sync range:	±0.5 Hz
Frequency slew rate:	1 Hz/second maximum
Output Power Factor Rating:	0.8 lagging to 0.9 leading without load derating

Environmental Specifications

Ambient temp:	0°C to +40°C
Storage:	-20°C to +70°C
Relative humidity:	5-95% non-condensing
Altitude:	1500 meters (5000ft.) at 40°C ambient temperature without load derating
Audible noise:	Less than 72 typically dBA at 1 meter; in accordance with ISO 7779
Electrostatic discharge:	Withstands 8 kV without damage or disturbance to the load; exceeds requirements of IEC 801-2
EMC:	Meets FCC Class A and EN 50091-2 (CISPR 22, Class A)

Safety

UL1778 Listed	cUL CAN/CSA C22.2 NO.107.1-M91 Listed EN 50091-1 All cabinets provide seismic mounting features Selectable DC ground fault detection capability
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Input Specifications

Voltage range:	(See chart on other side)
Frequency range:	(60 Hz) 57-63 Hz; (50 Hz) 47-53 Hz
Surge protection:	Meets ANSI C62.41, Category A & B, EN 50091-2 and EN 50082-2
Power factor:	0.96 typical at full load with input filter.
Input current distortion:	less than 7% with input filter

Battery Specifications

Matching cabinets:	Line-up and remote available
Battery type:	Sealed, valve regulated lead acid
Recharge time:	10-12 times the discharge time to 95%
Other battery options:	Wet cell batteries; open racks available

For battery runtimes and configurations, refer to Bulletin BAT01FXA

Communications

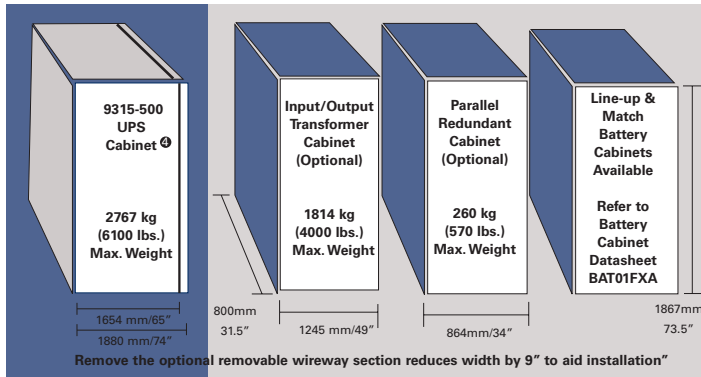
Software Compatibility:	PowerVision®, LanSafe®, FORESEER®
Communication Cards:	Connect UPS-X Web Card Modbus Card Single port serial Card Environmental Monitoring Probe (EMP)*

* Requires Connect UPS-X Web Card

POWERWARE 9315-500 PERFORMANCE CHARACTERISTICS

		Model 500				Model 400					
		500 kVA/ 400 kW	500 kVA/ 450 kW ^①	500 kVA/ 400 kW	500 kVA/ 450 kW ^①	400 kVA/ 320 kW	400 kVA/ 360 kW ^①	400 kVA/ 320 kW	400 kVA/ 360 kW ^①	400 kVA/ 320 kW	400 kVA/ 360 kW ^①
Input voltage	Volts	480	480	600	600	480	480	480	480	208	208
Output voltage	Volts	480	480	600	600	480	480	208	208	208	208
Input voltage range											
Minimum -15	Volts	408	408	510	510	408	408	408	408	177	177
Maximum +10	Volts	528	528	660	660	528	526	528	528	229	229
Input / output frequency	Hz	60	60	60	60	60	60	60	60	60	60
AC input (with input filter)											
Nominal amps	Amps	528	605	422	484	410	468	410	468	944	1077
Maximum amps ^②	Amps	640	720	512	576	560	626	560	626	1280	1440
AC input (without input filter)											
Nominal amps	Amps	648	729	518	583	521	585	521	585	1199	1346
Maximum amps ^②	Amps	800	850	640	658	640	715	640	715	N/A	N/A
Bypass input											
Nominal amps	Amps	601	601	480	480	480	480	1110	1110	1110	1110
AC output											
Nominal amps	Amps	601	601	480	480	480	480	1110	1110	1110	1110
10 minutes max.	Amps	750	750	600	600	600	600	1388	1388	1388	1388
DC link											
Nominal DC voltage	Volts	480	480	480	480	480	480	480	480	480	480
Float voltage	Volts	540	540	540	540	540	540	540	540	540	540
End of discharge ^③	Volts	401	401	401	401	401	401	401	401	401	401
Maximum amps ^④	Amps	1000	1120	1000	1120	800	901	800	901	800	901
Physical attributes (w/o batt.)											
Installed weight	Lbs	6100	6100	14,100	14,100	6100	6100	10,100	10,100	14,100	14,100
Installed width	Inches	74	74	123	123	74	74	123	123	123	123
System efficiencies (typical)											
@ 100% load	%	93.5	93.0	92.5	92.0	94.0	93.7	93.0	92.7	92.0	91.7
@ 75% load	%	93.0	92.6	92	91.5	93.5	93.3	92.5	92.4	91.5	91.5
@ 50% load	%	92.0	92.0	91	91	93	93	92	92	91	91
Full load heat dissipation^⑤											
BTU/Hr. (x1000)		119.5	134.9	122.9	138.3	95.6	107.9	107.6	119.7	119.0	133.9
KCal/Hr. (x1000)		30.1	34.0	31.0	34.9	24.1	27.2	27.1	30.2	30.0	33.7
Inverter efficiency (full load)	%	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0

Physical Dimensions and Weights^⑥



- ① Optional 0.9 Power Factor
 - ② Maximum amps equals full load current plus battery recharge current.
 - ③ End on Discharge based on 1.67 v/cell. Maximum Amps based on 1.8 v/cell.
 - ④ All accessories feature plug and play capability.
 - ⑤ Refer to Installation Manual for actual system Line-ups.
 - ⑥ Heat rejection data is worst case to ensure cooling capacity (includes losses from filters and transformers).
- Shipping pallet and packaging adds 50 to 300 lbs. per shipping unit.
- Specifications subject to change without notice.



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Powerware

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Powerware

Powerware 9390 Uninterruptible Power System

Product Focus

40-160 kVA



Features

- Provides unmatched power performance for efficiency, input current harmonic distortion (THD), and power factor
- Scalable for capacity and redundancy to meet present and future power needs
- Provides peace-of-mind that your batteries will be ready when you need them with innovative three-stage charging, battery health-checks, optional temperature-compensated charging, and remote monitoring
- Lowers installation time and costs with small footprint and the flexibility to install against walls, using top- or bottom-entry cabling
- Provides a two-year, limited factory warranty* on parts and labor, Start-up service, two years of remote monitoring, on-site preventive maintenance, and optional service plans

The Powerware® 9390 uninterruptible power system (UPS) is a double-conversion UPS that resolves all utility power problems and supplies clean, continuous, uninterruptible power to connected equipment. Whether you're selecting a UPS for a branch office, manufacturing floor, medical facility, or a large data center, there's a Powerware 9390 model that delivers just the right combination of performance and price for your needs.

Advanced design delivers unequaled power performance

The innovative design of the Powerware 9390 delivers the industry's best performance combination of efficiency, input current distortion and power factor.

The Powerware 9390 operates at a high efficiency of up to 94 percent, reducing utility costs and extending battery run times. Higher system efficiency produces cooler operating conditions, which reduces facility air conditioning cost, extends the life of UPS components, and increases overall reliability, availability, and performance.

A new input circuit design keeps input current THD low and input power factor near unity without compromising overall efficiency. As a result, the Powerware 9390 allows maximum transfer of power between power source and protected load and is exceptionally compatible with multiple power sources, especially auxiliary generators.

On the output side, the ultra high speed switching Pulse Width Modulation (PWM) inverter enables the Powerware 9390 to provide its full rated power capability to the load whether the load power factor is 0.9 lagging, unity, or 0.9 leading.

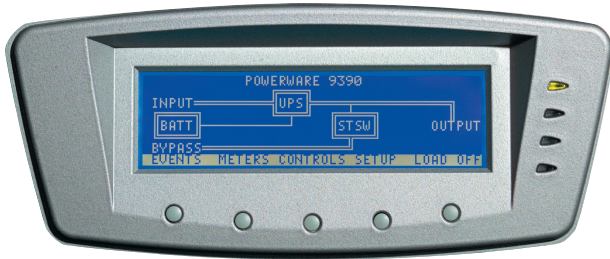
Double-conversion design offers the highest protection possible

Unlike some other commercially available UPS technologies, the double-conversion design completely isolates output power from all input power anomalies and delivers 100-percent conditioned, perfect sine-wave output—regulating both voltage and frequency.

Even when presented with the most severe power problems, power output remains stable. Output voltage THD is held within two percent of nominal specification for linear loads, within five percent for non-linear

A variable battery bus accommodates 384V to 480V configurations, so the battery capacity can be matched to your exact runtime requirements—either a specific runtime, an extension to

Beyond the warranty period, service plans are available to match any need—from basic UPS and/or battery support to all-inclusive packages with unique features, such as advanced remote monitoring with trending, customized UPS and battery capacity planning reports, and comprehensive power protection audits.



loads—making the Powerware 9390 ideal for supporting equipment that is sensitive to a distorted voltage input as a result of harmonic loads. In the event of a utility power failure, there is no delay transferring to backup power.

existing battery runtime, or legacy battery installations.

And of course, the Powerware 9390 UPS comes complete with the Powerware Software Suite of products, which provides monitoring, management, and optional shutdown capabilities over your network. Connectivity options are available to suit nearly any communication requirement, from standard serial communications to secure remote monitoring over the web.

With remote monitoring of the UPS and battery system, Eaton is there with you—able to respond to alarms and real-time battery data to avert potential battery problems.

UPS control innovations optimize battery performance and service life

Eaton's ABM® (Advanced Battery Management) technology uses a unique three-stage charging technique that significantly extends battery service life and optimizes recharge time, compared to traditional trickle charging. An integrated battery management system tests and monitors battery health and remaining lifetime, and provides advance notification to guide preventive maintenance. Optional temperature-compensated charging monitors temperature changes and adjusts the charge rate accordingly to properly charge the battery and greatly extend battery life.

Industry-leading warranty and service plans deliver peace of mind

We are so confident about the performance and reliability of the Powerware 9390 UPS and battery system that we back it up with the industry's most extensive warranty and service plans. The Powerware 9390 UPS features a two-year limited factory warranty (parts and labor)*. The Powerware 9390 also comes with a service protection package, which includes Start-Up service, a UPS Performance Check, two years of battery replacement labor coverage, and two years of web remote monitoring of both the UPS and batteries.



Scalable architecture meets your current and future load requirements

The Powerware 9390 UPS supports loads from 40 kVA to 160 kVA to deliver power protection for small branch offices to large corporate data centers and communication networks.

Up to four equivalent UPS modules can be paralleled for additional capacity or redundancy, without having to utilize a central paralleling cabinet. Up to eight UPS modules can be paralleled by utilizing a module tie cabinet. In all paralleling configurations, each UPS module operates independently yet is completely synchronized with the others. Parallel UPS modules can provide N+1, N+2, or greater redundancy.

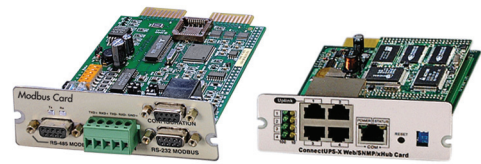
Flexible installation options expedite deployment and save valuable space

The Powerware 9390 UPS offers the smallest footprint of any UPS in its class—35 to 50 percent smaller than competitive units. Cabling can enter the UPS from either the top or bottom of the cabinet to provide easier and flexible installation. The Powerware 9390 provides front panel access for all services and operation, increasing serviceability and reducing Mean Time to Repair (MTTR). And since the compact Powerware 9390 cabinet can be installed against back and side walls, you have more location options, installation is fast and easy, deployment cost is lower, and you save valuable data center space for future expansion.

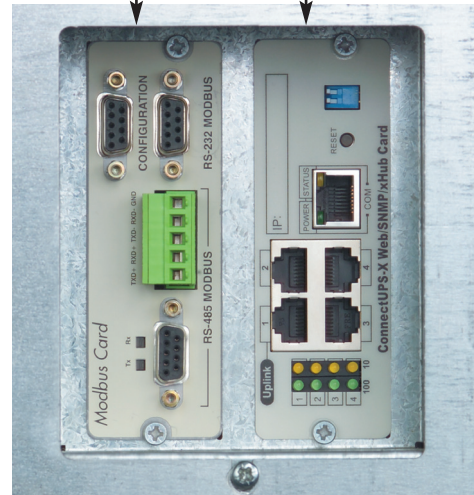
Powerware delivers a new level of confidence

The culmination of 40 years of R&D excellence, the new Powerware 9390 UPS means confidence—confidence that your organization’s critical systems are protected by the most reliable, efficient, and full-featured protection available, and confidence that Eaton will be there with you for the long term with premium warranty coverage and expert technical support.

To find out more about the new Powerware 9390 UPS, visit our website at www.powerware.com/9390, or contact us at 1.800.356.5794.



Modbus Card ConnectUPS Web/SNMP/xHub Card



Two standard, embedded communication bays provide “plug-and-play” support for multiple communication cards. A total of four communication bays are available with the communication expansion option.

Technical Specifications¹

UPS Rating (0.9 power factor)

kVA	40	50	60	80	100	120	160
kW	36	45	54	72	90	108	144

General Characteristics

Efficiency	Up to 94%
Parallel Capability	4x modules w/o tie cabinet; 8x with tie cabinet
Audible Noise	<65dBA @ 1 meter
Altitude (max)	2000m at 40°C

Input Characteristics

Voltage	208, 480, 600 ²
Voltage Range	+10% / -15%
Frequency Range	55-65 Hz
Power Factor	0.99 (min)
Input Current Distortion	<4.5% (no input filter required)
Soft Start Capability	Yes
Internal Backfeed	Yes

Protection

Output Characteristics

Voltage	208 ³ , 480 ³ , 600 ⁴
Regulation	±1%
Inverter	PWM with IGBT Switching
Voltage THD	<2% (100% linear load); <5% (non-linear load)
Load Power Factor Range	0.9 lagging to 0.9 leading

Battery

Battery Types	VRLA, AGM, Gel, Wet
Battery Voltage	384 - 480V
Temperature	Optional
Compensation	
Charging Method	Advanced Battery Management Technology

Dimensions & Weights

40 - 80 kVA Modules	18.9" w x 31.6" d x 73.7" h
120 - 160 kVA Modules	35.6" w x 31.6" d x 73.7" h
40 - 80 kVA Modules	640 lb (208V); 568 lb (480V)
100 - 160 kVA Modules	1,060 lb (208V, 480V)

User Benefits

Control Panel (LCD)	8 lines x 40 characters
Battery Start-up	Standard
Frequency Conversion	Standard
Remote Display Panel	Optional
Multi-language	Standard
Building Alarm Inputs	2 (galvanic isolated)

Serviceability

Back/Side Against Wall	Standard
Installation	

Accessories

Module Tie Cabinet	Optional
External Maintenance	Optional
Bypass	
Integrated Distribution	Optional
Cabinet	
Isolation Transformer	Optional

Certification

Safety	UL1778, cUL
EMC	FCC Class A
Surge	ANSI C62, 41 Cat. A&B

Web Remote Monitoring Service

7 x 24 remote monitoring of 43 UPS and battery alarms, daily heartbeat check and monthly report

Communications

Software Compatibility - PowerVision®, LanSafe™, FORESEER®
 Communication Cards - Standard system includes one ConnectUPS Web/SNMP card with an Environmental Monitoring Probe. Two communication bays standard. Maximum of four communication bays with the communication expansion option. The following connectivity options can be installed at any time:
 - ConnectUPS Web/SNMP/xHub Card
 - Modbus Card
 - Relay Interface Card (Use for AS/400s)
 - Industrial Relay Card (5A@120V)
 - Hot Sync CAN Bridge Card provides CAN communications, isolated RS-485 port
 - Environmental Monitoring Probe (EMP)**

Remote Inputs/Outputs - Two building alarms inputs and one summary alarm contact (5A@120V) standard

Four more building alarm inputs available with the Communication Expansion Option
 Remote Monitor Panel - Eight backlit status indicator lamps plus an audible horn**

*See the Limited Factory Warranty for Powerware 9390 Products for details. Batteries are warranted by the battery manufacturer and not by Eaton.

