

# Residential Catalogue Edition 2011

## Modular DIN-rail devices and residential enclosures



GE imagination at work



## Modular DIN-rail devices and residential enclosures

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Just feel



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Selection table of MCB's

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Page no.	Series	Applications	Poles	Add-on devices	Tripping characteristic	Rating current (A)	Short-circuit capacity (kA)
A.13	DG61		1	no	B	6 - 50	6
				no	C	6 - 50	6
A.14	EP60		1, 1+N, 2, 3, 4	yes	B	6 - 63	6 10
				yes	C	0.5 - 63	6 10
			1, 2, 3, 4	yes	D	0.5 - 63	6 10
			1, 2, 3, 4	yes	K	0.5 - 63	6 10 <sup>(1)</sup> 20
A.16	EP100		1, 1+N, 2, 3, 4	yes	B	6 - 63	10 15
				yes	C	0.5 - 63	10 15
				yes	D	0.5 - 63	10 15
			1, 2, 3, 4	yes	K	0.5 - 63	10 15 <sup>(2)</sup> 30 <sup>(2)</sup>
A.18	EP250		1, 2, 3, 4	yes	B	6 - 63	25
				yes	C	0.5 - 63	25
A.20	EP250 M		2, 3	yes	M	1.6 - 63	25
A.22	EP100 UC		1, 2	yes	B	6 - 63	6 10
				yes	C	0.5 - 63	6 10
A.24	Hti		1, 2, 3, 4	yes	B	80 - 125	10 15
				yes	C	80 - 125	10 15
				yes	D	80 - 125	10 15
A.28	EP60 UL		1, 2, 3, 4	yes	B	6 - 63	6 6 10 <sup>(1)</sup>
				yes	C	0.5 - 63	6 6 10 <sup>(1)</sup>
				yes	D	0.5 - 63	6 6 10 <sup>(1)</sup>
A.30	EP100 UL		1, 2, 3, 4	yes	B	6 - 63	10 10 15 <sup>(1)</sup>
				yes	C	0.5 - 63	10 10 15 <sup>(1)</sup>
				yes	D	0.5 - 63	10 10 15 <sup>(1)</sup>
A.32	EP100 ULH		1, 2, 3	yes	B	5 - 32	10 15 <sup>(2)</sup>
				yes	C	0.5 - 32	10 15 <sup>(2)</sup>
				yes	D	0.5 - 32	10 15 <sup>(2)</sup>

- domestic
- commercial
- industrial
- motors
- photovoltaic

- B: 3-5 I<sub>n</sub>
- C: 5-10 I<sub>n</sub>
- D: 10-20 I<sub>n</sub>
- K: 8-12 I<sub>n</sub>

- EN/IEC 60898-1 NEMA AB1
- EN/IEC 60947-2 UL 489
- UL 1077

(1) I<sub>cs</sub> = 75% I<sub>cu</sub>  
 (2) I<sub>cs</sub> = 50% I<sub>cu</sub>



Selection table of MCB's (continued)

Page no.	Series	Applications	Poles	Add-on devices	Tripping characteristic	Rating current (A)	Short-circuit capacity (kA)
A.34	EP100R		3	yes	B	0.5 - 63	10 → 15
				yes	C	0.5 - 63	10 → 15
A.36	EP100 UCR		1,2	yes	B	2 - 63	6 → 10
				yes	C	0.5 - 63	6 → 10
				yes	K	0.5 - 63	6 → 10
A.38	EP100T		1, 2, 3, 4	yes	Z	0.5 - 63	10 → 15
				yes	B	6 - 63	10 → 15
				yes	C	0.5 - 63	10 → 15
				yes	K	0.5 - 63	10 → 15
A.40	EP100 UCT		1, 2	yes	Z	0.5 - 63	6 → 10
				yes	B	6 - 63	6 → 10
				yes	C	0.5 - 63	6 → 10
				yes	K	0.5 - 63	6 → 10

Selection table of compact MCB's - Unibis™

Page no.	Series	Applications	Poles	Add-on devices	Tripping characteristic	Rating current (A)	Short-circuit capacity (kA)
A.52	EPC 61N		1+N (1 mod.)	yes	B-C	2 - 40	6 → 10 <sup>(3)</sup>
A.53	EPC 611		1P+1P (1 mod.)	yes	B-C	2+2 - 20+20	6 → 6
A.54	EPC 60		2	yes	B-C	2 - 40	3 → 6 → 10
			3, 4	yes	B-C	2 - 32	3 → 6 → 6

Selection table of screwless MCB's - Fixwell™

Page no.	Series	Applications	Poles	Add-on devices	Tripping characteristic	Rating current (A)	Short-circuit capacity (kA)
A.64	EPP60		1, 1+N, 2, 3, 3+N, 4	yes	C	2 - 40	6 <sup>(1)</sup> → 10
A.66	EPP100		1, 2, 3, 3+N, 4	yes	B-C	2 - 40	10 <sup>(1)</sup> → 15 <sup>(2)</sup>

- domestic
- commercial
- industrial
- railways

- B: 3-5 In
- C: 5-10 In
- K: 8-12 In
- Z: 2-3 In

- EN/IEC 60898-1 (1) Ics = 75% Icu
- EN/IEC 60947-2 (2) Ics = 50% Icu
- (3) Icn1 = 6kA

MCB's

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E

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X



Technical data of MCB's

Circuit protection

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Series		DG61	EP60	EP100
Standards		EN/IEC 60898-1	EN/IEC 60898-1	EN/IEC 60898-1
Tripping characteristics		B, C	B, C, D, K <sup>(2)</sup>	B, C, D, K <sup>(2)</sup>
Nominal current	A	6-50	B(6-63), C/D/K(0.5-63)	B(6-63), C/D/K(0.5-63)
Calibration temperature	°C	30	30	30
Number of poles (# mod)		1	1/1+N/2/3/4 <sup>(2)</sup>	1/1+N/2/3/4 <sup>(2)</sup>
Neutral pole protected		-	yes	yes
Nominal voltage Un	AC 1P V	240/415	240/415	240/415
	1P+N V	240	-	-
	2P V	415	415	415
	3P/3P+N/4P V	415	415	415
	DC 1P (1) Vdc	-	48	48
	2P (in series) <sup>(1)</sup> Vdc	-	110	110
Frequency	Hz	50/60	50/60	50/60
	Hz	DC: magn.trip +40%	DC: magn.trip +40%	DC: magn.trip +40%
	Hz	400: magn.trip +50%	400: magn.trip +50%	400: magn.trip +50%
Maximum service voltage U <sub>bmax</sub> between two wires	V	250/440	250/440; 53/120Vdc	250/440; 53/120Vdc
Minimum service voltage U <sub>bmin</sub>	V	12Vac	12Vac/12Vdc	12Vac/12Vdc
Selectivity class (EN/IEC 60898-1)		3	3	3
Isolator application EN/IEC 60947-2		yes	yes	yes
Rated insulation voltage Pollution degree 2	V	500	500	500
	Pollution degree 3 V	440	440	440
Impulse withstand test voltage	kV	6	6	6
Insulation resistance	MΩ	10000	10000	10000
Dielectric rigidity	kV	2.5	2.5	2.5
Vibrations resistance (in x, y, z direction) (EN/IEC 77/16.3)		3g	3g	3g
Endurance electrical at Un, In		10000	10000	10000
	mechanical	20000	20000	20000
Utilisation category (EN/IEC 60947-2)		A	A	A
Mounting position (for all devices): any except upside down		any	any	any
Incoming top or bottom		yes	yes	yes
Protection degree (outside / inside enclosure with door)		IP20/IP40	IP20/IP40	IP20/IP40
Self-extinguish degree (according to UL94)		V2	V2	V2
Tropicalisation (according to EN/IEC 60068-2 / DIN 40046) °C/RH		+55°C/95% RH	+55°C/95% RH	+55°C/95% RH
Operating temperature	°C	-25/+55	-25/+55	-25/+55
Storage temperature	°C	-55/+55	-55/+55	-55/+55
Terminal capacity Rigid cable min/max (top)	mm <sup>2</sup>	1/25	1/35	1/35
	Flexible cable min*/max (top)	0.75/16	0.75/25	0.75/25
	Rigid cable min/max (bottom)	1/25	1/35	1/35
	Flexible cable min*/max (bottom)	0.75/16	0.75/25	0.75/25
	(* Flexible cable 0.75/1/1.5 mm <sup>2</sup> with cable lug)			
	Torque Nm	3.5	4.5	4.5
Add-on devices (side add-on) Auxiliary contacts		no	yes	yes
	Tele U	no	yes	yes
	Tele L	no	yes	yes
	Tele MP	no	yes	yes
	PBS	no	yes	yes
Busbar systems Pin (top/bottom)		yes/yes	yes/yes	yes/yes
	Fork (top/bottom)	-/yes	-/yes	-/yes
Accessories		yes	yes	yes
Dimensions (HxDxW) 86x68xW	mm/mod.	18	18	18
Weight/mod.	g	115	120	120
Package	mod.	12	12	12
Approvals		KEMA	VDE-KEMA-CEBEC	VDE-KEMA-CEBEC
CE-marking		yes	yes	yes
Page		A.13	A.14	A.16

(1) Preferred values of rated control supply voltage (EN/IEC 60947-2): 24V, 48V, 110V, 125V, 220V, 250V

(2) Motor lines application: no 1+N execution in K curve



EP250	EP250 M	EP100 UC	Hti	EP100R / EP100T	EP100UCR / EP100UCT
BS EN 60947-2	BS EN 60898	(3)	EN/IEC 60947-2	EN/IEC 60898-1	EN/IEC 60947-2 <sup>(3)</sup>
3-5In(B)/5-10In(C)	M	B, C	3-5In/5-10In/10-20In	Z, B, C, D, K <sup>(5)</sup>	Z, B, C, K <sup>(4)</sup>
B6-63/C0.5 -63	1.6 to 63	B(6-63), C(0.5-63)	80 upto 125	B(6-63), C/D/K(0.5-63)	0.5 - 63
30	30	30	40	30	30
1,2,3,4	2,3	1/2/4	1/2/3/4	1/2/3/4 <sup>(6)</sup>	1/2
-	-	-	-	yes	-
240/415	-	240/415	230/400	240/415	240/415
-	-	-	-	-	-
415	240	415	415	415	415
415	415	415	415	415	415
48	-	250	48	48	250
110	-	500	110	110	500
50 to 60	50 to 60	50/60	50/60	50/60	50/60
DC: magn. trip +40%	DC: magn. trip +40%	DC: magn.trip +40%	DC: magn.trip +40%	DC: magn.trip +40%	DC: magn.trip +40%
400Hz: magn.trip+50%	400Hz: magn.trip.+50%	400: magn.trip +50%	400: magn.trip +50%	400: magn.trip +50%	400: magn.trip +50%
250/440; 53/120Vdc	250/440; 53/120Vdc	250/440; 250/440Vdc	250/440; 53/120Vdc	250/440; 53/120Vdc	250/440; 250/440Vdc
12Vac/12Vdc	12Vac/12Vdc	12Vac/12Vdc	12Vac/12Vdc	12Vac/12Vdc	12Vac/12Vdc
3	3	3	-	3	3
yes	yes	yes	yes	yes	yes
500	500	500	500	500	500
440	440	440	440	440	440
6	6	6	6	6	6
10000	10000	10000	10000	10000	10000
2.5	2.5	2.5	2.5	2.5	2.5
3g	3g	5g	3g	3g	5g
10000	10000	1000	4000	10000	1000
20000	20000	20000	20000	20000	20000
A	A	A	A	A	A
-	-	any	any	any	any
-	-	follow polarity	yes	yes	follow polarity
IP20/IP40	IP20/IP40	IP20/IP40	IP20/IP40	IP20/IP40	IP20/IP40
V2	V2	V2	V2	V2	V2
+55°C / 95%RH	+55°C / 95%RH	+55°C/95% RH	+55°C/95% RH	+55°C/95% RH	+55°C/95% RH
-25/+55	-25/+55	-25/+55	-25/+55	-40/+70	-40/+70
-55/+55	-55/+55	-55/+55	-55/+55	-40/+70	-40/+70
1/35	1/35	1/35	70	1/35	1/35
0.75/35	0.75/35	0.75/25	-	0.75/25	0.75/25
1/35	1/35	1/35	70	1/35	1/35
0.75/35	0.75/35	0.75/25	-	0.75/25	0.75/25
4.5	4.5	4.5	5	4.5	4.5
yes	yes	yes	yes	yes	yes
yes	yes	yes	-	yes	yes
yes	yes	yes	yes	yes	yes
yes	yes	yes	-	yes	yes
yes	yes	yes	yes	yes	yes
yes	yes	yes/yes	-	yes/yes	yes/yes
yes	yes	yes/yes	-	-/yes	yes/yes
yes	yes	yes	-	yes	yes
18	18	18	27	18	18
125	125	125	210	120	125
12	12	12	1/4/8	12	12
-	VDE in process	-	-	KEMA	-
yes	yes	yes	yes	yes	yes
A.18	A.20	A.22	A.24	A.34/A.38	A.36/A.40

(3) EN/IEC 60898-2 and VDE 0641-2/3  
 (4) For EP100 UCR no K curve  
 (5) For EP100 R only B-C curves  
 (6) For EP100 R only 3

MCB'S

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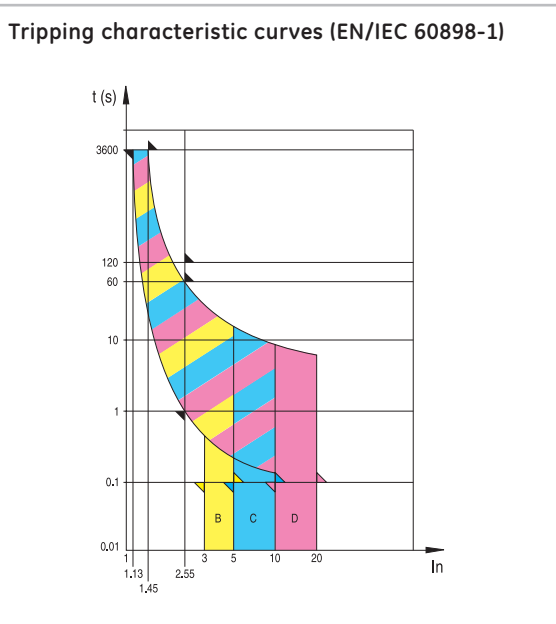


Short-circuit capacity of MCB's

Series			DG61	EP60
<b>Short-circuit capacity AC (kA)</b>				
EN/IEC 60898-1	Icn	1P	230/400V	6
		1P+N	230V	-
		2P	230/400V	-
		3P/3P+N/4P	230/400V	-
Ics (service)			100% Icu	100% Icn
EN/IEC 60947-2	Icu (ultimate)	1P	127V	-
			240V	-
			415V	-
		1P+N/2P	127V	-
			240V	-
			415V	-
		2P	415V	-
			440V	-
		3P, 4P	240V	-
			415V	-
Ics (service)			-	75% Icu
NEMA AB1 (120/240V)			-	20
<b>Short-circuit capacity DC (kA)</b>				
EN/IEC 60947-2	Icu (ultimate)	1P	≤60Vdc	-
			≤220Vdc	-
		2P	≤125Vdc	-
Ics (service)			-	25
			-	-
			-	100% Icu
Page			A.13	A.14

Characteristics according to EN/IEC 60898-1

Miniature Circuit Breakers (MCB) are intended for the protection of wiring installations against both overloads and short-circuits in domestic or commercial wiring installations where operation is possible by uninstructed people.



Magnetic release

An electromagnet with plunger ensures instantaneous tripping in the event of short-circuit. The standard distinguishes three different types, following the current for instantaneous release: type B,C,D.

Icn (A)	Test current	Tripping time	Applications
B	3 x In	0.1 < t < 45s (In ≤ 32A) 0.1 < t < 90s (In > 32A)	Only for resistive loads such as: - electrical heating - water heater - stoves
	5 x In	t < 0.1s	
C	5 x In	0.1 < t < 15s (In ≤ 32A) 0.1 < t < 30s (In > 32A)	Usual loads such as: - lighting - socket-outlets - small motors
	10 x In	t < 0.1s	
D	10 x In	0.1 < t < 4s <sup>(1)</sup> (In ≤ 32A) 0.1 < t < 8s (In > 32A)	Control and protection of circuits having important transient inrush currents
	20 x In	t < 0.1s	

(1) if In ≤ 10A, t < 8s

Thermal release

The release is initiated by a bimetal strip in case of overload. The standard defines the range of releases for specific overload values. Reference ambient temperature is 30°C.

Test current	Tripping time
1.13 x In	t ≥ 1h (In ≤ 63A) t ≥ 2h (In > 63A)
1.45 x In	t < 1h (In ≤ 63A) t < 2h (In > 63A)
2.55 x In	1s < t < 60s (In ≤ 32A) 1s < t < 120s (In > 32A)



EP100 EP100R / EP100T	EP250	EP250 M	EP100 UC / EP100 UCR	Hti
10	-	-	6 (220Vdc) <sup>(2)</sup>	-
10	-	-	-	-
10	-	-	6 (440Vdc) <sup>(3)</sup>	-
10	-	-	-	-
75% Icn	-	-	100% Icn	-
30	50	-	-	-
15	50/25/20/15 <sup>(1)</sup>	-	6 <sup>(5)</sup>	B/C 10; D 7.5
4	-	-	-	4.5
40	-	-	-	-
30	50/50/40/30 <sup>(1)</sup>	50/40/30 <sup>(6)</sup>	-	B/C 15
15	50/25/20/15 <sup>(1)</sup>	25/20/15 <sup>(6)</sup>	6 <sup>(5)</sup>	B/C 10; D 7.5
30	50/50/40/30 <sup>(1)</sup>	50/40/30 <sup>(6)</sup>	-	B/C 15
15	50/25/20/15 <sup>(1)</sup>	25/20/15 <sup>(6)</sup>	-	B/C 10; D 7.5
10	50/20/15/10 <sup>(1)</sup>	20/15/10 <sup>(6)</sup>	-	-
50% Icu	50% Icu	50% Icu	-	100% Icu
30	-	-	-	-
25	25	-	-	10
-	-	-	10 <sup>(4)</sup>	-
30	30	30	20 <sup>(4)</sup>	15
-	-	-	10 <sup>(4)</sup>	-
100% Icu	100% Icu	100% Icu	-	100% Icu
A.16/A.34/A.38	A.18	A.20	A.22/A.36	A.24

(1) 0.5-4A/6-25A/32-40A/50-63A  
 (2) 10 (125Vdc)  
 (3) 10 (250Vdc)

(4) T = 4ms  
 (5) 4.5kA for 50A & 63A  
 (6) ≤25A/40A/63A

## Characteristics according to EN/IEC 60947-2

### Magnetic release

An electromagnet with plunger ensures instantaneous tripping in the event of short-circuit. The standard leaves the calibration of magnetic release to the manufacturer's discretion.

GE offers instantaneous tripping ranges:

- B: 4 In
- C: 8.5 In (7.5 In for 63A)
- D and M: 14 In
- K: 10 In (6 In ≥ 2 s.)

### Thermal release

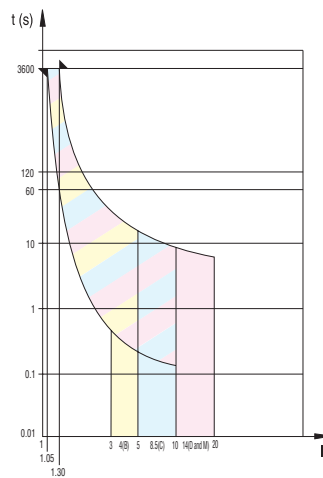
The release is initiated by a bimetal strip in case of overload. The standard defines the range of releases for two special overload values.

Reference ambient temperature is:

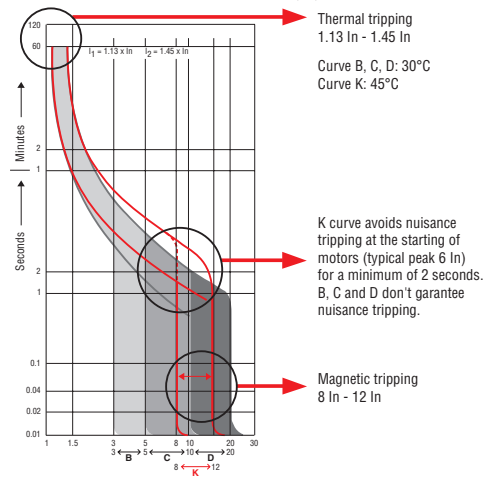
- 50°C for EP60 and EP100, except for K: 45°C

Test current		Tripping time
B - C - D	K	
1.05 x In	1.13 x In	t ≥ 1h (In ≤ 63A) t ≥ 2h (In > 63A)
1.30 x In	1.45 x In	t < 1h (In ≤ 63A) t < 2h (In > 63A)

Tripping characteristic curves (EN/IEC 60947-2)



Curve K (EN/IEC 60947-2) versus B,C,D (EN/IEC 60898-1)



MCB'S

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Technical data of MCB's

Circuit protection

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Series		EP60 UL	EP100 UL	EP100 ULH
<b>Standards UL 1077 (recognized) &amp; CSA C22.2</b>		yes	yes	-
<b>Standards UL 489 (listed)</b>		-	-	yes
UL file		E151139	E151139	E256870
CSA file		235-04	235-04	-
Nominal voltage acc. UL & CSA	1P	277Vac/50Vdc	277Vac/50Vdc	120Vac/50Vdc
	2P	480Vac/110Vdc	480Vac/110Vdc	240Vac/110Vdc
	3P	480Vac/110Vdc	480Vac/110Vdc	240Vac/110Vdc
	4P	480Vac/110Vdc	480Vac/110Vdc	-
Reference temperature	°C	25	25	25
Terminal capacity	60/75°C	14-4 AWG	14-4 AWG	14-8 AWG
Torque	N.m/lbs.in	2.5/22.5	2.5/22.5	2.5/22.5
<b>Standards EN/IEC 60947-2</b>		yes	yes	yes
Tripping characteristics		B,C,D	B,C,D	B,C,D
Nominal current	A	B 6-63, C/D 0.5-63	B 6-63, C/D 0.5-63	B 5-32, C/D 0.5-32
Calibration temperature	°C	50	50	50
Number of poles		1/2/3/4	1/2/3/4	1/2/3
Number of modules		1,2,3,4	1,2,3,4	1,2,3
Nominal voltage Un				
	AC 1P	V 230/400	230/400	230/400
	1P+N	V -	-	-
	2P	V 400	400	400
	3P	V 400	400	400
	3P+N/4P	V 400	400	400
	DC 1P <sup>(1)</sup>	Vdc 48	48	48
	2P (in series) <sup>(1)</sup>	Vdc 110	110	110
Frequency	Hz	50/60	50/60	50/60
Maximum service voltage U <sub>bmax</sub> between two wires	V	250/440; 53/120Vdc	250/440; 53/120Vdc	250/440; 53/120Vdc
Minimum service voltage U <sub>bmin</sub>	V	12Vac/12Vdc	12Vac/12Vdc	12Vac/12Vdc
Selectivity class (EN/IEC 60898)		3	3	3
Isolator application	EN/IEC 60947-2	yes	yes	yes
Rated insulation voltage	Pollution degree 2	V 500	500	500
	Pollution degree 3	V 440	440	440
Impulse withstand test voltage	kV	6	6	6
Insulation resistance	MΩ	10000	10000	10000
Dielectric rigidity	kV	2.5	2.5	2.5
Mounting position		Any	Any	Any
Incoming top or bottom		Any	Any	Any
Vibrations resistance (in x, y, z direction) (EN/IEC 77/16.3)		3g	3g	3g
Endurance	electrical at U <sub>n</sub> , I <sub>n</sub>	10000	10000	10000
	mechanical	20000	20000	20000
Utilisation category (EN/IEC 60947-2)		A	A	A
Protection distance (EN/IEC 60947-2)	mm	12	12	12
Protection degree (outside / inside enclosure with door)		IP20/IP40	IP20/IP40	IP20/IP40
Self-extinguish degree (according to UL94)		V0	V0	V0
Tropicalisation (according to EN/IEC 60068-2 / DIN 40046)	°C/RH	+55°C / 95%RH	+55°C / 95%RH	+55°C / 95%RH
Operating temperature	°C	-25/+55	-25/+55	-25/+55
Storage temperature	°C	-55/+55	-55/+55	-55/+55
Terminal capacity				
	Rigid cable min/max (top)	mm <sup>2</sup> 1/35	1/35	1/35
	Flexible cable min*/max (top)	mm <sup>2</sup> 0.75/25	0.75/25	0.75/25
	Rigid cable min/max (bottom)	mm <sup>2</sup> 1/35	1/35	1/35
	Flexible cable min*/max (bottom)	mm <sup>2</sup> 0.75/25	0.75/25	0.75/25
	(* Flexible cable 0.75/1/1.5 mm <sup>2</sup> with cable lug)			
	Torque	Nm max 4.5	max 4.5	max 4.5
Add-on devices	Auxiliary contacts	yes	yes	yes
(side add-on)	Tele L	yes	yes	yes
	Tele MP	yes	yes	yes
Dimensions (HxDxW) 86x68xW <sup>(2)</sup>	mm/mod.	18	18	18
Weight/mod.	g	125	125	130
Package	mod.	see page A.37	see page A.39	see page A.41
Approvals		UL/CSA/VDE	UL/CSA/VDE	UL
CE-marking		yes	yes	yes
Page		A.28	A.30	A.32

(1) Preferred values of rated control supply voltage (EN/IEC 60947-2): 24Vdc, 48Vdc, 110Vdc, 125Vdc, 220Vdc, 250Vdc  
 (2) EP100ULH executions 2P & 3P: H = 116 mm





### Short-circuit capacity of MCB's

Series		EP60 UL	EP100 UL	EP100 ULH
<b>Interrupting capacity acc. to</b>		UL1077	UL1077	UL489
UL	1P 277Vac	6	10	-
	2P/3P/4P 480Vac	6	10	-
	1P 120Vac	6	10	10
	2P/3P 240VAc	6	10	10
	1P 50Vdc	6	10	10
	2P 110Vdc	6	10	10
<b>Short-circuit capacity AC</b>				
EN/IEC 60947-2	<b>Icu (ultimate) kA</b>			
	1 P 127V	20	30	30
	240V	10	15	15
	415V	3	4	4
	1+N /2P 127V	30	40	40
	240V	20	30	30
	2 P 415V	10	15	15
	3/3+N/4P 240V	20	30	30
	415V	10	15	15
	440V	6	10	10
	<b>Ics (service)</b>	75% Icu	50% Icu	50% Icu
	<b>Short-circuit capacity DC</b>			
EN/IEC 60947-2	<b>Icu (ultimate) kA</b>			
	1 P ≤ 60Vdc	20	25	25
	≤ 220Vdc	-	-	-
	2 P ≤ 125Vdc	25	30	30
	≤ 440Vdc	-	-	-
<b>Ics (service)</b>	100%Icu	100%Icu	10%Icu	
Page		A.28	A.30	A.32

MCB's

A

B

C

D

E

F

X

## Characteristics according to EN/IEC 60947-2

#### Magnetic release

An electromagnet with plunger ensures instantaneous tripping in the event of short-circuit. The standard leaves the calibration of magnetic release to the manufacturer's discretion.

GE offers instantaneous tripping ranges:

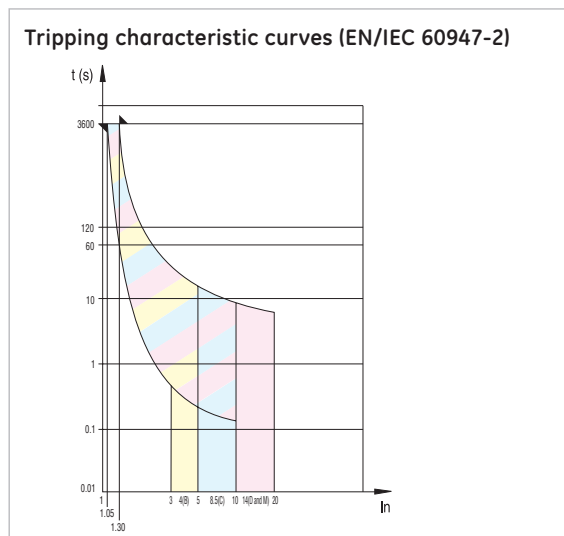
- B: 4 I<sub>n</sub>
- C: 8.5 I<sub>n</sub> (7.5 I<sub>n</sub> for 63A)
- D: 14 I<sub>n</sub>

#### Thermal release

The release is initiated by a bimetal strip in case of overload. The standard defines the range of releases for two special overload values.

Reference ambient temperature is 50°C

Test current	Tripping time
B - C - D 1.05 x I <sub>n</sub>	t ≥ 1h (I <sub>n</sub> ≤ 63A) t ≥ 2h (I <sub>n</sub> > 63A)
1.30 x I <sub>n</sub>	t < 1h (I <sub>n</sub> ≤ 63A) t < 2h (I <sub>n</sub> > 63A)



## Back-up protection (association)

### Downstream: MCB's - Upstream: MCB's

ElfaPlus		U 230V					
Downstream MCB		Upstream MCB (kA)					
Types	In (A)	EP60 & EPP60	EP100 & EPP100	EP250	EP250M	GT25	Hti
		0.5-63	0.5-63	< 32	32-40	50-63	80-125
EP60	0.5-63	-	20	22	22	22	-
EP100	0.5-63	-	-	50	35	30	-
EPC 61N - EPC60	2-40	25	30	30	30	30	-
DM60	4-40	15	15	15	15	15	-
DM100	4-10	15	15	15	15	15	-
	16-20	15	20	20	20	20	-
	25-40	15	20	22	22	22	-

### Record Plus™ MCCB's at 220/240V AC

Upstream / Downstream		MCCB's Record Plus™																													
		Icu In (kA)	FD160/160C	FD160/160E	FD160/160S	FD160/160N	FD160/160H	FD160/160L	FE160N	FE160H	FE160L	FE150V	FE250N	FE250H	FE250L	FG400N	FG400H	FG400L	FG630N	FG630H	FG630L	FK800N	FK800H	FK800L	FK1250N	FK1250H	FK1250L	FK1600N	FK1600H		
		Icu of the combination (kA)																													
<b>ElfaPlus</b>																															
EPC 61N / EPC 60	10	16	20	23	23	23	20	20	20	16	16	16	16	16	16	16	16	16	14	14	14	-	-	-	-	-	-	-	-	-	
DP(A) 60	10	22	25	30	36	85	85	36	85	85	30	36	65	65	16	16	16	14	14	14	-	-	-	-	-	-	-	-	-	-	
DPE100	10	18	22	25	25	25	25	22	22	22	18	18	18	18	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	
DP(A)100 & DPT 100	15	25	36	42	50	100	100	42	100	100	30	36	65	65	18	18	18	16	16	16	-	-	-	-	-	-	-	-	-	-	
EP60 & EPP60	20	25	36	42	50	100	100	50	100	100	36	42	85	85	22	22	22	18	18	18	-	-	-	-	-	-	-	-	-	-	
EP100 & EPP100	30	-	42	50	65	100	100	65	100	100	42	50	85	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EP250	50	-	-	-	65	100	100	65	100	100	-	65	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32 & 40A	40	-	-	50	65	100	100	65	100	100	42	50	85	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50 & 63A	30	-	42	50	65	100	100	65	100	100	42	50	85	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Series Hti</b>		15	22	36	42	50	100	100	50	100	100	36	42	80	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Surion</b>																															
GPS1BS	<16A	100	-	-	-	-	150	-	-	150	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GPS1BS	>16A	50	-	-	-	85	100	150	-	100	150	-	-	100	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GPS1BH	all	100	-	-	-	-	150	-	-	150	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GPS2BS	<16A	100	-	-	-	-	150	-	-	150	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GPS2BS	>16A	50	-	-	-	85	100	150	-	100	150	-	-	100	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GPS2BH	all	100	-	-	-	-	150	-	-	150	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Record Plus™</b>																															
FD160/160C	18	-	30	36	42	50	65	42	50	65	36	42	50	65	42	50	65	42	50	65	-	-	-	-	-	-	-	-	-	-	
FD160/160E	36	-	-	50	65	85	100	65	85	100	50	65	85	100	65	85	100	65	85	100	-	-	-	-	-	-	-	-	-	-	-
FD160/160S	50	-	-	-	85	100	-	85	100	-	-	85	100	-	85	100	-	85	100	-	-	-	-	-	-	-	-	-	-	-	-
FD160/160N	85	-	-	-	-	100	200	-	100	200	-	-	100	200	-	100	200	-	100	200	80	100	150	80	100	150	80	100	150	80	100
FD160/160H	100	-	-	-	-	-	200	-	200	-	-	200	-	200	-	200	-	200	-	200	80	100	150	80	100	150	80	100	150	80	100
FE160N	85	-	-	-	-	-	-	-	100	200	-	-	100	200	-	100	200	-	100	200	80	100	150	80	100	150	80	100	150	80	100
FE160H	100	-	-	-	-	-	-	-	200	-	-	200	-	200	-	200	-	200	-	200	100	150	80	100	150	80	100	150	80	100	150
FE250N	85	-	-	-	-	-	-	-	-	-	-	-	100	200	-	100	200	-	100	200	80	100	150	80	100	150	80	100	150	80	100
FE250H	100	-	-	-	-	-	-	-	-	-	-	-	-	200	-	200	-	200	-	200	80	100	150	80	100	150	80	100	150	80	100
FG400N	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	200	-	100	200	80	100	150	80	100	150	80	100	150	80	100
FG400H	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	200	-	200	80	100	150	80	100	150	80	100	150	80	100
FG630N	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	200	80	100	150	80	100	150	80	100	150	80	100
FG630H	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	80	100	150	80	100	150	80	100	150	80	100
FK800N	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	150	80	100	150	80	100	150	80	100
FK800H	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	170	80	100	170	80	100	170	80	100	170
FK1250N	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	170	80	100	170	80	100	170	80	100
FK1250H	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	170	80	100	170	80	100	170	80	100	170

Circuit protection

A

B

C

D

E

F

X



Record Plus™ MCCB's at 400/415V AC

Upstream / Downstream		MCCB's Record Plus™																												
		Icu In (kA)	FD160/160C	FD160/160E	FD160/160S	FD160/160N	FD160/160H	FD160/160L	FE160N	FE160H	FE160L	FE250V	FE250N	FE250H	FE250L	FG400N	FG400H	FG400L	FG630N	FG630H	FG630L	FK800N	FK800H	FK800L	FK1250N	FK1250H	FK1250L	FK1600N	FK1600H	
		Icu of the combination (kA)																												
<b>ElfaPlus</b>																														
EPC60		10	16	20	23	25	34	40	28	34	40	20	25	30	32	15	15	15	10	10	10									
EP60		10	18	22	25	30	36	42	30	36	42	22	30	36	36	16	16	16	12	12	12									
EP100		15	18	25	30	36	42	50	36	42	50	25	30	36	36	22	22	22	16	16	16									
EP250	≤25A	25	-	-	36	42	50	65	42	50	65	-	36	42	42	-	-	-	-	-	-									
	32 & 40A	20	-	-	30	36	42	50	36	42	50	-	36	42	42	-	-	-	-	-	-									
	50 & 63A	15	18	25	30	36	42	50	36	42	50	25	30	36	36	-	-	-	-	-	-									
		10	15	18	25	30	36	42	30	36	42	18	30	36	36	-	-	-	-	-	-									
<b>Series Hti</b>																														
<b>Surion</b>																														
GPS1B/MS	≤10A	100	-	-	-	-	-	150	-	-	150	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS1B/MS	12.5A	50	-	-	-	-	80	150	-	80	150	-	-	80	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS1B/MS	≥16A	25	-	-	-	42	50	65	42	50	65	-	42	50	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS1B/MH	≤12.5A	100	-	-	-	-	-	150	-	-	150	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS1B/MH	>12.5A	50	-	-	-	-	80	150	-	80	150	-	-	80	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS2B/MS	10A	100	-	-	-	-	-	150	-	-	150	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS2B/MS	>10A	25	-	-	-	42	50	65	42	50	65	-	42	50	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS2B/MH	10A	100	-	-	-	-	-	150	-	-	150	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS2B/MH	>10A	50	-	-	-	-	80	150	-	80	150	-	-	80	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Record Plus™</b>																														
FD160/160C		18	-	22	25	30	36	42	30	36	42	22	30	36	42	30	36	42	30	36	42	-	-	-	-	-	-	-	-	-
FD160/160E		25	-	-	30	36	42	50	36	42	50	-	36	42	50	36	42	50	36	42	50	-	-	-	-	-	-	-	-	-
FD160/160S		36	-	-	-	42	50	65	42	50	65	-	42	50	65	42	50	65	42	50	65	-	-	-	-	-	-	-	-	-
FD160/160N		50	-	-	-	-	80	150	-	80	150	-	-	80	150	-	80	150	-	80	150	-	80	100	-	80	100	-	80	100
FD160/160H		80	-	-	-	-	-	150	-	-	150	-	-	-	150	-	-	150	-	-	150	-	100	-	100	-	100	-	100	-
FE160N		50	-	-	-	-	-	-	80	150	-	-	80	150	-	80	150	-	80	150	-	80	100	-	80	100	-	80	100	-
FE160H		80	-	-	-	-	-	-	-	150	-	-	-	150	-	-	150	-	-	150	-	100	-	100	-	100	-	100	-	100
FE250N		50	-	-	-	-	-	-	-	-	-	-	-	80	150	-	80	150	-	80	150	-	80	100	-	80	100	-	80	100
FE250H		80	-	-	-	-	-	-	-	-	-	-	-	-	150	-	-	150	-	-	150	-	100	-	100	-	100	-	100	-
FG400N		50	-	-	-	-	-	-	-	-	-	-	-	-	-	80	150	-	80	150	-	80	100	-	80	100	-	80	100	-
FG400H		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150	-	-	150	-	100	-	100	-	100	-	100	-	100
FG630N		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	150	-	80	100	-	80	100	-	80	100	-
FG630H		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150	-	100	-	100	-	100	-	100	-	100
FK800N		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	-	80	100	-	80	100	-	80
FK800H		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	100	-	100	-	100	-	100
FK1250N		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	-	80	100	-	80	100	-
FK1250H		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	100	-	100	-	100	-	100

MCCB'S

A

B

C

D

E

F

X



Selectivity

Record Plus™ MCCB's

Circuit protection

A

B

C

D

E

F

X

Upstream	Downstream	In (A)	MCCB's Record Plus™																			
			FDC & FDE 63/160 LTM					FDS 63/160 LTMD					FDN, H & L 63/160 LTMD									
			40	50	63	80	100	125	160	40	50	63	80	100	125	160	40	50	63	80	100	125
Selectivity limit (kA) <sup>(1)</sup>																						
ElfaPlus EPC60 & DME60 B/C curve	≥16	0.6	2.5	6	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	20	0.6	2.5	3	6	T	T	3.5	T	T	T	T	T	T	3.5	T	T	T	T	T	T	T
	25	-	0.8	1.2	6	6	T	1.6	3.5	T	T	T	T	T	1.6	3.5	T	T	T	T	T	T
	32	-	-	1.2	3	6	T	6	-	-	T	T	T	T	-	-	T	T	T	T	T	T
	40	-	-	-	3	4	6	-	-	-	T	T	T	T	-	-	-	-	T	T	T	T
ElfaPlus DM60 DME100 B/C curve	≤16	0.6	2.5	6	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	20	0.6	2.5	3	6	8	T	3.5	T	T	T	T	T	T	3.5	T	T	T	T	T	T	T
	25	-	0.8	1.2	6	6	T	1.6	3.5	T	T	T	T	T	1.6	3.5	T	T	T	T	T	T
	32	-	-	1.2	3	6	8	-	-	10	T	T	T	T	-	-	10	T	T	T	T	T
	40	-	-	-	3	4	6	-	-	-	T	T	T	T	-	-	-	-	T	T	T	T
ElfaPlus EP60 DM100 B/C curve	≤16	0.6	2.5	6	6	10	T	10	10	T	T	T	T	10	10	T	T	T	T	T	T	T
	20	0.6	2.5	3	6	8	T	3.5	10	T	T	T	T	3.5	10	T	T	T	T	T	T	T
	25	-	0.8	1.2	6	6	T	1.6	3.5	T	T	T	T	1.6	3.5	T	T	T	T	T	T	T
	32	-	-	1.2	3	6	8	-	-	10	T	T	T	T	-	-	10	10	T	T	T	T
	40	-	-	-	3	4	6	-	-	-	10	T	T	T	-	-	-	-	10	10	T	T
ElfaPlus EP100 EP250 B/C curve	≤16	0.6	2.5	6	6	10	T	10	10	T	T	T	T	10	10	T	T	T	T	T	T	T
	20	0.6	2.5	3	6	8	T	3.5	10	T	T	T	T	3.5	10	T	T	T	T	T	T	T
	25	-	0.8	1.2	6	6	T	1.6	3.5	15	T	T	T	1.6	3.5	15	T	T	T	T	T	T
	32	-	-	1.2	3	6	8	-	-	6	10	T	T	-	-	6	10	T	T	T	T	T
	40	-	-	-	3	4	6	-	-	-	10	15	T	-	-	-	-	10	15	T	T	T
Hti C curve	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100	-	-	-	-	-	19	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	2.5
	125	-	-	-	-	-	19	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	2.5
Surion GPS1BS & GPS1MS GPS2BS & GPS2MS	≤20	0.6	2.5	6	6	10	T	10	10	T	T	T	T	10	10	T	T	T	T	T	T	T
	25	-	1	1.2	6	6	T	-	3.5	15	15	T	T	-	3.5	15	15	T	T	T	T	T
	32	-	-	1.2	3	6	10	-	-	6	6	T	T	-	-	6	6	T	T	T	T	T
	40	-	-	-	3	4	6	-	-	-	6	T	T	-	-	-	-	6	6	T	T	T
	50	-	-	-	1.2	1.6	6	-	-	-	3.5	T	T	-	-	-	-	3.5	T	T	T	T
Surion GPS1BH & GPS1MH GPS2BH & GPS2MH	≤20	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	25	-	2.5	15	15	T	T	-	3.5	T	T	T	T	-	3.5	T	T	T	T	T	T	T
	32	-	-	6	6	8	T	-	-	T	T	T	T	-	-	T	T	T	T	T	T	T
	40	-	-	-	6	8	T	-	-	T	T	T	T	-	-	T	T	T	T	T	T	T
	50	-	-	-	6	6	T	-	-	-	3.5	T	T	-	-	-	-	3.5	T	T	T	T
Record Plus™ FD160/160E LTM	≤25	0.4	0.5	0.6	0.8	1	1.3	0.6	0.8	0.9	1.2	1.5	3.5	0.6	0.8	0.9	1.2	1.5	3.5	0.6	0.8	0.9
	32	-	0.5	0.6	0.8	1	1.3	-	0.8	0.9	1.2	1.5	3.5	-	0.8	0.9	1.2	1.5	3.5	-	0.8	0.9
	40	-	-	-	0.8	1	1.3	-	-	-	1.2	1.5	3.5	-	-	-	-	1.2	1.5	3.5	-	-
	50	-	-	-	0.8	1	1.3	-	-	-	1.2	1.5	3.5	-	-	-	-	1.2	1.5	3.5	-	-
	63	-	-	-	-	1	1.3	-	-	-	-	1.5	3.5	-	-	-	-	-	1.5	3.5	-	-
80	-	-	-	-	-	1.3	-	-	-	-	-	3.5	-	-	-	-	-	-	3.5	-	-	-

(1) T = Full selectivity until the Icu of the downstream device.  
 Remark: For MCCB's with D curve assume a C curve type with a one step higher rating.  
 Example: Selectivity FD160 80Amp LTM with downstream C curve 40A MCCB = 3kA, for D curve 40A, take the value mentioned for 50A C curve, here 1.2kA.



## Miniature Circuit Breakers

### DG61

EN/IEC 60898-1 6000  
3



### Applications



### Marking



### Performances

Current rating	(A)	6-50
Voltage		240V 50Hz
Minimum operating voltage $U_{B \min}$	(V)	12
Tripping characteristics		B-C
Selectivity class		3
Mechanical/electrical endurance		20000/10000
Tropicalisation acc.to EN/IEC 60068-2		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	25
Poles		1
Weight	(g/pole)	115

### Series DG - characteristic B & C - 6kA



**NEW**  
Domestic Range

In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DG61B06	690722	DG61C06	690553	12
10	DG61B10	690723	DG61C10	690554	12
16	DG61B16	690724	DG61C16	690555	12
20	DG61B20	690725	DG61C20	690556	12
25	DG61B25	690726	DG61C25	690557	12
32	DG61B32	690727	DG61C32	690558	12
40	DG61B40	690728	DG61C40	690559	12
50	DG61B50	690729	DG61C50	690560	12





## Miniature Circuit Breakers

### EP60

EN/IEC 60898-1	6000
	3
EN/IEC 60947-2	10kA

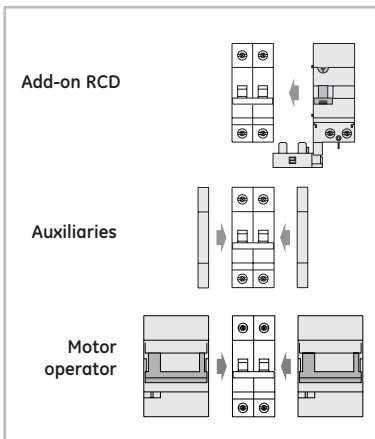
### Applications



### Approvals / Marking



### Add-on devices



- Add-on RCD ● pg B.14
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Accessories ● pg A.42
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg A.68

### Performances

Thermal setting $I_n$	(A)	0.5-63
Rated voltage AC $U_n$	(V)	240/415
Minimum operating voltage $U_{B\ min}$	(V)	12
Tripping characteristics		B-C-D-K
Selectivity class		3
Mechanical/electrical endurance		20000/10000
Tropicalisation acc.to EN/IEC 60068-2		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	25-35
Poles		1, 1+N, 2, 3, 4
Weight	(g/pole)	125

### Short-circuit capacity

#### AC acc. to EN/IEC 60898-1

Poles	V	$I_{cn}/I_{cs}$ (kA)
1-4	240/415	6

#### AC acc. to EN/IEC 60947-2

Poles	V	$I_{cu}$ (kA) <sup>(1)</sup>
1	240	10
1+N, 2	127	30
	240	20
2	415	10
3, 4	240	20
	415	10

#### DC acc. to EN/IEC 60947-2

Poles	Vdc	$I_{cu}/I_{cs}$ (kA)
1	60	20
2	125	25






(1)  $I_{cs} = 75\% I_{cu}$

Compact MCB's 6 kA, see page A.54  
Screwless MCB's 6 kA, see page A.64





Series EP60 - 6kA - characteristics B-C-D-K

	In (A)	B		C		D		K		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
	0.5	-	-	EP61 C0.5	672036	EP61 D0.5	566526	EP61K0.5	681600	1/12
	1	-	-	EP61 C01	672037	EP61 D01	566527	EP61K01	681601	1/12
	1.6	-	-	-	-	-	-	EP61K1.6	681602	1/12
	2	-	-	EP61 C02	672038	EP61 D02	566528	EP61K02	681603	1/12
	3	-	-	EP61 C03	672039	EP61 D03	566529	EP61K03	681604	1/12
	4	-	-	EP61 C04	672040	EP61 D04	566530	EP61K04	681605	1/12
	6	EP61 B06	674265 <sup>(1)</sup>	EP61 C06	672041	EP61 D06	566531	EP61K06	681606	1/12
	8	-	-	-	-	-	-	EP61K08	681607	1/12
	10	EP61 B10	674266 <sup>(1)</sup>	EP61 C10	672043	EP61 D10	566532	EP61K10	681608	1/12
	16	EP61 B16	674267 <sup>(1)</sup>	EP61 C16	672045	EP61 D16	566534	EP61K16	681609	1/12
	20	EP61 B20	674268 <sup>(1)</sup>	EP61 C20	672046	EP61 D20	566535	EP61K20	681610	1/12
	25	EP61 B25	674269 <sup>(1)</sup>	EP61 C25	672047	EP61 D25	566536	EP61K25	681611	1/12
	32	EP61 B32	674270 <sup>(1)</sup>	EP61 C32	672048	EP61 D32	566537	EP61K32	681612	1/12
	40	EP61 B40	674271 <sup>(1)</sup>	EP61 C40	672049	EP61 D40	566538	EP61K40	681613	1/12
50	EP61 B50	674272 <sup>(1)</sup>	EP61 C50	672050	EP61 D50	566539	EP61K50	681614	1/12	
63	EP61 B63	674273 <sup>(1)</sup>	EP61 C63	672051	EP61 D63	566540	EP61K63	681615	1/12	
	0.5	-	-	EP61N C0.5	672052	EP61N D0.5	566686	-	-	1/6
	1	-	-	EP61N C01	672053	EP61N D01	566687	-	-	1/6
	2	-	-	EP61N C02	672054	EP61N D02	566688	-	-	1/6
	3	-	-	EP61N C03	672055	EP61N D03	566689	-	-	1/6
	4	-	-	EP61N C04	672056	EP61N D04	566690	-	-	1/6
	6	EP61N B06	672137	EP61N C06	672057	EP61N D06	566691	-	-	1/6
	10	EP61N B10	672139	EP61N C10	672059	EP61N D10	566693	-	-	1/6
	16	EP61N B16	672141	EP61N C16	672061	EP61N D16	566694	-	-	1/6
	20	EP61N B20	672142	EP61N C20	672062	EP61N D20	566695	-	-	1/6
	25	EP61N B25	672143	EP61N C25	672063	EP61N D25	566696	-	-	1/6
	32	EP61N B32	672144	EP61N C32	672064	EP61N D32	566697	-	-	1/6
	40	EP61N B40	672145	EP61N C40	672065	EP61N D40	566698	-	-	1/6
	50	EP61N B50	672146	EP61N C50	672066	EP61N D50	566699	-	-	1/6
	63	EP61N B63	672147	EP61N C63	672067	EP61N D63	566700	-	-	1/6
	0.5	-	-	EP62 C0.5	672068	EP62 D0.5	566566	EP62K0.5	681616	1/6
	1	-	-	EP62 C01	672069	EP62 D01	566567	EP62K01	681617	1/6
	1.6	-	-	-	-	-	-	EP62K1.6	681618	1/6
	2	-	-	EP62 C02	672070	EP62 D02	566568	EP62K02	681619	1/6
	3	-	-	EP62 C03	672071	EP62 D03	566569	EP62K03	681620	1/6
	4	-	-	EP62 C04	672072	EP62 D04	566570	EP62K04	681621	1/6
	6	EP62 B06	672153	EP62 C06	672073	EP62 D06	566571	EP62K06	681622	1/6
	8	-	-	-	-	-	-	EP62K08	681623	1/6
	10	EP62 B10	672155	EP62 C10	672075	EP62 D10	566572	EP62K10	681624	1/6
	16	EP62 B16	672157	EP62 C16	672077	EP62 D16	566574	EP62K16	681625	1/6
	20	EP62 B20	672158	EP62 C20	672078	EP62 D20	566575	EP62K20	681626	1/6
	25	EP62 B25	672159	EP62 C25	672079	EP62 D25	566576	EP62K25	681627	1/6
	32	EP62 B32	672160	EP62 C32	672080	EP62 D32	566577	EP62K32	681628	1/6
	40	EP62 B40	672161	EP62 C40	672081	EP62 D40	566578	EP62K40	681629	1/6
50	EP62 B50	672162	EP62 C50	672082	EP62 D50	566579	EP62K50	681630	1/6	
63	EP62 B63	672163	EP62 C63	672083	EP62 D63	566580	EP62K63	681631	1/6	
	0.5	-	-	EP63 C0.5	672084	EP63 D0.5	566606	EP63K0.5	681632	1/4
	1	-	-	EP63 C01	672085	EP63 D01	566607	EP63K01	681633	1/4
	1.6	-	-	-	-	-	-	EP63K1.6	681634	1/4
	2	-	-	EP63 C02	672086	EP63 D02	566608	EP63K02	681635	1/4
	3	-	-	EP63 C03	672087	EP63 D03	566609	EP63K03	681636	1/4
	4	-	-	EP63 C04	672088	EP63 D04	566610	EP63K04	681637	1/4
	6	EP63 B06	674274 <sup>(2)</sup>	EP63 C06	672089	EP63 D06	566611	EP63K06	681638	1/4
	8	-	-	-	-	-	-	EP63K08	681639	1/4
	10	EP63 B10	674275 <sup>(2)</sup>	EP63 C10	672091	EP63 D10	566612	EP63K10	681640	1/4
	16	EP63 B16	674276 <sup>(2)</sup>	EP63 C16	672093	EP63 D16	566614	EP63K16	681641	1/4
	20	EP63 B20	674277 <sup>(2)</sup>	EP63 C20	672094	EP63 D20	566615	EP63K20	681642	1/4
	25	EP63 B25	674278 <sup>(2)</sup>	EP63 C25	672095	EP63 D25	566616	EP63K25	681643	1/4
	32	EP63 B32	674279 <sup>(2)</sup>	EP63 C32	672096	EP63 D32	566617	EP63K32	681644	1/4
	40	EP63 B40	674280 <sup>(2)</sup>	EP63 C40	672097	EP63 D40	566618	EP63K40	681645	1/4
50	EP63 B50	674281 <sup>(2)</sup>	EP63 C50	672098	EP63 D50	566619	EP63K50	681646	1/4	
63	EP63 B63	674282 <sup>(2)</sup>	EP63 C63	672099	EP63 D63	566620	EP63K63	681647	1/4	
	0.5	-	-	EP64 C0.5	672100	EP64 D0.5	566646	EP64K0.5	681648	1/3
	1	-	-	EP64 C01	672101	EP64 D01	566647	EP64K01	681649	1/3
	1.6	-	-	-	-	-	-	EP64K1.6	681650	1/3
	2	-	-	EP64 C02	672102	EP64 D02	566648	EP64K02	681651	1/3
	3	-	-	EP64 C03	672103	EP64 D03	566649	EP64K03	681652	1/3
	4	-	-	EP64 C04	672104	EP64 D04	566650	EP64K04	681653	1/3
	6	EP64 B06	672185	EP64 C06	672105	EP64 D06	566651	EP64K06	681654	1/3
	8	-	-	-	-	-	-	EP64K08	681655	1/3
	10	EP64 B10	672187	EP64 C10	672107	EP64 D10	566652	EP64K10	681656	1/3
	16	EP64 B16	672189	EP64 C16	672109	EP64 D16	566654	EP64K16	681657	1/3
	20	EP64 B20	672190	EP64 C20	672110	EP64 D20	566655	EP64K20	681658	1/3
	25	EP64 B25	672191	EP64 C25	672111	EP64 D25	566656	EP64K25	681659	1/3
	32	EP64 B32	672192	EP64 C32	672112	EP64 D32	566657	EP64K32	681660	1/3
	40	EP64 B40	672193	EP64 C40	672113	EP64 D40	566658	EP64K40	681661	1/3
50	EP64 B50	672194	EP64 C50	672114	EP64 D50	566659	EP64K50	681662	1/3	
63	EP64 B63	672195	EP64 C63	672115	EP64 D63	566660	EP64K63	681663	1/3	

Remark: 3P+N (4 modules) on request.  
 (1) Pack.: 12  
 (2) Pack.: 4





## Miniature Circuit Breakers

### EP100

EN/IEC 60898-1	10000
	3
EN/IEC 60947-2	15kA

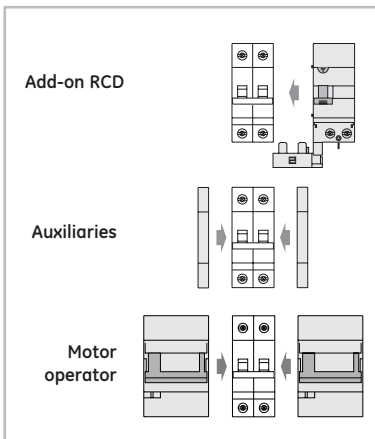
### Applications



### Approvals / Marking



### Add-on devices



- Add-on RCD ● pg B.14
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Accessories ● pg A.42
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg A.68

### Performances

Thermal setting $I_n$	(A)	0.5-63
Rated voltage AC $U_n$	(V)	240/415
Minimum operating voltage $U_{B\ min}$	(V)	12
Tripping characteristics		B-C-D-K, 8-12 $I_n$ and 6 $I_n$ non tripping $\leq 2$ sec.
Selectivity class		3
Mechanical/electrical endurance		20000/10000
Tropicalisation acc.to EN/IEC 60068-2		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	25-35
Poles		1, 1+N, 2, 3, 4
Weight	(g/pole)	125

### Short-circuit capacity

#### AC acc. to EN/IEC 60898-1

Poles	V	$I_{cn}$ (kA) <sup>(1)</sup>
1-4	240/415	10

#### AC acc. to EN/IEC 60947-2

Poles	V	$I_{cu}$ (kA) <sup>(2)</sup>
1	240	15
1+N, 2	127	40
	240	30
2	415	15
3, 4	240	30
	415	15

#### DC acc. to EN/IEC 60947-2

Poles	Vdc	$I_{cu}/I_{cs}$ (kA)
1	60	25
2	125	30






(1)  $I_{cs} = 75\% I_{cu}$

(2)  $I_{cs} = 50\% I_{cu}$

Screwless MCB's 10 kA, see page A.66



Series EP100 - 6kA - characteristics B-C-D-K

	In (A)	B		C		D		K		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
	0.5	-	-	EP101 C0.5	672242	EP101 D0.5	566766	EP101K0.5	672402	1/12
	1	-	-	EP101 C01	672243	EP101 D01	566767	EP101K01	672403	1/12
	1.6	-	-	-	-	-	-	EP101K1.6	681588	1/12
	2	-	-	EP101 C02	672244	EP101 D02	566768	EP101K02	672404	1/12
	3	-	-	EP101 C03	672245	EP101 D03	566769	EP101K03	672405	1/12
	4	-	-	EP101 C04	672246	EP101 D04	566770	EP101K04	672406	1/12
	6	EP101 B06	672327	EP101 C06	674283	EP101 D06	566771	EP101K06	672407	1/12
	8	-	-	-	-	-	-	EP101K08	672408	1/12
	10	EP101 B10	672329	EP101 C10	674284	EP101 D10	566772	EP101K10	672409	1/12
	16	EP101 B16	672331	EP101 C16	674285	EP101 D16	566774	EP101K16	672411	1/12
	20	EP101 B20	672332	EP101 C20	674286	EP101 D20	566775	EP101K20	672412	1/12
	25	EP101 B25	672333	EP101 C25	674287	EP101 D25	566776	EP101K25	672413	1/12
	32	EP101 B32	672334	EP101 C32	674288	EP101 D32	566777	EP101K32	672414	1/12
	40	EP101 B40	672335	EP101 C40	674289	EP101 D40	566778	EP101K40	672415	1/12
50	EP101 B50	672336	EP101 C50	674290	EP101 D50	566779	EP101K50	672416	1/12	
63	EP101 B63	672337	EP101 C63	674291	EP101 D63	566780	EP101K63	672417	1/12	
	0.5	-	-	EP101N C0.5	672258	-	-	-	-	1/6
	1	-	-	EP101N C01	672259	-	-	-	-	1/6
	2	-	-	EP101N C02	672260	-	-	-	-	1/6
	3	-	-	EP101N C03	672261	-	-	-	-	1/6
	4	-	-	EP101N C04	672262	-	-	-	-	1/6
	6	-	-	EP101N C06	672263	-	-	-	-	1/6
	10	-	-	EP101N C10	672265	-	-	-	-	1/6
	16	-	-	EP101N C16	672267	-	-	-	-	1/6
	20	-	-	EP101N C20	672268	-	-	-	-	1/6
	25	-	-	EP101N C25	672269	-	-	-	-	1/6
	32	-	-	EP101N C32	672270	-	-	-	-	1/6
	40	-	-	EP101N C40	672271	-	-	-	-	1/6
	50	-	-	EP101N C50	672272	-	-	-	-	1/6
	63	-	-	EP101N C63	672273	-	-	-	-	1/6
	0.5	-	-	EP102 C0.5	672274	EP102 D0.5	566806	EP102K0.5	672434	1/6
	1	-	-	EP102 C01	672275	EP102 D01	566807	EP102K01	672435	1/6
	1.6	-	-	-	-	-	-	EP102K1.6	681591	1/6
	2	-	-	EP102 C02	672276	EP102 D02	566808	EP102K02	672436	1/6
	3	-	-	EP102 C03	672277	EP102 D03	566809	EP102K03	672437	1/6
	4	-	-	EP102 C04	672278	EP102 D04	566810	EP102K04	672438	1/6
	6	EP102 B06	-	EP102 C06	672279	EP102 D06	566811	EP102K06	672439	1/6
	8	-	-	-	-	-	-	EP102K08	672440	1/6
	10	EP102 B10	672361	EP102 C10	672281	EP102 D10	566812	EP102K10	672441	1/6
	16	EP102 B16	672363	EP102 C16	672283	EP102 D16	566814	EP102K16	672443	1/6
	20	EP102 B20	672364	EP102 C20	672284	EP102 D20	566815	EP102K20	672444	1/6
	25	EP102 B25	672365	EP102 C25	672285	EP102 D25	566816	EP102K25	672445	1/6
	32	EP102 B32	672366	EP102 C32	672286	EP102 D32	566817	EP102K32	672446	1/6
	40	EP102 B40	672367	EP102 C40	672287	EP102 D40	566818	EP102K40	672447	1/6
50	EP102 B50	672368	EP102 C50	672288	EP102 D50	566819	EP102K50	672448	1/6	
63	EP102 B63	672369	EP102 C63	672289	EP102 D63	566820	EP102K63	672449	1/6	
	0.5	-	-	EP103 C0.5	672290	EP103 D0.5	566846	EP103K0.5	672450	1/4
	1	-	-	EP103 C01	672291	EP103 D01	566847	EP103K01	672451	1/4
	1.6	-	-	-	-	-	-	EP103K1.6	681594	1/4
	2	-	-	EP103 C02	672292	EP103 D02	566848	EP103K02	672452	1/4
	3	-	-	EP103 C03	672293	EP103 D03	566849	EP103K03	672453	1/4
	4	-	-	EP103 C04	672294	EP103 D04	566850	EP103K04	672454	1/4
	6	EP103 B06	672375	EP103 C06	674292	EP103 D06	566851	EP103K06	672455	1/4
	8	-	-	-	-	-	-	EP103K08	672456	1/4
	10	EP103 B10	672377	EP103 C10	674293	EP103 D10	566852	EP103K10	672457	1/4
	16	EP103 B16	672379	EP103 C16	674294	EP103 D16	566854	EP103K16	672459	1/4
	20	EP103 B20	672380	EP103 C20	674295	EP103 D20	566855	EP103K20	672460	1/4
	25	EP103 B25	672381	EP103 C25	674296	EP103 D25	566856	EP103K25	672461	1/4
	32	EP103 B32	672382	EP103 C32	674297	EP103 D32	566857	EP103K32	672462	1/4
	40	EP103 B40	672383	EP103 C40	674298	EP103 D40	566858	EP103K40	672463	1/4
50	EP103 B50	672384	EP103 C50	674299	EP103 D50	566859	EP103K50	672464	1/4	
63	EP103 B63	672385	EP103 C63	674300	EP103 D63	566860	EP103K63	672465	1/4	
	0.5	-	-	EP104 C0.5	672306	EP104 D0.5	566886	EP104K0.5	672466	1/3
	1	-	-	EP104 C01	672307	EP104 D01	566887	EP104K01	672467	1/3
	1.6	-	-	-	-	-	-	EP104K1.6	681597	1/3
	2	-	-	EP104 C02	672308	EP104 D02	566888	EP104K02	672468	1/3
	3	-	-	EP104 C03	672309	EP104 D03	566889	EP104K03	672469	1/3
	4	-	-	EP104 C04	672310	EP104 D04	566890	EP104K04	672470	1/3
	6	EP104 B06	672391	EP104 C06	672311	EP104 D06	566891	EP104K06	672471	1/3
	8	-	-	-	-	-	-	EP104K08	672472	1/3
	10	EP104 B10	672393	EP104 C10	672313	EP104 D10	566892	EP104K10	672473	1/3
	16	EP104 B16	672395	EP104 C16	672315	EP104 D16	566894	EP104K16	672475	1/3
	20	EP104 B20	672396	EP104 C20	672316	EP104 D20	566895	EP104K20	672476	1/3
	25	EP104 B25	672397	EP104 C25	672317	EP104 D25	566896	EP104K25	672477	1/3
	32	EP104 B32	672398	EP104 C32	672318	EP104 D32	566897	EP104K32	672478	1/3
	40	EP104 B40	672399	EP104 C40	672319	EP104 D40	566898	EP104K40	672479	1/3
50	EP104 B50	672400	EP104 C50	672320	EP104 D50	566899	EP104K50	672480	1/3	
63	EP104 B63	672401	EP104 C63	672321	EP104 D63	566900	EP104K63	672481	1/3	

Series EP100

A

B

C

D

E

F

X





## Miniature Circuit Breakers

### EP250

<b>EN/IEC 60947-2</b>	<b>50 kA</b>
	<b>25 kA</b>
	<b>20 kA</b>
	<b>15 kA</b>

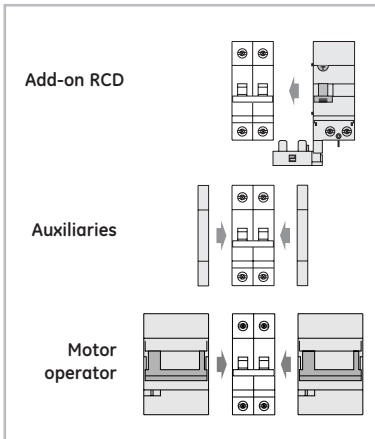
### Applications



### Marking



### Add-on devices



- Add-on RCD ● pg B.14
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Accessories ● pg A.42
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg A.68