**Requires the ConnectUPS Web/SNMP/xHub card.

***Requires the Parallel Card option (RS-485 port) and requires an external 120V power supply to drive the remote monitor panel.

1. Due to continuing improvements, specifications are subject to change without notice.
2. 600V applications require an input transformer. 3. Output transformers are required if the desired output voltage is not the same as the input voltage. 4. 600V applications require an output transformer. 2-4. Please refer to Integrated Distribution Cabinet brochure 9390IDC for more information.

Powerware®, PowerVision®, FORESEER®, LanSafe™ and ABM® are trademark(s) of Eaton Power Quality Corporation.

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Powerware

Superior power performance of the Powerware® 9390 UPS

The industry's best combination of efficiency, management of THD, power factor, and power protection

Product Focus

40-160 kVA

Features

- High efficiency of up to 94 percent reduces overall cost of ownership by reducing the cost of power to support protected loads and the cost of cooling your facility
- Low total input harmonic current distortion (THD) of less than 4.5 percent enhances compatibility with upstream power systems, especially generators
- Input power factor of 0.99 reduces the input kVA required to power the UPS, minimizes auxiliary generator sizing requirements, and provides more power to unity power factor servers
- Output power rated at 0.9 power factor accommodates high power factor load requirements
- Double-conversion design completely isolates your equipment from all types of power contamination and creates clean, perfect sine-wave power for downstream systems—the best level of power protection available

Ironically, some power protection systems actually introduce power problems of their own. For example, many uninterruptible power systems (UPSs) consume or dissipate an inordinate amount of power all by themselves, leaving less available to power your equipment. Others create or propagate power anomalies that can affect protected loads or upstream power sources, such as generators.

The Powerware 9390 UPS minimizes or eliminates these issues with innovations that deliver the industry's best overall power performance. Built on more than 40 years of UPS design expertise, the Powerware 9390 provides superior performance on four key factors:

- Efficiency - maximum usable output power relative to input power
- Total harmonic distortion (THD) - keeping input current distortion within acceptable limits
- Power factor - managing phase shifts between voltage applied and current drawn by circuits

- Double-conversion topology - complete isolation of protected loads from input utility power

High efficiency reduces overall cost of ownership

With any UPS system, a modest amount of input power is consumed to operate the UPS itself, and some energy is dissipated as heat as it passes through internal components in the UPS. The efficiency rating of a UPS is a measure of how little energy is wasted in this manner—expressed as a ratio of UPS output power compared to utility input power. For example, a UPS that is 90 percent efficient delivers 90 kW of useful output power for every 100 kW it takes in.

The more efficient the UPS, the less utility power you have to buy to serve protected loads. Furthermore, since most of the lost power is dissipated as heat, the more efficient the UPS, the less it costs to cool your facility.

Even a small increase in efficiency can quickly translate into thousands of dollars. The 90-percent efficient UPS in our

example above would waste 87,600 kW-hours of utility power each year. At \$0.08 per kWh, that would translate to \$7,008 a year in energy (mostly dissipated as heat), plus an additional \$2,336 in air conditioning to cool that heat—a total of \$9,344 in wasted energy. In contrast, a UPS that operated at 94 percent efficiency would dissipate only 52,560 kW-hours of utility power each year—equating to \$4,205 for non-utilized energy and \$1,388 for cooling, yielding a total savings of \$3,751 compared to the less-efficient model.

With a transformer-free design and sophisticated sensing and control circuitry, the Powerware 9390 UPS delivers an efficiency of up to 94 percent. In addition to dramatic cost savings, this level of system efficiency extends battery runtimes and produces cooler operating conditions within the UPS, which extends the life of components and increases overall reliability and performance.

Low THD enhances compatibility with generators

Electronic devices, including UPSs, are built with some components that are non-linear or “reactive.” When voltage is applied to a circuit constructed of non-linear components, the circuit may not respond linearly,

that is, current may not follow the voltage in a linear manner. Non-linear components may even create frequencies other than the fundamental applied frequency (60 Hz).

These frequencies are called harmonics, because they will occur in odd multiples of the fundamental frequency. The degree of this occurrence is called total harmonic distortion or THD. If the power source is not able to respond to all the frequencies demanded by the circuit, then further distortion of the applied voltage may occur—which in turn creates more complication.

All UPSs produce a certain level of harmonics on the upstream power system. Unchecked, harmonics can reduce overall power factor, cause sensitive electronic devices to malfunction, prematurely age equipment, and cause screens and displays to flicker.

To avoid these negative effects, the Powerware 9390 uses a new input circuit that is uniquely capable of keeping THD low—less than 4.5 percent—without compromising efficiency. A key benefit is that this UPS is therefore uniquely compatible with a wide range of generators, even though generator output

frequencies will fluctuate when the UPS transitions to generator power and as other loads are started up.

Power factor performance maximizes compatibility and meets high power factor load requirements

“Power factor” describes the slight phase shift between the voltage applied to the circuit and the current the circuit draws in response to the voltage applied. The maximum power factor possible is unity (1.0), which means that there is no phase shift between the voltage applied and the circuit current response—for maximum transfer of power between source and load. However, in the real world, the UPS must be able to accept power from and deliver power to circuits that have a wide range of power factors.

With the Powerware 9390 UPS, the input circuit that controls input THD also resolves this input power factor requirement. As a result, the Powerware 9390 UPS is exceptionally compatible with diverse power sources, especially auxiliary generators.

On the output side, this new UPS can also provide its full power capability to loads that have a wide range of leading and lagging power factors,

spanning all known computer loads.

Double-conversion topology provides the best protection possible

With the Powerware 9390 UPS, your sensitive electronic systems are completely isolated from raw utility power and all its irregularities, using a double-conversion process. Incoming utility AC power is conditioned and converted to DC power, a small portion of which is used to charge the UPS battery. The remaining DC power travels to the inverter, which produces a new, perfect sine wave to power your protected equipment. This double-conversion process provides the highest level of protection available and enables equipment to perform to manufacturer specifications.

To find out more about the new Powerware 9390 UPS, visit our Web site at www.powerware.com/9390, or contact us at 1-800-356-5794.

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Germany: 49.7841.666.0
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Sweden: 46.8.598.940.00
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EAT•N

Powerware

PowerChain Management solutions

20-160 kVA

Eaton 9390 UPS



EATON

Powering Business Worldwide

Eaton 9390
20-160 KVA

Innovative design delivers industry-leading power performance

The Eaton® 9390 uninterruptible power system (UPS) is a double-conversion UPS that resolves all utility power problems and supplies clean, continuous, uninterruptible power to connected equipment. Whether you're selecting a UPS for a branch office, manufacturing floor, medical facility, or data center, there's a 9390 model that delivers just the right combination of performance and price for your needs.

Applications

The 9390 delivers centralized backup support and protection for the following types of applications:

- Mid-size data centers
- Medical facilities
- Schools
- Broadcasting, including TV, radio, cell and remote stations
- Factory/industrial such as PCs, critical machinery and operations
- Pharmaceuticals
- Mid-size office buildings (PCs, network, phone, storage and server rooms)
- Medium size retail (phone systems, office PCs, POS)
- Hotels and casinos
- Banking
- Co-location data center facilities



20-80 kVA



100-160 kVA

Benefits

- Leading sustainability
 - Highest efficiency ratings lower utility costs
 - Lowest total cost of ownership and lifecycle carbon footprint
 - Smallest footprint and weight
 - Lowest transportation and installation costs
- Stronger power performance
 - Lowest input THD enhances compatibility with upstream power systems
 - Lowest output THD
 - Optimum generator sizing
 - PFC power supply compatibility
 - Widest voltage range offering
- Highest reliability and availability
 - Powerware Hot Sync® wireless paralleling
 - Superior battery management
 - Inherent redundancy
 - Scalable architecture adapts to increasing power requirements
- Robust manageability
 - Superior control and connectivity

Energy efficiency means substantial cost savings

All UPSs consume energy to operate, and some unused energy is dissipated as heat as it passes through the UPS—the more heat and dissipated energy, the higher cost of operation. The efficiency rating of a UPS measures how little energy is wasted. *For example, a 90% efficient UPS delivers 90 kW of useful power for every 100 kW taken in.* With a transformerless design and sophisticated sensing and control circuitry, the 9390 delivers an efficiency of up to **94 percent** with double-conversion protection. In addition to the cost savings, this enhanced efficiency extends battery runtimes and produces cooler UPS operating temperatures, extending component life and increasing reliability and performance.

Comparison of 90% versus 94% efficient 80 kVA UPS

Percent efficiency	Wasted kW hours*	Cost per kWh and demand	Extra energy cost	Extra air conditioning cost	Annual savings vs. less-efficient model
90	63,072	\$0.13	\$8,199	\$5,740	
94	37,843	\$0.13	\$4,919	\$3,444	\$5,576

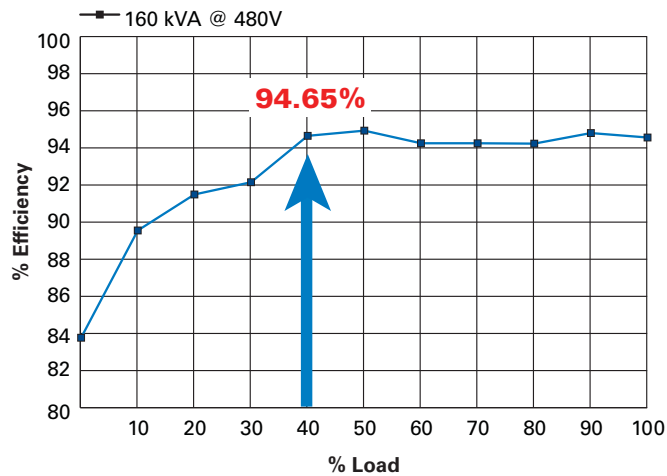
* Mostly dissipated as heat.

Operational savings

Efficiency comparison

Efficiency difference:	2%		3%		4%	
	1 year	5 years	1 year	5 years	1 year	5 years
Savings—80 kVA UPS	\$2,788	\$13,940	\$4,182	\$20,910	\$5,576	\$27,880
Savings—160 kVA UPS	\$5,576	\$27,880	\$8,363	\$41,815	\$11,151	\$55,755
CO ₂ Savings—80 kVA	19.3 tons	96.5 tons	23.1 tons	115.5 tons	26.9 tons	134.5 tons
CO ₂ Savings—160 kVA	26.9 tons	134.5 tons	34.5 tons	172.5 tons	42.2 tons	211 tons

Eaton 9390 160 kVA Efficiency Curve



Power performance

	Input THD	Output PF	Efficiency
Eaton 9390	<4.5%	0.9	94%
Competitor "A"	<7.5%*	0.8	92.5-93%
Competitor "B"	<10%*	0.8	90-95%
Competitor "C"	<10%*	0.8	92-93%
Competitor "D"	<7%*	0.8	87-93%
Competitor "E"	<7%*	0.8	90-93.3%
Competitor "F"	<3%	0.8	88.5-94%
Competitor "G"	<3-7%	0.8	87% (estimated)

*w/filter (~30% w/out)

Alternative voltages for IT data center powering

In addition to conventional (208 and 480) voltage capabilities, the 9390 now has the ability to support direct-connect 400/230 Vac for powering directly to the IT rack. This capability allows for the deployment of a UL/CE rated UPS that can protect and distribute 400/230 Vac directly to IT racks without an additional step-down transformer. Some of the efficiencies and benefits of this alternative voltage powering are:

- Elimination of the step-down 480-208 volt transformer lowers heat losses and saves valuable floor space in the data center
- Higher voltage directly to IT equipment allows it to operate at higher efficiency (no changes required, as virtually all servers are rated to operate at up to 240 Vac)
- No changes to power distribution equipment since connectors and circuit breakers already exist with these ratings
- The use of Eaton's high efficiency 9390 UPS in such an application further improves system overall efficiency.
- Multiple studies show that up to 5% overall efficiency gains can be made versus equivalent 480 or 208 Vac systems, resulting in thousands of dollars in savings per year.

Consistent efficiency throughout UPS load range

Many UPSs cite greater than 90% efficiency without mention of low or no load range. Today's average system operates at only 55% of its rated load or capacity range. However, efficiency is usually reduced in this lower-load operating status—not so with the 9390, which reaches optimal efficiency rates at less than half load—and maintains this optimal efficiency throughout the load range!

Low input current THD enhances generator compatibility

Electronic devices and UPSs are built with some components that are non-linear. When voltage is applied to a circuit constructed of non-linear components, the circuit may not respond linearly (current may not follow the voltage in a linear manner). These components may even create frequencies other than the fundamental applied frequency (60 Hz).

These frequencies (harmonics) occur in odd multiples of 60 Hz. The degree of occurrence is called total harmonic distortion (THD). If the power source can't respond to all frequencies demanded by the circuit, then further distortion of the applied voltage may occur—creating more complication. Every UPS produces a level of harmonics. Unchecked, harmonics can reduce overall power factor, cause sensitive devices to malfunction, prematurely age equipment, and cause screens and displays to flicker.

To avoid these negative effects, the 9390 uses a special input circuit that keeps current THD at less than 4.5% at full load—without compromising efficiency. As a result, the 9390 transfers maximum power between the source and protected load and is exceptionally compatible with multiple power sources, especially auxiliary generators. In the Power Performance chart on the previous page, note that most manufacturers require an input filter to minimize THD. This added filter results in lower efficiency for the UPS—a consequence not generally noted in marketing materials.

Power factor performance maximizes compatibility and meets high power factor load requirements

Power factor (PF) describes the slight phase shift between voltage applied to a circuit and current that the circuit draws in response to the applied voltage. The maximum power factor possible is unity (1.0), or no phase shift between the voltage applied and the circuit current response—maximum transfer of power between source and load. However, in the real world, the UPS must be able to accept power from and deliver power to circuits that have a wide range of power factors.

Older or worn equipment often results in lower power factor readings. Some new servers operate at unity power factor. Lightly loaded facilities such as brand new data centers, can often show leading power factor readings.

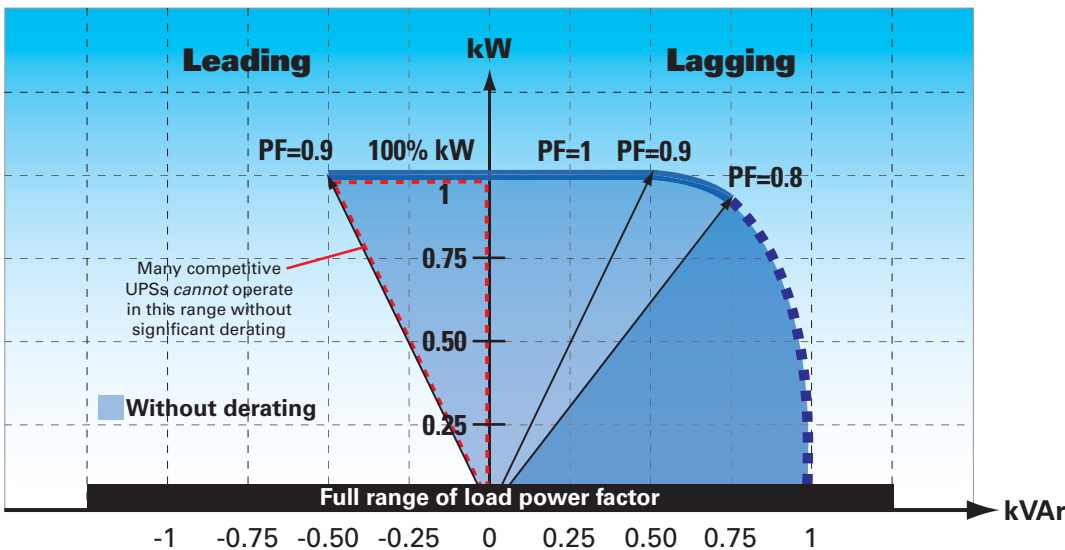
On output, the ultra high-speed switching pulse width modulation (PWM) inverter enables the 9390 to provide its full rated power capability to the load, down to 0.9 leading power factor without de-rating.

Double-conversion design offers highest available protection

Unlike other commercially available UPS technologies, the double-conversion design completely isolates output power from all input power anomalies and delivers 100% conditioned, perfect sine wave output—regulating both voltage and frequency, providing protection from all nine common power problems.

Due to the 9390's built in high-efficiency capability, it operates in a consistent, efficient status without compromising power protection. Even when presented with the most severe power problems, power output remains stable with the 9390. Output voltage THD is held within two percent of nominal specification for linear loads, within five percent for non-linear loads—making the 9390 ideal for supporting equipment that is sensitive to a distorted voltage input as a result of harmonic loads. In the event of a utility power failure, there is no delay transferring to backup power.

LOAD Power Factor RANGE Chart



Scalable architecture meets your current and future load requirements

The 9390 supports up to 160 kVA to deliver power protection for small branch offices to large corporate data centers and communication networks. Up to six equivalent 9390 modules can be paralleled for additional capacity or redundancy, without having to utilize a central bypass cabinet. In all paralleling configurations, each UPS module operates independently yet is completely synchronized with the others. Parallel UPS modules can provide N+1, N+2, or greater redundancy.

Powerware Hot Sync wireless paralleling technology for capacity or redundancy

This two-module system shown below can be configured as 160 kVA N+1 redundant (320 kVA capacity with 36-inch tie cabinet). The width of this configuration is a compact 164.6 inches.



Powerware Hot Sync technology: The culmination of power reliability

Eaton's patented Powerware Hot Sync technology enables multiple UPSs to share the load equally, eliminating the transfer time when shifting the load from one module to the other. The load share control algorithms maintain adjustments to variations in the output power requirements.

When two or more UPSs operate in parallel for capacity and redundancy, Hot Sync addresses the two primary concerns of load sharing and selective tripping.

To address these concerns for reliability – the degree of autonomy and the complexity of implementation – Hot Sync combines digital signal processing and an advanced control algorithm to provide automatic load sharing and selective tripping in a parallel system, as well as complete autonomy of the modules and a skillfully simple implementation. The 9390 achieves optimum reliability and flexibility with the following design features:

- Unlike other paralleling techniques, there is no system-level single point of failure
- Hot Sync systems are capable of paralleling for both redundancy and capacity

- By using a peer configuration as opposed to a master-slave configuration, Hot Sync ensures that each module is operating independently
- No added circuitry or components are required to be switched in to operate in parallel
- With thousands of successful systems installed globally, Hot Sync is a proven technology
- The output of multiple UPSs remains in phase so that static transfer switches connected between the separate distribution paths may change state seamlessly when necessary

Each parallel unit operates with its own battery string – if any unit goes offline or is taken down for maintenance, the remaining units support the load fully with their battery capabilities. If any battery string fails, the remaining strings continue to support the load – thus eliminating a key potential single point of system failure.

Static Auto Tie

The Static Auto Tie (SAT) system enhances reliability even further so full load transfers can be made autonomously. SAT adds a wrap-around static switch to the tie breaker in the Hot-Tie system, then adds intelligent controls so a power protection system made up of two or more separate UPS systems can automatically transfer entire loads in the event of traumatic, catastrophic failure or one system – a rare but costly circumstance.

In the SAT configuration displayed in the diagram below, there is a Hot-Tie circuit between the outputs of the two UPS modules that automatically transfers the loads from one to the other as necessary. This less complex, dual path architecture streamlines the distribution system to eliminate series switching and reduce the potential downtime of single power cord loads by up to 50 percent. As a result, the SAT architecture offers a number of benefits, including:

- Reduced capital expenses
- Eliminates need for traditional downstream static transfer switches
- Reduced installation costs
- Increased system reliability and efficiency
- Decreased maintenance requirements
- Reduced raised floor space requirements

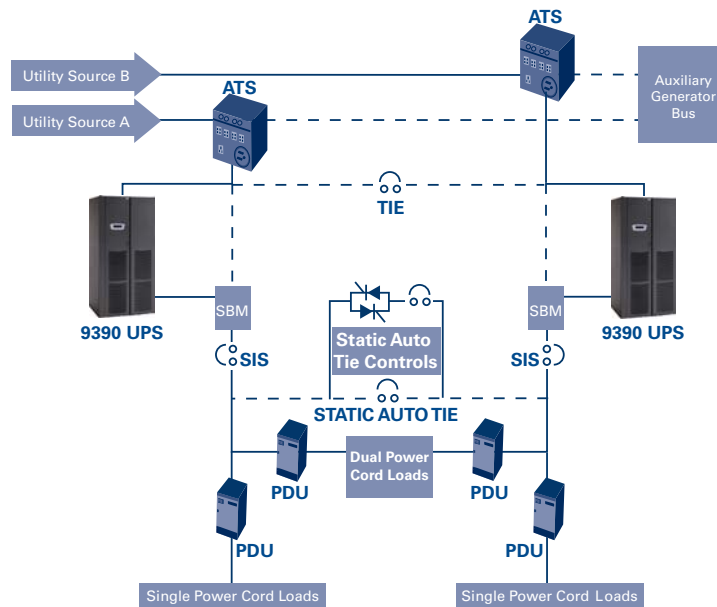
Advanced battery management optimizes battery performance and service life

Eaton's ABM® technology uses a unique three-stage charging technique that significantly extends battery service life and optimizes recharge time, compared to traditional trickle charging. An integrated battery management system tests and monitors battery health and remaining lifetime, and provides advance notification to guide preventive maintenance. Optional temperature-compensated charging monitors temperature changes and adjusts the charge rate accordingly to properly charge the

battery and greatly extend battery life. A variable battery bus accommodates 384 to 480V (192-240 cell) configurations, so the battery capacity can be matched to your exact runtime requirements—either a specific runtime, an extension to existing battery runtime, or utilization of legacy battery installations.

With remote monitoring of the UPS and battery system, Eaton is there with you—able to respond to alarms and see real-time battery data to avert potential battery problems.

Fully Deployed Static Auto Tie Configuration



Flexible installation options expedite deployment and save valuable space

The 9390 offers the smallest footprint of any UPS in its class—35 to 50 percent smaller than competitive units. Cabling can enter the UPS from either the top or bottom of the cabinet to provide easier and flexible installation. The 9390 provides front panel access for all services and operation, increasing serviceability and reducing mean time to repair (MTTR). And since the compact 9390 cabinet can be installed against back and side walls, you have more location options, installation is fast and easy, deployment cost is lower, and you save valuable data center space.

Weight

At \$.30 per pound, the 9390 averages a cross-country freight savings of over \$630. With a transformerless design, Eaton UPS solutions meet or exceed virtually all floor loading standards. And with this lower weight, units can be moved without heavy capital equipment and can fit in all standard freight elevators.

Space savings

With a footprint of 597 square inches, the 9390 is a fraction of the 1281 square inches that

the competition takes up. With a manageable size, including a compact 72-inch height, the 9390 fits through most doors with ease, and requires no dismantling to get it to its final installation location.

Retrofit applications

The 9390 is perfect for retrofit operations. When an existing UPS is exceeding capacity but has no room to expand, or when the service contract is expiring, the existing UPS can be removed and replaced with a 9390 that offers more power in less space.

Big power, small footprint

Eaton 9390
Weight = 580 pounds
18.9 x 31.6 in.

Competition's
Weight = 2700 pounds
32.5 in. x 34.9 in.



Serviceability and accessibility

Being a pre-wired, integrated module, the 9390 saves time and cost of installation and cabling expenses because of standard top or bottom entry design. And with front access, the 9390 can be placed in a corner or against a wall—easily available for service and saving valuable space.

Internal scalability

Upgrading a 9390 is as simple as a phone call to an Eaton service technician to request an internal upgrade. For example, a 40 kVA unit can be field upgraded to an 80 kVA, and a 100 kVA unit can be upgraded to a 160 kVA—all performed onsite and without costly additional cabinetry and connections. This feature allows you to plan electrically for growth and eliminate future cabling costs.



Industry-leading warranty and service plans deliver peace of mind

Eaton recognizes that superior reliability requires flawless execution from its services team. Every 9390 includes an onsite start-up from a factory-trained field technician to ensure proper installation, operation and customer training. In addition, we include a full year of onsite 7x24 parts and labor warranty and service protection plan coverage at no extra charge with every new 9390:

- 7x24x365 startup service and customer training
- One-year limited factory warranty*

- Service protection plan 7x24 coverage, eight-hour response (upgrade to four – or two-hour where available), parts, labor and unlimited on-site emergency response support
- eNotify Remote Monitoring service: 7x24 critical alarm notification and monthly reports on UPS battery health
- 7x24 technical support access

In addition to the warranty and first year of on-site coverage, Eaton offers a wide variety of support agreements for continued preventive and emergency response maintenance. PowerTrust™ Service Plans include:

- UPS and battery scheduled preventive maintenance

- Parts and labor coverage for electronics and/or batteries
- Factory-trained technicians with genuine Powerware parts and diagnostic tools
- eNotify Remote Monitoring service
- Available coverage: 7x24, eight/four/two-hour response, or 8x5 next business day response
- 7x24 technical support access

* Refer to the Eaton Corporation Limited Factory Warranty for Eaton three-phase UPS products for specifications, limitations and terms. Service and support specifications may vary by country.

eNotify Remote Monitoring service

All PowerTrust Service Plans include Eaton's eNotify Remote Monitoring service, enabling Eaton service technicians to remotely monitor your UPS and batteries. With technical experts available to respond immediately and resolve many issues remotely, eNotify features 7x24 real-time monitoring of 100+ UPS and battery alarms.

The eNotify service provides you with monthly e-mail reports detailing the ongoing health of your 9390 UPS. The customer monitoring report delivers information on your unit's voltages, loads and external factors such as temperature and humidity. Additionally, the report provides information about the attached batteries and system availability. All of these factors contribute to the Relative Health Index (RHI) score that allows you to compare your unit's health to Eaton's optimum UPS operating levels.

Proactive monitoring is also included. Upon receipt of both status and event e-mails, anomalies are checked for incoming parametric or event data logs. If an anomaly is detected, Eaton analysts further study the data for possible impending failures and take appropriate action. The following critical alarms are provided by eNotify:

- UPS output power will turn off after the configured delay period
- Low battery alarm present
- UPS hardware fault detected
- UPS battery completely discharged
- UPS inverter fault detected
- UPS internally bypassed
- UPS output has been turned off
- UPS shutdown imminent alarm condition exists
- The failure of one or more fuses has been detected
- A relay, contactor or breaker has failed

The eNotify Remote Monitoring Service provides confidence that Eaton is continually watching your 9390 and will combine its technical resources and field technicians as needed to quickly respond to critical alarms.

Eaton's total PowerChain Management solution

Eaton views your power system as a strategic asset – an approach we call PowerChain Management®. Eaton's PowerChain Management solutions can help transform complicated power systems into a single, integrated system easily visible and manageable as a strategic business asset, providing a significant competitive advantage.

If your company is like most, its power system was built over time. As the organization's needs changed, additional equipment was likely retrofitted into the system, with a circuit breaker added here and a transformer replaced there. The result can be a power system that is a complicated mixture of old and new equipment from several different manufacturers. Because there is no common means of communicating across varied equipment, gathering data across the enterprise can be quite challenging.

Power Xpert Architecture

The complexity of gathering data among various devices makes it difficult to get a clear picture of what's happening inside your power system, which decreases your ability to manage your power system effectively. Consequently, business results suffer, because your enterprise depends on its power system.

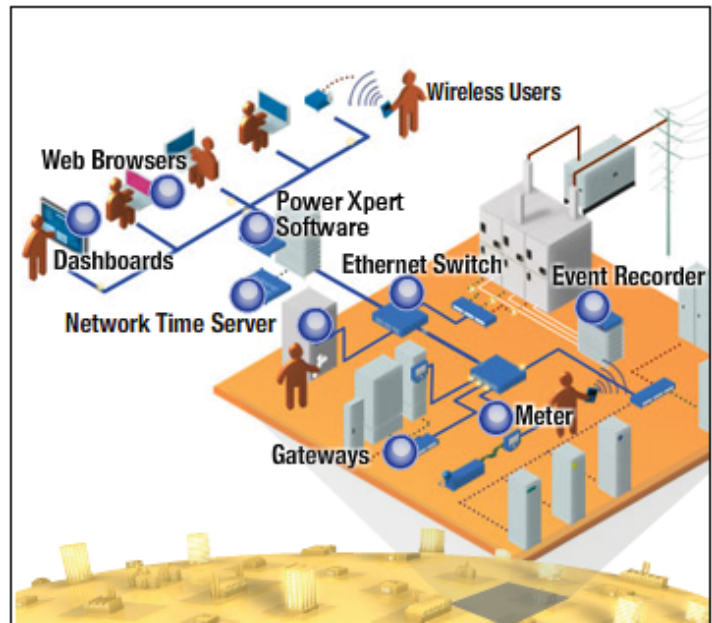
Eaton's Power Xpert® Architecture, the backbone of our PowerChain Management solutions, enables you to monitor much more than your 9390 UPS; it transforms your power system into an integrated, agile system that delivers real competitive advantages. With the software and hardware components of Power Xpert Architecture, you can monitor, control, and manage your

complete power system effectively and efficiently, including PDUs, batteries and other critical equipment. Using a simple, Web-based interface, the varied elements of your power system are integrated into a single view, with the ability to easily monitor the availability and reliability of electrical power, lower energy costs, extend equipment life, and more.