### Performances

<b>Thermal setting <math>I_n</math></b>	(A) 0.5-63
<b>Rated voltage AC <math>U_n</math></b>	(V) 230/400
<b>Minimum operating voltage <math>U_{B \min}</math></b>	(V) 12
<b>Tripping characteristics</b>	3-5 $I_n$ (B) 5-10 $I_n$ (C)
<b>Mechanical/electrical endurance</b>	20000/10000
<b>Tropicalisation acc.to EN/IEC 60068-2</b>	95%RH at 55°C
<b>Terminal capacity flexible/rigid cable</b>	(mm <sup>2</sup> ) 25-35
<b>Poles</b>	1, 2, 3, 4
<b>Weight</b>	(g/pole) 125

### Short-circuit capacity

#### AC according to EN/IEC 60947-2

$I_n$ (A)	Poles	V	$I_{cu}$ (kA) <sup>(1)</sup>
0.5 to 4	1	240	50
	2-4	240	50
6 to 25	1	415	50
		240	25
	2-4	415	25
32 to 40	1	240	20
		240	40
	2-4	415	20
50 to 63	1	240	15
		240	30
	2-4	415	15






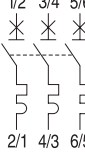

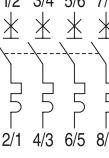
#### DC according to EN/IEC 60947-2

Poles	$U_n$ (Vdc) <sup>(2)</sup>	$I_{cu}$ (kA)/ $I_{cs}$ (kA)
1	60	25
2	125	30

(1)  $I_{cs} = 75\% I_{cu}$

(2) Nominal and maximum Vdc on page A.4-A.5

Series EP250 - 25kA - characteristics B-C

	In (A)	B		C		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 <p>1P 1 mod.</p> <p>1/2</p>  <p>2/1</p>	0.5	-	-	EP251 C0.5	667641	1/12
	1	-	-	EP251 C01	667642	1/12
	2	-	-	EP251 C02	667643	1/12
	4	-	-	EP251 C04	667645	1/12
	6	EP251 B06	667710	EP251 C06	667646	1/12
	10	EP251 B10	667712	EP251 C10	667648	1/12
	16	EP251 B16	667714	EP251 C16	667650	1/12
	20	EP251 B20	667715	EP251 C20	667651	1/12
	25	EP251 B25	667716	EP251 C25	667652	1/12
	32	EP251 B32	667717	EP251 C32	667653	1/12
	40	EP251 B40	667718	EP251 C40	667654	1/12
	50	EP251 B50	667719	EP251 C50	667655	1/12
	63	EP251 B63	667720	EP251 C63	667656	1/12
 <p>2P 2 mod.</p> <p>1/2 3/4</p>  <p>2/1 4/3</p>	0.5	-	-	EP252 C0.5	667657	1/6
	1	-	-	EP252 C01	667658	1/6
	2	-	-	EP252 C02	667659	1/6
	4	-	-	EP252 C04	667661	1/6
	6	EP252 B06	667726	EP252 C06	667662	1/6
	10	EP252 B10	667728	EP252 C10	667664	1/6
	16	EP252 B16	667730	EP252 C16	667666	1/6
	20	EP252 B20	667731	EP252 C20	667667	1/6
	25	EP252 B25	667732	EP252 C25	667668	1/6
	32	EP252 B32	667733	EP252 C32	667669	1/6
	40	EP252 B40	667734	EP252 C40	667670	1/6
	50	EP252 B50	667735	EP252 C50	667671	1/6
	63	EP252 B63	667736	EP252 C63	667672	1/6
 <p>3P 3 mod.</p> <p>1/2 3/4 5/6</p>  <p>2/1 4/3 6/5</p>	0.5	-	-	EP253 C0.5	667673	1/4
	1	-	-	EP253 C01	667674	1/4
	2	-	-	EP253 C02	667675	1/4
	4	-	-	EP253 C04	667677	1/4
	6	EP253 B06	667742	EP253 C06	667678	1/4
	10	EP253 B10	667744	EP253 C10	667680	1/4
	16	EP253 B16	667746	EP253 C16	667682	1/4
	20	EP253 B20	667747	EP253 C20	667683	1/4
	25	EP253 B25	667748	EP253 C25	667684	1/4
	32	EP253 B32	667749	EP253 C32	667685	1/4
	40	EP253 B40	667750	EP253 C40	667686	1/4
	50	EP253 B50	667751	EP253 C50	667687	1/4
	63	EP253 B63	667752	EP253 C63	667688	1/4
 <p>4P 4 mod.</p> <p>1/2 3/4 5/6 7/8</p>  <p>2/1 4/3 6/5 8/7</p>	0.5	-	-	EP254 C0.5	667689	1/3
	1	-	-	EP254 C01	667690	1/3
	2	-	-	EP254 C02	667691	1/3
	4	-	-	EP254 C04	667693	1/3
	6	EP254 B06	667758	EP254 C06	667694	1/3
	10	EP254 B10	667760	EP254 C10	667696	1/3
	16	EP254 B16	667762	EP254 C16	667698	1/3
	20	EP254 B20	667763	EP254 C20	667699	1/3
	25	EP254 B25	667764	EP254 C25	667700	1/3
	32	EP254 B32	667765	EP254 C32	667701	1/3
	40	EP254 B40	667766	EP254 C40	667702	1/3
	50	EP254 B50	667767	EP254 C50	667703	1/3
	63	EP254 B63	667768	EP254 C63	667704	1/3

Series EP250

A

B

C

D

E

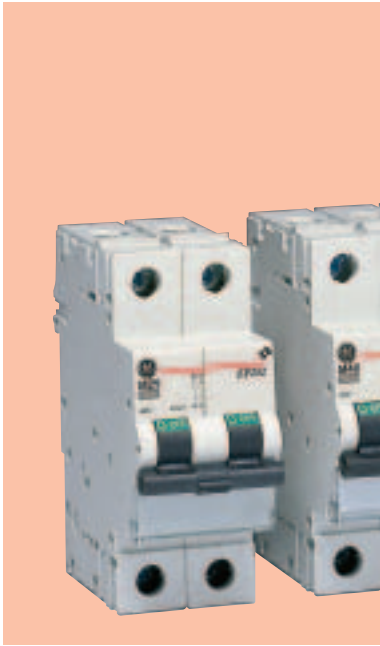
F

X



## Miniature Circuit Breakers

### EP250 M



EN/IEC 60947-2    50kA  
25kA  
20kA  
15kA

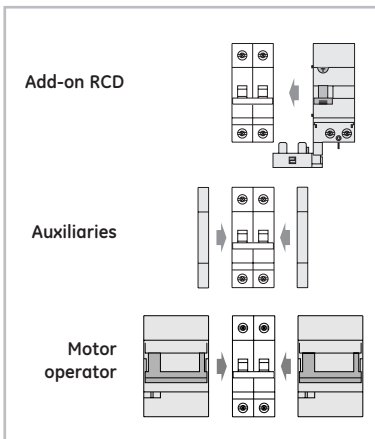
### Applications



### Marking



### Add-on devices



- Add-on RCD ● pg B.14
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Accessories ● pg A.42
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg A.68

### Performances

Thermal setting $I_n$	(A)	1.6-63
Rated voltage AC $U_n$	(V)	240/415
Minimum operating voltage $U_{B \min}$	(V)	12
Tripping characteristics		M (14 $I_n$ )
Mechanical/electrical endurance		20000/10000
Tropicalisation acc.to EN/IEC 60068-2		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	25-35
Poles		2, 3
Weight	(g/pole)	125

### Short-circuit capacity

#### Acc. to EN/IEC 60947-2

$I_n$ (A)	Poles	V	$I_{cu}$ (kA) <sup>(1)</sup>
≤25	2, 3	240	50
		415	25
		440	20
40	2, 3	240	40
		415	20
		440	15
63	2, 3	240	30
		415	15
		440	10

#### DC acc. to EN/IEC 60947-2

Poles	Vdc <sup>(2)</sup>	$I_{cu}/I_{cs}$ (kA)
2	125	30

(1)  $I_{cs} = 50\% I_{cu}$

(2) Nominal and maximum Vdc on page A.4-A.5



Series EP250 M - 25kA - characteristic M (14 In)



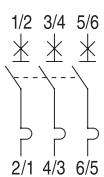
2P  
2 mod.



In (A)	Cat. No.	Ref. No.	M		Pack.
			Cat. No.	Ref. No.	
1.6			EP252 M01.6	672211	1/6
2.5			EP252 M02.5	672212	1/6
4			EP252 M04	672214	1/6
6.3			EP252 M06.3	672215	1/6
10			EP252 M10	672217	1/6
12.5			EP252 M12.5	672218	1/6
16			EP252 M16	672219	1/6
25			EP252 M25	672221	1/6
40			EP252 M40	672223	1/6
63			EP252 M63	672225	1/6



3P  
3 mod.



1.6			EP253 M01.6	672227	1/4
2.5			EP253 M02.5	672228	1/4
4			EP253 M04	672230	1/4
6.3			EP253 M06.3	672231	1/4
10			EP253 M10	672233	1/4
12.5			EP253 M12.5	672234	1/4
16			EP253 M16	672235	1/4
25			EP253 M25	672237	1/4
40			EP253 M40	672239	1/4
63			EP253 M63	672241	1/4

Series EP250 M

A

B

C

D

E

F

X





## Miniature Circuit Breakers

### EP100 UC

EN/IEC 60898-2 **6000** **T15**

DIN VDE 0641

EN/IEC 60947-2 **10kA**

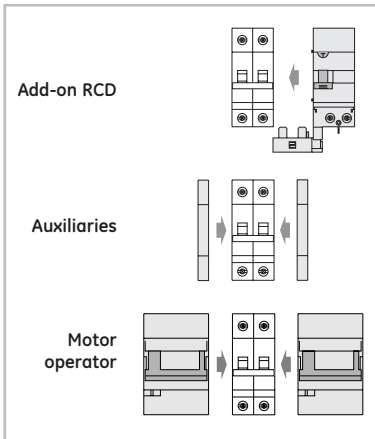
### Applications



### Standards / Marking

EN/IEC 60898-2, DIN VDE 0641 **CE**

### Add-on devices



- Add-on RCD ● pg B.14
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Accessories ● pg A.42
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg A.68

### Performance

Thermal setting $I_n$	(A)	0.5 - 63
Rated voltage AC $U_n$	(V)	230/400
		250/500/880Vdc
Minimum operating voltage $U_{Bmin}$	(V)	12
		12Vdc
Tripping characteristics		B-C
Mechanical/electrical endurance		20000/10000
Tropicalisation acc. to EN/IEC 60068-2		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	25-35
Poles <sup>(1)</sup>		1, 2, 4 <sup>(2)</sup>
Weight	(g/pole)	120

### Short-circuit capacity

#### AC/DC acc. to EN/IEC 60898-2<sup>(5)</sup>

Poles	V	$I_{cn}=I_{cs}$ (kA)
1	125Vdc	10
	250Vdc	6
	230/400Vac	6
2	250Vdc	10
	500Vdc	6
	400Vac	6
4	880Vdc	6

#### AC/DC acc. to EN/IEC 60947-2

Poles	V	$I_{cu}$ (kA)
1	125Vdc	20
1	220Vdc	10 <sup>(3)</sup>
2	440Vdc	10 <sup>(3)</sup>
1	230Vac	6 <sup>(4)</sup>
2	400Vac	6 <sup>(4)</sup>

(1) Polarity labeling to be respected due to the permanent magnet in the MCB  
 (2) For 4P execution open circuit voltage  $U_{CO} = 1000Vdc$   
 (3) T = 4ms  
 (4) 4.5kA for 50A & 63A  
 (5) After a switching of the net with more than 6kA in AC it should not be used in DC





Series EP100 UC - 10kA - characteristic B-C



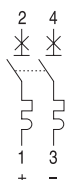
1P  
1 mod.



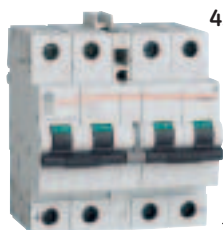
In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0.5	-	-	EP101UCC0.5	673301	12
1	-	-	EP101UCC01	673302	12
2	-	-	EP101UCC02	673303	12
4	-	-	EP101UCC04	673305	12
6	EP101UCB06	673333	EP101UCC06	673306	12
10	EP101UCB10	673334	EP101UCC10	673308	12
16	EP101UCB16	673335	EP101UCC16	673310	12
20	EP101UCB20	673336	EP101UCC20	673311	12
25	EP101UCB25	673337	EP101UCC25	673312	12
32	EP101UCB32	673338	EP101UCC32	673313	12
40	EP101UCB40	673339	EP101UCC40	673314	12
50	EP101UCB50	673340	EP101UCC50	673315	12
63	EP101UCB63	673341	EP101UCC63	673316	12



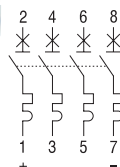
2P  
2 mod.



0.5	-	-	EP102UCC0.5	673317	6
1	-	-	EP102UCC01	673318	6
2	-	-	EP102UCC02	673319	6
4	-	-	EP102UCC04	673321	6
6	EP102UCB06	673342	EP102UCC06	673322	6
10	EP102UCB10	673343	EP102UCC10	673324	6
16	EP102UCB16	673344	EP102UCC16	673326	6
20	EP102UCB20	673345	EP121UCC20	673327	6
25	EP102UCB25	673346	EP102UCC25	673328	6
32	EP102UCB32	673347	EP102UCC32	673329	6
40	EP102UCB40	673348	EP102UCC40	673330	6
50	EP102UCB50	673349	EP102UCC50	673331	6
63	EP102UCB63	673350	EP102UCC63	673332	6



4P  
4.5 mod.<sup>(1)</sup>

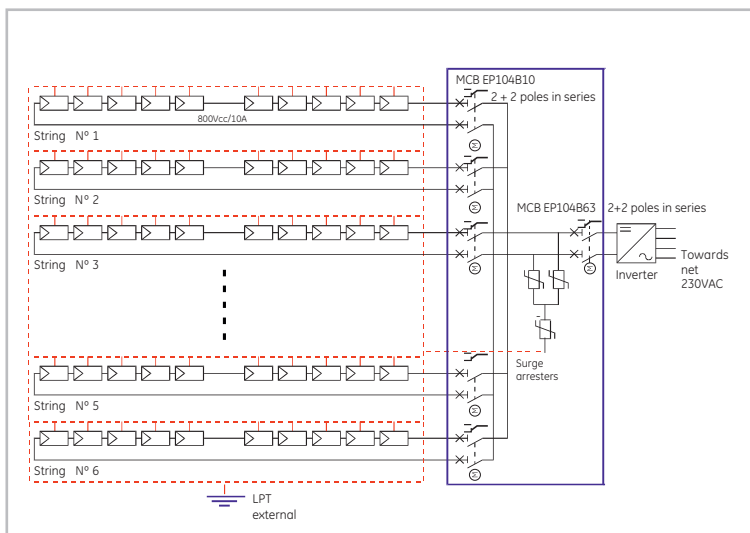
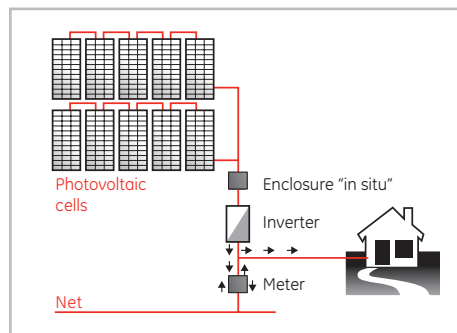


10	EP104 UC B10	690200			3
16	EP104 UC B16	688029			3
20	EP104 UC B20	688026			3
25	EP104 UC B25	691580			3
32	EP104 UC B32	691581			3
40	EP104 UC B40	688027			3
63	EP104 UC B63	688028			3



(1) Including auxiliary contact CAH (central half module)  
Line to be connected to bottom terminals 1, 7 load to 3, 5.

Example of wiring in Photovoltaic Application



Example of installation in enclosure "in situ"

Series EP100 UC

A

B

C

D

E

F

X





## Miniature Circuit Breakers

### Series Hti

EN/IEC 60947-2 10kA

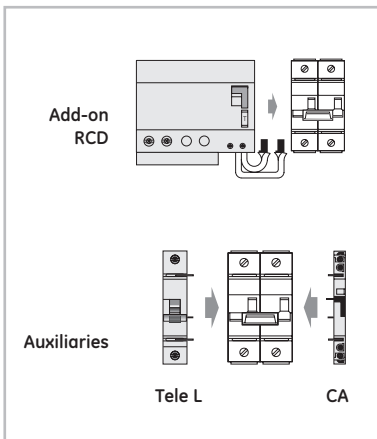
### Applications



### Standard / Marking

EN/IEC 60947-2

### Add-on devices



- Add-on RCD ● pg A.26
- Auxiliary contacts ● pg A.27
- Shunt trip ● pg A.27

- More technical data ● website
- Dimensions ● pg A.68

### Performance

Thermal setting In	(A)	80-100-125
Rated voltage AC Un	(V)	230/400
Tripping characteristics		3-5 In (B)
		5-10 In (C)
		10-20 In (D)
Mechanical/electrical endurance		10000/4000
Operating temperature	(°C)	-25°C up to 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	70
Poles		1, 2, 3, 4
Weight	(g/pole)	210

### Short-circuit capacity

Acc. to EN/IEC 60947-2 (B, C)

Poles	V	I <sub>cu</sub> (kA) <sup>(1)</sup>
1	230/400	10 <sup>(2)</sup>
2	230	15 <sup>(3)</sup>
3, 4	230	15 <sup>(3)</sup>
3, 4	400	10 <sup>(2)</sup>

### Add-on RCD - technical performances






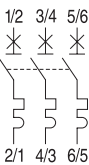
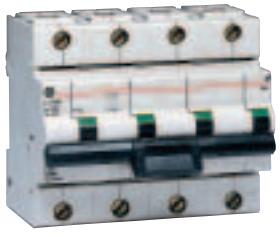
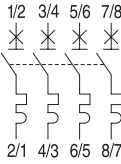
Standard	EN/IEC 60947-2
Nominal current In	(A) 80-125
Residual current I <sub>Δn</sub>	(mA) 30, 300
Rated voltage AC Un	(V) 2P: 230/400
	3P-4P: 400
Resistance against unwanted tripping	Type A, AC: 250A 8/20 μs
	Type S: 3000A 8/20 μs
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> ) 70
Poles	2, 3, 4

(1) Only for 3-5 In (B) and 5-10 In (C)  
 (2) 7.5kA for 10-20 In (D)  
 (3) 10kA for 10-20 In (D)





Series Hti - 10kA - characteristics B-C-D

	In (A)	3-5 In (B)		5-10 In (C)		10-20 In (D)		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 <p><b>1P</b> 1.5 mod.</p> 	80	Hti 101 B080	<b>671504</b>	Hti 101 C080	<b>671528</b>	Hti 101 D080	<b>671552</b>	8
	100	Hti 101 B100	<b>671505</b>	Hti 101 C100	<b>671529</b>	Hti 101 D100	<b>671553</b>	1
	125	Hti 101 B125	<b>671506</b>	Hti 101 C125	<b>671530</b>	Hti 101 D125	<b>671554</b>	1
 <p><b>2P</b> 3 mod.</p> 	80	Hti 102 B080	<b>671510</b>	Hti 102 C080	<b>671534</b>	Hti 102 D080	<b>671558</b>	4
	100	Hti 102 B100	<b>671511</b>	Hti 102 C100	<b>671535</b>	Hti 102 D100	<b>671559</b>	1
	125	Hti 102 B125	<b>671512</b>	Hti 102 C125	<b>671536</b>	Hti 102 D125	<b>671560</b>	1
 <p><b>3P</b> 4.5 mod.</p> 	80	Hti 103 B080	<b>671516</b>	Hti 103 C080	<b>671540</b>	Hti 103 D080	<b>671564</b>	1
	100	Hti 103 B100	<b>671517</b>	Hti 103 C100	<b>671541</b>	Hti 103 D100	<b>671565</b>	1
	125	Hti 103 B125	<b>671518</b>	Hti 103 C125	<b>671542</b>	Hti 103 D125	<b>671566</b>	1
 <p><b>4P</b> 6 mod.</p> 	80	Hti 104 B80	<b>671522</b>	Hti 104 C080	<b>671546</b>	Hti 104 D080	<b>671570</b>	1
	100	Hti 104 B100	<b>671523</b>	Hti 104 C100	<b>671547</b>	Hti 104 D100	<b>671571</b>	1
	125	Hti 104 B125	<b>671524</b>	Hti 104 C125	<b>671548</b>	Hti 104 D125	<b>671572</b>	1

Only for 3-5 In (B) and 5-10 In (C)  
For D see page A.24

Series Hti

A

B

C

D

E

F

X



**Series Hti - Add-on RCD - Type AC** 

In (A)	Cat. No.	Ref. No.	30 mA		300 mA		Pack.
			Cat. No.	Ref. No.	Cat. No.	Ref. No.	
80-125	DOC 2125/030	671574	DOC 2125/300	671576			1
80-125	DOC 3125/030	671582	DOC 3125/300	671584			1
80-125	DOC 4125/030	671590	DOC 4125/300	671592			1

**Series Hti - Add-on RCD - Type A** 



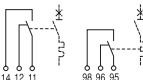
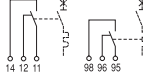
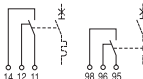
In (A)	Cat. No.	Ref. No.	30 mA		300 mA		Pack.
			Cat. No.	Ref. No.	Cat. No.	Ref. No.	
80-125	DOCA 3125/030	671581	DOCA 3125/300	671583			1
80-125	DOCA 4125/030	671589	DOCA 4125/300	671591			1

**Series Hti - Add-on RCD - Type S**  

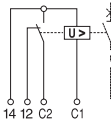
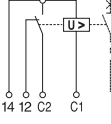
In (A)	Cat. No.	Ref. No.	30 mA		300 mA		Pack.
			Cat. No.	Ref. No.	Cat. No.	Ref. No.	
80-125	-	-	DOCS 3125/300	671585			1
80-125	-	-	DOCS 4125/300	671593			1

On demand: 2P type A and S

**Series Hti - Auxiliary contacts (right side)**

	Description	Functions	Mod.	Cat. No.	Ref. No.	Pack.
	Auxiliary contact	H	1/2	Hti H	671597	1
	Signal contact S + test + reset	S	1/2	Hti S	671598	12
	Changeable auxiliary/signal contact	H/S	1/2	Hti H/S	671599	1
	Auxiliary contact and changeable auxiliary/signal contact	H+H/S	1/2	Hti HH/HS	671600	1
	Auxiliary contact and signal contact H + S + test + reset	H+S	1/2	Hti HSR	671602	1

**Series Hti - Shunt trip (left or right side)**

	Rated voltage	Closing current	Operating time	Coil impedance at 50Hz	Cat. No.	Ref. No.	Pack.
	110 to 415V 110 to 125Vdc	0.3A at 110V 0.6A at 230V 1A at 400V	10 ms 4ms 2ms	ca. 29 Ohm ca. 29 Ohm ca. 29 Ohm	TELE L 110	624945	8
	24 to 48Vdc 24 to 60V	1A at 24Vdc 2A at 48Vdc	10ms 4ms	ca. 24 Ohm ca. 24 Ohm	TELE L 24	624946	8

Series Hti

A

B

C

D

E

F

X



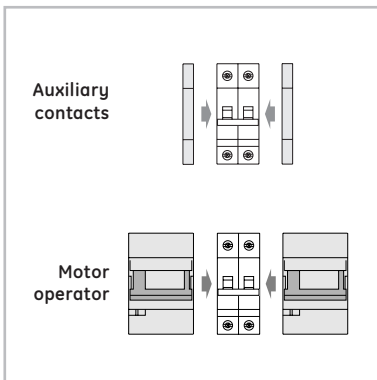
Applications



Approval / Marking



Add-on devices



- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8

Dimensions ● pg A.68

Miniature circuit breakers with UL approval

EP60 UL (Supplementary protection)

Recognized UL 1077 6 kA

EN/IEC 60898-1 6000  
3

EN/IEC 60947-2 10 kA

Performances

Thermal setting $I_n$	(A) 0.5-63
Rated voltage AC $U_n$	(V) 277/480; 110Vdc
Minimum operating voltage $U_{Bmin}$	(V) 12
Tripping characteristics	B-C-D
Selectivity class	3
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. EN/IEC 60068-2-28/2-30	95%RH at 55°C
Terminal capacity flexible/rigid cable (mm <sup>2</sup> )	25-35
Poles	1, 2, 3, 4
Weight/pole	(g) 125

Short-circuit capacity

According to UL 1077

Poles	V	$I_{cc}$ (kA)
1	277	6
2, 3, 4	277/480	6

According to EN/IEC 60898-1

Poles	V	$I_{cn}/I_{cs}$ (kA)
1	230/400	6
2, 3, 4	400	6

According to EN/IEC 60947-2

Poles	V	$I_{cu}$ (kA) <sup>(1)</sup>
1	127	20
	240	10
	415	3
2, 3, 4	127	30
	240	20
	415	10
440	6	

DC according to EN/IEC 60947-2

Poles	$U_n$ (Vdc)	$I_{cu}$ (kA)/ $I_{cs}$ (kA)
1	60	25
2	125	30

(1)  $I_{cs} = 75\% I_{cu}$



with UL 1077 approval

Series EP60 UL - 6kA - characteristics B-C-D



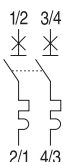
1P  
1 mod.



In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0.5	-	-	EP61ULC0.5	686656	EP61ULD0.5	686732	12
1	-	-	EP61ULC01	686657	EP61ULD01	686733	12
2	-	-	EP61ULC02	686658	EP61ULD02	686734	12
4	-	-	EP61ULC04	686660	EP61ULD04	686736	12
6	EP61ULB06	686601	EP61ULC06	686662	EP61ULD06	686738	12
10	EP61ULB10	686602	EP61ULC10	686663	EP61ULD10	686739	12
16	EP61ULB16	686605	EP61ULC16	686666	EP61ULD16	686742	12
20	EP61ULB20	686606	EP61ULC20	686667	EP61ULD20	686743	12
25	EP61ULB25	686607	EP61ULC25	686668	EP61ULD25	686744	12
32	EP61ULB32	686609	EP61ULC32	686670	EP61ULD32	686746	12
40	EP61ULB40	686610	EP61ULC40	686671	EP61ULD40	686747	12
50	EP61ULB50	686611	EP61ULC50	686672	EP61ULD50	686748	12
63	EP61ULB63	686613	EP61ULC63	686674	EP61ULD63	686750	12



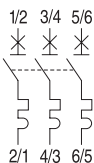
2P  
2 mod.



0.5	-	-	EP62ULC0.5	686675	EP62ULD0.5	686751	6
1	-	-	EP62ULC01	686676	EP62ULD01	686752	6
2	-	-	EP62ULC02	686677	EP62ULD02	686753	6
4	-	-	EP62ULC04	686679	EP62ULD04	686755	6
6	EP62ULB06	686615	EP62ULC06	686681	EP62ULD06	686757	6
10	EP62ULB10	686616	EP62ULC10	686682	EP62ULD10	686758	6
16	EP62ULB16	686619	EP62ULC16	686685	EP62ULD16	686761	6
20	EP62ULB20	686620	EP62ULC20	686686	EP62ULD20	686762	6
25	EP62ULB25	686621	EP62ULC25	686687	EP62ULD25	686763	6
32	EP62ULB32	686623	EP62ULC32	686689	EP62ULD32	686765	6
40	EP62ULB40	686624	EP62ULC40	686690	EP62ULD40	686766	6
50	EP62ULB50	686625	EP62ULC50	686691	EP62ULD50	686767	6
63	EP62ULB63	686627	EP62ULC63	686693	EP62ULD63	686769	6



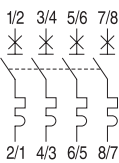
3P  
3 mod.



0.5	-	-	EP63ULC0.5	686694	EP63ULD0.5	686770	4
1	-	-	EP63ULC01	686695	EP63ULD01	686771	4
2	-	-	EP63ULC02	686696	EP63ULD02	686772	4
4	-	-	EP63ULC04	686698	EP63ULD04	686774	4
6	EP63ULB06	686629	EP63ULC06	686700	EP63ULD06	686776	4
10	EP63ULB10	686630	EP63ULC10	686701	EP63ULD10	686777	4
16	EP63ULB16	686633	EP63ULC16	686704	EP63ULD16	686780	4
20	EP63ULB20	686634	EP63ULC20	686705	EP63ULD20	686781	4
25	EP63ULB25	686635	EP63ULC25	686706	EP63ULD25	686782	4
32	EP63ULB32	686637	EP63ULC32	686708	EP63ULD32	686784	4
40	EP63ULB40	686638	EP63ULC40	686709	EP63ULD40	686785	4
50	EP63ULB50	686639	EP63ULC50	686710	EP63ULD50	686786	4
63	EP63ULB63	686641	EP63ULC63	686712	EP63ULD63	686788	4



4P  
4 mod.



0.5	-	-	EP64ULC0.5	686713	EP64ULD0.5	686789	3
1	-	-	EP64ULC01	686714	EP64ULD01	686790	3
2	-	-	EP64ULC02	686715	EP64ULD02	686791	3
4	-	-	EP64ULC04	686717	EP64ULD04	686793	3
6	EP64ULB06	686643	EP64ULC06	686719	EP64ULD06	686795	3
10	EP64ULB10	686644	EP64ULC10	686720	EP64ULD10	686796	3
16	EP64ULB16	686647	EP64ULC16	686723	EP64ULD16	686799	3
20	EP64ULB20	686648	EP64ULC20	686724	EP64ULD20	686800	3
25	EP64ULB25	686649	EP64ULC25	686725	EP64ULD25	686801	3
32	EP64ULB32	686651	EP64ULC32	686727	EP64ULD32	686803	3
40	EP64ULB40	686652	EP64ULC40	686728	EP64ULD40	686804	3
50	EP64ULB50	686653	EP64ULC50	686729	EP64ULD50	686805	3
63	EP64ULB63	686655	EP64ULC63	686731	EP64ULD63	686807	3

with UL 1077 approval

On request: 3 - 5 - 13 - 15 - 30 - 60A

Series EP60 UL

A

B

C

D

E

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X





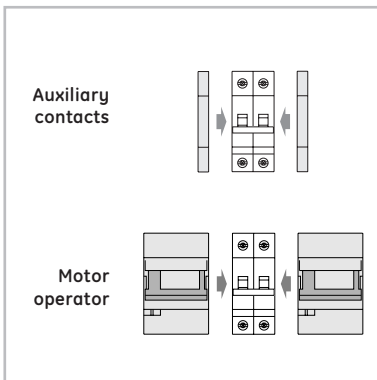
Applications



Approval / Marking



Add-on devices



- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8

Dimensions ● pg A.68

Miniature circuit breakers with UL approval

EP100 UL (Supplementary protection)

Recognized	UL 1077	10 kA
	EN/IEC 60898-1	10000
		3
	EN/IEC 60947-2	15 kA

Performances

Thermal setting $I_n$	(A) 0.5-63
Rated voltage AC $U_n$	(V) 277/480; 110Vdc
Minimum operating voltage $U_{Bmin}$	(V) 12
Tripping characteristics	B-C-D
Selectivity class	3
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. EN/IEC 60068-2-28/2-30	95%RH at 55°C
Terminal capacity flexible/rigid cable (mm <sup>2</sup> )	25-35
Poles	1, 2, 3, 4
Weight/pole	(g) 125

Short-circuit capacity

According to UL 1077

Poles	V	$I_{cc}$ (kA)
1	277	10
2, 3, 4	277/480	10

According to EN/IEC 60898-1

Poles	V	$I_{cn}/I_{cs}$ (kA)
1	230/400	10
2, 3, 4	400	10

According to EN/IEC 60947-2

Poles	V	$I_{cu}$ (kA) <sup>(1)</sup>
1	127	30
	240	15
	415	4
2, 3, 4	127	40
	240	30
	415	15
	440	10

DC according to EN/IEC 60947-2

Poles	$U_n$ (Vdc)	$I_{cu}$ (kA)/ $I_{cs}$ (kA)
1	60	25
2	125	30

(1)  $I_{cs} = 50\% I_{cu}$





with UL 1077 approval

Series EP100 UL - 10kA - characteristics B-C-D



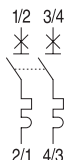
1P  
1 mod.



In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0.5	-	-	EP101ULC0.5	686864	EP101ULD0.5	686940	12
1	-	-	EP101ULC01	686865	EP101ULD01	686941	12
2	-	-	EP101ULC02	686866	EP101ULD02	686942	12
4	-	-	EP101ULC04	686868	EP101ULD04	686944	12
6	EP101ULB06	686809	EP101ULC06	686870	EP101ULD06	686946	12
10	EP101ULB10	686810	EP101ULC10	686871	EP101ULD10	686947	12
16	EP101ULB16	686813	EP101ULC16	686874	EP101ULD16	686950	12
20	EP101ULB20	686814	EP101ULC20	686875	EP101ULD20	686951	12
25	EP101ULB25	686815	EP101ULC25	686876	EP101ULD25	686952	12
32	EP101ULB32	686817	EP101ULC32	686878	EP101ULD32	686954	12
40	EP101ULB40	686818	EP101ULC40	686879	EP101ULD40	686955	12
50	EP101ULB50	686819	EP101ULC50	686880	EP101ULD50	686956	12
63	EP101ULB63	686821	EP101ULC63	686882	EP101ULD63	686958	12



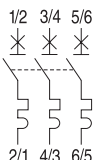
2P  
2 mod.