Optimize your power system

PowerChain Management can also help you manage your power system for peak performance by integrating and optimizing your power assets and ensuring that they align with your business goals.

Once your power system is linked to an Ethernet network via the Power Xpert Architecture, you can connect to and share information with a variety of applications, such as the building management system monitoring your HVAC equipment, or your enterprise accounting system. Power Xpert Architecture's open standards and scalable approach make it easy for your power system to grow and adapt to a rapidly changing environment.



Power Xpert Software is designed to take the complexity out of managing your power system and provides a clear picture of what is happening at a component, device and system level.

Specialized applications

The 9390 isn't just an industry-leading UPS – it also serves in specialized capacities across the globe. With its lightweight design and minimal footprint, it is used in a variety of applications where mobility is a requirement.

Power conditioner

The 9390 is a double-conversion power conditioner that resolves utility power problems and supplies clean, continuous, regulated power to connected equipment. Whether you're selecting a power conditioner for a branch office, manufacturing floor, medical facility or a large data center, there's a 9390 model that delivers just the right combination of performance and price for your needs.

Medical imaging and equipment protection

Having been tested and certified for use in medical imaging system applications by all major suppliers of X-ray, MRI, and CT machines, the 9390 medical imaging version is specifically designed to protect these critical machines.

Frequency converter

The 9390 can be configured to operate as a frequency converter for specialized applications where protected power is required and conversion from 50 to 60 Hz or 60 to 50 Hz is needed for system operation. For example, the 9390 can act as a frequency converter in North American applications where European electrical equipment is being used or where North American equipment is deployed internationally.



The 9390 can be used without batteries as a power conditioner.



The 9390 is designed to handle loads that can go from a minimal 5 kVA to 130 kVA instantly when a medical image is taken, for example.

Integrated Battery Cabinet (IBC)

Eaton offers two versions of battery cabinets which line-up and match the 9390; the IBC-S and the IBC-L, each offering a wide array of runtimes. See powerware.com/9390 for options and runtime calculations.

Flexibility

- A variable battery bus accommodates 384 to 480V configurations, so the battery capacity can be matched to your exact runtime requirements – either a specific runtime, an extended runtime, an extension to an existing battery, or legacy battery installations
- Daisy chain up to four cabinets together for extended runtimes
- Integral, line-up-and-match configurations are standard
- Remote configurations are available
- Powerware brand batteries are available with a three-year warranty; other battery configurations are available with a one-year warranty

Serviceability

- Front access only design and top/bottom cable entry provides installation flexibility and enhances servicing
- Modular, removable battery tray design and quick disconnects between tray assemblies optimizes periodic maintenance
- Variable battery bus allows the system to be reconfigured temporarily to maintain operation while replacement batteries are obtained

Reliability

- Battery cabinets are UL 1778 listed
- Flame retardant batteries meet UL94V2 for computer room installation
- DC-rated circuit breaker in each cabinet allows multiple battery strings to be serviced independently of each other, assuring backup power is always available to the UPS
- Circuit breaker features UVR trip auxiliaries for system EPO and UPS sensing of battery breaker



IBC-S with door opened



IBC-L with doors opened



**40-80 kVA IDC Bypass/transformer/
distribution cabinet**

Features

- Two, three or four-breaker maintenance bypass
 - Transformer options up to K20
 - (2) 42-pole panelboards
- Or
- (1) 42-pole panelboard and up to (3) 250A distribution breakers
- Or
- Up to (6) 250A distribution breakers
 - Line and match or remote
 - Casters and leveling feet
 - Panelboards come with individual 225A main breaker
 - Neutral rated for harmonic loads (200%)
 - Distribution breakers are Eaton JG electronic trip
 - Two electronic sensors available 100A and 250A
 - 100A settings 40-100A trip (eight settings)
 - 250A setting 100-250A trip (eight settings)

Integrated Distribution Cabinet (IDC)

The Eaton IDC is specifically designed to compliment the 9390. With this optional cabinet, Eaton offers a complete, one-stop shop for power protection and distribution solutions that is easy to design, install, customize and manage – while delivering pay-as-you-grow scalability for future expansion.

Pre-configured for ease of use, mix-and-match for flexibility

The IDC is pre-configured with the most popular power distribution options for ease of design and installation. In addition, the IDC also offers the flexibility to mix and match power distribution, voltage transformation and maintenance bypass options to select the right combination of the following capabilities for your data center requirements:

- Power distribution options enable you to distribute power to servers or racks via distribution panelboards or distribute power to larger loads via distribution circuit breakers or terminal blocks.
- Voltage transformation allows you to change output voltage levels. For instance, you could convert 480 Vac output from the UPS into 208/120 Vac output from the UPS to serve data center loads. K-rated transformers are available to support loads with high harmonic content.

- Maintenance bypass enables power to completely bypass the UPS power module. You can then service or replace the module in complete safety, without interrupting power to critical systems.

Maintenance bypass is internally wired at the factory inside the IDC so that only input cables and UPS connections need to be made in the field.

Simplified installation and clean appearance

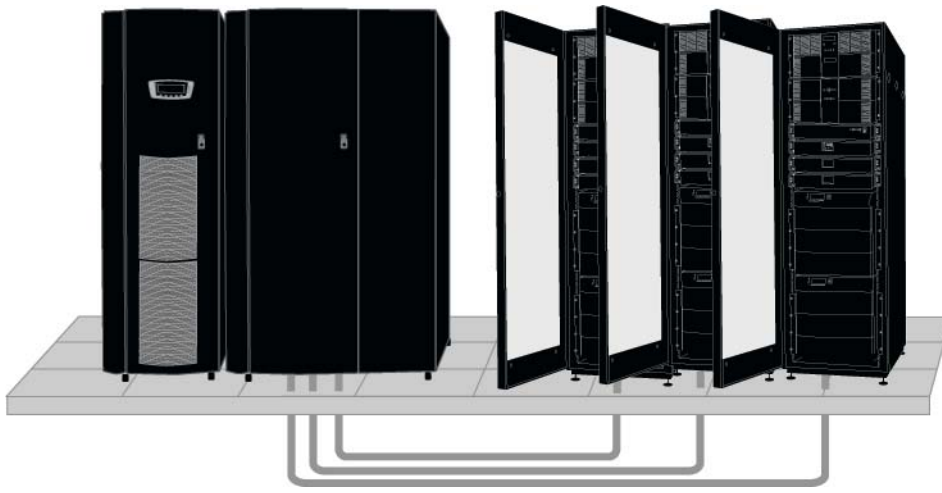
The IDC has the same look and finish as the 9390 it complements. The cabinet is shipped with interconnecting cables for fast and easy installation. The result is a clean look that enhances the appearance of your data center.

Integrated management and support for enhanced confidence

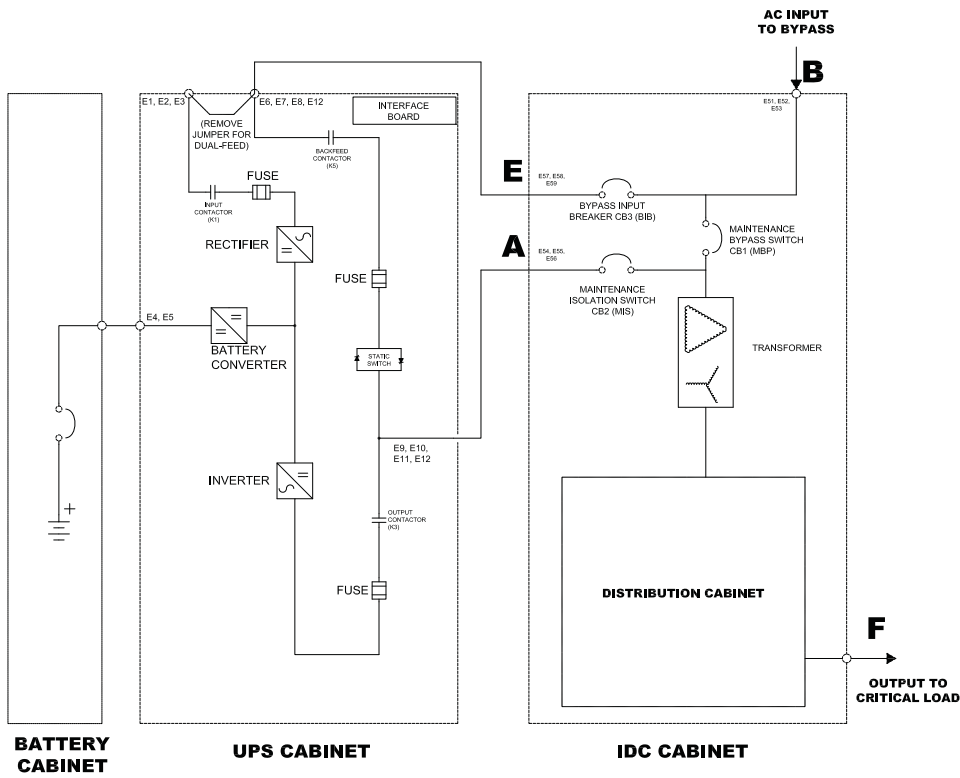
The 9390 and the IDC can all be monitored and managed by LanSafe®, PowerVision®, and FORESEER® software. This close integration provides greater visibility to your complete power protection and distribution structure.

Eaton backs up the IDC with the same one-year limited factory warranty* we offer on the 9390 UPS models. You can have both the confidence that both your power protection and distribution are supported by Eaton's best-in-class service organization and strong customer service commitments.

* See the Limited Factory Warranty for 9390 products for details.



Typical application of 9390 Integrated Distribution Cabinet distributing power to IT racks.



480V input and 208/120V output with BIB.

Integrated Accessory Cabinets for customizable configurations

Eaton offers several configurations of Integrated Accessory Cabinets (IAC) for use with the 9390 UPS. Major functions of the IAC include: maintenance bypass, parallel tie capability and power distribution with combinations up to (2) 42-pole panelboards and (6) sub-feed breakers per IAC.

The IAC is primarily available in two forms – either a 200 mm (8”) sidecar bolted to the UPS (maintenance bypass or tie) or a 570 mm (22.5”) free-standing cabinet (maintenance bypass, tie or distribution). The size of the IAC is primarily dependant on function and rating.

IAC-SB and IAC-B Maintenance bypass

Maintenance bypass configuration (MBP) and maintenance isolation (MIS) breakers enable power to completely bypass the UPS power module. The module can then be serviced safely or replaced without interrupting power to critical systems. An optional bypass breaker (BIB) and rectifier input breaker (RIB) provide a single wiring point input to the UPS as well as a convenient method for removing power from the UPS when using maintenance bypass to supply the load.

Features

- Line and match design
- Two, three or four-breaker maintenance bypass
- No internal transformers
- Smallest cabinet ships bolted to UPS (IAC-SB)
- Large cabinet can be remotely located (IAC-B)

IAC-ST and IAC-T Tie Cabinet

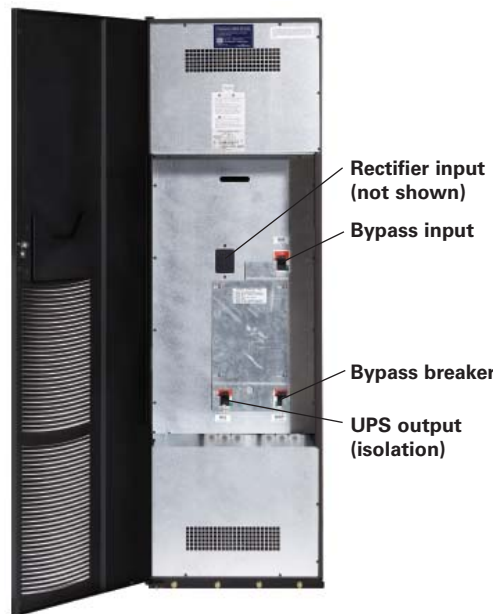
- Parallel UPS tie cabinet (redundant). See one-line diagram on next page.
- Two-breaker tie with maintenance bypass (IAC-T only)
- Two-breaker tie-with main output
- Two-breaker tie
- Wall-mounted maintenance bypass, tie and distribution panels are also available

IAC-D Distribution Cabinet

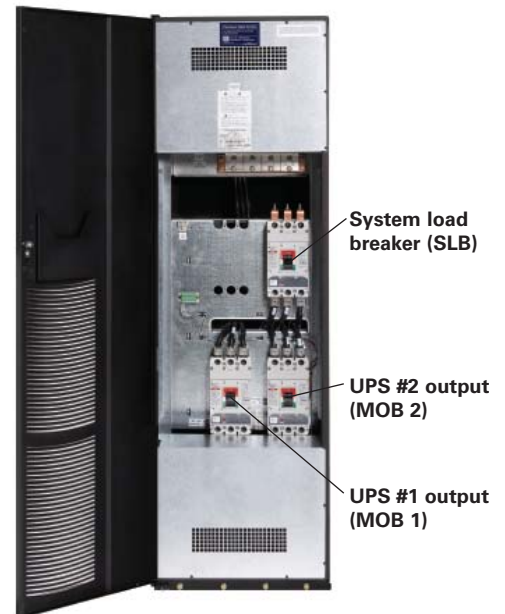
- Used to add (2) additional 42-pole panelboards
- Or
- (1) 42-pole panelboards and up to (3) 250A distribution breakers
- Or
- Up to (6) 250A distribution breakers
- Line and match or remote
- Casters and leveling feet
- Panelboards come with individual 225A main breaker
- Neutral rated for harmonic loads (200%)
- Distribution breakers are Eaton JG electronic trip
 - Two electronic sensors available 100A and 250A
 - 100A settings 40-100A trip (eight settings)
 - 250A setting 100-250A trip (eight settings)



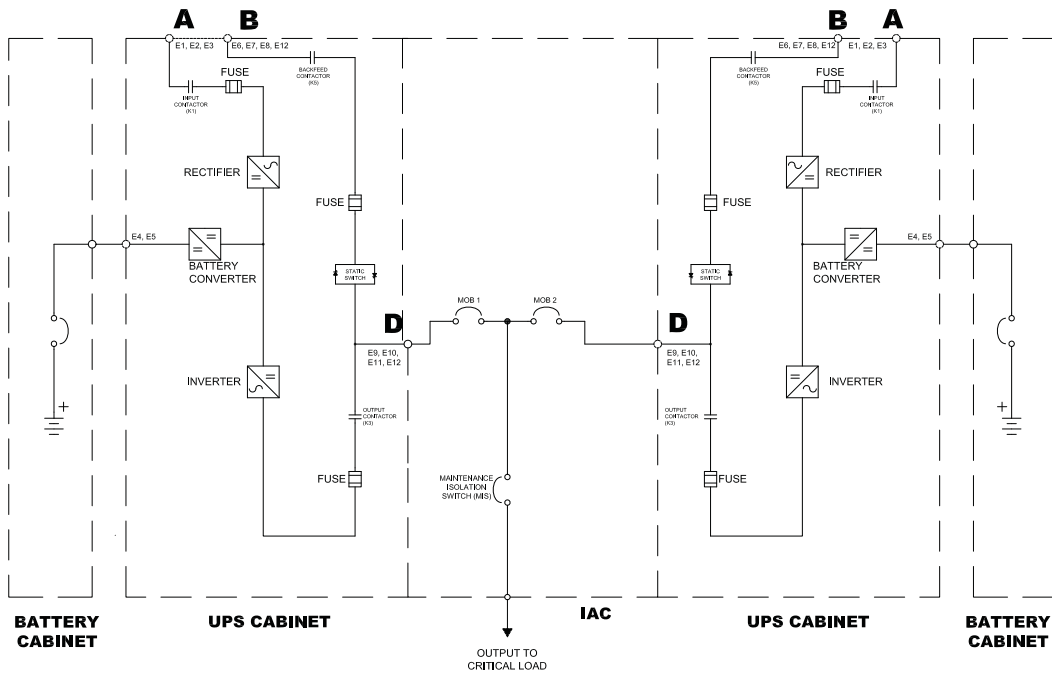
80 kVA 208 & 480V IAC-SC
160 kVA 208V IAC-B
160 kVA 480V IAC-SC