0.5	-	-	EP102ULC0.5	686883	EP102ULD0.5	686959	6
1	-	-	EP102ULC01	686884	EP102ULD01	686960	6
2	-	-	EP102ULC02	686885	EP102ULD02	686961	6
4	-	-	EP102ULC04	686887	EP102ULD04	686963	6
6	EP102ULB06	686823	EP102ULC06	686889	EP102ULD06	686965	6
10	EP102ULB10	686824	EP102ULC10	686890	EP102ULD10	686966	6
16	EP102ULB16	686827	EP102ULC16	686893	EP102ULD16	686969	6
20	EP102ULB20	686828	EP102ULC20	686894	EP102ULD20	686970	6
25	EP102ULB25	686829	EP102ULC25	686895	EP102ULD25	686971	6
32	EP102ULB32	686831	EP102ULC32	686897	EP102ULD32	686973	6
40	EP102ULB40	686832	EP102ULC40	686898	EP102ULD40	686974	6
50	EP102ULB50	686833	EP102ULC50	686899	EP102ULD50	686975	6
63	EP102ULB63	686835	EP102ULC63	686901	EP102ULD63	686977	6



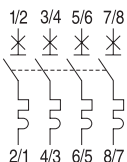
3P  
3 mod.



0.5	-	-	EP103ULC0.5	686902	EP103ULD0.5	686978	4
1	-	-	EP103ULC01	686903	EP103ULD01	686979	4
2	-	-	EP103ULC02	686904	EP103ULD02	686980	4
4	-	-	EP103ULC04	686906	EP103ULD04	686982	4
6	EP103ULB06	686837	EP103ULC06	686908	EP103ULD06	686984	4
10	EP103ULB10	686838	EP103ULC10	686909	EP103ULD10	686985	4
16	EP103ULB16	686841	EP103ULC16	686912	EP103ULD16	686988	4
20	EP103ULB20	686842	EP103ULC20	686913	EP103ULD20	686989	4
25	EP103ULB25	686843	EP103ULC25	686914	EP103ULD25	686990	4
32	EP103ULB32	686845	EP103ULC32	686916	EP103ULD32	686992	4
40	EP103ULB40	686846	EP103ULC40	686917	EP103ULD40	686993	4
50	EP103ULB50	686847	EP103ULC50	686918	EP103ULD50	686994	4
63	EP103ULB63	686849	EP103ULC63	686920	EP103ULD63	686996	4



4P  
4 mod.



0.5	-	-	EP104ULC0.5	686921	EP104ULD0.5	686997	3
1	-	-	EP104ULC01	686922	EP104ULD01	686998	3
2	-	-	EP104ULC02	686923	EP104ULD02	686999	3
4	-	-	EP104ULC04	686925	EP104ULD04	687001	3
6	EP104ULB06	686851	EP104ULC06	686927	EP104ULD06	687003	3
10	EP104ULB10	686852	EP104ULC10	686928	EP104ULD10	687004	3
16	EP104ULB16	686855	EP104ULC16	686931	EP104ULD16	687007	3
20	EP104ULB20	686856	EP104ULC20	686932	EP104ULD20	687008	3
25	EP104ULB25	686857	EP104ULC25	686933	EP104ULD25	687009	3
32	EP104ULB32	686859	EP104ULC32	686935	EP104ULD32	687011	3
40	EP104ULB40	686860	EP104ULC40	686936	EP104ULD40	687012	3
50	EP104ULB50	686861	EP104ULC50	686937	EP104ULD50	687013	3
63	EP104ULB63	686863	EP104ULC63	686939	EP104ULD63	687015	3

with UL 1077 approval

On request: 3 - 5 - 13 - 15 - 30 - 60A

Series EP100 UL

A

B

C

D

E

F

X





Miniature circuit breakers with UL approval

EP100 ULH (Branch circuit protection)

Listed UL 489            10 kA  
 EN 60947-2        15 kA

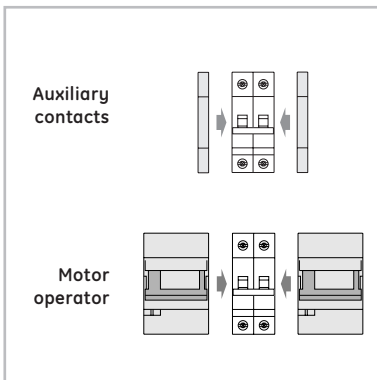
Applications



Approval / Marking



Add-on devices



Auxiliary contacts ● pg C.4  
 Motor operator ● pg C.7  
 Shunt trip ● pg C.8

Dimensions ● pg A.68

Performances

Thermal setting  $I_n$  (A) 0.5-32  
 Rated voltage AC  $U_n$  (V) 120/240; 110Vdc  
 Minimum operating voltage  $U_{Bmin}$  (V) 12  
 Tripping characteristics B-C-D  
 Selectivity class 3  
 Mechanical/electrical endurance 20000/10000  
 Tropicalisation acc. EN/IEC 60068-2-28/2-30 95%RH at 55°C  
 Terminal capacity flexible/rigid cable (mm<sup>2</sup>) 25-35  
 Poles 1, 2, 3  
 Weight/pole (g) 130

Short-circuit capacity

According to UL 489

Poles	V	$I_{cc}$ (kA)
1	120	10
2, 3	240	10

According to EN/IEC 60947-2

Poles	V	$I_{cu}$ (kA) <sup>(1)</sup>
1	127	30
	240	15
	415	4
2	127	40
	240	30
	415	15
2, 3	440	10

DC according to EN/IEC 60947-2

Poles	$U_n$ (Vdc)	$I_{cu}$ (kA)/ $I_{cs}$ (kA)
1	60	25
2	125	30

(1)  $I_{cs} = 50\% I_{cu}$





with UL 489 approval

Series EP100 ULH - 10kA - characteristics B-C-D



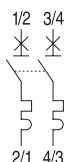
1P  
1 mod.  
(1)



In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0.5	-	-	EP101ULHC0.5	690265	EP101ULHD0.5	690313	12
1	-	-	EP101ULHC01	690266	EP101ULHD01	690314	12
2	-	-	EP101ULHC02	690267	EP101ULHD02	690315	12
4	-	-	EP101ULHC04	690269	EP101ULHD04	690317	12
5	EP101ULHB05	690214	EP101ULHC05	690270	EP101ULHD05	690318	12
6	EP101ULHB06	690215	EP101ULHC06	690271	EP101ULHD06	690320	12
10	EP101ULHB10	690216	EP101ULHC10	690273	EP101ULHD10	690321	12
13	EP101ULHB13	690217	EP101ULHC13	690274	EP101ULHD13	690322	12
15	EP101ULHB15	690218	EP101ULHC15	690275	EP101ULHD15	690323	12
16	EP101ULHB16	690219	EP101ULHC16	690276	EP101ULHD16	690324	12
20	EP101ULHB20	690220	EP101ULHC20	690277	EP101ULHD20	690325	12
25	EP101ULHB25	690221	EP101ULHC25	690278	EP101ULHD25	690326	12
30	EP101ULHB30	690222	EP101ULHC30	690279	EP101ULHD30	690327	12
32	EP101ULHB32	690223	EP101ULHC32	690280	EP101ULHD32	690328	12



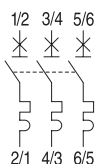
2P  
2 mod.



0.5	-	-	EP102ULHC0.5	690281	EP102ULHD0.5	690329	6
1	-	-	EP102ULHC01	690282	EP102ULHD01	690330	6
2	-	-	EP102ULHC02	690283	EP102ULHD02	690331	6
4	-	-	EP102ULHC04	690285	EP102ULHD04	690333	6
5	EP102ULHB05	690224	EP102ULHC05	690286	EP102ULHD05	690334	6
6	EP102ULHB06	690225	EP102ULHC06	690287	EP102ULHD06	690335	6
10	EP102ULHB10	690226	EP102ULHC10	690289	EP102ULHD10	690337	6
13	EP102ULHB13	690227	EP102ULHC13	690290	EP102ULHD13	690338	6
15	EP102ULHB15	690228	EP102ULHC15	690291	EP102ULHD15	690339	6
16	EP102ULHB16	690229	EP102ULHC16	690292	EP102ULHD16	690340	6
20	EP102ULHB20	690230	EP102ULHC20	690293	EP102ULHD20	690341	6
25	EP102ULHB25	690231	EP102ULHC25	690294	EP102ULHD25	690342	6
30	EP102ULHB30	690232	EP102ULHC30	690295	EP102ULHD30	690343	6
32	EP102ULHB32	690233	EP102ULHC32	690296	EP102ULHD32	690344	6



3P  
3 mod.



0.5	-	-	EP103ULHC0.5	690297	EP103ULHD0.5	690345	4
1	-	-	EP103ULHC01	690298	EP103ULHD01	690346	4
2	-	-	EP103ULHC02	690299	EP103ULHD02	690347	4
4	-	-	EP103ULHC04	690301	EP103ULHD04	690349	4
5	EP103ULHB05	290234	EP103ULHC05	690302	EP103ULHD05	690350	4
6	EP103ULHB06	690235	EP103ULHC06	690303	EP103ULHD06	690351	4
10	EP103ULHB10	690236	EP103ULHC10	690305	EP103ULHD10	690353	4
13	EP103ULHB13	290237	EP103ULHC13	690306	EP103ULHD13	690354	4
15	EP103ULHB15	290238	EP103ULHC15	690307	EP103ULHD15	690355	4
16	EP103ULHB16	690239	EP103ULHC16	690308	EP103ULHD16	690356	4
20	EP103ULHB20	690240	EP103ULHC20	690309	EP103ULHD20	690357	4
25	EP103ULHB25	690241	EP103ULHC25	690310	EP103ULHD25	690358	4
30	EP103ULHB30	290242	EP103ULHC30	690311	EP103ULHD30	690359	4
32	EP103ULHB32	690243	EP103ULHC32	690312	EP103ULHD32	690360	4

with UL 489 approval

Accessories for MCB's

		Cat. No.	Ref. No.	Pack.
<p><b>Walls</b></p> <p>Walls for terminals IP</p> <p>Several 1 pole MCB's side to side mounted and opposite polarity must be provided by walls on poles. Also when 1 pole MCB's mounting add-on extensions.</p>	WUL	690244	10	
<p><b>Padlocking bracket</b></p> <p>Allows padlocking in ON and OFF position</p>	KS	624929	2	

Series EP100 ULH

A

B

C

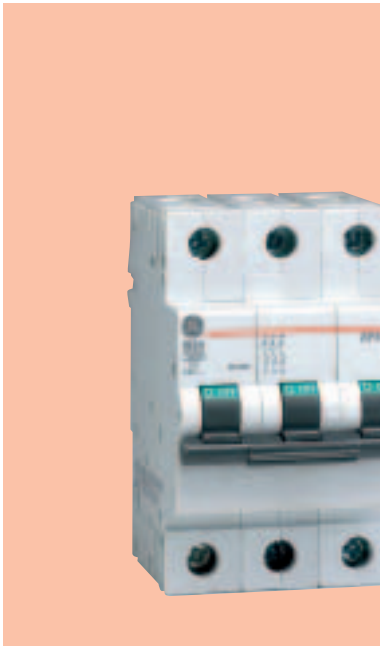
D

E

F

X





## Miniature circuit breakers for railway applications

### EP100 R

EN 60898-1	10000
	3
EN 60947-2	15 kA



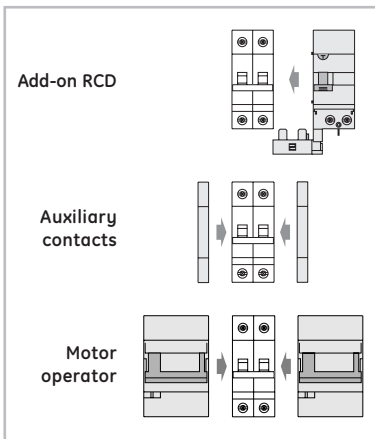
### Applications



### Approval / Marking

BTA-EN50155

### Add-on devices



- Add-on RCD ● pg B.14
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel Board Switch ● pg C.8

- Accessories ● pg A.42
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg A.68

### Performance

Thermal setting $I_n$	(A)	0.5 -63
Rated voltage AC $U_n$	(V)	230/400
Minimum operating voltage $U_{Bmin}$	(V)	12
Tripping characteristics		B-C
Selectivity class		3
Mechanical/electrical endurance		20000/10000
Tropicalisation acc. to EN/IEC 60068-2		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	25-35
Poles		3
Weight/pole	(g)	125

### Short-circuit capacity

#### AC/DC acc. to EN/IEC 60898-2

Poles	V	$I_{cn}=I_{cs}$ (kA)
3	400Vdc	10 <sup>(1)</sup>

#### AC/DC acc. to EN/IEC 60947-2

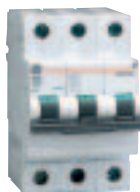
Poles	V	$I_{cu}$ (kA) <sup>(2)</sup>
3	240Vdc	30
	415Vdc	15
	440Vac	10

(1) Avec distance de grille de 60 mm pour B-C et D;  $I_{cs} = 75\% I_{cu}$   
 (2)  $I_{cs} = 50\% I_{cu}$

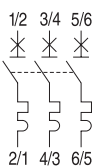




Series EP100 R - 10kA - characteristics B-C



3P  
3 mod.



In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	-	-	EP103C0,5RAIL	681461	4
1	-	-	EP103C01RAIL	681462	4
2	-	-	EP103C02RAIL	681463	4
3	-	-	EP103C03RAIL	681464	4
4	-	-	EP103C04RAIL	681465	4
6	EP103B06RAIL	681452	EP103C06RAIL	681466	4
10	EP103B10RAIL	681453	EP103C10RAIL	681467	4
16	EP103B16RAIL	681454	EP103C16RAIL	681468	4
20	EP103B20RAIL	681455	EP103C20RAIL	681469	4
25	EP103B25RAIL	681456	EP103C25RAIL	681470	4
32	EP103B32RAIL	681457	EP103C32RAIL	681471	4
40	EP103B40RAIL	681458	EP103C40RAIL	681472	4
50	EP103B50RAIL	681459	EP103C50RAIL	681473	4
63	EP103B63RAIL	681460	EP103C63RAIL	681474	4

Series EP100 R

A

B

C

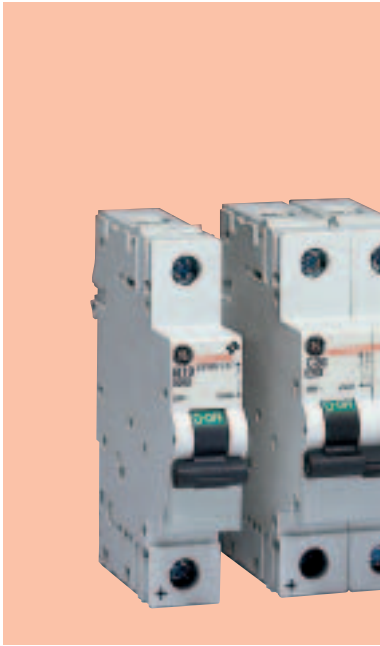
D

E

F

X





## Miniature circuit breakers for railway applications

### EP100 UCR

EN/IEC 60898-2 6000 T15

DIN VDE 0641

EN/IEC 60947-2 10kA



### Applications

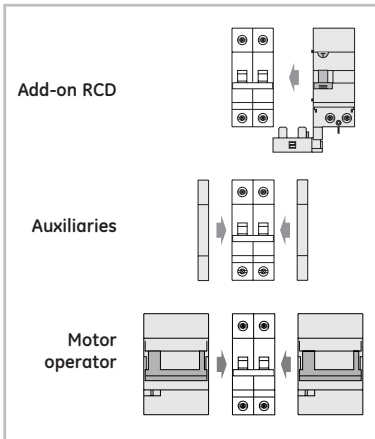


### Standards / Marking

BTA-EN50155



### Add-on devices



- Add-on RCD ● pg B.14
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel Board Switch ● pg C.8

- Accessories ● pg A.42
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg A.68

### Performance

Thermal setting $I_n$	(A)	0.5 - 63
Rated voltage AC $U_n$	(V)	230/400 250/500Vdc
Minimum operating voltage $U_{Bmin}$	(V)	12 12Vdc
Tripping characteristics		B-C-K
Mechanical/electrical endurance		20000/10000
Tropicalisation acc. to EN/IEC 60068-2		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	25-35
Poles <sup>(1)</sup>		1, 2
Weight	(g/pole)	125

### Short-circuit capacity

#### AC/DC acc. to EN/IEC 60898-2<sup>(4)</sup>

Poles	V	$I_{cn}=I_{cs}$ (kA)
1	125Vdc	10
	220Vdc	6
	230/400Vac	6
2	250Vdc	10
	440Vdc	6
	400Vac	6

#### AC/DC acc. to EN/IEC 60947-2

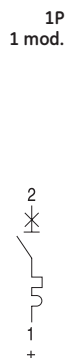
Poles	V	$I_{cu}$ (kA)
1	220Vdc	10 <sup>(2)</sup>
2	440Vdc	10 <sup>(2)</sup>
1	230Vac	6 <sup>(3)</sup>
2	400Vac	6 <sup>(3)</sup>

(1) Polarity labeling to be respected due to the permanent magnet in the MCB  
 (2) T = 4ms  
 (3) 4.5kA for 50A & 63A  
 (4) After a switching of the net with more than 6kA in AC it should not be used in DC

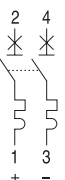




Series EP100 UCR - 10kA - characteristics B-C-K



In (A)	B		C		K		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	-	-	EP101UCRC0,5	681493	EP101UCRK0,5	673267	12
1	-	-	EP101UCRC01	681494	EP101UCRK01	673268	12
1,6	-	-	-	-	EP101UCRK1,6	673269	12
2	EP101UCRB02	681771	EP101UCRC02	681495	EP101UCRK02	673270	12
3	-	-	-	-	EP101UCRK03	673271	12
4	EP101UCRB04	681772	EP101UCRC04	681496	EP101UCRK04	673272	12
6	EP101UCRB06	681475	EP101UCRC06	681497	EP101UCRK06	673273	12
8	-	-	-	-	EP101UCRK08	673274	12
10	EP101UCRB10	681476	EP101UCRC10	681498	EP101UCRK10	673275	12
13	-	-	-	-	EP101UCRK13	673276	12
16	EP101UCRB16	681477	EP101UCRC16	681499	EP101UCRK16	673277	12
20	EP101UCRB20	681478	EP101UCRC20	681500	EP101UCRK20	673278	12
25	EP101UCRB25	681479	EP101UCRC25	681501	EP101UCRK25	673279	12
32	EP101UCRB32	681480	EP101UCRC32	681502	EP101UCRK32	673280	12
40	EP101UCRB40	681481	EP101UCRC40	681503	EP101UCRK40	673281	12
50	EP101UCRB50	681482	EP101UCRC50	681504	EP101UCRK50	673282	12
63	EP101UCRB63	681483	EP101UCRC63	681505	EP101UCRK63	673283	12



0,5	-	-	EP102UCRC0,5	681506	EP102UCRK0,5	673284	6
1	-	-	EP102UCRC01	681507	EP102UCRK01	673285	6
1,6	-	-	-	-	EP102UCRK1,6	673286	6
2	EP102UCRB02	681773	EP102UCRC02	681508	EP102UCRK02	673287	6
3	-	-	-	-	EP102UCRK03	673288	6
4	EP102UCRB04	681774	EP102UCRC04	681509	EP102UCRK04	673289	6
6	EP102UCRB06	681484	EP102UCRC06	681510	EP102UCRK06	673290	6
8	-	-	-	-	EP102UCRK08	673291	6
10	EP102UCRB10	681485	EP102UCRC10	681511	EP102UCRK10	673292	6
13	-	-	-	-	EP102UCRK13	673293	6
16	EP102UCRB16	681486	EP102UCRC16	681512	EP102UCRK16	673294	6
20	EP102UCRB20	681487	EP102UCRC20	681513	EP102UCRK20	673295	6
25	EP102UCRB25	681488	EP102UCRC25	681514	EP102UCRK25	673296	6
32	EP102UCRB32	681489	EP102UCRC32	681515	EP102UCRK32	673297	6
40	EP102UCRB40	681490	EP102UCRC40	681516	EP102UCRK40	673298	6
50	EP102UCRB50	681491	EP102UCRC50	681517	EP102UCRK50	673299	6
63	EP102UCRB63	681492	EP102UCRC63	681518	EP102UCRK63	673300	6

- Notes: 1: Always respect the polarities  
 2: Characteristics are in DC  
 -> B (DC) 3 up to 7.5 In  
 -> C (DC) 5 up to 15 In  
 -> K (DC) 8 up to 12 In  
 3: Bombarrier Certification for K curve on process

Series EP100 UCR

A

B

C

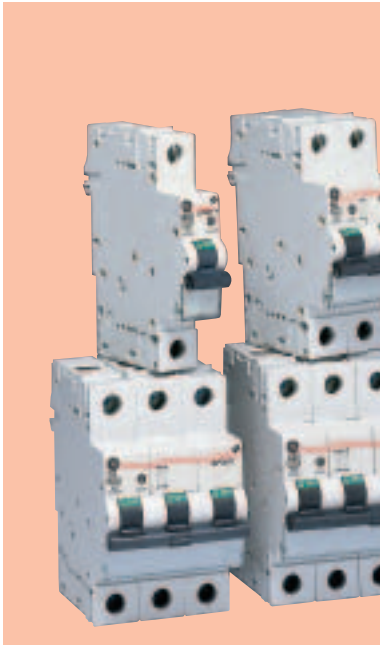
D

E

F

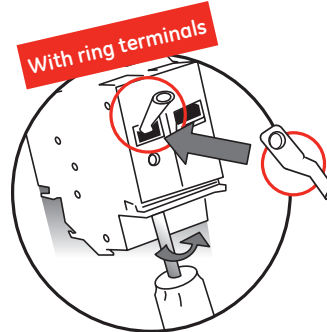
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## Miniature circuit breakers with ring terminals

### Series EP100T



The miniature circuit breakers in RAIL-design have been developed with regard to shakes, shocks and vibrations

### Applications



### Standards

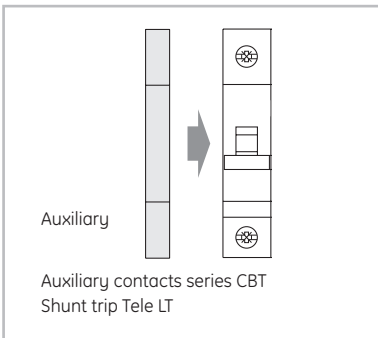
Certified acc. new CEI UNI 11170 (higher protection against fires)  
 Certified acc. to NF 16-101, smoke index F  
 Shock and vibrations tests acc. to IEC 61373

### Approval / Marking

Trenitalia n° 371441.01



### Add-on devices



- Auxiliary contacts ● pg C.10
- Shunt trip ● pg C.11
- Dimensions ● pg A.68

### Performances

Thermal setting In	(A) 0.5 to 63 at 45°C
Rated voltage AC Un	(V) 240/440
Operating temperature	(°C) -40/+70
Tripping characteristics	Z-B-C-K
Selectivity class	3
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. IEC 60068-2-28/2-30	95% RH under 55°C
Capacity of ring terminal	(mm <sup>2</sup> ) 16 (x2 connections)
Torque	(Nm) 2
Poles	1, 2, 3, 4
Self-extinguish degree	according UNI CEI 11170
Smoke index acc. UNI CEI 11170, NF 16-102	F1
Maximum working altitude	(m) 2000

### Short-circuit capacity

Acc. to EN/IEC 60898

Poles	V	I <sub>cn</sub> (kA)
1-4	230/400	10

AC acc. to EN 60947-2 (minimum value)

Poles	V	I <sub>cu</sub> (kA)
1	230	15
	133	20
2	440/380	15
	230/133	20
3, 4	440	10
	380	15
	230	20

DC acc. to EN 60947-2

Poles	V <sub>dc</sub>	I <sub>cu</sub> (kA)/I <sub>cs</sub> (kA)
1	60	25/15 ms
2	110	30/15 ms

New





Railway applications with ring terminals

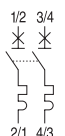
Series EP100T - 10kA - characteristics Z-B-C-K

1P  
1 mod.



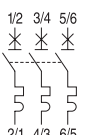
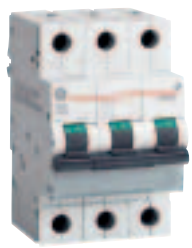
In (A)	2-3 In (Z)		3-5 In (B)		8-12 In (C)		8-12 In (K)		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	EP101TZ0.5	691277	-	-	EP101TC0.5	691245	EP101TK0.5	691261	12
1	EP101TZ01	691278	-	-	EP101TC01	691246	EP101TK1	691267	12
1,6	EP101TZ1.6	691284	-	-	EP101TC1.6	691252	EP101TK1.6	691268	12
2	EP101TZ02	691279	-	-	EP101TC02	691247	EP101TK02	691262	12
3	EP101TZ03	691280	-	-	EP101TC03	691248	EP101TK03	691263	12
4	EP101TZ04	691281	-	-	EP101TC04	691249	EP101TK04	691264	12
6	EP101TZ06	691282	EP101TB6	691234	EP101TC06	691250	EP101TK06	691265	12
8	EP101TZ08	691283	EP101TB8	691235	EP101TC08	691251	EP101TK08	691266	12
10	EP101TZ10	691285	EP101TB10	691236	EP101TC10	691253	EP101TK10	691269	12
13	-	-	EP101TB13	691237	EP101TC13	691254	-	-	12
16	EP101TZ16	691286	EP101TB16	691238	EP101TC16	691255	EP101TK16	691270	12
20	EP101TZ20	691287	EP101TB20	691239	EP101TC20	691256	EP101TK20	691271	12
25	EP101TZ25	691288	EP101TB25	691240	EP101TC25	667248	EP101TK25	691272	12
32	EP101TZ32	691289	EP101TB32	691241	EP101TC32	691257	EP101TK32	691273	12
40	EP101TZ40	691290	EP101TB40	691242	EP101TC40	691258	EP101TK40	691274	12
50	EP101TZ50	691291	EP101TB50	691243	EP101TC50	691259	EP101TK50	691275	12
63	EP101TZ63	691292	EP101TB63	691244	EP101TC63	691260	EP101TK63	691276	12

2P  
2 mod.



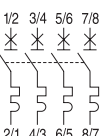
0,5	EP102TZ0.5	691337	-	-	EP102TC0.5	691304	EP102TK0.5	691321	6
1	EP102TZ01	691338	-	-	EP102TC01	691305	EP102TK01	691322	6
1,6	EP102TZ1.6	691344	-	-	EP102TC1.6	691311	EP102TK1.6	691328	6
2	EP102TZ02	691339	-	-	EP102TC02	691306	EP102TK02	691323	6
3	EP102TZ03	691340	-	-	EP102TC03	691307	EP102TK03	691324	6
4	EP102TZ04	691341	-	-	EP102TC04	691308	EP102TK04	691325	6
6	EP102TZ06	691342	EP102TB06	691293	EP102TC06	691309	EP102TK06	691326	6
8	EP102TZ08	691343	EP102TB08	691294	EP102TC08	691310	EP102TK08	691327	6
10	EP102TZ10	691345	EP102TB10	691295	EP102TC10	691312	EP102TK10	691329	6
13	-	-	EP102TB13	691296	EP102TC13	691313	-	-	6
16	EP102TZ16	691346	EP102TB16	691297	EP102TC16	691314	EP102TK16	691330	6
20	EP102TZ20	691347	EP102TB20	691298	EP102TC20	691315	EP102TK20	691331	6
25	EP102TZ25	691348	EP102TB25	691299	EP102TC25	691316	EP102TK25	691332	6
32	EP102TZ32	691349	EP102TB32	691300	EP102TC32	691317	EP102TK32	691333	6
40	EP102TZ40	691350	EP102TB40	691301	EP102TC40	691318	EP102TK40	691334	6
50	EP102TZ50	691351	EP102TB50	691302	EP102TC50	691319	EP102TK50	691335	6
63	EP102TZ63	691352	EP102TB63	691303	EP102TC63	691320	EP102TK63	691336	6

3P  
3 mod.



0,5	-	-	-	-	EP103TC0.5	691364	EP103TK0.5	691381	4
1	-	-	-	-	EP103TC01	691365	EP103TK01	691382	4
1,6	-	-	-	-	EP103TC1.6	691371	EP103TK1.6	691388	4
2	-	-	-	-	EP103TC02	691366	EP103TK02	691383	4
3	-	-	-	-	EP103TC03	691367	EP103TK03	691384	4
4	-	-	-	-	EP103TC04	691368	EP103TK04	691385	4
6	-	-	EP103TB06	691353	EP103TC06	691369	EP103TK06	691386	4
8	-	-	EP103TB08	691354	EP103TC08	691370	EP103TK08	691387	4
10	-	-	EP103TB10	691355	EP103TC10	691372	EP103TK10	691389	4
13	-	-	EP103TB13	691356	EP103TC13	691373	-	-	4
16	-	-	EP103TB16	691357	EP103TC16	691374	EP103TK16	691390	4
20	-	-	EP103TB20	691358	EP103TC20	691375	EP103TK20	691391	4
25	-	-	EP103TB25	691359	EP103TC25	691376	EP103TK25	691392	4
32	-	-	EP103TB32	691360	EP103TC32	691377	EP103TK32	691393	4
40	-	-	EP103TB40	691361	EP103TC40	691378	EP103TK40	691394	4
50	-	-	EP103TB50	691362	EP103TC50	691379	EP103TK50	691395	4
63	-	-	EP103TB63	691363	EP103TC63	691380	EP103TK63	691396	4

4P  
4 mod.



0,5	-	-	-	-	EP104TC0.5	691407	EP104TK0.5	691424	3
1	-	-	-	-	EP104TC01	691408	EP104TK01	691425	3
1,6	-	-	-	-	EP104TC1.6	691414	EP104TK1.6	691431	3
2	-	-	-	-	EP104TC02	691409	EP104TK02	691426	3
3	-	-	-	-	EP104TC03	691410	EP104TK03	691427	3
4	-	-	-	-	EP104TC04	691411	EP104TK04	691428	3
6	-	-	EP104TB06	691397	EP104TC06	691412	EP104TK06	691429	3
8	-	-	EP104TB08	691398	EP104TC08	691413	EP104TK08	691430	3
10	-	-	EP104TB10	691399	EP104TC10	691415	EP104TK10	691432	3
13	-	-	EP104TB13	691400	EP104TC13	691416	-	-	3
16	-	-	EP104TB16	667247	EP104TC16	691417	EP104TK16	691433	3
20	-	-	EP104TB20	691401	EP104TC20	691418	EP104TK20	691434	3
25	-	-	EP104TB25	691402	EP104TC25	691419	EP104TK25	691435	3
32	-	-	EP104TB32	691403	EP104TC32	691420	EP104TK32	691436	3
40	-	-	EP104TB40	691404	EP104TC40	691421	EP104TK40	691437	3
50	-	-	EP104TB50	691405	EP104TC50	691422	EP104TK50	691438	3
63	-	-	EP104TB63	691406	EP104TC63	691423	EP104TK63	691439	3

Railway applications with ring terminals

Series EP100T

A

B

C

D

E

F

X

New

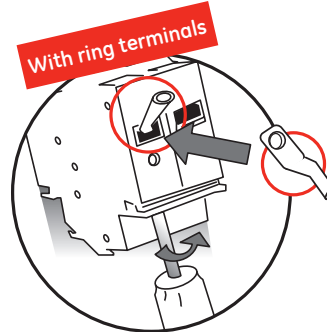






## Miniature circuit breakers with ring terminals

### Series EP100 UCT



The miniature circuit breakers in RAIL-design have been developed with regard to shakes, shocks and vibrations

### Applications



### Standards

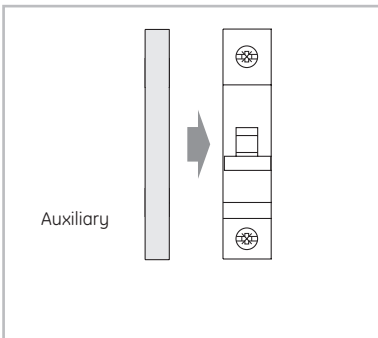
Certified acc. new CEI UNI 11170 (higher protection against fires)  
 Certified acc. to NF 16-101, smoke index F  
 Shock and vibrations tests acc. to IEC 61373

### Approval / Marking

Trenitalia n° 371441.01



### Add-on devices



- Auxiliary contacts ● pg C.10
- Shunt trip ● pg C.11
- Dimensions ● pg A.68

### Performances

Thermal setting $I_n$	(A) 0.5 to 63 at 45°C
Rated voltage AC $U_n$	(V) 250/440
Operating temperature	(°C) -40/+70
Tripping characteristics	Z-B-C-K
Selectivity class	3
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. IEC 60068-2-28/2-30	95% RH under 55°C
Capacity of ring terminal	(mm <sup>2</sup> ) 16 (x2 connections)
Torque	(Nm) 2
Poles	1, 2
Self-extinguish degree	according UNI CEI 11170
Smoke index acc. UNI CEI 11170, NF 16-102	F1
Maximum working altitude	(m) 2000

### Short-circuit capacity

DC acc. to EN/IEC 60947-2

Poles	Vdc	Icu (kA)/Ics(kA)
1	24	25/15 ms
	60	25/15 ms
	110	20/10 ms
	250	10/5 ms
2	24	30/15 ms
	60	30/15 ms
	110	25/15 ms
	250	10/5 ms

New



Railway applications with ring terminals

Series EP100 UCT - 10kA - characteristics Z-B-C-K



1P  
1 mod.

In (A)	2-3 In (Z)		3-5 In (B)		8-12 In (C)		8-12 In (K)		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	EP101UCTZ0.5	691484	-	-	EP101UCTC0.5	691451	EP101UCTK0.5	691468	12
1	EP101UCTZ01	691485	-	-	EP101UCTC01	691452	EP101UCTK01	691469	12
1,6	EP101UCTZ1.6	691491	-	-	EP101UCTC1.6	691458	EP101UCTK1.6	691475	12
2	EP101UCTZ02	691486	-	-	EP101UCTC02	691453	EP101UCTK02	691470	12
3	EP101UCTZ03	691487	-	-	EP101UCTC03	691454	EP101UCTK03	691471	12
4	EP101UCTZ04	691488	-	-	EP101UCTC04	691455	EP101UCTK04	691472	12
6	EP101UCTZ06	691489	EP101UCTB06	691440	EP101UCTC06	691456	EP101UCTK06	691473	12
8	EP101UCTZ08	691490	EP101UCTB08	691441	EP101UCTC08	691457	EP101UCTK08	691474	12
10	EP101UCTZ10	691492	EP101UCTB10	691442	EP101UCTC10	691459	EP101UCTK10	691476	12
13	-	-	EP101UCTB13	691443	EP101UCTC13	691460	-	-	12
16	EP101UCTZ16	691493	EP101UCTB16	691444	EP101UCTC16	691461	EP101UCTK16	691477	12
20	EP101UCTZ20	691494	EP101UCTB20	691445	EP101UCTC20	691462	EP101UCTK20	691478	12
25	EP101UCTZ25	691495	EP101UCTB25	691446	EP101UCTC25	691463	EP101UCTK25	691479	12
32	EP101UCTZ32	691496	EP101UCTB32	691447	EP101UCTC32	691464	EP101UCTK32	691480	12
40	EP101UCTZ40	691497	EP101UCTB40	691448	EP101UCTC40	691465	EP101UCTK40	691481	12
50	EP101UCTZ50	691498	EP101UCTB50	691449	EP101UCTC50	691466	EP101UCTK50	691482	12
63	EP101UCTZ63	691499	EP101UCTB63	691450	EP101UCTC63	691467	EP101UCTK63	691483	12



2P  
2 mod.

0,5	EP102UCTZ0.5	691544	-	-	EP102UCTC0.5	691511	EP102UCTK0.5	691528	6
1	EP102UCTZ01	691545	-	-	EP102UCTC01	691512	EP102UCTK01	691529	6
1,6	EP102UCTZ1.6	691551	-	-	EP102UCTC1.6	691518	EP102UCTK1.6	691535	6
2	EP102UCTZ02	691546	-	-	EP102UCTC02	691513	EP102UCTK02	691530	6
3	EP102UCTZ03	691547	-	-	EP102UCTC03	691514	EP102UCTK03	691531	6
4	EP102UCTZ04	691548	-	-	EP102UCTC04	691515	EP102UCTK04	691532	6
6	EP102UCTZ06	691549	EP102UCTB06	691500	EP102UCTC06	691516	EP102UCTK06	691533	6
8	EP102UCTZ08	691550	EP102UCTB08	691501	EP102UCTC08	691517	EP102UCTK08	691534	6
10	EP102UCTZ10	691552	EP102UCTB10	691502	EP102UCTC10	691519	EP102UCTK10	691536	6
13	-	-	EP102UCTB13	691503	EP102UCTC13	691520	-	-	6
16	EP102UCTZ16	691553	EP102UCTB16	691504	EP102UCTC16	691521	EP102UCTK16	691537	6
20	EP102UCTZ20	691554	EP102UCTB20	691505	EP102UCTC20	691522	EP102UCTK20	691538	6
25	EP102UCTZ25	691555	EP102UCTB25	691506	EP102UCTC25	691523	EP102UCTK25	691539	6
32	EP102UCTZ32	691556	EP102UCTB32	691507	EP102UCTC32	691524	EP102UCTK32	691540	6
40	EP102UCTZ40	691557	EP102UCTB40	691508	EP102UCTC40	691525	EP102UCTK40	691541	6
50	EP102UCTZ50	691558	EP102UCTB50	691509	EP102UCTC50	691526	EP102UCTK50	691542	6
63	EP102UCTZ63	691559	EP102UCTB63	691510	EP102UCTC63	691527	EP102UCTK63	691543	6



Railway applications with ring terminals

Series EP100 UCT

A

B

C

D

E

F

X



New

Accessories for MCB's - Series EP

Circuit protection

A

B




C

D

E

F

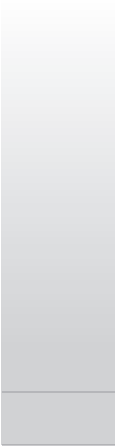
X

		Cat. No.	Ref. No.	Pack.
 <p><b>Sealing plate for 4P</b></p>	Cut off the number of poles needed for Series G, GT	EPP	669486	100
 <p><b>Padlocking bracket</b></p>	Allows padlocking in ON and OFF position Ø padlock 5 mm	KS	624929	2
 <p><b>Spacer</b></p>	1/2 module	PLS / CTX SP	686069	50
 <p><b>DIN-rail extraction piece</b></p>	Easy DIN-rail extraction of a MCB Series G, GT and EP using busbars on the top	EDRE	600232	10



Notes

Grid of red dots for notes.



A
B
C
D
E
F
X



# 2 circuits in 1 mo

## ElfaPlus Unibis™: the solution

Unibis™ compact MCB's are one of the latest introductions in the ElfaPlus range and are developed to **reduce the size of the distribution board to the minimum**. The performances are upgraded to **10kA**.

Circuit protection

A

B

C

D

E

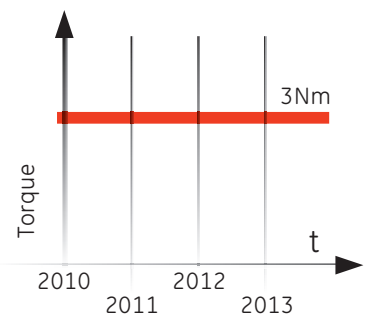
F

X



Safety terminals

Up to 6mm<sup>2</sup> + 4mm<sup>2</sup> wires combined.

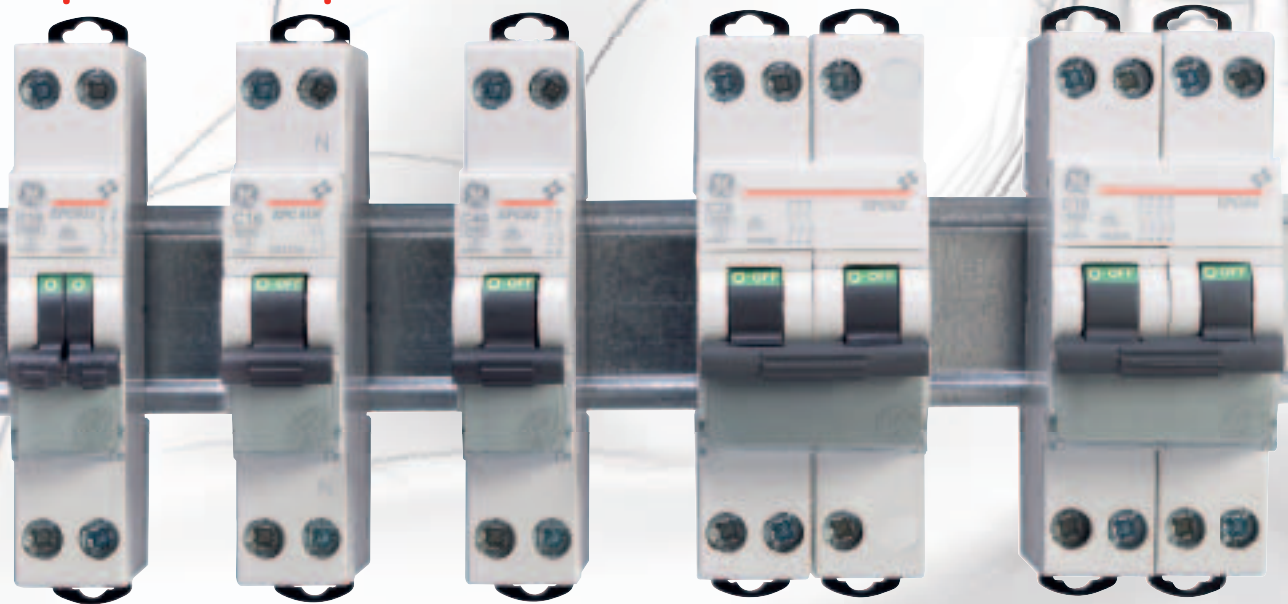


New



# Module

## for space problems



1P+1P  
in  
1 mod

1P+N  
in  
1 mod

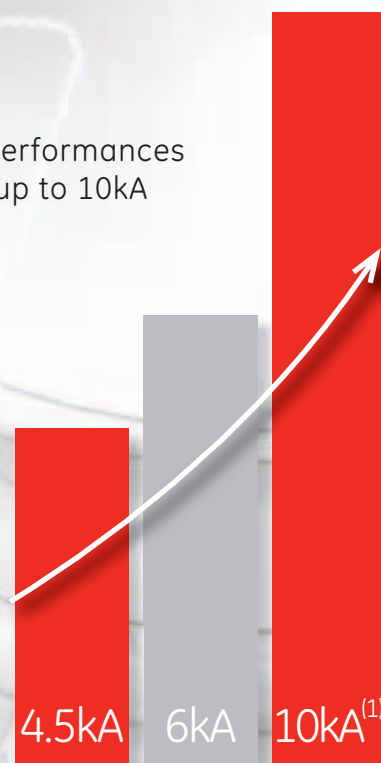
2P  
in  
1 mod

3P  
in  
2 mod

4P  
in  
2 mod

- ✓ Brandnew design:
  - 2P in 1 module,
- ✓ 3 and 4P in 2 modules
- ✓ Complete range: from 4.5–6–**10kA<sup>(1)</sup>**,  
2–**40** Amps, B and C curves
- ✓ 100% compatible with all ElfaPlus  
auxiliaries and accessories
- ✓ 100% quality and reliability  
acc. to EN 60898
- ✓ CEPEC, NF, VDE, KEMA, IMQ certified

3 performances  
up to 10kA



**New**

(1) 10kA, 1PN and 2P according IEC 60947-2



# The solution for

## Unibis™ compact MCB's quality and reliability guaranteed

Circuit protection

A

B

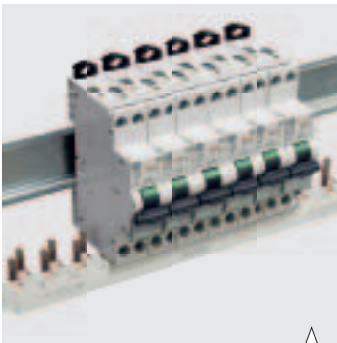
C

D

E

F

X



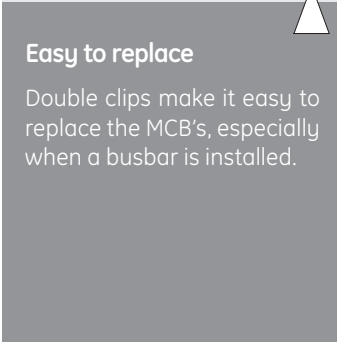
### High performance clips

To fix the MCB to the DIN-rail.



### High performance torque

Up to 3Nm.



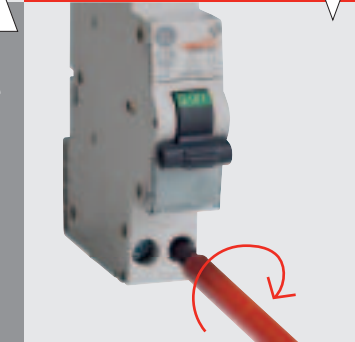
### Easy to replace

Double clips make it easy to replace the MCB's, especially when a busbar is installed.



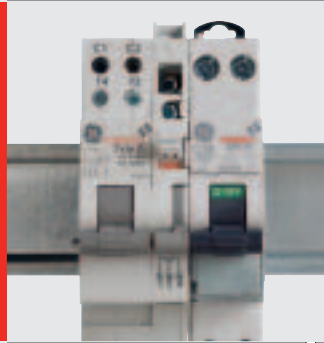
### Userfriendly

All screws are on the same level to work fast and easy.



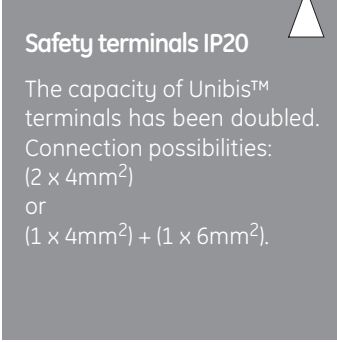
### Green or red flag on toggle with isolation applications

Correct information about the real position. Minimum 5mm distance between open contacts is ensured.



### Part of the family

Unibis™ MCB's fit perfectly in the ElfaPlus range.



### Safety terminals IP20

The capacity of Unibis™ terminals has been doubled. Connection possibilities: (2 x 4mm<sup>2</sup>) or (1 x 4mm<sup>2</sup>) + (1 x 6mm<sup>2</sup>).



### Full functionality

A small auxiliary contact is the interface to the complete functionality of the ElfaPlus auxiliaries and accessories.



New



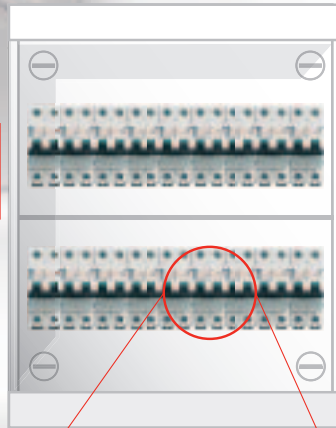


# renovations

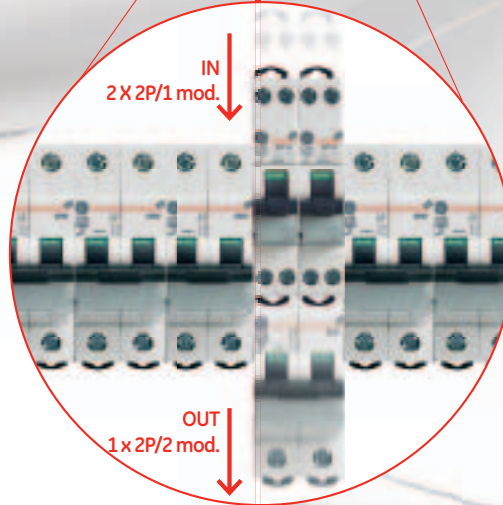
Saving up to 50% space  
in distribution boards!

**Before**

18 x 2P MCB's  
**36** MODULES



Replacing standard  
MCB's by compact  
Unibis™ MCB's

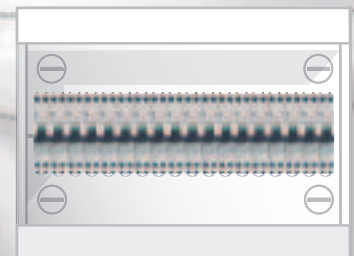


OR

FREE DIN-RAIL FOR  
EXTENSIONS



DISTRIBUTION BOARD  
REDUCED BY 50%



**After**

18 x 2P MCB's  
**18** MODULES

**New**

**Technical data of compact MCB's**

Series			EPC 61N
Standards			EN 60898-1
Tripping characteristics			B,C
Nominal current (In)			2-40
Calibration temperature (°C)			30
Number of poles (# mod)			1+N (1 mod)
Neutral pole protected			-
Nominal voltage Un AC			240
1P+N (V)			
1P+1P (V)			-
2P (V)			-
3P (V)			-
4P (V)			-
Nominal voltage Un DC (V=)			-
2P (V=)			-
Frequency (Hz)			50/60
in DC			Thresh. magn. + 40%
for 400 Hz			Thresh. magn. + 50%
Maximum service voltage Ub max (V)			250
Minimum service voltage Ub min (V)			12
Selectivity class (EN 60898-1)			3
Rated insulation voltage			
Pollution degree 2 (V)			500
Pollution degree 3 (V)			400
Impulse withstand test voltage (kV)			6
Insulation resistance (MΩ)			1000
Dielectric rigidity (kV)			2.5
Vibration resistance (in x,y,z direction) (IEC 77/16.3) (g)			3
Endurance			
Electrical at Un,In			10000 <sup>(1)</sup>
Mechanical			20000
Utilisation category (EN 60947-2)			A
Mounting position: vertical/horizontal			any
Incoming top or bottom			yes
Protection degree (outside/inside enclosure with door)			IP20/IP40
Selfextinguish degree (acc. UL 94)			V2
Tropicalisation (acc. EN 60068-2/DIN 40046)			+55°C/95%RH
Operating temperature (°C)			-25/+55
Storage temperature (°C)			-55/+55
Terminal capacity			
Rigid cable min/max (top) (mm <sup>2</sup> )			1/16 <sup>(2)</sup>
Flexible cable min/max (top) (mm <sup>2</sup> )			1/10 <sup>(2)</sup>
Rigid cable min/max (bottom) (mm <sup>2</sup> )			1/16 <sup>(2)</sup>
Flexible cable min/max (bottom) (mm <sup>2</sup> )			1/10 <sup>(2)</sup>
Torque (Nm)			3
Add-on devices			
Auxiliary contacts			yes
Tele U			yes <sup>(3)</sup>
Tele L			yes <sup>(3)</sup>
PBS			yes <sup>(3)</sup>
Tele MP			yes
Busbar systems			
Pin (top/bottom)			yes/yes
Fork (top/bottom)			no/no
Accessories			
Width per mod. (mm)			yes
Weight per mod. (g)			18
Package			125
Package			12
Approvals			VDE, KEMA, IMQ
CE- marking			yes
Page			A.52

**Short-circuit capacity of compact MCB's**

Series			EPC 61N
<b>Short-circuit capacity AC</b>			(kA)
EN/IEC 60898-1 Icn			
1P+N 240V			6
1P+1P 240V			-
2P 415V			-
3P 415V			-
4P 415V			-
EN 60947-2 Icu			
1P+N 230V			10
1P+1P 230V			-
2P 230V			-
2P 415V			-
3P 415V			-
4P 415V			-
<b>Short-circuit capacity DC</b>			
EN 60947-2 Icu			
2P 96Vdc			-

(1) 8000 for 32 and 40 A

(2) Also accepting (2x4mm<sup>2</sup>) or (1x4mm<sup>2</sup>)+(1x6mm<sup>2</sup>)

(3) Requires CA UN auxiliary contact as interface



EPC 611	EPC 60
EN 60898-1	EN 60898-1
B,C	B,C
2-20	2-40 <sup>(5)</sup>
30	30
1P+1P (1 mod)	2 (1 mod), 3&4 (2 mod)
-	-
-	-
240 <sup>(4)</sup>	-
-	415
-	415
-	415
-	96
50/60	50/60
Thresh. magn. + 40%	Thresh. magn. + 40%
Thresh. magn. + 50%	Thresh. magn. + 50%
250/440	250/440
12	12
3	3
500	500
400	400
6	6
1000	10000
2.5	2.5
3	3
10000 <sup>(1)</sup>	10000 <sup>(1)</sup>
20000	20000
A	A
any	any
yes	yes
IP20/IP40	IP20/IP40
V2	V2
+55°C/95%RH	+55°C/95%RH
-25/+55	-25/+55
-55/+55	-55/+55
1/16 <sup>(2)</sup>	1/16 <sup>(2)</sup>
1/10 <sup>(2)</sup>	1/10 <sup>(2)</sup>
1/16 <sup>(2)</sup>	1/16 <sup>(2)</sup>
1/10 <sup>(2)</sup>	1/10 <sup>(2)</sup>
3	3
yes	yes
yes <sup>(3)</sup>	yes <sup>(3)</sup>
yes <sup>(3)</sup>	yes <sup>(3)</sup>
yes <sup>(3)</sup>	yes <sup>(3)</sup>
yes	yes
yes/yes	yes/yes
no/no	no/no
yes	yes
18	18/36
160	160/320
12/6	12/6
VDE, IMQ	VDE, IMQ, NF, CEBEC
yes	yes
A.53	A.54

EPC 611	EPC 60
(kA)	(kA)
-	-
6	-
-	6
-	6
-	6
-	-
6	-
-	10
-	6
-	6
-	6
-	6

(1) 8000 for 32 and 40 A  
 (2) Also accepting (2x4mm<sup>2</sup>) or (1x4mm<sup>2</sup>)+(1x6mm<sup>2</sup>)

(3) Requires CA UN auxiliary contact as interface  
 (4) Single phase supply or same phase in 3Ph supply  
 (5) 32A, 3P & 4P in progress

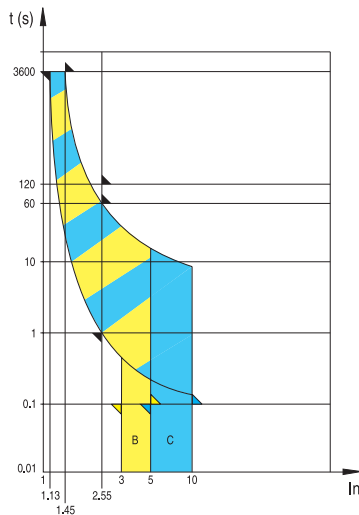


New

## Characteristics according to IEC/EN 60898-1

Miniature Circuit Breakers (MCB) are intended for the protection of wiring installations against both overloads and short-circuits in domestic or commercial wiring installations where operation is possible by uninstructed people.

Tripping characteristic curves (EN/IEC 60898-1)



### Magnetic release

An electromagnet with plunger ensures instantaneous tripping in the event of short-circuit. The standard distinguishes two different types, following the current for instantaneous release: type B and C.

In	Test (A) current	Tripping time	Applications
B	3 x In	0.1 < t < 45s (In ≤ 32A) 0.1 < t < 90s (In > 32A)	Only for resistive loads such as: - electrical heating - water heater - stoves
	5 x In	t < 0.1s	
C	5 x In	0.1 < t < 15s (In ≤ 32A) 0.1 < t < 30s (In > 32A)	Usual loads such as: - lighting - socket-outlets - small motors
	10 x In	t < 0.1s	

### Thermal release

The release is initiated by a bimetal strip in case of overload. The standard defines the range of releases for specific overload values. Reference ambient temperature is 30°C.

Test current	Tripping time
1.13 x In	t ≥ 1h (In ≤ 63A) t ≥ 2h (In > 63A)
1.45 x In	t < 1h (In ≤ 63A) t < 2h (In > 63A)
2.55 x In	1s < t < 60s (In ≤ 32A) 1s < t < 120s (In > 32A)

## Influence of ambient air temperature on the rated current

The maximum value of the current which can flow through an MCB depends of the nominal current of the MCB, the conductor cross-section as well as of the ambient air temperature.

The values shown in the table below are for devices in free air. For devices installed with other modular devices in the same switchboard a correction factor (K) shall be applied relative to the mounting situation of the MCB, the ambient temperature and the number of main circuits in the installation (EN 60439-1):

No. of devices	K
2 or 3	0.9
4 or 5	0.8
6 to 9	0.7
> 10	0.6

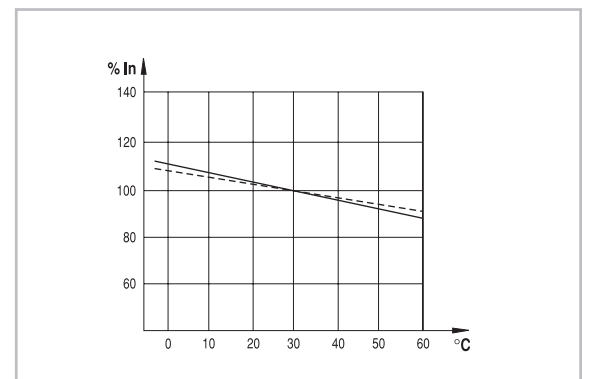
### Calculation example

Within a distribution panel consisting of eight MCB's 2PC16 with an operating ambient temperature of 45°C, which is the highest temperature at which the MCB can operate without unwanted tripping.

### Calculation

The correction factor K=0.7, for use in an eight circuit installation: 16A x 0.7= 11.2A  
As the MCB is working at 45°C, another factor shall be applied (90% = 0.9):  
In at 45°C = In at 30°C x 0.9 = 11.2A x 0.9 = 10.1A

The thermal calibration of the MCB's was carried out at an ambient temperature of 30°C. Ambient temperatures different from 30°C influence the bimetal and this results in earlier or later thermal tripping.



## Tripping current as a function of the frequency

All MCB's are designed to work at frequencies of 50-60 Hz, therefore to work at different values, consideration must be given to the variation of the tripping characteristics. The thermal tripping does not change with variation of the frequency but the magnetic tripping values can be up to 50% higher than the ones at 50-60 Hz. For DC current magnetic tripping is 50% higher.

### Tripping current variations

60Hz	100Hz	200Hz	300Hz	400Hz
1	1.1	1.2	1.4	1.5

## Power losses

The power losses are calculated by measuring the voltage drop between the incoming and the outgoing terminals of the device at rated current.

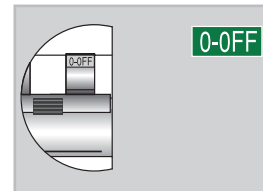
### Power losses per pole

In (A)	Voltage drop (V)	Energy loss Pw (W)	Resistance Z (mOhm)
2	0.55	1.1	275.00
4	0.34	1.35	84.38
6	0.25	1.52	42.22
10	0.16	1.64	16.40
16	0.13	2.1	8.20
20	0.13	2.52	6.30
25	0.12	3.1	4.96
32	0.12	3.8	3.71
40	0.11	4.46	2.79

## Toggle

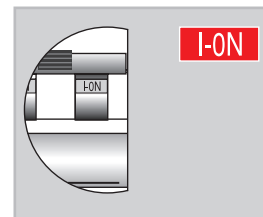
The toggle permits to switch the MCB ON or OFF

Printing on the toggle provides information of the real contact position.



### 0-OFF

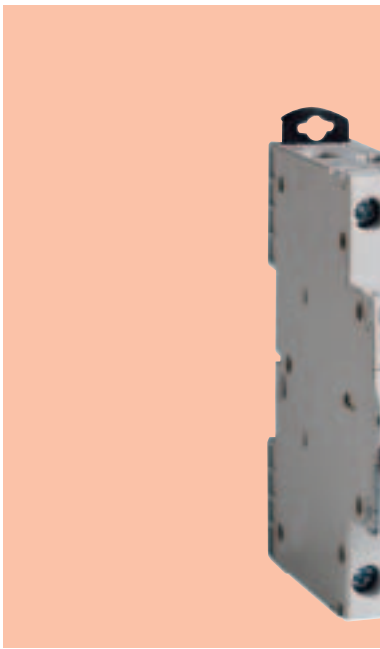
Contacts in open position. Ensures a distance between contacts > 5mm in the Unibis™ range.



### I-ON

Contacts in closed position. Ensures continuity in the main circuit.

Note: Series DCC has got ON-OFF indication on the shell.



## Compact MCB's

### Series EPC 61N

EN/IEC 60898-1	6000
	3
EN/IEC 60947-2	10kA

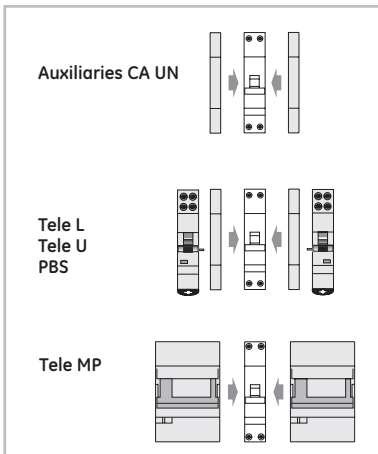
### Applications



### Approvals / Marking



### Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS) to the MCB, a CA UN auxiliary has to be coupled first as interface. Not needed with Tele MP.

Auxiliary contacts ● pg C.6

Busbars ● chap. E  
Dimensions ● pg A.68

### Performances

Thermal setting $I_n$	(A) 2-40
Rated voltage AC $U_n$	(V) 240
Minimum operating voltage $U_{Bmin}$	(V) 12
Tripping characteristics	B-C
Selectivity class	3
Mechanical/electrical endurance	20000/10000 <sup>(1)</sup>
Tropicalisation acc. to EN/IEC 60068-2	55°C at 95% RH
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> ) 10-16 <sup>(2)</sup>
Poles	1P+N (1 mod)
Weight	(g) 125

### Short-circuit capacity

#### Acc. to EN/IEC 60898-1

Poles	V	$I_{cn}/I_{cs}$ (kA)
1P+N	240	6

#### Acc. to EN/IEC 60947-2

Poles	V	$I_{cu}$ (kA)
1P+N	240	10

Attention: do not use on IT net configuration

### Series EPC 61N - 6kA - characteristics B-C

	B			C		
	In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Pack.
1P + N	2	EPC 61N B02	692819	EPC 61N C02	692791	12
1 mod.	4	EPC 61N B04	692820	EPC 61N C04	692792	12
	6	EPC 61N B06	692821	EPC 61N C06	692793	12
	10	EPC 61N B10	692822	EPC 61N C10	692794	12
	13	EPC 61N B13	692604	EPC 61N C13	692795	12
	16	EPC 61N B16	692823	EPC 61N C16	692796	12
	20	EPC 61N B20	692824	EPC 61N C20	692797	12
	25	EPC 61N B25	692825	EPC 61N C25	692798	12
	32	EPC 61N B32	692826	EPC 61N C32	692799	12
	40	EPC 61N B40	692827	EPC 61N C40	692800	12

(1) 8000 for 32 and 40A

(2) Also accepting (2x4mm<sup>2</sup>) or (1x4mm<sup>2</sup>)+(1x6mm<sup>2</sup>)



## Compact MCB's

### Series EPC 611



EN/IEC 60898-1

6000

3

EN/IEC 60947-2

6kA

### Performances

Thermal setting In	(A) 2-20
Rated voltage AC Un	(V) 230 <sup>(1)</sup>
Minimum operating voltage U <sub>Bmin</sub>	(V) 12
Tripping characteristics	B-C
Selectivity class	3
Mechanical/electrical endurance	20000/10000 <sup>(2)</sup>
Tropicalisation acc. to EN/IEC 60068-2	55°C at 95% RH
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> ) 10-16 <sup>(3)</sup>
Poles	1P+1P (1 mod)
Weight	(g) 125

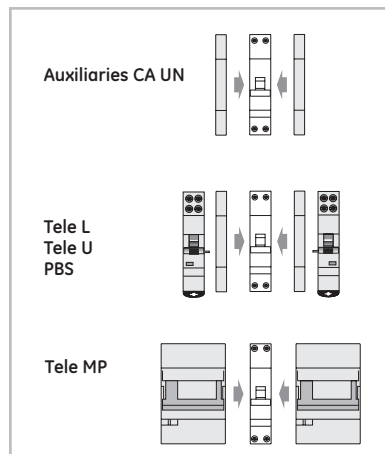
### Applications



### Approvals / Marking



### Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS) to the MCB, a CA UN auxiliary has to be coupled first as interface. Not needed with Tele MP.

Auxiliary contacts ● pg C.6

Busbars ● chap. E  
Dimensions ● pg A.68

### Short-circuit capacity

Acc. to EN/IEC 60898-1

Poles	V	I <sub>cn</sub> /I <sub>cs</sub> (kA)
1 + 1	230	6

Acc. to EN/IEC 60947-2

Poles	V	I <sub>cu</sub> (kA)
1 + 1	230	6

Attention: do not use on IT net configuration

### Series EPC 611 - 6kA - characteristics B-C

In (A)	B		C		Pack.	
	Cat. No.	Ref. No.	Cat. No.	Ref. No.		
1P+1P 1 mod.	2	EPC 611 B02B02	692689	EPC 611 C02C02	692699	12
	4	EPC 611 B04B04	692690	EPC 611 C04C04	692700	12
	6	EPC 611 B06B06	692691	EPC 611 C06C06	692701	12
	10	EPC 611 B10B10	692692	EPC 611 C10C10	692702	12
1/2 1/2 2/1 2/1	13	EPC 611 B13B13	692693	EPC 611 C13C13	692703	12
	16	EPC 611 B16B16	692694	EPC 611 C16C16	692704	12
	20	EPC 611 B20B20	692695	EPC 611 C20C20	692705	12

(1) Single phase supply or same phase in 3Ph supply

(2) 8000 for 32 and 40A

(3) Also accepting (2x4mm<sup>2</sup>) or (1x4mm<sup>2</sup>)+(1x6mm<sup>2</sup>)

Series EPC 611

A

B

C

D

E

F

X



New





## Compact MCB's

### Series EPC 60

EN/IEC 60898-1

6000

3

EN/IEC 60947-2

10kA<sup>(1)</sup>

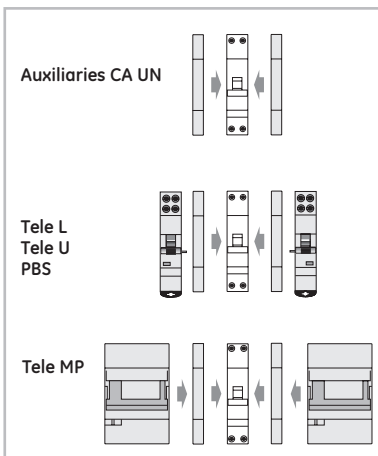
### Applications



### Approvals / Marking



### Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS) to the MCB, a CA UN auxiliary has to be coupled first as interface. Not needed with Tele MP.