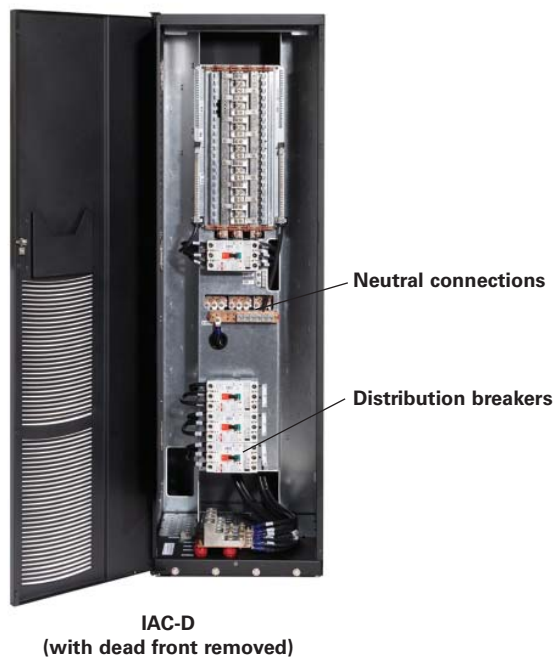
IAC-B Maintenance bypass (160 kVA)



IAC-T Parallel Tie Cabinet



Two UPS parallel configuration with 8-inch sidecar tie cabinet



Power Distribution Unit (PDU)

The Eaton PDU provides reliable data center power distribution for both raised and non-raised floor applications. To ensure the high performance required for today's data centers, this Eaton-designed and manufactured PDU provides the following in an integrated, factory-tested package:

- State-of-the-art metering
- Isolation
- Voltage transformation
- Electrical distribution
- Equipment protection
- Computer-grade grounding

Additionally, when compared to hard-wiring methods, the PDU greatly shortens installation time and allows for easy relocation of equipment during consolidation, upgrade, or relocation of the data center. The PDU offers a broad range of options that present customized power distribution solutions for each customer's data center.

Its state-of-the-art metering system provides monitoring, alarming, and remote communications provisions to enable proactive power distribution management in the data center. Eaton's world-class service organization supports the PDU throughout the entire life cycle of your data center, increasing reliability and providing you with peace of mind.

Monitoring and connectivity

Eaton PDUs are equipped with the Energy Management System (EMS). The EMS provides state-of-the-art monitoring and alarming provisions that allow you to monitor power consumption and quality, manage and plan power needs, and react quickly to any potential problems down to the branch circuit level. Comprehensive connectivity options enable secure, remote power management, real-time system status information and network connectivity with the optional Power Xpert Gateway interface card. The latest technology is employed by the monitoring system, which includes an 8" x 40" LCD for clarity, a soft-key driven menu for ease of use, and audio/visual indicators that provide alarming and status updates.

Power consumption trends for up to 24 months can be viewed through a history log—a powerful aid in capacity planning and diagnosis as events are time- and date stamped as they occur. Custom alarm settings may be programmed at the factory, by the user or by our service organization.

In addition, Eaton's optional branch circuit monitor within the EMS continuously measures the current on branch circuits and warns of impending trouble, so you can take proactive action. The branch circuit monitoring system assesses circuit activity 7x24 and provides time-stamped metering, alarm and statistical information for each branch circuit. You receive significant information that is needed to effectively manage your entire power distribution system. Armed with these insights, data center and facilities managers can more effectively manage energy consumption to prevent overload conditions, optimize power distribution, and when applicable, accurately bill internal customers for power usage.

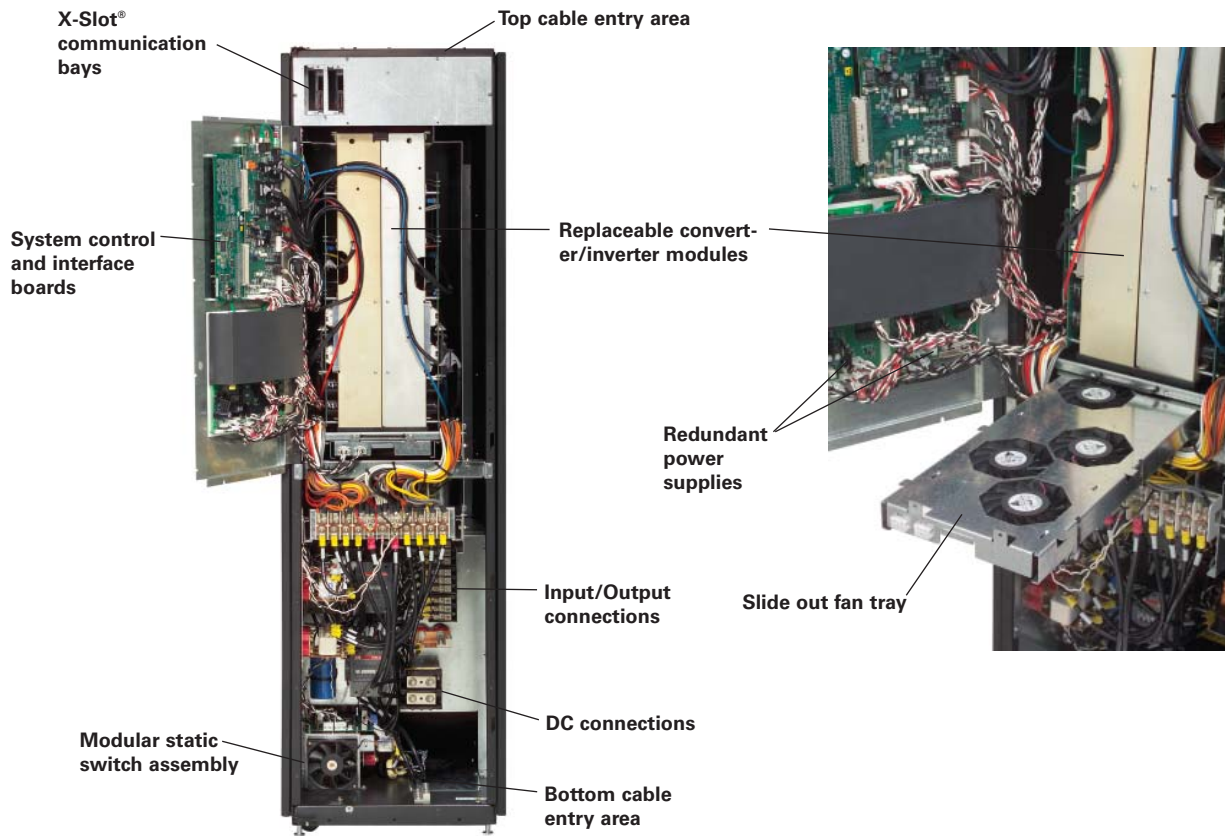


300 kVA PDU with optional sidecar and Energy Management System (EMS)

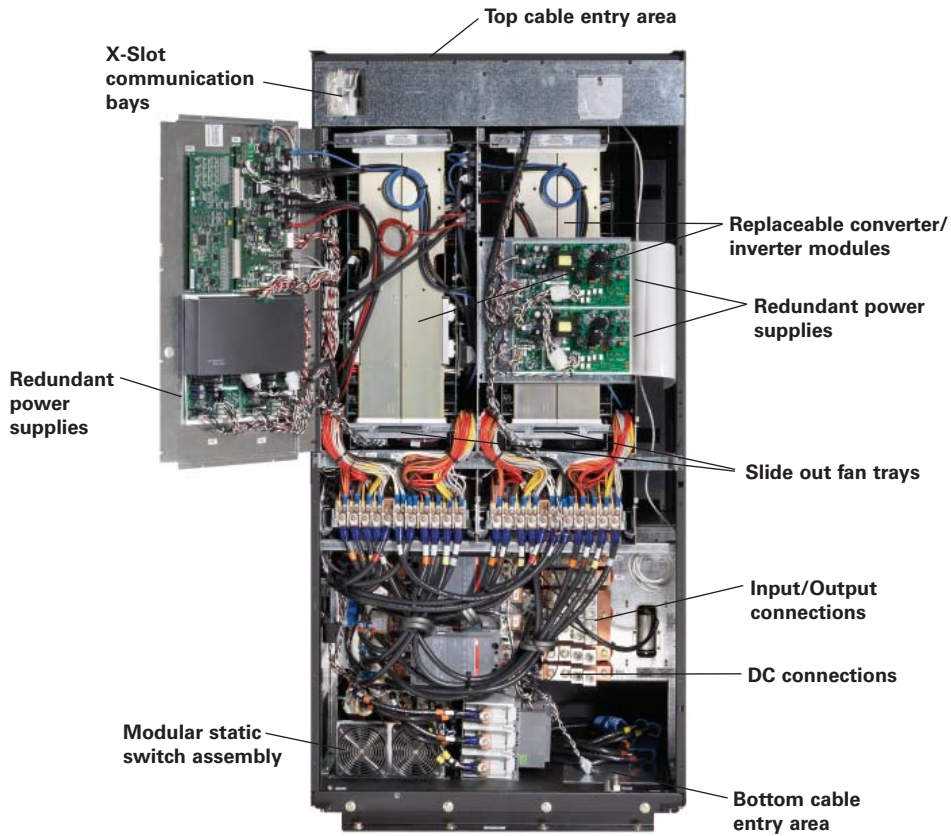


A 24-month history log provides a powerful aid in capacity planning and diagnosis.

A closer look inside the 9390



80 kVA



160 kVA

Flywheel integration

As an alternative to conventional batteries, the 9390 is flywheel compatible. (A flywheel stores kinetic energy well suited for high-power, short-discharge applications.) This system features excellent reliability and an advanced control system that enable the flywheel to charge and discharge at high rates for countless cycles—for 100% availability of power and an alternative to conventional batteries.

Flywheel features and benefits

- Green technology – eliminates lead use in facility (batteries), reduces energy consumption
- Longer useful life (20 years versus average of five years for batteries)
- Space savings
- Ease of installation – small footprint, no floor load concerns, no burden on temperature control systems, no hazardous materials
- Reliability – flywheel systems can be used in conjunction with batteries as needed to provide a critical backup for battery systems

Eaton delivers a new level of confidence

The culmination of 40 years of R&D excellence, the 9390 means confidence—confidence that your organization's critical systems are protected by the most reliable, efficient, and full-featured protection available, and confidence that Eaton will be there with you for the long term with premium warranty coverage and expert technical support.

To find out more, visit our Web site at www.powerware.com/9390, or contact us at 1.800.356.5794.



VDC-XE Flywheel



VDC-XE Flywheel with doors open

Flywheel module

DC disconnect circuit breaker

Field-serviceable vacuum pump

Accessory cabinet dimensions and weight

Accessory cabinet	IBC-S	IBC-L	IAC-B	IAC-T
20-80 kVA (H"xW"xD")	22.5 x 31.6 x 73.7	42.7 x 31.6 x 73.7		22.5 x 31.6 x 73.7
20-80 kVA (weight)	Up to 2445 lbs	Up to 4835 lbs		Up to 540 lbs
100-160 kVA (H"xW"xD")	22.5 x 31.6 x 73.7	42.7 x 31.6 x 73.7	22.5 x 31.6 x 73.7	22.5 x 31.6 x 73.7
100-160 kVA (weight)	Up to 2445 lbs	Up to 4835 lbs	Up to 700 lbs	Up to 700 lbs
Accessory cabinet	IAC-D	M90 MBS	MTC	
20-80 kVA (H"xW"xD")	22.5 x 31.6 x 73.7	Up to 24 x 73 x 11.5	Up to 36 x 90 x 11.5	
20-80 kVA (weight)	Up to 420 lbs	Up to 500 lbs	Up to 500 lbs	
100-160 kVA (H"xW"xD")	22.5 x 31.6 x 73.7	Up to 36 x 90 x 11.5	Up to 36 x 90 x 11.5	
100-160 kVA (weight)	Up to 420 lbs	Up to 775 lbs	Up to 775 lbs	

IDC technical specifications¹

9390 Integrated Distribution Cabinet

General characteristics

Installation	Line up and match to UPS Front access only
Color	Same as UPS
Construction	NEMA 1 ventilated
Input voltage	208, 480V

Output voltage

Isolation	208, 208/120V
Distribution	208/120V

Dimensions and weight

20 - 80 kVA	HxWxD: 73.7 x 35.6 x 31.6 in./1872 x 904 x 803 mm
20 - 80 kVA weight	1200 lb. (maximum)
100 - 160 kVA	HxWxD: 73.7 x 42.7 x 31.6 in./1872 x 1085 x 803 mm
100 - 160 kVA weight	2185 lb. (maximum)

Certification

Safety	UL 1778
Markings	UL, CUL

User interface

Cable entry	Top or bottom
Remote monitoring	Optional

Transformer option

Electrostatic shield	Standard
Insulation	150°C Rise, Class H
Impedance	5% (maximum)
K-factor	K-1 (standard); K13, K20 (optional)
Compensation taps	2-FCAN, 4-FCBN standard
Overload protection	Standard

Power distribution option - Panelboard distribution

Quantity	2 (maximum)
Voltage	208/120V
Main breaker	225A, 65 kAIC
Circuits	84 (maximum)
Distribution breakers	(in lieu of panelboards)
Quantity	6 (maximum)
Voltage	208/120V
Size	250A, 65 kAIC, adjustable trip

Maintenance bypass option

Maintenance bypass	Optional; 2, 3 or 4 breaker configuration
--------------------	---

1. Due to continuing product improvements, specifications are subject to change without notice.

Technical specifications¹

Eaton 9390 UPS

UPS rating (0.9 power factor)

kVA	20	30	40	50	60	80	100	120	160
kW	18	27	36	45	54	72	90	108	144

General characteristics

Efficiency	Up to 94%
Parallel capability	6x modules w/o tie cabinet; 8x with tie cabinet
Audible noise	<65 dBA @ 1 meter
Altitude (max)	2000m at 40°C, 104°F

Input characteristics

Voltage	208, 380, 400, 415, 480, 600 ²
Voltage range	+10% / -15% ³
Frequency range	55-65 Hz
Power factor	0.99 (min)
Input current distortion	<4.5% (no input filter required)
Soft start capability	Yes
Internal backfeed protection	Yes
Broadcast global support	Yes

Output characteristics

Voltage	208 ⁴ , 380 ⁴ , 400 ⁴ , 415 ⁴ , 480 ⁴ , 600 ⁵
Regulation	±1%
Inverter	PWM with IGBT switching
Voltage THD	<2% (100% linear load); <5% (non-linear load)
Load power factor range	Down to 0.9pf leading without de-rating
Heat dissipation (BTU @ full load)	80 kVA, 208V: 23.6 160 kVA, 208V: 47.3 80 kVA, 380-480V: 21.9 160 kVA, 380-480V: 43.8

Battery

Battery types	VRLA, AGM, Gel, Wet, Eaton batteries also available
Battery voltage	384-480V
Temperature compensation	Optional
Charging method	Advanced battery management
Heat dissipation	<48 BTU @ full load

Dimensions and weights

40-80 kVA modules	HxWxD: 73.7 x 18.9 x 31.6 in./ 1872 x 480 x 803 mm
120-160 kVA modules	HxWxD: 73.7 x 35.6 x 31.6 in./ 1872 x 904 x 803 mm
40-80 kVA modules	640 lb./290 kg (208V); 568 lb./ 258 kg (480V)
100-160 kVA modules	1,060 lb./481 kg (208V, 480V)

UNITED STATES
8609 Six Forks Road
Raleigh, NC 27615 U.S.A.
Toll Free: 1.800.356.5794
or 919.872.3020

www.eaton.com/powerquality

CANADA
Ontario: 416.798.0112
Toll free: 1.800.461.9166

LATIN AMERICA
Argentina: 54.11.4124.4000
Brazil: 55.11.3616.8500
México: 52.55.9000.5252

Serviceability

Back/side against wall installation	Standard
-------------------------------------	----------

Optional accessories

Module tie cabinet
External maintenance bypass
Integrated distribution cabinet
Isolation transformer

Certification

Safety	UL1778, cUL
EMC	IEC62040-2 EN50091 Class A (restricted access)
Surge	ANSI C62, 41 Cat, A&B

eNotify Remote Monitoring service

7x24 remote monitoring of UPS and battery alarms, daily heartbeat check and monthly report required. ConnectUPS-X Web/SNMP Card and Environmental Monitoring Probe are included with enrollment. Please visit www.powerware.com/enotify for more information.