Auxiliary contacts ● pg C.6

Busbars ● chap. E  
Dimensions ● pg A.68

### Performances

Thermal setting In	(A) 2-40 <sup>(2)</sup>
Rated voltage AC Un	(V) 240/415
Minimum operating voltage U <sub>Bmin</sub>	(V) 12
Tripping characteristics	B-C
Selectivity class	3
Mechanical/electrical endurance	20000/10000 <sup>(3)</sup>
Tropicalisation acc. to EN/IEC 60068-2	55°C at 95% RH
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> ) 10-16 <sup>(4)</sup>
Poles	2,3,4
Weight/mod	(g) 160

### Short-circuit capacity

#### Acc. to EN/IEC 60898-1

Poles	V	I <sub>cn</sub> /I <sub>cs</sub> (kA)
2P	240/415	6
3P	240/415	6
4P	240/415	6

#### Acc. to EN/IEC 60947-2

Poles	V	I <sub>cu</sub> (kA)
2P	240	10
2P	240/415	6
3P	240/415	6
4P	240/415	6




(1) 6kA at 415V

(2) 32A, 3P & 4P

(3) 8000 for 32 and 40A

(4) Also accepting (2x4mm<sup>2</sup>) or (1x4mm<sup>2</sup>)+(1x6mm<sup>2</sup>)

Series EPC 60 - 6kA - characteristics B-C

	In (A)	B		C		Pack.	
		Cat. No.	Ref. No.	Cat. No.	Ref. No.		
 <p>2P 1 mod.</p> <p>1/2 3/4</p> <p>2/1 4/3</p>	2	EPC 62 B02	692635	EPC 62 C02	692554	12	
	4	EPC 62 B04	692636	EPC 62 C04	692555	12	
	6	EPC 62 B06	692637	EPC 62 C06	692556	12	
	10	EPC 62 B10	692638	EPC 62 C10	692557	12	
	16	EPC 62 B16	692639	EPC 62 C16	692558	12	
	20	EPC 62 B20	692640	EPC 62 C20	692559	12	
	25	EPC 62 B25	692641	EPC 62 C25	692560	12	
	32	EPC 62 B32	692642	EPC 62 C32	692561	12	
	40	EPC 62 B40	692643	EPC 62 C40	692562	12	
	 <p>3P<sup>(1)</sup> 2 mod.</p> <p>1/2 3/4 5/6</p> <p>2/1 4/3 6/5</p>	2	EPC 63 B02	692644 <sup>(1)</sup>	EPC 63 C02	692563 <sup>(1)</sup>	6
		4	EPC 63 B04	692645 <sup>(1)</sup>	EPC 63 C04	692564 <sup>(1)</sup>	6
6		EPC 63 B06	692646 <sup>(1)</sup>	EPC 63 C06	692565 <sup>(1)</sup>	6	
10		EPC 63 B10	692647 <sup>(1)</sup>	EPC 63 C10	692566 <sup>(1)</sup>	6	
16		EPC 63 B16	692648 <sup>(1)</sup>	EPC 63 C16	692567 <sup>(1)</sup>	6	
20		EPC 63 B20	692649 <sup>(1)</sup>	EPC 63 C20	692568 <sup>(1)</sup>	6	
25		EPC 63 B25	692650 <sup>(1)</sup>	EPC 63 C25	692569 <sup>(1)</sup>	6	
32 <sup>(2)</sup>		EPC 63 B32	692651 <sup>(1)</sup>	EPC 63 C32	692570 <sup>(1)</sup>	6	
 <p>4P 2 mod.</p> <p>1/2 3/4 5/6 7/8</p> <p>2/1 4/3 6/5 8/7</p>		2	EPC 64 B02	692653	EPC 64 C02	692572	6
		4	EPC 64 B04	692654	EPC 64 C04	692573	6
		6	EPC 64 B06	692655	EPC 64 C06	692574	6
	10	EPC 64 B10	692656	EPC 64 C10	692575	6	
	16	EPC 64 B16	692657	EPC 64 C16	692576	6	
	20	EPC 64 B20	692658	EPC 64 C20	692577	6	
	25	EPC 64 B25	692659	EPC 64 C25	692578	6	
	32	EPC 64 B32	692660 <sup>(2)</sup>	EPC 64 C32	692579 <sup>(2)</sup>	6	

(1) The auxiliary contact CA UN must be placed only on the **left side** of the 3P MCB's  
 (2) In progress

# Screwless & Plug-in

The new range of *Fixwell*™ MCB

Circuit protection

A

B

C

D

E

F

X



## Screwless contact

At the top all *Fixwell*™ MCB's are equipped with 2 screwless contacts per pole, up to 2 x 4mm<sup>2</sup>.

## Terminal contact stability guaranteed

No tightening needed later on.



## Easy to disconnect

Plug-in the cable to connect, release by pressing the push-button. Tightening and releasing by screws is history !

- ✓ 100% screwless top cable connection up to 20A
- ✓ 100% screwless bottom plug-in connection for standard GE pin busbars up to 63A
- ✓ 100% toolfree installation
- ✓ 100% reliable & safe

New



# g-in 's and RCCB's

## Plug-in connection with standard pin busbars

Click and unclick a standard busbar  
with a simple operation

Standard pin busbars  
as used for all ElfaPlus  
products

## Terminal contact stability guaranteed

No tightening needed later on.

## Plug-in connection

All Fixwell™ MCB's and RCCB's are  
equipped with plug-in busbar contacts.



**New**

# Easy, Fast and

## How to install MCB's and RCCB's without tools within seconds

Fixwell™ MCB's and RCCB's are the most recent extension of the ElfaPlus range and are developed **to reduce time of installation to the absolute minimum.** A toolfree installation with guaranteed reliability from the very first moment by **plug & play.** A 100% compatibility with all ElfaPlus accessories and auxiliaries are the keys of success of this innovative range of MCB's and RCCB's.

**1 hour becomes 30 min.**  
 >50% time reduction using manual screwdriver  
 >30% time reduction using electrical screwdriver

Circuit protection

A

B

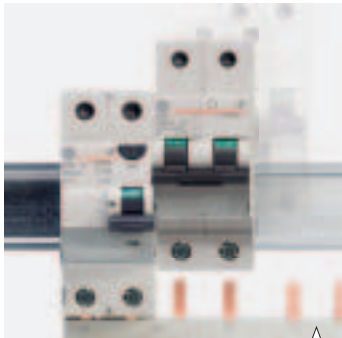
C

D

E

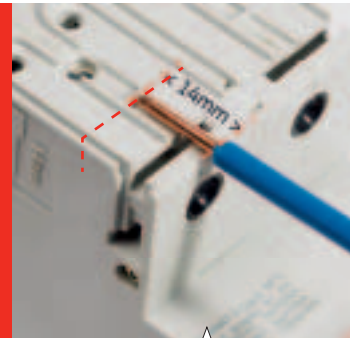
F

X



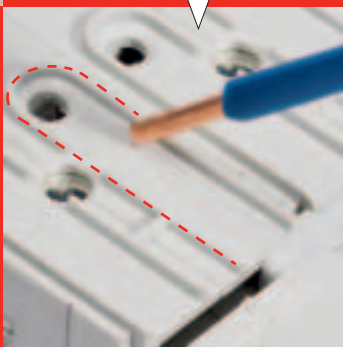
**Easy DIN-rail extraction**

**Plug-in connection with standard busbars**  
 All Fixwell™ MCB's and RCCB's are equipped at the bottom with screwless plug-in contacts for GE standard pin busbars. Click and unclick with a simple operation. Time consuming tightening is no longer needed.



**User-friendly**  
 Determine the perfect length (14mm) of the bare cable using the integrated measurement tool.

**Integrated guide**  
 Moulded channels smoothly guide the cables to the terminals in all conditions.

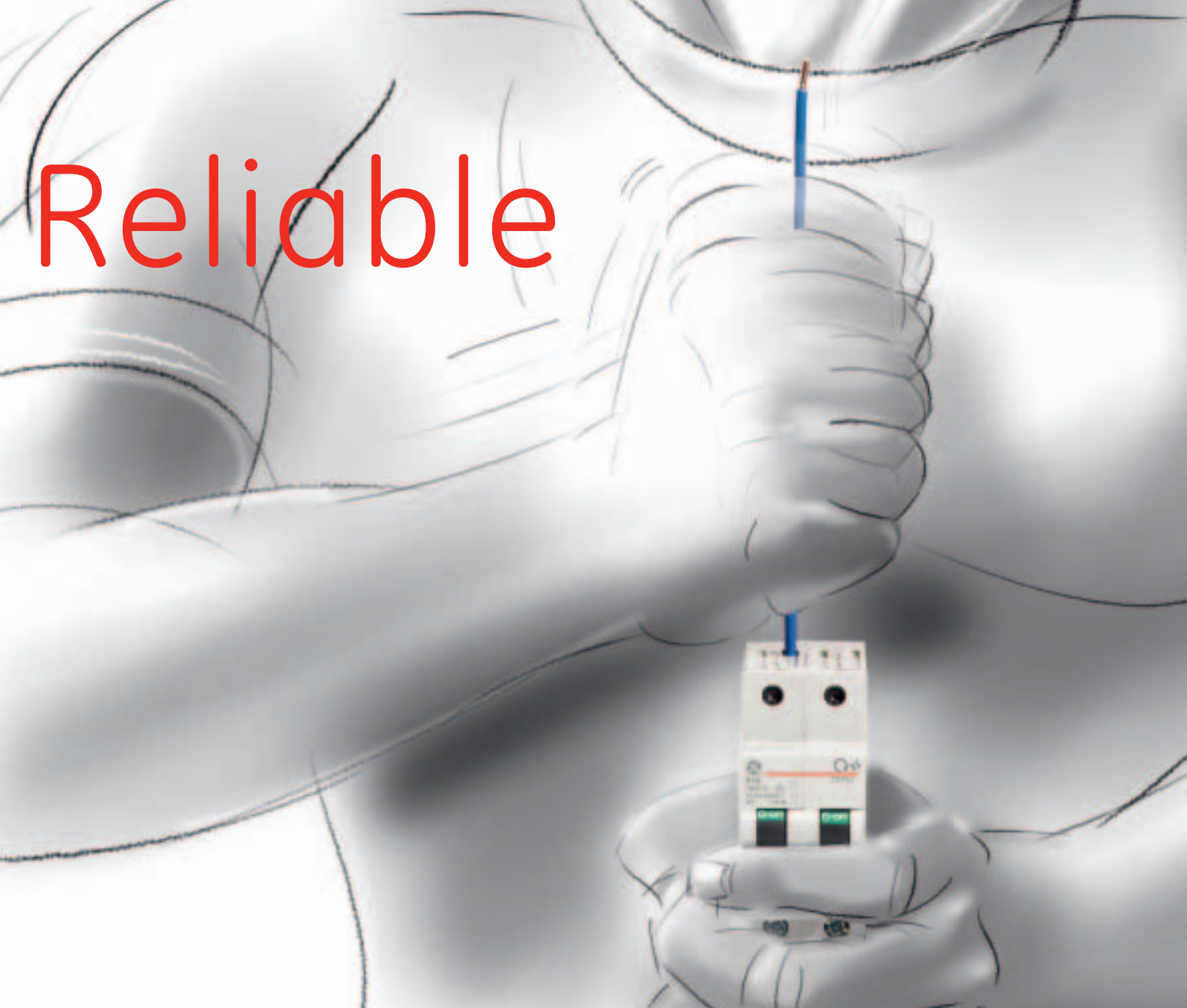


Up to 63A

**New**



# Reliable



Up to  
20A

## Sure and secure from the first moment

Push down vertically the cable into the contact until the withstand. From that very moment is the cable in perfect position. No additional tightening is required.



## Part of the family

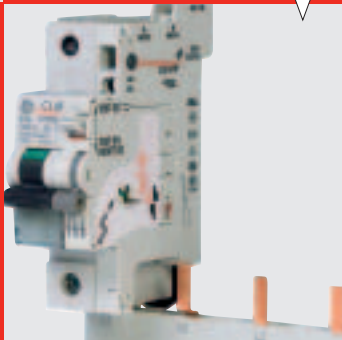
Fixwell™ MCB's and RCCB's fit perfectly in the ElfaPlus range and are compatible with all ElfaPlus auxiliaries and accessories.

**Rigid and flexible cable**  
You have the choice : rigid cable or multiwire from 1 up to 4mm<sup>2</sup>. It doesn't matter, our Fixwell™ MCB's are accepting both! No cable crimps needed.



'plug & play'

**Reliable connection**  
The unique concept of Fixwell™ screwless contacts guarantees a permanent pull-out force much higher than standards request. The terminal contacts stability along the time is guaranteed. You can rely on Fixwell™.



New

Technical data of screwless MCB's

Series			EPP60	EPP100	
Standards			IEC/EN 60898-1	IEC/EN 60898-1	
Tripping characteristics			B,C	B,C	
Nominal current <sup>(1)</sup>	(A)		6 - 63	6 - 63	
Calibration temperature	(°C)		30	30	
Number of poles (# mod)			1/1P+N/2/3/3P+N/4P	1/2/3/3P+N/4P	
Neutral pole protected			yes	yes	
Clip-on (rapid closing)			yes	yes	
Nominal voltage (Un)	AC	1P	(V)	240/415	240/415
		1P+N	(V)	240	240
		2P	(V)	415	415
		3P/3P+N/4P	(V)	415	415
DC	1P <sup>(2)</sup>	(Vdc)	48	48	
	2P (in series) <sup>(2)</sup>	(Vdc)	110	110	
Frequency			50 to 60	50 to 60	
Use in D.C.			DC:	DC:	
			magn. trip. +40%	magn. trip. +40%	
			400Hz:	400Hz:	
		magn. trip. +50%	magn. trip.+ 50%		
Maximum service voltage (U <sub>bmax</sub> ) between two wires	(V)		250/440; 53/120Vdc	250/440; 53/120Vdc	
Minimum service voltage (U <sub>bmin</sub> )	(V)		12Vac/12Vdc	12Vac/12Vdc	
Selectivity class (IEC/EN 60898-1)			3	3	
Isolator application	EN 60947-2		yes	yes	
Rated insulation voltage	Pollution degree 2		(V)	500	500
	Pollution degree 3		(V)	440	440
Impulse withstand test voltage			(kV)	6	6
Insulation resistance			(MΩ)	10000	10000
Dielectric rigidity			(kV)	2.5	2.5
Vibration resistance (in x, y, z direction) (IEC 77/16.3)				3g	3g
Endurance	Electrical at Un, In			10000	10000
	Mechanical			20000	20000
Utilisation category (EN 60947-2)			A	A	
Protection degree (outside / inside enclosure)			IP20/IP40	IP20/IP40	
Self-extinguish degree (acc. to UL94)			V2	V2	
Tropicalisation (EN 60068-2 / DIN 40046)	(°C/RH)		+55°C / 95%RH	+55°C / 95%RH	
Operating temperature <sup>(3)</sup>	(°C)		-25/+55	-25/+55	
Storage temperature	(°C)		-55/+55	-55/+55	
Terminal capacity			see page A.72	see page A.74	
Add-on devices (side add-on)	Auxiliary contacts CA		yes	yes	
	Tele U <sup>(4)</sup>		yes	yes	
	Tele L <sup>(4)</sup>		yes	yes	
	Tele MP <sup>(4)</sup>		yes	yes	
	PBS <sup>(4)</sup>		yes	yes	
Busbar system bottom	Pin		yes	yes	
	Fork		no	no	
Accessories			yes	yes	
Dimensions, weights, packaging	(HxDxW) per module		(mm)	88.4x68x18	88.4x68x18
	Weight/module		(g)	125	125
	Package unit			12	12
				VDE-KEMA-CEBEC-IMQ	VDE-KEMA-CEBEC-IMQ
CE-marking			yes	yes	
Page			A.64	A.66	

(1) Rating current derating as usual in function of installation conditions.

(2) Preferred values of rated control supply voltage (EN/IEC 60947-2): 24Vdc, 48Vdc, 110Vdc, 125Vdc, 220Vdc, 250Vdc.

(3) With plug-in pin busbar: -25/+50°C

(4) Only at **any extreme side** of the row. No pin busbars let through allowed.

(5) 4P execution approval pending.

Circuit protection

A

B

C

D

E

F

X



## Terminal capacity

Top terminals		Ratings 6A to 20A:	Ratings 25A to 63A:
		Screwless (Max. 2 wires)	Cage terminals
Rigid cable (min/max)	mm <sup>2</sup>	2 x (1/4) <sup>(1)</sup>	1/35
Flexible cable (min/max)	mm <sup>2</sup>	2 x (1.5/4) <sup>(1)</sup>	0.75/ 25
Recommended torque	Nm	-	2.5
Maximum torque	Nm	-	4.5

Bottom terminals		Ratings 6A to 63A:	Ratings 6A to 63A:	Pin busbar specifications
		Bottom cage terminals <sup>(2)</sup>	Bottom flat plug-in terminals <sup>(3)</sup>	
Rigid cable (min/max)	mm <sup>2</sup>	1/25	To insert GE pin busbars, or other brands under following dimensions: Length = 11.5 ± 0.2mm Width = 4 ± 0.2 mm Thickness = 1.5 ± 0.05 mm Corners min. radius = 0.3 mm	
Flexible cable (min/max)	mm <sup>2</sup>	0.75/16		
Recommended torque	Nm	2.5		
Maximum torque	Nm	4.5		

- (1) The top screwless terminal is composed of two separate and parallel terminals. You can connect one rigid or flexible cable into each terminal. The bare cable (insulation removed to the appropriate length) should be pushed into the screwless terminal (Fig 5), the terminals will not accept cables with cable lugs or ferrules. For flexible cables it is recommended to twist wires and insert it into the terminal by pressing the push-button. To release the cable press the push-button of the MCB and at the same time gently pull the cable (Fig 6).
- (2) Bottom terminals provide a cage terminal to connect also cables to feed other rows /devices limited to rated current of the device.
- (3) Plug-in window terminals are only foreseen for pin busbars providing the incoming supply to several devices from the bottom side.  
Not intended for any other conductor with or without cable lugs or cable connectors.

## How to mount the busbar into devices

- Mount first 2, 3 or 4 poles devices on the DIN-rail at the extreme left side of the row.
- Mount one device at the extreme right side on the DIN-rail.
- Fit the pin busbar on both devices.
- Then, mount one by one the rest of poles pulling down the grey clip previously, inserting the pin bars inside the devices and then closing the clip of every device.
- Finally, remove 14mm of plastic from every wire and insert them vertically one by one inside the top screwless terminals.
- For disconnecting the outgoing wires.

Easy to dismantle from DIN rail

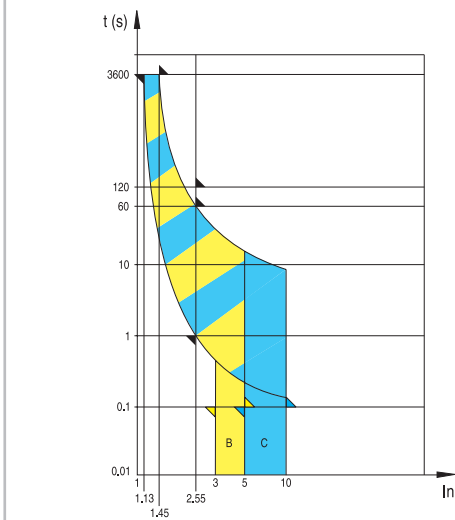
Short-circuit capacity of screwless MCB's

Series			EPP60	EPP100	
<b>Short-circuit capacity AC (kA)</b>					
IEC/EN 60898-1	<b>Icn</b>	1P	230/400V	6	10
		1P+N	230V	6	10
		2P	230/400V	6	10
		3P/3P+N/4P	230/400V	6	10
<b>Ics (service)</b>			100% Icu	75% Icu	
IEC/EN 60947-2	<b>Icu (max.)</b>	1P	127V	20	30
			240V	10	15
			415V	3	4
		1P+N/2P	127V	30	40
			240V	20	30
		2P	415V	10	15
			3P/3P+N/4P	240V	20
		<b>Ics (service)</b>			75% Icu
<b>Short-circuit capacity DC (kA)</b>					
IEC/EN 60947-2	<b>Icu (max.)</b>	1P	≤60V	20	25
			≤125V	-	-
			≤220V	-	-
		2P	≤125V	25	30
			≤440V	-	-
<b>Ics (service)</b>			100% Icu	100% Icu	
<b>Page</b>			A.64	A.66	

Characteristics according to IEC/EN 60898-1

Miniature Circuit Breakers (MCB) are intended for the protection of wiring installations against both overloads and short-circuits in domestic or commercial wiring installations where operation is possible by uninstructed people.

Tripping characteristic curves (EN/IEC 60898-1)



Magnetic release

An electromagnet with plunger ensures instantaneous tripping in the event of short-circuit. The standard distinguishes two different types, following the current for instantaneous release: type B and C.

Icn	Test current (A)	Tripping time	Applications
B	3 x In	0.1 < t < 45s (In ≤ 32A) 0.1 < t < 90s (In > 32A)	Only for resistive loads such as: - electrical heating - water heater - stoves
	5 x In	t < 0.1s	
C	5 x In	0.1 < t < 15s (In ≤ 32A) 0.1 < t < 30s (In > 32A)	Usual loads such as: - lighting - socket-outlets - small motors
	10 x In	t < 0.1s	

Thermal release

The release is initiated by a bimetal strip in case of overload. The standard defines the range of releases for specific overload values.

Reference ambient temperature is 30°C.

Test current	Tripping time
1.13 x In	t ≥ 1h (In ≤ 63A) t ≥ 2h (In > 63A)
1.45 x In	t < 1h (In ≤ 63A) t < 2h (In > 63A)
2.55 x In	1s < t < 60s (In ≤ 32A) 1s < t < 120s (In > 32A)

## Influence of ambient air temperature on the rated current

The maximum value of the current which can flow through a MCB depends of the nominal current of the MCB, the conductor cross-section as well as of the ambient air temperature.

The values shown in the table below are for devices in the free air. For devices installed with other modular devices in the same switchboard a correction factor (K) shall be applied relative to the mounting situation of the MCB, the ambient temperature and the number of main circuits in the installation (EN 60439-1):

No. of devices	K
2 or 3	0.9
4 or 5	0.8
6 to 9	0.7
> 10	0.6

### Calculation example

Within a distribution panel consisting of eight MCB 2PC16 with an operating ambient temperature of 45°C, which is the highest temperature the MCB can operate without unwanted tripping.

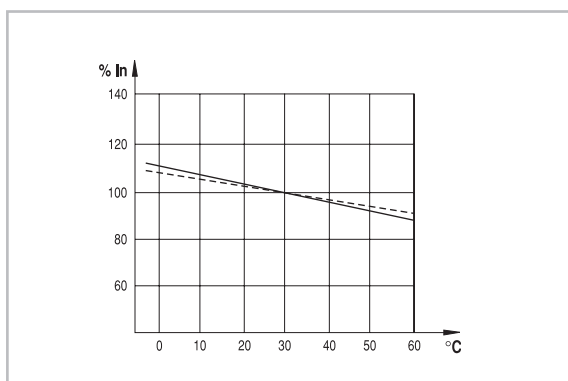
### Calculation

The correction factor  $K=0.7$ , for use in an eight circuit installation:  $16A \times 0.7 = 11.2A$

As the MCB is working at 45°C it shall be applied another factor (90% = 0.9):

$I_n \text{ at } 45^\circ\text{C} = I_n \text{ at } 30^\circ\text{C} \times 0.9 = 11.2A \times 0.9 = 10.1A$

The thermal calibration of the MCB's was carried out at ambient temperature of 30°C. Ambient temperatures different from 30°C influence the bimetal and this results in earlier or later thermal tripping.



## Tripping current as a function of the frequency

All MCB's are designed to work at frequencies of 50-60 Hz, therefore to work at different values, consideration must be given to the variation of the tripping characteristics.

The thermal tripping does not change with variation of the frequency but the magnetic tripping values can be up to 50% higher than the ones at 50-60 Hz.

For DC current magnetic tripping is 50% higher.

### Tripping current variations

60Hz	100Hz	200Hz	300Hz	400Hz
1	1.1	1.2	1.4	1.5

## Power losses

The power losses are calculated by measuring the voltage drop between the incoming and the outgoing terminals of the device at rated current.

### Power losses per pole

In (A)	Voltage drop (V)	Energy loss Pw (W)	Resistance Z (mOhm)
0.5	2.23	1.12	4458.00
1	1.27	1.27	1272.00
2	0.62	1.24	310.00
3	0.52	1.56	173.00
4	0.37	1.49	93.00
6	0.26	1.57	43.60
8	0.16	1.24	19.40
10	0.16	1.56	15.60
13	0.16	2.01	11.90
16	0.16	2.57	10.10
20	0.14	2.76	6.90
25	0.13	3.19	5.10
32	0.10	3.07	3.00
40	0.10	4.00	2.50
50	0.09	4.50	1.80
63	0.08	5.16	1.30



## Screwless MCB's

### Series EPP60

IEC/EN 60898-1	6000
	3
IEC/EN 60947-2	10 kA

### Applications



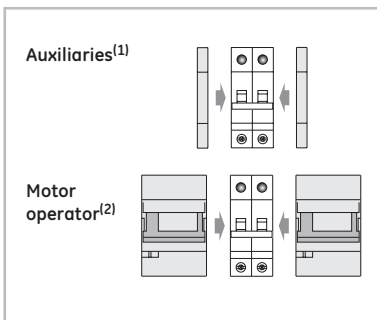
### Approvals / Marking



### Screwless connection



### Add-on devices



(1) Series CA - Tele L - Tele U - PBS

(2) Only one extension at the extreme end of the pin busbar

### Performances

Thermal setting In	(A) 6-63
Rated voltage AC Un	(V) 240/415
Minimum operating voltage U <sub>Bmin</sub>	(V) 12, 12 DC
Tripping characteristics	B,C
Mechanical/electrical endurance	20000/10000
Tropicalisation acc.to IEC 60068-2	95% RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> ) 25-35
Poles	1/1P+N/2/3/3P+N/4P
Weight	(g/mod) 125

### Short-circuit capacity

#### AC acc. IEC/EN 60898-1

Poles	V	I <sub>cn</sub> /I <sub>cs</sub> (kA) <sup>(1)</sup>
1	230/400	6

#### AC acc. IEC/EN 60947-2

Poles	V	I <sub>cu</sub> (kA)
1	240	10
1+N, 2	127	30
	240	20
2	415	10
3, 3+N, 4	240	20
	415	10

#### DC acc. IEC/EN 60947-2

Poles	Un (Vdc)	I <sub>cu</sub> /I <sub>cs</sub> (kA)
1	≤ 60	20
2	≤ 125	25

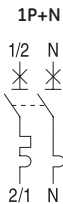
(1) I<sub>cs</sub> = 75% I<sub>cn</sub>

Screwless & Plug-in

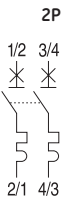
Series EPP60 - characteristic B and C



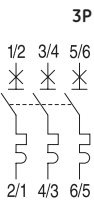
In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	EPP61B06	678172	EPP61C06	678212	12
10	EPP61B10	678173	EPP61C10	678213	12
13	EPP61B13	678174	EPP61C13	678214	12
16	EPP61B16	678175	EPP61C16	678215	12
20	EPP61B20	678176	EPP61C20	678216	12
25	EPP61B25	678177	EPP61C25	678217	12
32	EPP61B32	678178	EPP61C32	678218	12
40	EPP61B40	678179	EPP61C40	678219	12
50	EPP61B50	678180	EPP61C50	678220	12
63	EPP61B63	678181	EPP61C63	678221	12



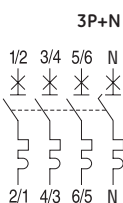
6	-	-	EPP61NC06	678222	6
10	-	-	EPP61NC10	678223	6
13	-	-	EPP61NC13	678224	6
16	-	-	EPP61NC16	678225	6
20	-	-	EPP61NC20	678226	6
25	-	-	EPP61NC25	678227	6
32	-	-	EPP61NC32	678228	6
40	-	-	EPP61NC40	678229	6
50	-	-	EPP61NC50	678230	6
63	-	-	EPP61NC63	678231	6



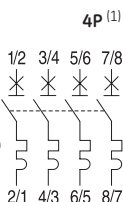
6	EPP62B06	678182	EPP62C06	678232	6
10	EPP62B10	678183	EPP62C10	678233	6
13	EPP62B13	678184	EPP62C13	678234	6
16	EPP62B16	678185	EPP62C16	678235	6
20	EPP62B20	678186	EPP62C20	678236	6
25	EPP62B25	678187	EPP62C25	678237	6
32	EPP62B32	678188	EPP62C32	678238	6
40	EPP62B40	678189	EPP62C40	678239	6
50	EPP62B50	678190	EPP62C50	678240	6
63	EPP62B63	678191	EPP62C63	678241	6



6	EPP63B06	678192	EPP63C06	678242	4
10	EPP63B10	678193	EPP63C10	678243	4
13	EPP63B13	678194	EPP63C13	678244	4
16	EPP63B16	678195	EPP63C16	678245	4
20	EPP63B20	678196	EPP63C20	678246	4
25	EPP63B25	678197	EPP63C25	678247	4
32	EPP63B32	678198	EPP63C32	678248	4
40	EPP63B40	678199	EPP63C40	678249	4
50	EPP63B50	678200	EPP63C50	678250	4
63	EPP63B63	678201	EPP63C63	678251	4

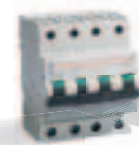


6	EPP63NB06	678202	EPP63NC06	678252	3
10	EPP63NB10	678203	EPP63NC10	678253	3
13	EPP63NB13	678204	EPP63NC13	678254	3
16	EPP63NB16	678205	EPP63NC16	678255	3
20	EPP63NB20	678206	EPP63NC20	678256	3
25	EPP63NB25	678207	EPP63NC25	678257	3
32	EPP63NB32	678208	EPP63NC32	678258	3
40	EPP63NB40	678209	EPP63NC40	678259	3
50	EPP63NB50	678210	EPP63NC50	678260	3
63	EPP63NB63	678211	EPP63NC63	678261	3



6	EPP64B06	678705	EPP64C06	678715	3
10	EPP64B10	678706	EPP64C10	678716	3
13	EPP64B13	678707	EPP64C13	678717	3
16	EPP64B16	678708	EPP64C16	678718	3
20	EPP64B20	678709	EPP64C20	678719	3
25	EPP64B25	678710	EPP64C25	678720	3
32	EPP64B32	678711	EPP64C32	678721	3
40	EPP64B40	678712	EPP64C40	678722	3
50	EPP64B50	678713	EPP64C50	678723	3
63	EPP64B63	678714	EPP64C63	678724	3

(1) Approval pending



SCREWLESS top terminals In=6 to 20A

New





## Screwless MCB's

### Series EPP100

IEC/EN 60898-1	10000
	3
IEC/EN 60947-2	15 kA

### Applications



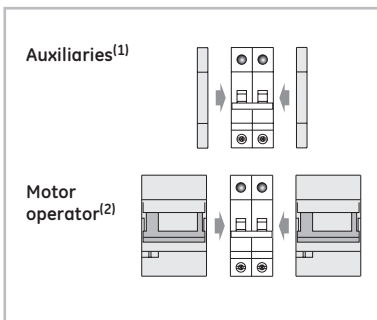
### Approvals / Marking



### Screwless connection



### Add-on devices



(1) Series CA - Tele L - Tele U - PBS

(2) Only one extension at the extreme end of the pin busbar

### Performances

Thermal setting $I_n$	(A) 6-63
Rated voltage AC $U_n$	(V) 240/415
Minimum operating voltage $U_{Bmin}$	(V) 12, 12 DC
Tripping characteristics	B,C
Mechanical/electrical endurance	20000/10000
Tropicalisation acc.to IEC 60068-2	95% RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> ) 25-35
Poles	1/2/3/3P+N/4P
Weight	(g/mod) 125