Communications

Software compatibility - PowerVision, LanSafe, FORESEER, Power Xpert Communications cards - Standard system includes one ConnectUPS Web/SNMP-X Card with an Environment Monitoring Probe. Two communications bays standard. Maximum of four communication bays with the communication expansion option.

The following connectivity options can be installed at any time:

- Modus Card
- Relay Interface Card (Use for AS400s)
- Industrial Relay Card (5A@120V)
- Hot Sync CAN Bridge Card provides CAN communications, isolated RS-485 port
- Environmental Monitoring Probe (EMP)

Remote inputs/outputs - two building alarms inputs and on summary alarm contact (5A@120V) standard

Four more building alarm inputs available with the Communications Expansion Option Remote panel - eight backlit status indicator lamps plus an audible horn

^{*}See the Limited Factory Warranty for 9390 products for details. Batteries are warranted by the battery manufacturer and not by Eaton.

^{**}Requires the Parallel Card option (RS-485 port) and requires an external 120V power supply to drive the remote monitor panel.

1. Due to continuing improvements, specifications are subject to change without notice.
2. 600V applications require an input transformer.
3. At full load without battery discharge.
4. Output transformers are required if the desired output voltage is not the same as the input voltage.
5. 600V applications require an output transformer.



PowerChain
Management®

EUROPE/MIDDLE EAST/AFRICA
Denmark: 45.3686.7910
Finland: 358.94.52.661
France: 33.1.6012.7400
Germany: 49.0.7841.604.0
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Portugal: 55.11.3616.8500
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

ASIA PACIFIC
Australia: 61.2.9693.9366
New Zealand: 64.0.3.343.3314
China: 86.21.6361.5599
HK/Korea/Taiwan: 852.2745.6682
India: 91.11.2649.9414 to 18
Singapore/SEA: 65.6825.1668

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Powering Business Worldwide

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9390FXA
January 2009

Esquema de Conexión para Sistemas de Energía Ininterrumpible

H20K Trifásico

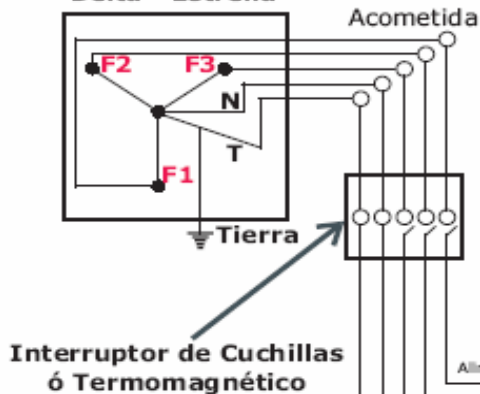
CARACTERÍSTICAS:

Tres Fases, Neutro y Tierra
 Potencia: 20 kVA
 Dimensiones: 160 X 55 X 80 cm.
 Peso: 370 Kgs.

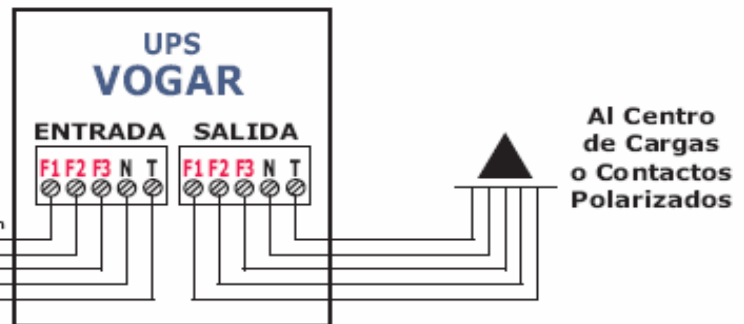
Configuración de Voltaje: 127/220 VCA



Transformador Conexión Delta - Estrella



Nota: La recomendación del Interruptor Termomagnético y del Calibre de los cables ha sido determinada con la finalidad de operar ante las condiciones de Sobrecarga permitidas por el UPS.



Cualquier duda o información adicional:

ventas@lavogar.com.mx LINE ACONDICIONER DE MEXICO, S.A. DE C.V.
 www.lavogar.com.mx CALZ. DE LOS JINETES No. 77 COL. LAS ARBOLEDAS C.P. 54020
 TELS. (55) 53-78-20-77 (55) 53-78-14-98 TLALNEPANTLA EDO. DE MEX.

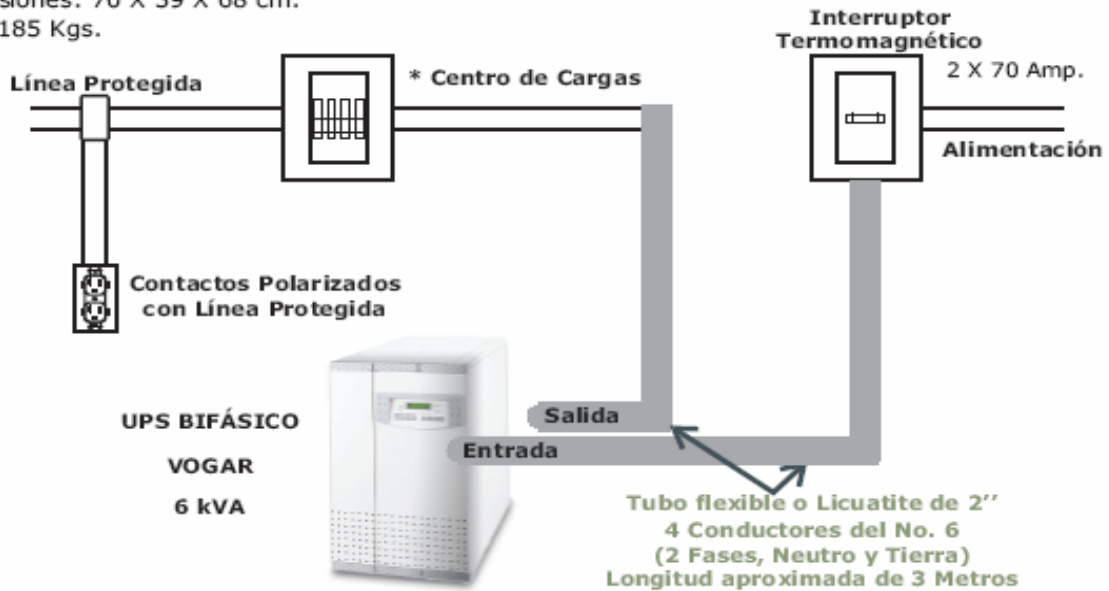
Esquema de Conexión para Sistemas de Energía Ininterrumpible

H6000YU Bifásico

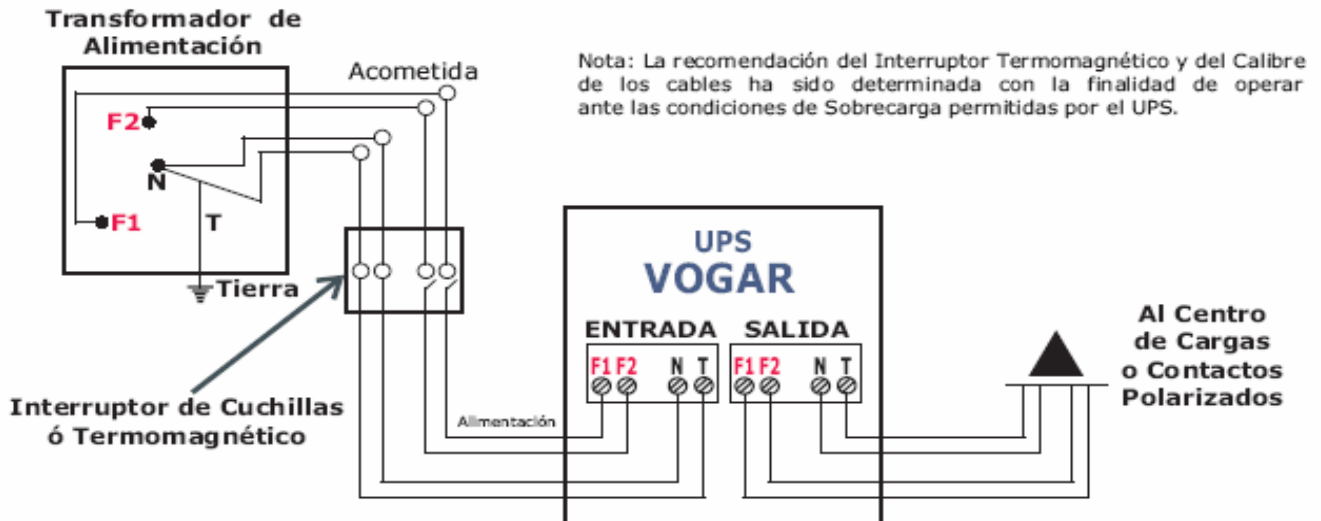
CARACTERÍSTICAS:

Dos Fases, Neutro y Tierra
 Potencia: 6 kVA
 Dimensiones: 70 X 39 X 68 cm.
 Peso: 185 Kgs.

Configuración de Voltaje: 110/220 VCA ó 115/230 VCA



* Este dispositivo es opcional



Cualquier duda o información adicional:

ventas@lavogar.com.mx LINE ACONDITIONER DE MEXICO, S.A. DE C.V.
 www.lavogar.com.mx CALZ. DE LOS JINETES No. 77 COL. LAS ARBOLEDAS C.P. 54020
 TELS. (55) 53-78-20-77 (55) 53-78-14-98 TLALNEPANTLA EDO. DE MEX.

Ficha Técnica para Sistemas de Energía Ininterrumpible

H20K Trifásico

Sistema de doble conversión en línea (On Line)

ENTORNO

Nivel de ruido: Menor a 65 dB a 1 m de distancia

Temperatura de Funcionamiento: De 0 a 40° C

Conexión: Mediante Bornes de Conexión Entrada/Salida

Humedad: Hasta el 90%, sin condensación

MODELO	ALTO cm	ANCHO cm	FONDO cm	PESO kgs
H20K	160	55	80	370



MODELO	CAPACIDAD VA	CAPACIDAD Watts	CABLES	CALIBRE
H20K	20000	16000	L-L-L-N+TF	4 A.W.G.

DATOS TÉCNICOS PRINCIPALES

Configuración: Trifásica
Tensión 120/208V~ ó 127/220V~

Entrada

Tensión de entrada:
100.8 - 139.2V~/174.7 - 241.2V~ (a 120/208V~)
106.6 - 147.3V~/184.8 - 255.2V~ (a 127/220V~)
Frecuencia Entrada: 55.8 - 64.2 Hz
Corriente Entrada: 70 Amperes por Fase

Salida

Tensión de salida en Modo Normal y en Modo de Respaldo:
118.8 - 121.2V~/205.9 - 210.1V~ (a 120/208V~)
125.7 - 128.3V~/217.8 - 222.2V~ (a 127/220V~)
Frecuencia Salida: 59.94 - 60.06 Hz
Corriente Salida: 50 Amperes por Fase
Forma de onda: Senoidal pura con THD < 2% con carga lineal
Transiente: Bajo cambios a plena carga; recuperación en 100 mseg.
Factor de Cresta: Mejor que 3:1
Protección: Ante Sobrecarga, Sobre-Temperatura y Cortocircuito
Tiempo de transferencia: 0 milisegundos

Bypass

Automático: Ante Sobrecarga y Sobre-Temperatura o Autoprueba
Manual: Para Mantenimiento

Baterías

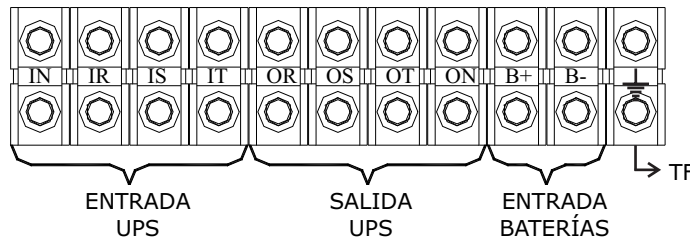
Tipo: Plomo - Ácido libre de mantenimiento
Tiempo de recarga: 8 horas para el 90% de capacidad
Voltaje/Capacidad: 58 Baterías de 12V/7.2AH
Tiempo de Soporte: 17 minutos (50% de carga)
8 minutos (100% de carga)

Comunicación

Puertos: RS232, RS485
Panel de Control: Display LCD y LED's por Microprocesador
Alarma Audible: En Modo de Respaldo, Batería Baja, Sobrecarga y Falla

Forma de CONEXIÓN

Bornes de Conexión ubicados en la parte inferior del panel frontal del gabinete



FASES DE ENTRADA (IR,IS,IT)
FASES DE SALIDA (OR,OS,OT)
NEUTRO DE ENTRADA (IN)
NEUTRO DE SALIDA (ON)
TIERRA FÍSICA (TF)

Nota:
Verifique la secuencia de conexión situada en los Bornes del equipo

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[http: www.lavogar.com.mx](http://www.lavogar.com.mx) [mail:ventas@lavogar.com.mx](mailto:ventas@lavogar.com.mx)



Ficha Técnica para Sistemas de Energía Ininterrumpible

H20K Trifásico

Sistema de doble conversión en línea (On Line)

ENTORNO

Nivel de ruido: Menor a 65 dB a 1 m de distancia

Temperatura de Funcionamiento: De 0 a 40° C

Conexión: Mediante Bornes de Conexión Entrada/Salida

Humedad: Hasta el 90%, sin condensación

MODELO	ALTO cm	ANCHO cm	FONDO cm	PESO kgs
H20K	160	55	80	370



MODELO	CAPACIDAD VA	CAPACIDAD Watts	CABLES	CALIBRE
H20K	20000	16000	L-L-L-N+TF	4 A.W.G.