### Short-circuit capacity

#### AC acc. IEC/EN 60898-1

Poles	V	$I_{cn}$ (kA) <sup>(1)</sup>
1-4	230/400	10

#### AC acc. IEC/EN 60947-2

Poles	V	$I_{cu}$ (kA) <sup>(2)</sup>
1	240	15
1+N, 2	127	40
	240	30
2	415	15
3, 3+N, 4	240	30
	415	15

#### DC acc. IEC/EN 60947-2

Poles	$U_n$ (Vdc)	$I_{cu}/I_{cs}$ (kA)
1	≤ 60	25
2	≤ 125	30

(1)  $I_{cs} = 75\% I_{cn}$

(2)  $I_{cs} = 50\% I_{cu}$

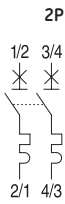


Screwless & Plug-in

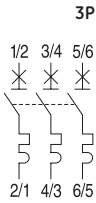
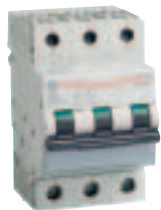
Series EPP100 - characteristic B and C



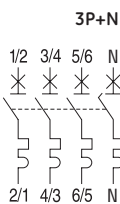
In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	EPP101B06	678262	EPP101C06	678302	12
10	EPP101B10	678263	EPP101C10	678303	12
13	EPP101B13	678264	EPP101C13	678304	12
16	EPP101B16	678265	EPP101C16	678305	12
20	EPP101B20	678266	EPP101C20	678306	12
25	EPP101B25	678267	EPP101C25	678307	12
32	EPP101B32	678268	EPP101C32	678308	12
40	EPP101B40	678269	EPP101C40	678309	12
50	EPP101B50	678270	EPP101C50	678310	12
63	EPP101B63	678271	EPP101C63	678311	12



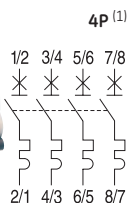
6	EPP102B06	678272	EPP102C06	678312	6
10	EPP102B10	678273	EPP102C10	678313	6
13	EPP102B13	678274	EPP102C13	678314	6
16	EPP102B16	678275	EPP102C16	678315	6
20	EPP102B20	678276	EPP102C20	678316	6
25	EPP102B25	678277	EPP102C25	678317	6
32	EPP102B32	678278	EPP102C32	678318	6
40	EPP102B40	678279	EPP102C40	678319	6
50	EPP102B50	678280	EPP102C50	678320	6
63	EPP102B63	678281	EPP102C63	678321	6



6	EPP103B06	678282	EPP103C06	678322	4
10	EPP103B10	678283	EPP103C10	678323	4
13	EPP103B13	678284	EPP103C13	678324	4
16	EPP103B16	678285	EPP103C16	678325	4
20	EPP103B20	678286	EPP103C20	678326	4
25	EPP103B25	678287	EPP103C25	678327	4
32	EPP103B32	678288	EPP103C32	678328	4
40	EPP103B40	678289	EPP103C40	678329	4
50	EPP103B50	678290	EPP103C50	678330	4
63	EPP103B63	678291	EPP103C63	678331	4



6	EPP103NB06	678292	EPP103NC06	678332	3
10	EPP103NB10	678293	EPP103NC10	678333	3
13	EPP103NB13	678294	EPP103NC13	678334	3
16	EPP103NB16	678295	EPP103NC16	678335	3
20	EPP103NB20	678296	EPP103NC20	678336	3
25	EPP103NB25	678297	EPP103NC25	678337	3
32	EPP103NB32	678298	EPP103NC32	678338	3
40	EPP103NB40	678299	EPP103NC40	678339	3
50	EPP103NB50	678300	EPP103NC50	678340	3
63	EPP103NB63	678301	EPP103NC63	678341	3



6	EPP104B06	678725	EPP104C06	678735	3
10	EPP104B10	678726	EPP104C10	678736	3
13	EPP104B13	678727	EPP104C13	678737	3
16	EPP104B16	678728	EPP104C16	678738	3
20	EPP104B20	678729	EPP104C20	678739	3
25	EPP104B25	678730	EPP104C25	678740	3
32	EPP104B32	678731	EPP104C32	678741	3
40	EPP104B40	678732	EPP104C40	678742	3
50	EPP104B50	678733	EPP104C50	678743	3
63	EPP104B63	678734	EPP104C63	678744	3

(1) Approval pending

Series EPP100

A

B

C

D

E

F

X

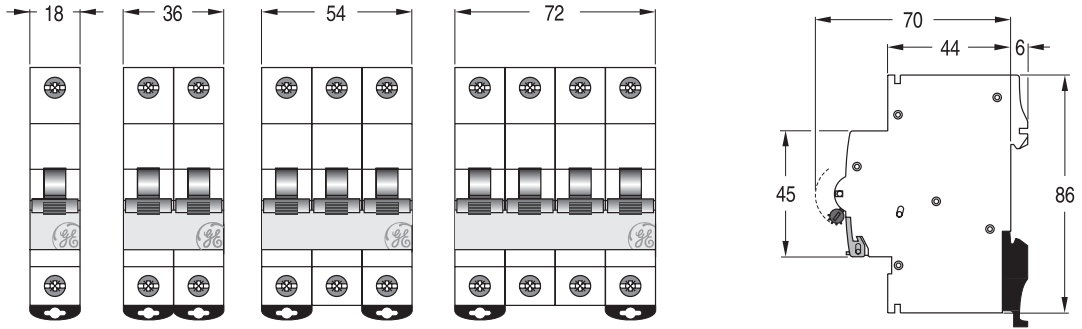


New



Dimensional drawings

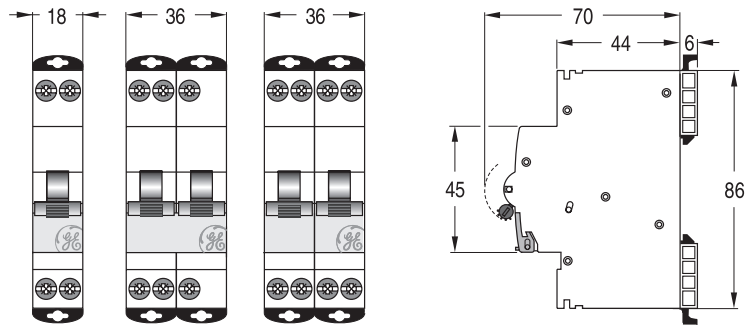
Miniature Circuit Breakers - Series EP, EP M, EP R, EP T, EP UCR, EP UCT



Circuit protection

A

Compact MCB's - Series EPC - Unibis™



B

C

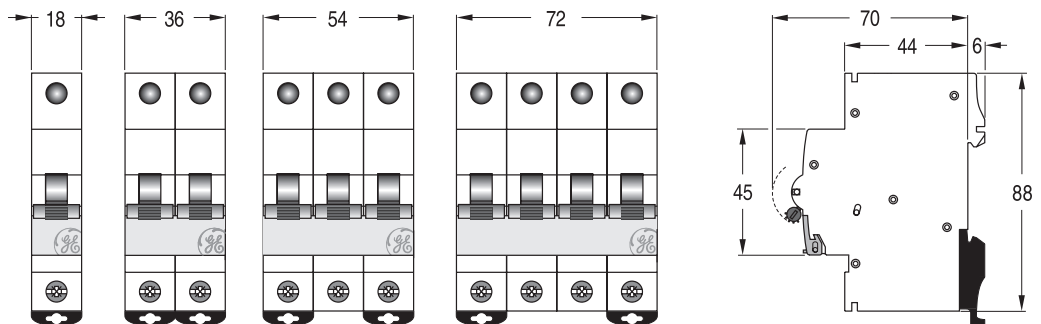
D

E

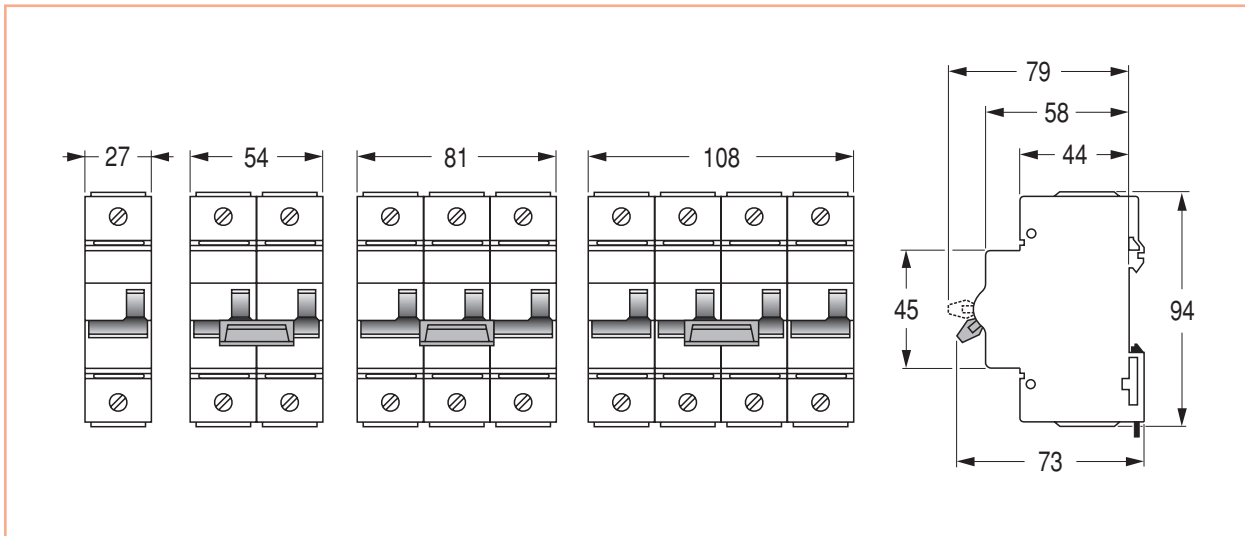
F

X

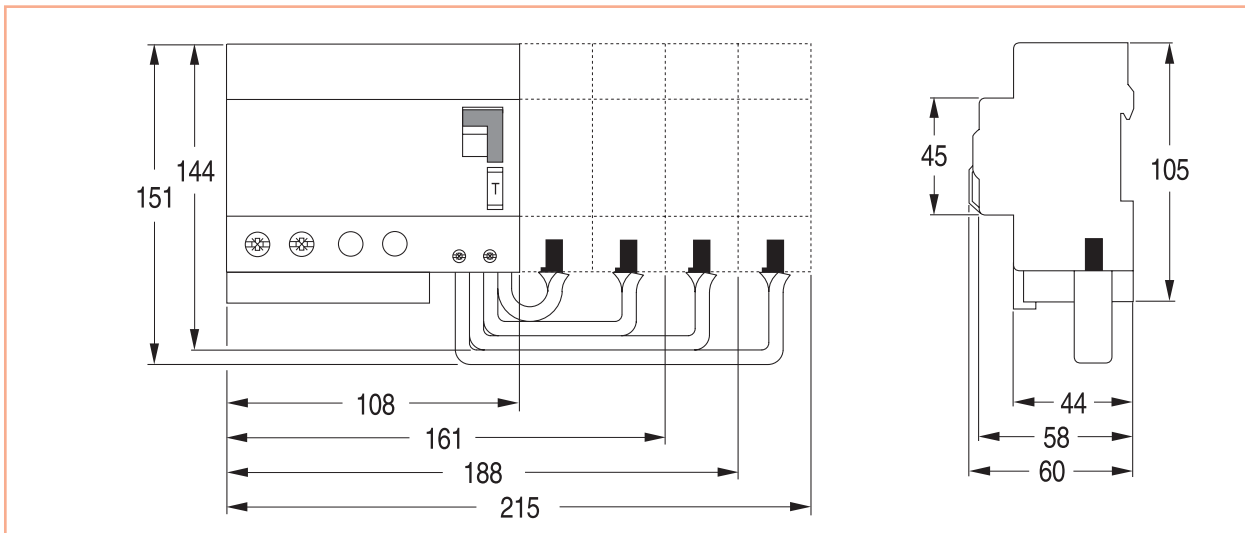
Screwless MCB's - Series EPP - Fixwell™



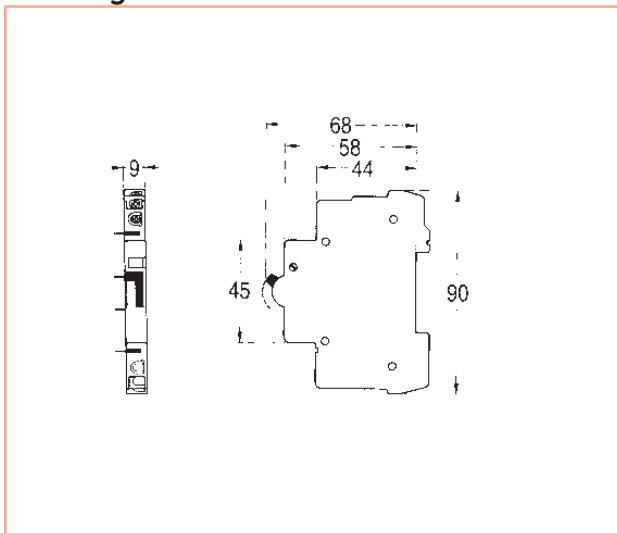
**Miniature Circuit Breakers - Series Hti**



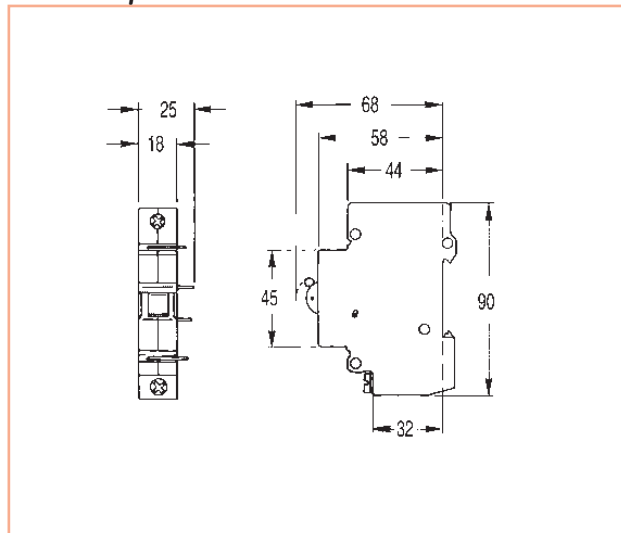
**Add-on RCD's for Series Hti**



**Auxiliary contact - Series Hti**



**Shunt trip - Series Hti**



Dimensional drawings

A

B

C

D

E

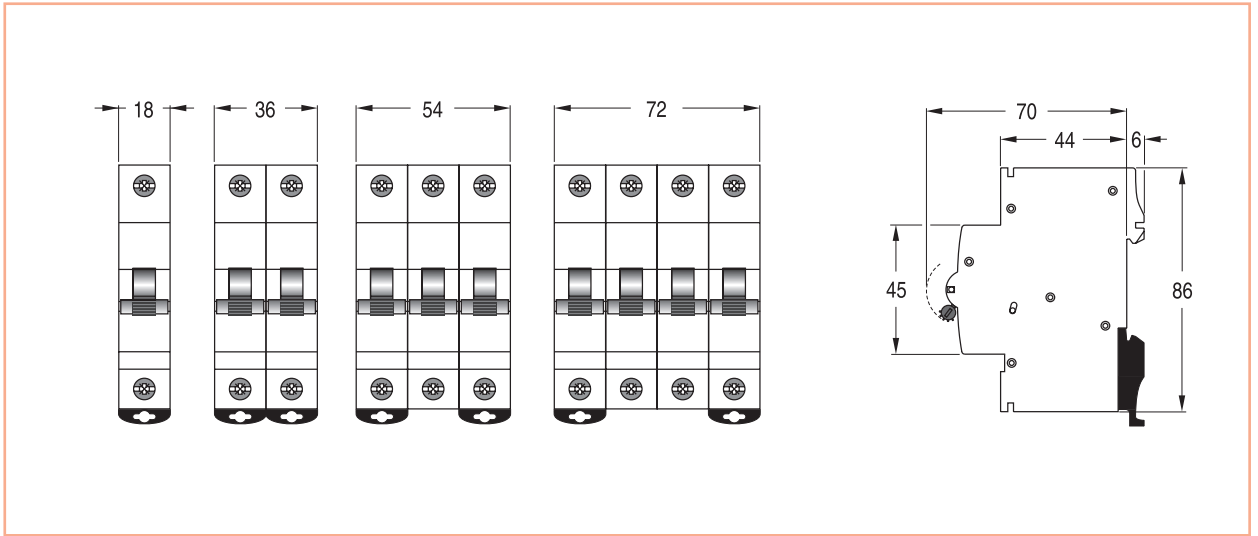
F

X

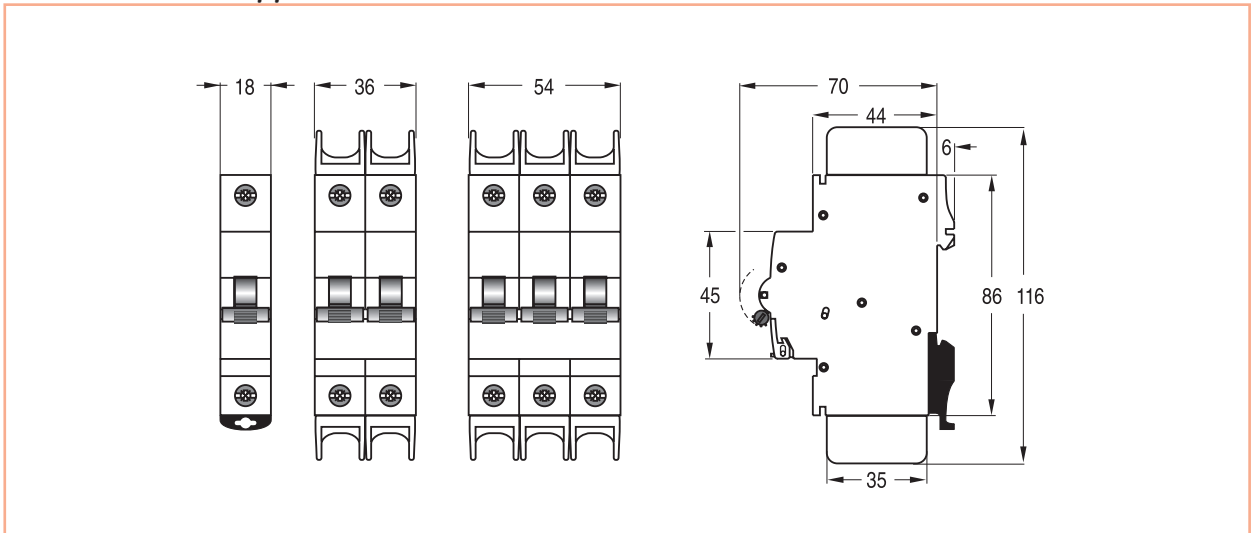


**Dimensional drawings**

**Miniature Circuit Breakers - Series DG61, EP100 UC, EP60 UL and EP100 UL**



**MCB with UL 489 approval - Series EP100 ULH**



Circuit protection

A

B

C


D

E

F

X




- B.3 Selection table RCCB's and RCBO's
- B.4 Technical data
- B.6 RCCB's - **Series FP**
-  **Fixwell™ - Screwless RCCB's**
- B.8 RCCB's - **Series FPP**
- B.9 Terminal capacity - Mounting instruction
- B.10 RCBO's with overcurrent protection - **Series DP100**
- B.12 RCBO's with overcurrent protection - **Series DPE100**

Circuit Protection

A

People Protection

B

-  **Compact RCBO's**
- B.14 RCBO's - **Series DMCE61 & DICE60**
- B.16 RCBO's with overcurrent protection - **Series DPT100**
- B.18 RCCB's with UL approval - **Series FPAUL**
- B.19 RCBO's with UL approval - **Series DPA100**
- B.20 Add-on RCCB's - **Diff-o-Click**

Add-on Devices

C

Comfort Functions


D

Busbars

E

Enclosures

F

-  **TeleREC - Reconnection relays**
- B.22 Advantages
- B.25 **TeleREC BASIC**
- B.26 **TeleREC PLUS**
- B.28 **TeleREC SOLAR**

Numerical Index

X

- B.30 Dimensional drawings

Notes

People protection

A

B

C

D

E

F

X

A large grid of red dots for taking notes, spanning the width of the page and most of its height.





**Selection table of RCCB's**

Page no.	Series	Sensitivity (mA)	Poles	Type	Nominal current (A)						Isolator appl.	Add-on devices	Rated voltage				
					16	25	40	63	80	100							
B.6	<b>FP</b>																
		10	2P	AC								x	x	240/415			
				A								x	x	240/415			
		30	2P	AC/A								x	x	240/415			
			4P	AC/A								x	x	240/415			
		100	2P	AC/A								x	x	240/415			
				S								x	x	240/415			
			4P	AC/A								x	x	240/415			
		300	2P	AC/A								x	x	240/415			
				S								x	x	240/415			
			4P	AC/A								x	x	240/415			
				S								x	x	240/415			
		500	2P	AC/A								x	x	240/415			
				S								x	x	240/415			
			4P	AC								x	x	240/415			
				A								x	x	240/415			
		1000	4P	S								x	x	240/415			
		1000	2P	AC								x	x	240/415			
			4P	AC								x	x	240/415			
B.8	<b>FPP</b>																
		10, 100, 300	2P	A								x	x	240/415			
				S								x	x	240/415			
			4P	A								x	x	240/415			
				S								x	x	240/415			

**Selection table of RCBO's**

Page no.	Series	Sensitivity (mA)	Pole	Type	Tripping charact.	Nominal current (A)								Isolator appl.	Add-on devices	Rated voltage		
						4	6	10	13	16	20	25	32				40	
B.10	<b>DP100</b>																	
		10	1+N	AC/A	B											x	x	240
					C											x	x	240
		30	1+N	AC/A	B											x	x	240
					C											x	x	240
		100	1+N	AC/A	B											x	x	240
					C											x	x	240
		300	1+N	AC/A	B											x	x	240
					C											x	x	240
B.12	<b>DPE100</b>																	
		10	1+N	AC	B-C											-	-	240
		30	1+N	AC	B-C											-	-	240
B.14	<b>DMC/DICE</b>																	
		30	1+N	AC/A	B/C											x	x	240
B.16	<b>DPT100</b>																	
		30	1+N	AC	B-C												x	240/415

**Selection table for add-on RCCB's**

Page no.	Series	Sensitivity (mA)	Poles	Type	Tripping charact.	Nominal current (A)		Isolator appl.	Add-on devices	Rated voltage	
						32	63				
B.20	<b>Diff-o-Click</b>										
		10	2-3-4	AC/A	-				-	-	240/415
		100	2-3-4	AC/A/S	-				-	-	240/415
		300	2-3-4	AC/A/S	-				-	-	240/415
		500	2-3-4	AC/A/S	-				-	-	240/415
		1000	2-3-4	AC/A/S	-				-	-	240/415

RCD's

A

B

C

D

E

F

X





DPE100	DMCE/DICE	DPT100	FPAUL	DPA100	Diff-o-Click
BS EN 61009-1	EN/IEC 61009-1	EN/IEC 61009-1	UL1053 & EN/IEC 61008-1	UL1053 & EN/IEC 61009-1	EN/IEC 61009-1
B-C	B-C	B-C	-	B-C	B-C-D
AC	AC, A	AC	A	A	AC-A-S
<40	<40	<40	< 40	< 40	<40
-	-	>150	-	-	>150
6,10,16,20,25,32,40	6...40	4,6,10,13,16,20,25,32,40	16,25,40,63	10,13,16,32,40	0.5,1,2,4,6,10,16,20,25,32,40,50,63
10,30	30	10, 30, 300	10, 30, 100, 300, 500	10, 30	30,100,300,500,1000
30	30	30	30	30	30
1	1	1	1	1	1
240 (1P+N)	240 (1P+N)	240 (1P+N)	240	277 & 240 (1P+N)	240/415
-	-	-	-	-	400
-	-	-	UL: 240; EN/IEC: 415	-	400
50/60	50	50/60	50/60	50/60	50/60
255	265	255	2P=265 / 4P=455	255	2P=265 / 4P=455
100	195	100	2P=117 / 4P=205	195	2P=205 / 4P=205
Voltage dependent	85	Voltage independent	Voltage independent	Voltage independent	Voltage independent
Bottom	Bottom	Top/Bottom	Top/Bottom	Top/Bottom	Top
3	3	3	-	3	3
10xIn	10xIn	-	500 (or 10xIn)	-	-
10000	6000	7500	500 (or 10xIn)	6000	see MCB
-	-	-	10000 fuse 100A glgG	-	-
-	-	-	10000	-	-
10000	6000	10000	-	5000/10000	see MCB
-	-	35	35	35	35
yes	yes	yes	yes	yes	no
500	440	500	500	500	440
6 <sup>(5)</sup>	6 <sup>(5)</sup>	6	8	6	6
1000 <sup>(5)</sup>	1000 <sup>(5)</sup>	1000	1000	1000	1000
2500 <sup>(5)</sup>	2500 <sup>(5)</sup>	2500	2500	2500	2500
40g, 18 shocks 5 ms 2g, 30 min, 0...80Hz	40g, 18 shocks 5 ms 2g, 30 min, 0...80Hz	40g, 18 shocks 5 ms 2g, 30 min, 0...80Hz	40g, 18 shocks 5 ms 1.5g, 30 min, 0...80Hz	40g, 18 shocks 5 ms 1.5g, 30 min, 0...80Hz	40g, 18 shocks 5 ms 5g, 30 min, 0...80Hz
10000	10000	10000	10000	10000	10000
20000	20000	20000	20000	20000	20000
IP 20 / IP 40	IP20 / IP40	IP20 / IP40	IP20 / IP40	IP20 / IP40	IP20 / IP40
V2	V2	V2	V2	V2	V2
+55/95%	+55/95%	+55/95%	+55/95%	+55/95%	+55/95%
3	3	3	3	3	3
-5..+60	-5..+60	-25..+60	AC (-5..+60); A (-25..+60)	-5..+60	AC (-5..+60); A (-25..+60)
-25..+70	-25..+70	-5..+70	-25..+70	-25..+70	-25..+70
1/25	1/25	1/25	1.5/50 [1.5/35]	1/25	1/25
1/16	1.5/16	1/16	1.5/35 [1.5/25]	1/16	1/16
-	1/35	1/35	1.5/50 [1.5/35]	1/35	1/35
-	1.5/25	1/25	1.5/35 [1.5/25]	1/25	1/25
3	3/3(DMCE) 3/4.5(DICE)	3/4	5/5	3/4	-/4.5
-	yes (coupled to CAUN)	yes	yes	yes	yes (coupled to MCB)
-	yes	yes	yes <sup>(6)</sup>	yes <sup>(6)</sup>	yes (coupled to MCB)
-	yes	yes	yes	yes	yes (coupled to MCB)
-	yes	yes	yes <sup>(6)</sup>	yes <sup>(6)</sup>	yes (coupled to MCB)
-	yes	yes	yes <sup>(6)</sup>	yes <sup>(6)</sup>	yes (coupled to MCB)
no	yes	Bottom	yes <sup>(6)</sup>	yes <sup>(6)</sup>	-
no	-	Bottom	yes <sup>(6)</sup>	yes <sup>(6)</sup>	-
1+N	1+N	1+N	2-4	1+N	2-3-4
18	18	36	36/72	36	72/90/108/125/144
350	125/215	250	2P=250 / 4P=368	250	2P=250 / 3P=320 / 4P=340
1	1/12	1/6	2P=1/6 / 4P=1/3	1/6	1
-	RCM	-	UL	UL & CEBEC	KEMA
-	yes	yes	yes	yes	yes
B.12	B.14	B.16	B.18	B.19	B.20

(5) Making sure that N-L and both flying leads are disconnected  
 (6) Not UL registered

RCD's

A

B

C

D

E

F

X



## Residual Current Circuit Breakers

### Series FP



**BS EN 61008**

**Type AC**



**Type A**



**Type S**



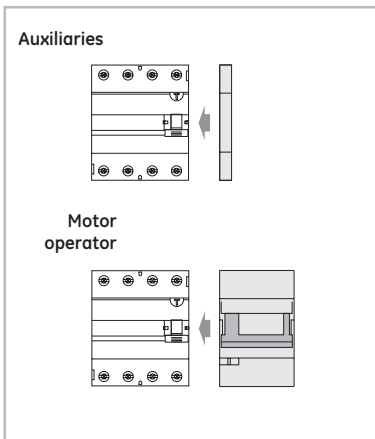
### Applications



### Approvals / Marking



### Add-on devices



- Add-on RCD ● pg B.20
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Accessories ● pg A.44
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg B.30

### Performances


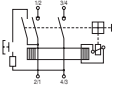
<b>Thermal setting <math>I_n</math></b>	(A) 16, 25, 40, 63, 80, 100
<b>Residual current <math>I_{\Delta n}</math></b>	(mA) 10, 30, 100, 300, 500, 1000
<b>Rated voltage AC <math>U_n</math></b>	(V) 2P: 240 4P: 240/415
<b>Minimum operating voltage <math>U_{B \min}</math></b>	(V) 2P: 117 4P: 205
<b>Mechanical/electrical endurance</b>	20000/10000
<b>Tropicalisation acc.to</b>	
<b>IEC 60068-2-28/2-30 and DIN 40046</b>	95%RH at 55°C
<b>Terminal capacity flexible/rigid cable (mm<sup>2</sup>)</b>	35-50
<b>Poles</b>	2, 4
<b>Nuisance tripping resistance</b>	Type A, AC: 250A 8/20 $\mu$ s; 200A 0.5 $\mu$ s - 100kHz Type S: 3000A 8/20 $\mu$ s
<b>Ambient temperature</b>	(°C) Type AC: -5 up to 40 Type A: -25 up to 40
<b>Weight</b>	(g) 2P: 220 4P: 385


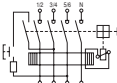
### Short-circuit capacity

Acc. to EN/IEC 61008-1	
<b>Making and breaking capacity</b>	$I_m \geq 500A$ from 16 up to 40A $I_n = 10I_n$ from 63 up to 100A
<b>Residual making and breaking capacity</b>	$I_{\Delta m} \geq 500A$ from 16 up to 40A $I_{\Delta m} = 10I_n$ from 63 up to 100A
<b>Short-circuit capacity</b>	$I_{nc} = 10000A$ at 240/415V fuse 80A gG


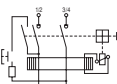
Screwless RCCB's, see page B.8


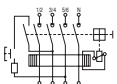
Series FP - Type AC 

	10*/30mA		100mA		300mA		500mA		Pack.		
	In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.		Ref. No.	
 	2P	16	FP 216/010*	<b>604048</b>	-	-	-	-	-	1	
		25	FP 225/030	<b>604275</b>	FP 225/100	<b>604050</b>	FP 225/300	<b>604051</b>	FP 225/500	<b>604052</b>	1
		40	FP 240/030	<b>604276</b>	FP 240/100	<b>604055</b>	FP 240/300	<b>604056</b>	FP 240/500	<b>604057</b>	1
		63	FP 263/030	<b>604277</b>	FP 263/100	<b>604060</b>	FP 263/300	<b>604061</b>	FP 263/500	<b>604062</b>	1
		80	FP 280/030	<b>604278</b>	FP 280/100	<b>604065</b>	FP 280/300	<b>604066</b>	FP 280/500	<b>604067</b>	1
		100	FP 2100/030	<b>604069</b>	FP 2100/100	<b>604070</b>	FP 2100/300	<b>604071</b>	FP 2100/500	<b>604072</b>	1


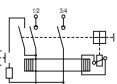
	30mA		100mA		300mA		500mA		Pack.		
	In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.		Ref. No.	
 	4P	25	FP 425/030	<b>604279</b>	FP 425/100	<b>604144</b>	FP 425/300	<b>604080</b>	FP 425/500	<b>604146</b>	1
		40	FP 440/030	<b>604281</b>	FP 440/100	<b>604149</b>	FP 440/300	<b>604282</b>	FP 440/500	<b>604151</b>	1
		63	FP 463/030	<b>604283</b>	FP 463/100	<b>604154</b>	FP 463/300	<b>604284</b>	FP 463/500	<b>604156</b>	1
		80	FP 480/030	<b>604158</b>	FP 480/100	<b>604159</b>	FP 480/300	<b>604160</b>	FP 480/500	<b>604161</b>	1
		100	FP 4100/030	<b>604163</b>	FP 4100/100	<b>604164</b>	FP 4100/300	<b>604165</b>	FP 4100/500	<b>604166</b>	1


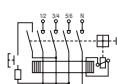
Series FP - Type A 

	10*/30mA		100mA		300mA		500mA		Pack.		
	In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.		Ref. No.	
 	2P	16	FPA 216/010*	<b>604000</b>	-	-	-	-	-	1	
		25	FPA 225/030	<b>604001</b>	FPA 225/100	<b>604002</b>	FPA 225/300	<b>604003</b>	FPA 225/500	<b>604004</b>	1
		40	FPA 240/030	<b>604006</b>	FPA 240/100	<b>604007</b>	FPA 240/300	<b>604008</b>	FPA 240/500	<b>604009</b>	1
		63	FPA 263/030	<b>604011</b>	FPA 263/100	<b>604012</b>	FPA 263/300	<b>604013</b>	FPA 263/500	<b>604014</b>	1
		80	FPA 280/030	<b>604016</b>	FPA 280/100	<b>604017</b>	FPA 280/300	<b>604018</b>	FPA 280/500	<b>604019</b>	1
		100	FPA 2100/030	<b>604021</b>	FPA 2100/100	<b>604022</b>	FPA 2100/300	<b>604023</b>	FPA 2100/500	<b>604024</b>	1