DATOS TÉCNICOS PRINCIPALES

Configuración: Trifásica
Tensión 120/208V~ ó 127/220V~

Entrada

Tensión de entrada:
100.8 - 139.2V~/174.7 - 241.2V~ (a 120/208V~)
106.6 - 147.3V~/184.8 - 255.2V~ (a 127/220V~)
Frecuencia Entrada: 55.8 - 64.2 Hz
Corriente Entrada: 70 Amperes por Fase

Salida

Tensión de salida en Modo Normal y en Modo de Respaldo:
118.8 - 121.2V~/205.9 - 210.1V~ (a 120/208V~)
125.7 - 128.3V~/217.8 - 222.2V~ (a 127/220V~)
Frecuencia Salida: 59.94 - 60.06 Hz
Corriente Salida: 50 Amperes por Fase
Forma de onda: Senoidal pura con THD < 2% con carga lineal
Transiente: Bajo cambios a plena carga; recuperación en 100 mseg.
Factor de Cresta: Mejor que 3:1
Protección: Ante Sobrecarga, Sobre-Temperatura y Cortocircuito
Tiempo de transferencia: 0 milisegundos

Bypass

Automático: Ante Sobrecarga y Sobre-Temperatura o Autoprueba
Manual: Para Mantenimiento

Baterías

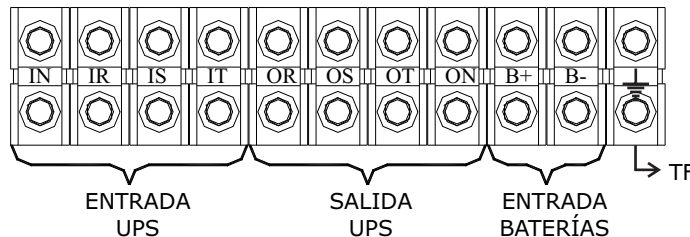
Tipo: Plomo - Ácido libre de mantenimiento
Tiempo de recarga: 8 horas para el 90% de capacidad
Voltaje/Capacidad: 58 Baterías de 12V/7.2AH
Tiempo de Soporte: 17 minutos (50% de carga)
8 minutos (100% de carga)

Comunicación

Puertos: RS232, RS485
Panel de Control: Display LCD y LED's por Microprocesador
Alarma Audible: En Modo de Respaldo, Batería Baja, Sobrecarga y Falla

Forma de CONEXIÓN

Bornes de Conexión ubicados en la parte inferior del panel frontal del gabinete



FASES DE ENTRADA (IR,IS,IT)
FASES DE SALIDA (OR,OS,OT)
NEUTRO DE ENTRADA (IN)
NEUTRO DE SALIDA (ON)
TIERRA FÍSICA (TF)

Nota:
Verifique la secuencia de conexión situada en los Bornes del equipo



NOM-003-SCFI-2000



Ficha Técnica para Sistemas de Energía Ininterrumpible

H6000YU Bifásico

Sistema de doble conversión en línea (On Line)

ENTORNO

Nivel de ruido: Menor a 55 dB a 1 m de distancia

Temperatura de Funcionamiento: De 0 a 40° C

Conexión: Mediante Bornes de Conexión Entrada/Salida

Humedad: Hasta el 90%, sin condensación

MODELO	ALTO cm	ANCHO cm	FONDO cm	PESO kgs
H6000YU	70	39	68	185



MODELO	CAPACIDAD VA	CAPACIDAD Watts	CABLES	CALIBRE
H6000YU	6000	4800	L-L-N+TF	6 A.W.G.

DATOS TÉCNICOS PRINCIPALES

Configuración: Bifásica
Tensión 110/220V~, 115/230V~ ó 120/240V~

Entrada

Tensión de entrada:
88 - 132V~/152 - 228V~ (a 110/220V~)
92 - 138V~/160 - 240V~ (a 115/230V~)
96 - 144V~/166 - 249V~ (a 120/240V~)

Frecuencia Entrada: 57 - 63 Hz

Corriente Entrada: 27 Amperes por Fase

Salida

Tensión de salida en Modo Normal y en Modo de Respaldo:

107.8 - 112.2V~/215.6 - 224.4V~ (a 110/220V~)
112.7 - 117.3V~/225.4 - 234.6V~ (a 115/230V~)
117.6 - 122.4V~/235.2 - 244.8V~ (a 120/240V~)

Frecuencia Salida: 59.7 - 60.3 Hz

Corriente Salida: 22 Amperes por Fase

Forma de onda: Senoidal pura con THD < 3% con carga lineal y < 5% con carga al 0.7 de F.P.

Transiente: Bajo cambios a plena carga; recuperación en 100 mseg.

Factor de Cresta: Mejor que 3:1

Protección: Ante Sobrecarga, Sobre-Temperatura y Cortocircuito

Tiempo de transferencia: 0 milisegundos

Bypass

Automático: Ante Sobrecarga y Sobre-Temperatura o Autoprueba
Manual: Para Mantenimiento

Baterías

Tipo: Plomo - Ácido libre de mantenimiento

Tiempo de recarga: 8 horas para el 90% de capacidad

Voltaje/Capacidad: 16 Baterías de 12V/17AH

Tiempo de Soporte: 25 minutos (50% de carga)
10 minutos (100% de carga)

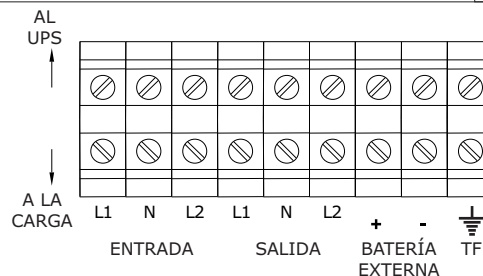
Comunicación

Puerto: RS232 DB9
Panel de Control: Display LCD y LED's por Microprocesador

Alarma Audible: En Modo de Respaldo, Batería Baja, Sobrecarga y Falla

Forma de CONEXIÓN

Bornes de Conexión ubicados en el panel trasero del gabinete



FASE 1 (L1)
FASE 2 (L2)
NEUTRO (N)
TIERRA FÍSICA (TF)

Nota:
Verifique el esquema de conexión situado en la parte trasera del gabinete.

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Ficha Técnica para Sistemas de Energía Ininterrumpible

H6000YU Bifásico

Sistema de doble conversión en línea (On Line)

ENTORNO

Nivel de ruido: Menor a 55 dB a 1 m de distancia

Temperatura de Funcionamiento: De 0 a 40° C

Conexión: Mediante Bornes de Conexión Entrada/Salida

Humedad: Hasta el 90%, sin condensación

MODELO	ALTO cm	ANCHO cm	FONDO cm	PESO kgs
H6000YU	70	39	68	185



MODELO	CAPACIDAD VA	CAPACIDAD Watts	CABLES	CALIBRE
H6000YU	6000	4800	L-L-N+TF	6 A.W.G.

DATOS TÉCNICOS PRINCIPALES

Configuración: Bifásica
Tensión 110/220V~, 115/230V~ ó 120/240V~

Entrada

Tensión de entrada:
88 - 132V~/152 - 228V~ (a 110/220V~)
92 - 138V~/160 - 240V~ (a 115/230V~)
96 - 144V~/166 - 249V~ (a 120/240V~)

Frecuencia Entrada: 57 - 63 Hz

Corriente Entrada: 27 Amperes por Fase

Salida

Tensión de salida en Modo Normal y en Modo de Respaldo:

107.8 - 112.2V~/215.6 - 224.4V~ (a 110/220V~)
112.7 - 117.3V~/225.4 - 234.6V~ (a 115/230V~)
117.6 - 122.4V~/235.2 - 244.8V~ (a 120/240V~)

Frecuencia Salida: 59.7 - 60.3 Hz

Corriente Salida: 22 Amperes por Fase

Forma de onda: Senoidal pura con THD < 3% con carga lineal y < 5% con carga al 0.7 de F.P.

Transiente: Bajo cambios a plena carga; recuperación en 100 mseg.

Factor de Cresta: Mejor que 3:1

Protección: Ante Sobrecarga, Sobre-Temperatura y Cortocircuito

Tiempo de transferencia: 0 milisegundos

Bypass

Automático: Ante Sobrecarga y Sobre-Temperatura o Autoprueba
Manual: Para Mantenimiento

Baterías

Tipo: Plomo - Ácido libre de mantenimiento

Tiempo de recarga: 8 horas para el 90% de capacidad

Voltaje/Capacidad: 16 Baterías de 12V/17AH

Tiempo de Soporte: 25 minutos (50% de carga)
10 minutos (100% de carga)

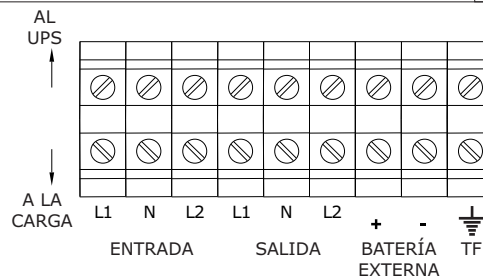
Comunicación

Puerto: RS232 DB9
Panel de Control: Display LCD y LED's por Microprocesador

Alarma Audible: En Modo de Respaldo, Batería Baja, Sobrecarga y Falla

Forma de CONEXIÓN

Bornes de Conexión ubicados en el panel trasero del gabinete



FASE 1 (L1)
FASE 2 (L2)
NEUTRO (N)
TIERRA FÍSICA (TF)

Nota:
Verifique el esquema de conexión situado en la parte trasera del gabinete.

Ficha Técnica para Sistemas de Energía Ininterrumpible

SP-2000 Monofásico

Sistema Interactivo (Line Interactive)

ENTORNO

Nivel de ruido: Menor a 45 dB a 1 m de distancia

Temperatura de Funcionamiento: De 0 a 40° C

Conexión: Mediante Contactos Polarizados Entrada/Salida

Humedad: Del 30 al 90%, sin condensación

MODELO	ALTO cm	ANCHO cm	FONDO cm	PESO kgs
SP-2000	20	18	51	25



MODELO	CAPACIDAD VA	CAPACIDAD Watts	CABLES	CONTACTOS
SP-2000	2000	1200	L-N+TF	6

DATOS TÉCNICOS PRINCIPALES

Configuración: Monofásica
Tensión 110V~, 115V~ ó 120V~

Entrada

Tensión de entrada: 88 - 132V~ (a 110V~)
92 - 138V~ (a 115V~)
96 - 144V~ (a 120V~)

Frecuencia Entrada: 57 - 63 Hz
Corriente Entrada: 15 Amperes

Salida

Tensión de salida en Modo Stand-By:
104.5 - 115.5V~ (a 110V~)
109.25 - 120.75V~ (a 115V~)
114 - 126V~ (a 120V~)

Tensión de salida en Modo de Respaldo:
106.7 - 113.3V~ (a 110V~)
111.55 - 118.45V~ (a 115V~)
116.4 - 123.6V~ (a 120V~)

Frecuencia Salida: 59.94 - 60.06 Hz

Corriente Salida: 10 Amperes

Forma de onda: Senoidal pura con THD < 3%

Protección: Ante Sobrecarga, Sobre-Temperatura y Cortocircuito

Tiempo de transferencia:
3.5 milisegundos

Protección Transientes

Rango de Energía: 300 / 580 Joules

Línea de Datos: Módem RJ45/10 Base-T

Baterías

Tipo: Plomo - Ácido libre de mantenimiento

Tiempo de recarga: 3 horas para el 90% de capacidad

Voltaje/Capacidad: 4 Baterías de 12V/7AH

Tiempo de Soporte:
18 minutos (al 50% de carga)
8 minutos (al 100% de carga)

Comunicación

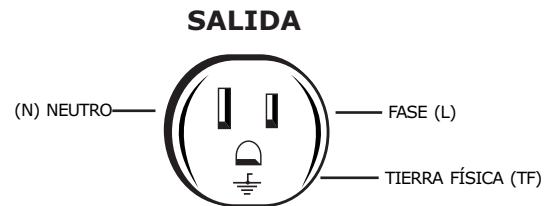
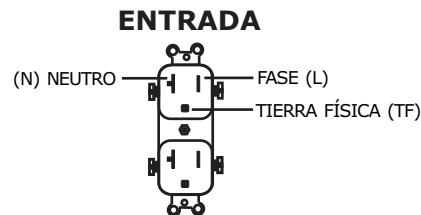
Puerto: RS232 Db9

Panel de Control: Display LCD por Microprocesador

Alarma Audible: En Modo de Respaldo, Batería Baja y Sobrecarga

Software: UPSILON 2000

Conexión a través de
CONTACTO
Polarizado



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<http://www.lavogar.com.mx> e mail: ventas@lavogar.com.mx



Ficha Técnica para Sistemas de Energía Ininterrumpible

SP-2000 Monofásico

Sistema Interactivo (Line Interactive)

ENTORNO

Nivel de ruido: Menor a 45 dB a 1 m de distancia

Temperatura de Funcionamiento: De 0 a 40° C

Conexión: Mediante Contactos Polarizados Entrada/Salida

Humedad: Del 30 al 90%, sin condensación

MODELO	ALTO cm	ANCHO cm	FONDO cm	PESO kgs
SP-2000	20	18	51	25



MODELO	CAPACIDAD VA	CAPACIDAD Watts	CABLES	CONTACTOS
SP-2000	2000	1200	L-N+TF	6

DATOS TÉCNICOS PRINCIPALES

Configuración: Monofásica
Tensión 110V~, 115V~ ó 120V~

Entrada

Tensión de entrada: 88 - 132V~ (a 110V~)
92 - 138V~ (a 115V~)
96 - 144V~ (a 120V~)

Frecuencia Entrada: 57 - 63 Hz
Corriente Entrada: 15 Amperes

Salida

Tensión de salida en Modo Stand-By:
104.5 - 115.5V~ (a 110V~)
109.25 - 120.75V~ (a 115V~)
114 - 126V~ (a 120V~)

Tensión de salida en Modo de Respaldo:
106.7 - 113.3V~ (a 110V~)
111.55 - 118.45V~ (a 115V~)
116.4 - 123.6V~ (a 120V~)

Frecuencia Salida: 59.94 - 60.06 Hz

Corriente Salida: 10 Amperes

Forma de onda: Senoidal pura con THD < 3%

Protección: Ante Sobrecarga, Sobre-Temperatura y Cortocircuito

Tiempo de transferencia:
3.5 milisegundos

Protección Transientes

Rango de Energía: 300 / 580 Joules

Línea de Datos: Módem RJ45/10 Base-T

Baterías

Tipo: Plomo - Ácido libre de mantenimiento

Tiempo de recarga: 3 horas para el 90% de capacidad

Voltaje/Capacidad: 4 Baterías de 12V/7AH

Tiempo de Soporte:
18 minutos (al 50% de carga)
8 minutos (al 100% de carga)

Comunicación

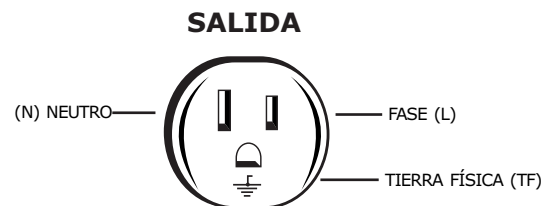
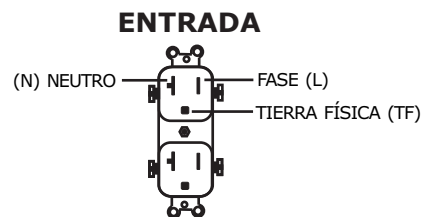
Puerto: RS232 Db9

Panel de Control: Display LCD por Microprocesador

Alarma Audible: En Modo de Respaldo, Batería Baja y Sobrecarga

Software: UPSILON 2000

Conexión a través de
CONTACTO
Polarizado



NOM

GARANTIA
2 AÑOS
VOGAR

Ficha Técnica para Sistemas de Energía Ininterrumpible

VO6000 Monofásico

Sistema de doble conversión en línea (On Line)

ENTORNO

Nivel de ruido: 55 dB a 1 m de distancia

Temperatura de Funcionamiento: De 0 a 40° C

Conexión: Mediante Contactos Polarizados Entrada/Salida

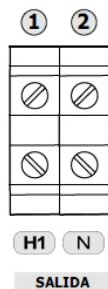
Humedad: Del 30 al 90%, sin



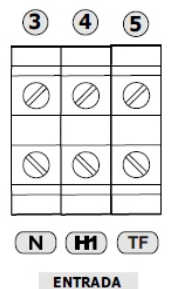
MODELO	ALTO cm	ANCHO cm	FONDO cm	PESO kgs
VO 6000	100	64.5	62.5	185

CAPACIDAD VA	CAPACIDAD Watts	CABLES
6000	5000	L-N+TF

TABLILLA DE CONEXIONES (TB1)



TABLILLA DE CONEXIONES (TB2)



DATOS TÉCNICOS PRINCIPALES

Configuración: Monofásica
Tensión 120/127 VCA

Entrada

Tensión de entrada: 100 - 135 VCA

Frecuencia Entrada: 57 - 63 Hz

Corriente Entrada: 56 Amperes

Salida

Tensión de salida: 120/125/127 VCA

Regulación de Voltaje: +/- 3%

Frecuencia Salida: 59.7 - 60.3 Hz

Corriente Salida: 40 Amperes

Forma de onda: Senoidal pura con THD < 3% con carga lineal y <5% con carga al 0.7 de f.p.

Factor de cresta: Mejor de 3:1

Tiempo de transferencia: 0 milisegundos

Protección Transientes

Bajo cambios a plena carga; recuperación en 100 Milisegundos.

Baterías

Tipo: Plomo - Ácido libre de mantenimiento

Tiempo de recarga: 8 horas para el 90% de capacidad

Voltaje/Capacidad: 16 Baterías de 12V/17AH

Tiempo de Soporte: 25 minutos (al 50% de carga)
10 minutos (al 100% de carga)

Comunicación

Puerto: RS232 Db9

Panel de Control: Display LCD por Microprocesador

Alarma Audible: En Modo de Respaldo, Batería Baja y Sobrecarga

Tipo: Microprocesador Microchip para un control total de doble conversión On Line.

Conexión a través de:
Tablilla de conexiones



Ficha Técnica para Sistemas de Energía Ininterrumpible

VO6000 Monofásico

Sistema de doble conversión en línea (On Line)

ENTORNO

Nivel de ruido: 55 dB a 1 m de distancia

Temperatura de Funcionamiento: De 0 a 40° C

Conexión: Mediante Contactos Polarizados Entrada/Salida

Humedad: Del 30 al 90%, sin



MODELO	ALTO cm	ANCHO cm	FONDO cm	PESO kgs
VO 6000	100	64.5	62.5	185

CAPACIDAD VA	CAPACIDAD Watts	CABLES
6000	5000	L-N+TF

DATOS TÉCNICOS PRINCIPALES

Configuración: Monofásica
Tensión 120/127 VCA

Entrada

Tensión de entrada: 100 - 135 VCA

Frecuencia Entrada: 57 - 63 Hz
Corriente Entrada: 56 Amperes

Salida

Tensión de salida: 120/125/127 VCA

Regulación de Voltaje: +/- 3%

Frecuencia Salida: 59.7 - 60.3 Hz
Corriente Salida: 40 Amperes
Forma de onda: Senoidal pura con THD < 3% con carga lineal y <5% con carga al 0.7 de f.p.

Factor de cresta: Mejor de 3:1
Tiempo de transferencia: 0 milisegundos

Protección Transientes

Bajo cambios a plena carga; recuperación en 100 Milisegundos.

Baterías

Tipo: Plomo - Ácido libre de mantenimiento
Tiempo de recarga: 8 horas para el 90% de capacidad
Voltaje/Capacidad: 16 Baterías de 12V/17AH
Tiempo de Soporte: 25 minutos (al 50% de carga)
10 minutos (al 100% de carga)

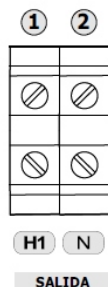
Comunicación

Puerto: RS232 Db9
Panel de Control: Display LCD por Microprocesador
Alarma Audible: En Modo de Respaldo, Batería Baja y Sobrecarga

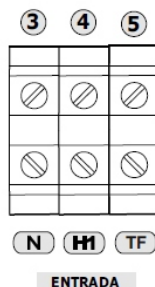
Tipo: Microprocesador Microchip para un control total de doble conversión On Line.

Conexión a través de:
Tablilla de conexiones

TABLILLA DE CONEXIONES (TB1)



TABLILLA DE CONEXIONES (TB2)



CUALQUIER DUDA O INFORMACIÓN ADICIONAL:
LINE A CONDITIONER DE MÉXICO, S.A. DE C.V.

Tels. 55 53 78 20 77 55 53 78 14 98

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Ficha Técnica para Acondicionadores Electrónicos de Línea Monofasicos

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/- 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

220, 230 ó 240 VCA RMS

1 Fase + Neutro + TF

1 Fase + 1 Fase + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 15% de la Tensión Nominal

Tensión de Salida:

.+/- 5% Tipico 6% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

400 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox. 99%

Factor de Potencia:

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad KVA	AMP X FASE			PESO APROX kgs
		220V	230V	240V	
LAN-11	1	5	5	4	6.8
LAN-12	2	9	9	8	9.6

DIMENSIONES	
GABINETE C-12	
ALTURA (H)	14.5 cm
ANCHO (A)	16.0 cm
FONDO (F)	26.0 cm



RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN



NEUTRO



FASE

TIERRA FISICA

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Normatividad:

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NOM-003-SCFI-2000

Compatibilidad en Normas de Seguridad Extranjeras:

Con UL y CSA

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CALZ. DE LOS JINETES No. 139 COL. LAS ARBOLEDAS

C.P. 52950 ATIZAPAN DE ZARAGOZA EDO. DE MEX.

Ficha Técnica para Acondicionadores Electrónicos de Línea Monofasicos

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/- 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

220, 230 ó 240 VCA RMS

1 Fase + Neutro + TF

1 Fase + 1 Fase + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 15% de la Tensión Nominal

Tensión de Salida:

.+/- 5% Tipico 6% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox. 99%

Factor de Potencia:

18 cm

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

DIMENSIONES

GABINETE

C-35

ALTURA (H)

18 cm

ANCHO (A)

22 cm

FONDO (F)

36.5 cm

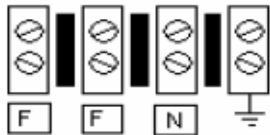
MODELO	Capacidad KVA	Amperaje X FASE			PESO APROX. kgs
		220V	230V	240V	
LAN-13	3	13	13	13	18
LAN-14	4	18	17	17	19
LAN-15	5	23	22	22	24



RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN



FASE DE ENT FASE DE SAL N

Tablilla de conexiones ubicada en el interior del Gabinete

Diseño, desarrollo y Fabricación de:

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Pais de Origen:

México

Normatividad:

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Ficha Técnica para Acondicionadores Electrónicos de Línea Monofasicos

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/-20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 Khz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

220, 230 ó 240 VCA RMS

1 Fase + Neutro + TF

1 Fase + 1 Fase + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+25%-15 de la Tensión Nominal

Tensión de Salida:

.+/- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox. 99%

Factor de Potencia:

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE			PESO APROX kgs
		220V	230V	240V	
TENSIÓN VCA →					
LAN - 18	8	36	35	34	60
LAN - 110	10	45	43	42	68
LAN - 115	15	68	65	63	76
LAN - 120	20	90	87	84	90
LAN - 125	25	113	108	104	105

DIMENSIONES

GABINETE

G-9

ALTURA (H)

67 cm

ANCHO (A)

35 cm

FONDO (F)

74 cm

** Calibre minimo recomendado para la instalacion electrica

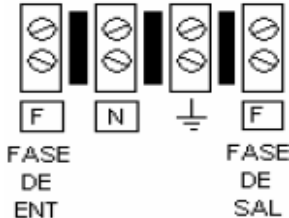


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete



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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos Display

Nuestros Acondicionadores electrónicos cuentan con:

PANEL DIGITAL Y DISPLAY LCD que muestra voltaje de entrada, voltaje de salida, corriente de carga, potencia consumida, temp. Por fase
DESCONEXION AUTOMATICA Por Alto y bajo voltaje: +/- 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automatico.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático despues de un apagón 5 segundos

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de **térmico Bimetálico.**



GABINETE G-120	
DIMENSIONES	
ALTO (H)	135 cm
ANCHO (A)	55 cm
FONDO (F)	75 cm

DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208-220/380-254/440-266/460
277/480 VCA Rms 3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 15% de la Tensión Nominal

Tensión de Salida:

.+/- 3% Tipico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox.

Factor de Potencia: 99%

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, minimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

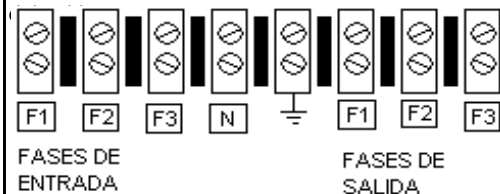
En esta gama de reguladores solo los modelos LAN324, LAN330 LAN345 y LAN360 a 120/208V se fabrican con Triacs

De LAN380 A LAN 3120 A 120/208V y De LAN324 a LAN 3120 a 220/380V y 254/440V se fabrican con SCR

MODELO	Capacidad KVA	AMPERES POR FASE			PESO APROX kgs
		TENSIÓN F-N / F-F (volts)			
TENSIÓN VCA →		120/208	220/380	254/440	
LAN-324	24	64	36	31	128
LAN-330	30	80	45	39	138
LAN-345	45	120	68	59	184
LAN-360	60	160	91	78	205
LAN-380	80	213	122	105	225
LAN-3100	100	266	151	131	255
LAN-3120	120	333	181	157	290

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior



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Normatividad:

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Compatibilidad en Normas de Seguridad Extranjeras:

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para las condiciones

de voltaje de México

(Rangos de protección

MAS AMPLIOS)



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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMÁTICA Por Alto y bajo voltaje: +/- 20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automático.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

120/208, 127/220, 220/380, 254/440, 265/460 y 277/480 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

.+/- 15% de la Tensión Nominal

Tensión de Salida:

.+/- 3% Típico 4% condiciones extremas.

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox. 99%

Factor de Potencia:

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE							PESO APROX kgs
		120/208	127/220	220/380	230/400	254/440	265/460	277/480	
LAN-324	24	64	63	36	35	31	30	29	125
LAN-330	30	80	78	45	43	39	37	36	137
LAN-345	45	120	118	68	65	59	56	54	170
LAN-360	60	160	157	91	87	78	75	72	166

DIMENSIONES GABINETE G-8

ALTURA (H)
100 cm

ANCHO (A)
41 cm

FONDO (F)
74 cm

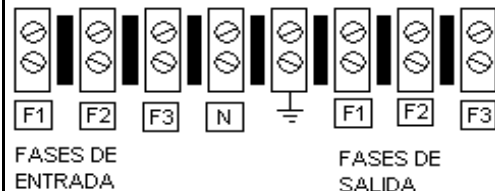


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



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Ficha Técnica para Acondicionadores Electrónicos de Línea Trifásicos VE

Nuestros Acondicionadores electrónicos cuentan con:

DESCONEXION AUTOMÁTICA Por Alto y bajo voltaje: +/-20% del voltaje nominal.

SELECTOR

(Para escoger método de reconexión Manual ó Automático.)

TIMER (Temporizador de arranque)

Para retardo en el reencendido automático después de un apagón 5 segundos ó 5 minutos apto para refrigeración

FILTRO DE RUIDO ELÉCTRICO

(Frecuencia de corte 4 KHz)

AUTOTRANSFORMADO MULTIPRIMARIO

VOGAR

Protección a los transformadores de regulación a través de térmico Bimetálico.



DATOS TÉCNICOS PRINCIPALES

Tipo de Corriente Eléctrica:

CA Senoidal grado computadora.

Sistema Eléctrico: Estrella (Y)

Tensión Nominal:

220/380, 230/400, 254/440, 265/460, y 277/480 VCA RMS

3 Fases + Neutro + TF

Frecuencia: 60Hz +/- 2%

Tensión de Entrada:

./-15% de la Tensión Nominal

Tensión de Salida:

./- 5% de la Tensión Nominal

Tiempo de respuesta:

0.5 ciclos, 2 ciclos condiciones extremas.

Eficiencia: 99%

Distorsión Armónica:

Menor al 1% THD

Supresión de Picos de Voltaje:

4000 a 100 Vp, Sistema ICV

Calor generado

2 Btu x KVA aprox. 99%

Factor de Potencia:

Capacidad de sobrecarga:

Para 10 Segundos: 200%

Para 1 minuto: 100%

Temp. Ambiente de operación:

De 0 a 50 grados (°C)

Aislamiento dieléctrico del gabinete:

2000 Vrms, mínimo

Ruido Audible:

Menor a 10 db a 1 m de dist. NO audible

Pintura del gabinete:

Pintura electrostática en polvo color BEIGE

MODELO	Capacidad kVA	AMP X FASE					PESO APROX kgs
		220/380V	230/400V	254/440V	265/460V	277/480V	
LAN-33	3	5	5	4	3.5	3.5	32
LAN-36	6	9	9	8	7.5	7	38
LAN-310	10	15	13	13	12.5	12	44
LAN-315	15	23	22	20	19	18	52

DIMENSIONES

GABINETE

G-7

ALTURA (H)

63.0 cm

ANCHO (A)

25.0 cm

FONDO (F)

42.5 cm

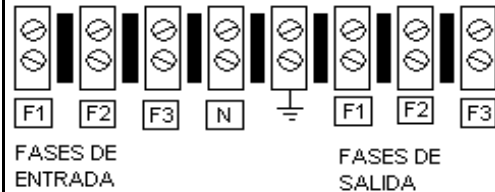


RECUERDE

Nunca sobrepase la capacidad indicada para garantizar el óptimo desempeño de su acondicionador de Línea VOGAR.

FORMA DE CONEXIÓN

Tablilla de conexiones ubicada en el interior del gabinete.



Diseño, desarrollo y Fabricación de:

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País de Origen:

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Normatividad:

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