	30mA		100mA		300mA		500mA		Pack.		
	In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.		Ref. No.	
 	4P	25	FPA 425/030	<b>604096</b>	FPA 425/100	<b>604097</b>	FPA 425/300	<b>604098</b>	FPA 425/500	<b>604099</b>	1
		40	FPA 440/030	<b>604101</b>	FPA 440/100	<b>604102</b>	FPA 440/300	<b>604103</b>	FPA 440/500	<b>604104</b>	1
		63	FPA 463/030	<b>604106</b>	FPA 463/100	<b>604107</b>	FPA 463/300	<b>604108</b>	FPA 463/500	<b>604109</b>	1
		80	FPA 480/030	<b>604111</b>	FPA 480/100	<b>604112</b>	FPA 480/300	<b>604113</b>	FPA 480/500	<b>604114</b>	1
		100	FPA 4100/030	<b>604116</b>	FPA 4100/100	<b>604117</b>	FPA 4100/300	<b>604118</b>	FPA 4100/500	<b>604119</b>	1

Series FP - Type S  

			100mA		300mA		500mA		Pack.		
	In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.		Ref. No.	
 	2P	40	-	-	FPS 240/100	<b>604026</b>	FPS 240/300	<b>604027</b>	FPS 240/500	<b>604028</b>	1
		63	-	-	FPS 263/100	<b>604030</b>	FPS 263/300	<b>604031</b>	FPS 263/500	<b>604032</b>	1
		80	-	-	FPS 280/100	<b>604034</b>	FPS 280/300	<b>604035</b>	FPS 280/500	<b>604036</b>	1
		100	-	-	FPS 2100/100	<b>604038</b>	FPS 2100/300	<b>604039</b>	FPS 2100/500	<b>604040</b>	1

			100mA		300mA		500mA		Pack.		
	In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.		Ref. No.	
 	4P	40	-	-	FPS 440/100	<b>604121</b>	FPS 440/300	<b>604122</b>	FPS 440/500	<b>604123</b>	1
		63	-	-	FPS 463/100	<b>604125</b>	FPS 463/300	<b>604126</b>	FPS 463/500	<b>604127</b>	1
		80	-	-	FPS 480/100	<b>604129</b>	FPS 480/300	<b>604130</b>	FPS 480/500	<b>604131</b>	1
		100	-	-	FPS 4100/100	<b>604133</b>	FPS 4100/300	<b>604134</b>	FPS 4100/500	<b>604135</b>	1

On request: 1000 mA



Series FP

A

B

C

D

E

F

X



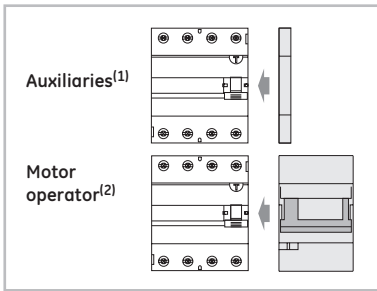
Applications



Approvals / Marking



Add-on devices



Residual Current Circuit Breakers

Series FPP

Screwless connection

EN/IEC 61008-1

Type A

Type S

Performances

Thermal setting $I_n$	(A) 25, 40, 63
Residual current $I_{\Delta n}$	(mA) 30, 100, 300
Rated voltage AC $U_n$	(V) 2P: 240 4P: 415
Minimum operating voltage $U_{Bmin}$	(V) 2P: 117 4P: 205
Mechanical/electrical endurance	20000/10000
Tropicalisation acc.to EN/IEC 60068-2-28/2-30 and DIN 40046	95%RH at 55°C
Terminal capacity flexible/rigid cable (mm <sup>2</sup> )	35-50
Poles	2 4
Nuisance tripping resistance	Type A Type S
Ambient temperature (°C)	-25 ... +50
Weight (g)	2P: 248 4P: 364

Short-circuit capacity

Acc. EN/IEC 61008-1	
Making and breaking capacity	$I_m = 500A$
Residual making and breaking capacity	$I_{\Delta m} \geq 500A$ from 16 up to 40A $I_{\Delta m} = 10I_n$ from 63 up to 100A
Short-circuit capacity	$I_{nc} = 10000A$ at 240/415V fuse 80A gG

(1) Series CA - Tele L - Tele U - PBS  
(2) Only at right side end of the extreme pin busbar

Series FPP - Type A

Poles	In (A)	30 mA		100 mA		300 mA		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
2P	25	FPPA225/030	678359	FPPA225/100	678365	FPPA225/300	678371	6
	40	FPPA240/030	678360	FPPA240/100	678366	FPPA240/300	678372	6
	63	FPPA263/030	678361	FPPA263/100	678367	FPPA263/300	678373	6
4P	25	FPPA425/030	678362	FPPA425/100	678368	FPPA425/300	678374	3
	40	FPPA440/030	678363	FPPA440/100	678369	FPPA440/300	678375	3
	63	FPPA463/030	678364	FPPA463/100	678370	FPPA463/300	678376	3

Series FPP - Type S

2P	40					FPPS240/300	678377	6
	63					FPPS263/300	678378	6
4P	40					FPPS440/300	678379	3
	63					FPPS463/300	678380	3

Plug-in connection at bottom

New





## Terminal capacity

Top terminals		
Ratings 25A, 40A and 63A:		
Cage terminals		
Rigid cable (min/max)	mm <sup>2</sup>	1.5/50
Flexible cable (min/max)	mm <sup>2</sup>	1.5/35
Recommended torque	Nm	2.5
Maximum torque	Nm	5

Bottom terminals			Pin busbar specifications
Ratings 25A, 40A and 63A:			
Cage terminals <sup>(1)</sup>		Flat plug-in terminals <sup>(2)</sup>	
Rigid cable (min/max)	mm <sup>2</sup>	1/25	
Flexible cable (min/max)	mm <sup>2</sup>	0.75/16	
Recommended torque	Nm	2.5	
Maximum torque	Nm	4.5	
		To insert GE pin busbars, or other brands under following dimensions: Length = 11.5 ± 0.2 mm Width = 4 ± 0.2 mm Thickness = 1.5 ± 0.05 mm Corners min. radius = 0.3 mm	

- (1) Bottom terminals provide a cage terminal to connect also cables to feed other rows / devices limited to rated current of the device.  
 (2) Plug-in window terminals are only foreseen for pin busbars providing the incoming to several devices from the bottom side.  
 Not intended for any other conductor with or without cable lugs or cable connectors.

## How to mount the busbar into devices

- Mount first 2, 3 or 4 poles devices on the DIN-rail at the extreme left side of the row.
- Mount one device at the extreme right side on the DIN-rail.
- Fit the pin busbar on both devices.
- Then, mount one by one the rest of poles pulling down the grey clip previously, inserting the pin bars inside the devices and then closing the clip of every device.

Easy to dismount from DIN rail



## RCBO's - Residual Current Circuit Breakers With Overcurrent Protection

### DP100

EN/IEC 61009-1	10000
	3
Type AC	
Type A	

Functionality independent on line voltage

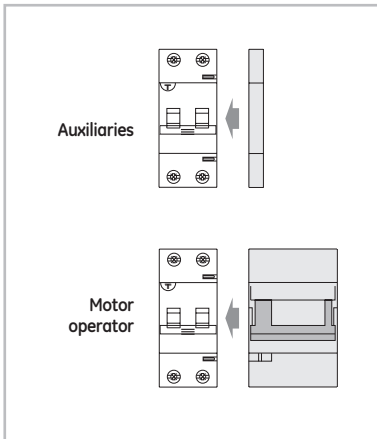
### Applications



### Approvals / Marking



### Add-on devices



- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Busbars ● chap. E
- More technical data ● pg B.4
- Dimensions ● pg B.30

### Performance

Thermal setting $I_n$	(A) 6 to 40
Residual current $I_{\Delta n}$	(mA) 10, 30, 100, 300
Tripping characteristic	B-C
Rated voltage AC $U_n$	(V) 240
Minimum operating voltage $U_{Bmin}$	(V) 117
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. to EN/IEC 60068-2-28/2-30 and DIN 40046	95%RH at 55°C
Terminal capacity flexible/rigid cable (mm <sup>2</sup> )	Top terminal: 16-25 Bottom terminal: 25-35
Poles	1+N
Nuisance tripping resistance	250A 8/20μs; 200A 0.5μs - 100kHz
Ambient temperature (°C)	Type AC: -5 up to 40 Type A: -25 up to 40
Weight (g)	250

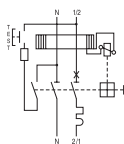
### Short-circuit capacity

Acc. to EN/IEC 61009-1 and EN/IEC 60898-1	
Residual making and breaking capacity	$I_{\Delta m} = 7500A$
Rated Short-circuit capacity	$I_{cn} = 10000A$ at 240V
Service Short-circuit capacity	$I_{cs} = 7500A$ at 240V
Selectivity class	3

Acc. to EN/IEC 60947-2	
Short-circuit capacity	$I_{cu} = 15000A$ at 240V



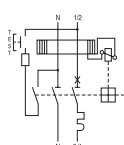
**DP100 - <sup>10000</sup>/<sub>3</sub> Type AC  - characteristic B**



1P+N

In (A)	10mA		30mA		100mA		300mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DP 100B06/010	609660	DP 100B06/030	609665	DP 100B06/100	609681	DP 100B06/300	609690	1
10	DP 100B10/010	609661	DP 100B10/030	609666	DP 100B10/100	609682	DP 100B10/300	609691	1
16	DP 100B16/010	609663	DP 100B16/030	609668	DP 100B16/100	609684	DP 100B16/300	609693	1
20	DP 100B20/010	609664	DP 100B20/030	609669	DP 100B20/100	609685	DP 100B20/300	609694	1
25	-	-	DP 100B25/030	609670	DP 100B25/100	609686	DP 100B25/300	609695	1
32	-	-	DP 100B32/030	609671	DP 100B32/100	609687	DP 100B32/300	609696	1
40	-	-	DP 100B40/030	609672	DP 100B40/100	609688	DP 100B40/300	609697	1

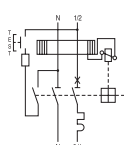
**DP100 - <sup>10000</sup>/<sub>3</sub> Type AC  - characteristic C**



1P+N

In (A)	10mA		30mA		100mA		300mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DP 100C06/010	609699	DP 100C06/030	609705	DP 100C06/100	609723	DP 100C06/300	609732	1
10	DP 100C10/010	609700	DP 100C10/030	609706	DP 100C10/100	609724	DP 100C10/300	609733	1
16	DP 100C16/010	609702	DP 100C16/030	609708	DP 100C16/100	609726	DP 100C16/300	609735	1
20	DP 100C20/010	609703	DP 100C20/030	609709	DP 100C20/100	609727	DP 100C20/300	609736	1
25	-	-	DP 100C25/030	609710	DP 100C25/100	609728	DP 100C25/300	609737	1
32	-	-	DP 100C32/030	609711	DP 100C32/100	609729	DP 100C32/300	609738	1
40	-	-	DP 100C40/030	609712	DP 100C40/100	609730	DP 100C40/300	609739	1

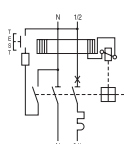
**DP100 - <sup>10000</sup>/<sub>3</sub> Type A  - characteristic B**



1P+N

In (A)	10mA		30mA		100mA		300mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DPA 100B06/010	609580	DPA 100B06/030	609585	DPA 100B06/100	609601	DPA 100B06/300	609610	1
10	DPA 100B10/010	609581	DPA 100B10/030	609586	DPA 100B10/100	609602	DPA 100B10/300	609611	1
16	DPA 100B16/010	609583	DPA 100B16/030	609588	DPA 100B16/100	609604	DPA 100B16/300	609613	1
20	DPA 100B20/010	609584	DPA 100B20/030	609589	DPA 100B20/100	609605	DPA 100B20/300	609614	1
25	-	-	DPA 100B25/030	609590	DPA 100B25/100	609606	DPA 100B25/300	609615	1
32	-	-	DPA 100B32/030	609591	DPA 100B32/100	609607	DPA 100B32/300	609616	1
40	-	-	DPA 100B40/030	609592	DPA 100B40/100	609608	DPA 100B40/300	609617	1

**DP100 - <sup>10000</sup>/<sub>3</sub> Type A  - characteristic C**



1P+N

In (A)	10mA		30mA		100mA		300mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DPA 100C06/010	609619	DPA 100C06/030	609625	DPA 100C06/100	609643	DPA 100C06/300	609652	1
10	DPA 100C10/010	609620	DPA 100C10/030	609626	DPA 100C10/100	609644	DPA 100C10/300	609653	1
16	DPA 100C16/010	609622	DPA 100C16/030	609628	DPA 100C16/100	609646	DPA 100C16/300	609655	1
20	DPA 100C20/010	609623	DPA 100C20/030	609629	DPA 100C20/100	609647	DPA 100C20/300	609656	1
25	-	-	DPA 100C25/030	609630	DPA 100C25/100	609648	DPA 100C25/300	609657	1
32	-	-	DPA 100C32/030	609631	DPA 100C32/100	609649	DPA 100C32/300	609658	1
40	-	-	DPA 100C40/030	609632	DPA 100C40/100	609650	DPA 100C40/300	609659	1

Series DP100

A

B

C

D

E

F

X





**e-RCBO's - Compact Electronic Residual Current Circuit Breakers with Overcurrent Protection**

**DPE100**

**BS EN 61009**

**10000**

**3**

**Type AC**



**Applications**



For use in consumer units and distribution boards.

Functionality dependent on line voltage

**Performances**

<b>Thermal setting In</b>	(A) 6, 10, 16, 20, 25, 32, 40
<b>Residual current I<math>\Delta</math>n</b>	(mA) 10, 30
<b>Tripping characteristic</b>	B, C
<b>Rated voltage AC Un</b>	(V) 240 ~
<b>Minimum operating voltage UBmin</b>	(V) 100 ~
<b>Mechanical/electrical endurance</b>	20000/10000
<b>Tropicalisation acc. to EN 60068-2-28/2-30</b>	95%RH at 55°C
<b>Terminal capacity flexible/rigid cable</b>	(mm <sup>2</sup> ) Bottom terminal: 16-25
<b>Poles</b>	1+N (1 module)
<b>Nuisance tripping resistance</b>	250A 8/20 $\mu$ s
<b>Ambient temperature</b>	(°C) -5 up to 55
<b>Weight</b>	(g) 350

The earth reference cable (FE white) ensures protection against earth leakage in case of loss of supply neutral.

**Short-circuit capacity**

According to EN 61009

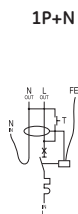
<b>Residual making en breaking capacity</b>	I $\Delta$ m = 10000A
<b>Short-circuit capacity</b>	Icn = 10000A at 230V
<b>Selectivity class</b>	3

- Add-on RCD ● pg B.20
- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Accessories ● pg A.44
- Busbars ● chap. E
- More technical data ● website
- Dimensions ● pg B.30

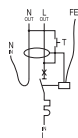


**DPE100 - Type AC - 10kA  - characteristic B**



In (A)	10 mA		30 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DPE 100B06/010	605000	DPE 100B06/030	605007	1
10	DPE 100B10/010	605001	DPE 100B10/030	605008	1
16	DPE 100B16/010	605002	DPE 100B16/030	605009	1
20	DPE 100B20/010	605003	DPE 100B20/030	605010	1
25	DPE 100B25/010	605004	DPE 100B25/030	605011	1
32	DPE 100B32/010	605005	DPE 100B32/030	605012	1
40	DPE 100B40/010	605006	DPE 100B40/030	605013	1
50	-	-	DPE 100B50/030	605732	1

**DPE100 - Type AC - 10kA  - characteristic C**



In (A)	10 mA		30 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DPE 100C06/010	605014	DPE 100C06/030	605021	1
10	DPE 100C10/010	605015	DPE 100C10/030	605022	1
16	DPE 100C16/010	605016	DPE 100C16/030	605023	1
20	DPE 100C20/010	605017	DPE 100C20/030	605024	1
25	DPE 100C25/010	605018	DPE 100C25/030	605025	1
32	DPE 100C32/010	605019	DPE 100C32/030	605026	1
40	DPE 100C40/010	605020	DPE 100C40/030	605027	1
50	-	-	DPE 100C50/030	605733	1

**DPE100 - Type A - 10kA  - characteristic B**



1P+N

In (A)	10 mA		30 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	-	-	DPEA100B06/030	605092	1
10	-	-	DPEA100B10/030	605093	1
16	-	-	DPEA100B16/030	605094	1
20	-	-	DPEA100B20/030	605095	1
25	-	-	DPEA100B25/030	605096	1
32	-	-	DPEA100B32/030	605097	1
40	-	-	DPEA100B40/030	605098	1
50	-	-	DPEA100B50/030	605720	1

**DPE100 - Type A - 10kA  - characteristic C**



1P+N

In (A)	10 mA		30 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	-	-	DPEA100B06/030	605106	1
10	-	-	DPEA100B10/030	605107	1
16	-	-	DPEA100B16/030	605108	1
20	-	-	DPEA100B20/030	605109	1
25	-	-	DPEA100B25/030	605110	1
32	-	-	DPEA100B32/030	605111	1
40	-	-	DPEA100B40/030	605112	1
50	-	-	DPEA100B50/030	605721	1

Series DPE100

A

B

C

D

E

F

X





## e-RCBO's - Compact Electronic Residual Current Circuit Breaker with Overcurrent Protection

### Series DMCE60, DICE61

EN/IEC 61009-1	6000
	3
Type AC	
Type A	

Functionality dependent on line voltage

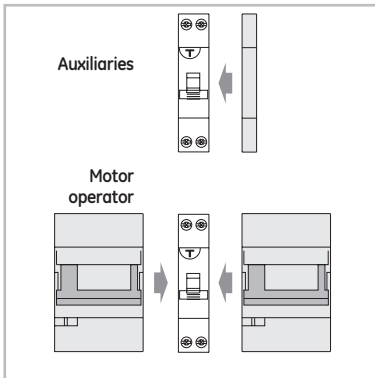
### Applications



### Approval / Marking



### Add-on devices



- (1) CA UN auxiliary contact right side mounted is interface to make compatible all extensions CA, CB, Tele L, Tele U, PBS.  
 (2) Tele M can be mounted on both sides.

- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Busbars ● chap. E
- More technical data ● pg B.4
- Dimensions ● pg B.30

### Performance

Thermal setting $I_n$	(A) 6, 10, 16, 20, 25, 32				
Residual current $I_{\Delta n}$	(mA) 30				
Tripping characteristic	B, C				
Rated voltage AC $U_n$	(V) 240				
Minimum operating voltage $U_{Bmin}$	(V) 85				
Mechanical/electrical endurance	20000/10000				
Tropicalisation acc. to EN/IEC 60068-2-28/2-30	95%RH at 55°C				
Terminals					
DICE (Industry)	<table border="0"> <tr> <td><b>Top</b></td> <td>Phase out<sup>(1)</sup>, Neutral out<sup>(1)</sup>, Neutral in<sup>(2)</sup></td> </tr> <tr> <td><b>Bottom</b></td> <td>Phase in<sup>(3)</sup></td> </tr> </table>	<b>Top</b>	Phase out <sup>(1)</sup> , Neutral out <sup>(1)</sup> , Neutral in <sup>(2)</sup>	<b>Bottom</b>	Phase in <sup>(3)</sup>
<b>Top</b>	Phase out <sup>(1)</sup> , Neutral out <sup>(1)</sup> , Neutral in <sup>(2)</sup>				
<b>Bottom</b>	Phase in <sup>(3)</sup>				
DMCE (Domestic)	<table border="0"> <tr> <td><b>Top</b></td> <td>Phase out<sup>(1)</sup>, Neutral out<sup>(1)</sup></td> </tr> <tr> <td><b>Bottom</b></td> <td>Phase in<sup>(1)</sup>, Neutral in<sup>(1)</sup>, 1P+N (1 module)<sup>(4)</sup></td> </tr> </table>	<b>Top</b>	Phase out <sup>(1)</sup> , Neutral out <sup>(1)</sup>	<b>Bottom</b>	Phase in <sup>(1)</sup> , Neutral in <sup>(1)</sup> , 1P+N (1 module) <sup>(4)</sup>
<b>Top</b>	Phase out <sup>(1)</sup> , Neutral out <sup>(1)</sup>				
<b>Bottom</b>	Phase in <sup>(1)</sup> , Neutral in <sup>(1)</sup> , 1P+N (1 module) <sup>(4)</sup>				
Poles					
Nuisance tripping resistance	250A 8/20μs				
Ambient temperature	(°C) -5 up to 55				
Weight DMCE-DICE	(g) 125-215g				

### Short-circuit capacity

#### DME60 according to EN/IEC 61009-1

Residual making and breaking capacity	$I_{\Delta m} = 3000A$
Short-circuit capacity	$I_{cn} = 6000A$ at 240V
Selectivity class	3

#### Terminal capacity:

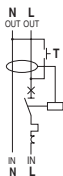
- (1) Rigid copper wires 1-25mm<sup>2</sup>, flexible copper wires 1.5 - 16mm<sup>2</sup>  
 (2) Flying lead entering the device from top side. Cross section of 4mm<sup>2</sup> up to 25A, 6mm<sup>2</sup> up to 40A, 1200mm length.  
 (3) Rigid copper wires 1-35mm<sup>2</sup>, Flexible copper wires 1.5 - 25mm<sup>2</sup>  
 (4) Unswitched neutral on the left.



**Series DMCE60 - Type AC**  - Domestic applications



Unswitched neutral  
1P+N

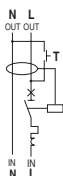


In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DMCE60B06/030	694014	DMCE60C06/030	694000	1
10	DMCE60B10/030	694015	DMCE60C10/030	694001	1
16	DMCE60B16/030	694016	DMCE60C16/030	694002	1
20	DMCE60B20/030	694017	DMCE60C20/030	694003	1
25	DMCE60B25/030	694018	DMCE60C25/030	694004	1
32	DMCE60B32/030	694019	DMCE60C32/030	694005	1

**Series DMCEA60 - Type A**  - Domestic applications



Unswitched neutral  
1P+N

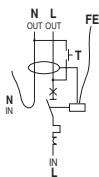


In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DMCEA60B06/030	694021	DMCEA60C06/030	694007	1
10	DMCEA60B10/030	694022	DMCEA60C10/030	694008	1
16	DMCEA60B16/030	694023	DMCEA60C16/030	694009	1
20	DMCEA60B20/030	694024	DMCEA60C20/030	694010	1
25	DMCEA60B25/030	694025	DMCEA60C25/030	694011	1
32	DMCEA60B32/030	694026	DMCEA60C32/030	694012	1

**Series DICE61 - Type AC**  - Industrial applications



Unswitched neutral  
1P+N

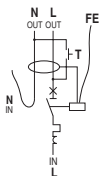


In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DICE61B06/030	694209	DICE61C06/030	694197	1
10	DICE61B10/030	694210	DICE61C10/030	694198	1
16	DICE61B16/030	694211	DICE61C16/030	694199	1
20	DICE61B20/030	694212	DICE61C20/030	694200	1
25	DICE61B25/030	694213	DICE61C25/030	694201	1
32	DICE61B32/030	694214	DICE61C32/030	694202	1

**Series DICEA61 - Type A**  - Industrial applications



Unswitched neutral  
1P+N



In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DICEA61B06/030	694215	DICEA61C06/030	694203	1
10	DICEA61B10/030	694216	DICEA61C10/030	694204	1
16	DICEA61B16/030	694217	DICEA61C16/030	694205	1
20	DICEA61B20/030	694218	DICEA61C20/030	694206	1
25	DICEA61B25/030	694219	DICEA61C25/030	694207	1
32	DICEA61B32/030	694220	DICEA61C32/030	694208	1

Compact eRCBO's

A

B

C

D

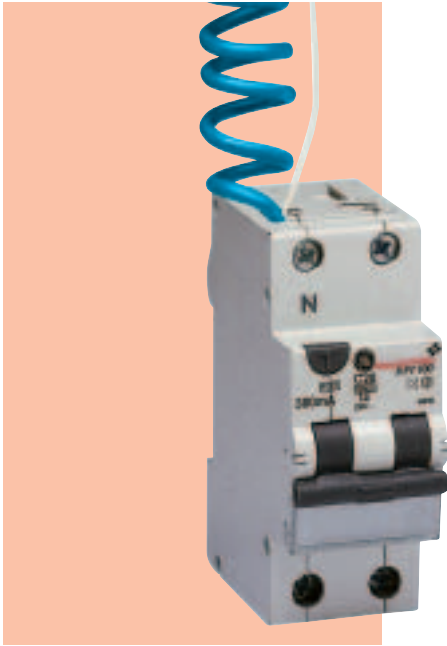
E

F

X



**New**



## RCBO's - Residual Current Circuit Breakers With Overcurrent Protection

### DPT100

BS EN 61009

10000

3

Type AC

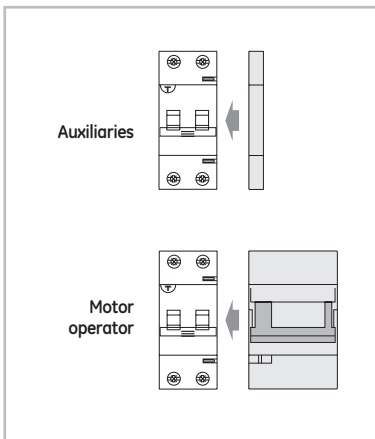


### Applications



For use in consumer units and distribution boards.

### Add-on devices



- Auxiliary contacts ● pg C.4
- Motor operator ● pg C.7
- Shunt trip ● pg C.8
- Undervoltage release ● pg C.8
- Panel board switch ● pg C.8

- Busbars ● chap. E
- More technical data ● pg B.4
- Dimensions ● pg B.30

Functionality independent on line voltage

### Performance

<b>Thermal setting <math>I_n</math></b>	(A)	4 to 40
<b>Residual current <math>\Delta n</math></b>	(mA)	30
<b>Tripping characteristic</b>		B-C
<b>Rated voltage AC <math>U_n</math></b>	(V)	240
<b>Minimum operating voltage <math>U_{Bmin}</math></b>	(V)	100
<b>Mechanical/electrical endurance</b>		20000/10000
<b>Tropicalisation acc. to IEC 60068-2-28/2-30 and DIN 40046</b>		95%RH at 55°C
<b>Terminal capacity flexible/rigid cable</b>	(mm <sup>2</sup> )	Top terminal: 16-25 Bottom terminal: 25-35
<b>Poles</b>		1+N
<b>Nuisance tripping resistance</b>		250A 8/20μs; 200A 0.5μs - 100kHz
<b>Ambient temperature</b>	(°C)	-25 up to 40
<b>Weight</b>	(g)	300
<b>Neutral flying lead</b>	(mm)	580

### Short-circuit capacity

Acc. to EN/IEC 61009-1 and EN/IEC 60898-1

<b>Residual making and breaking capacity</b>	$I_{\Delta m} = 7500A$
<b>Rated short-circuit capacity</b>	$I_{cn} = 10000A$ at 240V
<b>Service short-circuit capacity</b>	$I_{cs} = 7500A$ at 240V
<b>Selectivity class</b>	3

Acc. to EN/IEC 60947-2

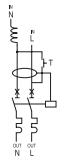
<b>Short-circuit capacity</b>	$I_{cu} = 15000A$ at 240V
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**DPT100 -  $\frac{10000}{3}$  Type AC  $\sim$  - characteristic B**



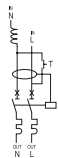
		30 mA			
	In (A)	Cat. No.	Ref. No.		Pack.
1P+N	6	DPT100 B06/030	609673		1
	10	DPT100 B10/030	609674		1
	16	DPT100 B16/030	609676		1
Switched neutral	20	DPT100 B20/030	609677		1
	25	DPT100 B25/030	609678		1
1P+N	32	DPT100 B32/030	609679		1
	40	DPT100 B40/030	609680		1



**DPT100 -  $\frac{10000}{3}$  Type AC  $\sim$  - characteristic C**



		30 mA			
	In (A)	Cat. No.	Ref. No.		Pack.
1P+N	6	DPT100 C06/030	609714		1
	10	DPT100 C10/030	609715		1
	16	DPT100 C16/030	609717		1
Switched neutral	20	DPT100 C20/030	609718		1
	25	DPT100 C25/030	609719		1
1P+N	32	DPT100 C32/030	609720		1
	40	DPT100 C40/030	609721		1



On request: 100-500-1000 mA

Series DPT100

A

**B**

C

D

E

F

X





## Residual Current Circuit Breakers

Series FPAUL

Recognized UL1053

EN/IEC 61008-1

Type A



### Performances UL

Maximum voltage AC	(V)	240
Fault current withstand	(kA)	10
UL file		E248309

### Performances EN/IEC

Thermal setting In	(A)	16, 25, 40, 63
Residual current I $\Delta$ n	(mA)	10, 30, 100, 300, 500
Rated maximum voltage AC Un	(V)	2P: 240 4P: 240/415
Minimum operating voltage U $B_{min}$	(V)	2P: 117 4P: 205
Mechanical/electrical endurance		20000/10000
Tropicalisation acc.to		
EN/IEC 60068-2-28/2-30 and DIN 40046		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	35-50
Poles		2, 4
Nuisance tripping resistance	Type A:	250A 8/20 $\mu$ s; 3000A 8/20 $\mu$ s
Ambient temperature	(°C)	-25 up to 40
Weight	(g)	2P: 220 4P: 385

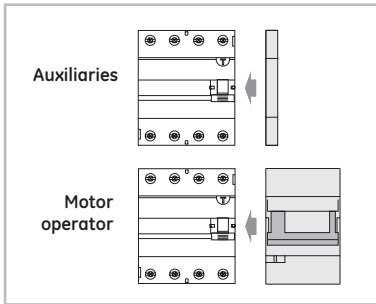
### Applications



### Approval



### Add-on devices



Dimensions ● pg B.31

### Short-circuit capacity

Acc. to EN/IEC 61008-1

Making and breaking capacity	I $m$ = 500A
Residual making and breaking capacity	I $\Delta$ m $\geq$ 500A from 16 up to 40A I $\Delta$ m= 10In from 63 up to 100A
Short-circuit capacity	I $n$ c = 10000A at 230/400V fuse 80A gG

### Series FPAUL - Type A

2P	In (A)	10*/30mA		100mA		300mA		500mA		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
	16	FPAUL 216/010*	608377	-	-	-	-	-	-	
	25	FPAUL 225/030	608378	FPAUL 225/100	608379	FPAUL 225/300	608380	FPAUL 225/500	608381	6
	40	FPAUL 240/030	608382	FPAUL 240/100	608383	FPAUL 240/300	608384	FPAUL 240/500	608385	6
	63	FPAUL 263/030	608386	FPAUL 263/100	608387	FPAUL 263/300	608388	FPAUL 263/500	608401	6

### Series FPAUL - Type A

4P	In (A)	30mA		100mA		300mA		500mA		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
	25	FPAUL 425/030	608389	FPAUL 425/100	608390	FPAUL 425/300	608391	FPAUL 425/500	608392	3
	40	FPAUL 440/030	608393	FPAUL 440/100	608394	FPAUL 440/300	608395	FPAUL 440/500	608396	3
	63	FPAUL 463/030	608397	FPAUL 463/100	608398	FPAUL 463/300	608399	FPAUL 463/500	608400	3

## RCBO's - Residual Current Circuit Breakers with Overcurrent Protection



### DPA100 Recognized UL1053

<b>EN 61009-1</b>	<b>10000</b>
	<b>3</b>
<b>Type A</b>	

### Performances UL

Rated/Maximum voltage AC	(V) 240 or 277
Fault current withstand	5kA (277V), 10kA (240V)
UL file	E248309

### Performances EN/IEC

Thermal setting $I_n$	(A) 10 to 32
Residual current $I_{\Delta n}$	(mA) 10, 30, 100, 300
Tripping characteristic	B-C
Rated voltage AC $U_n$	(V) 240
Minimum operating voltage $U_{8min}$	(V) 195
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. to EN/IEC 60068-2-28/2-30 and DIN 40046	95%RH at 55°C
Terminal capacity flexible/rigid cable (mm <sup>2</sup> )	Top terminal: 16-25 Bottom terminal: 25-35
Poles	1+N
Nuisance tripping resistance	250A 8/20µs; 200A 0.5µs - 100kHz
Ambient temperature	(°C) -25 up to 40
Weight	(g) 250

### Short-circuit capacity

Acc. to EN/IEC 61009-1	
Residual making and breaking capacity	$I_{\Delta m} = 6000A$
Short-circuit capacity	$I_{cn} = 5000/10000A$ at 230V
Selectivity class	3
Acc. to EN/IEC 60947-2	
Short-circuit capacity	$I_{cu} = 15000A$ at 230V

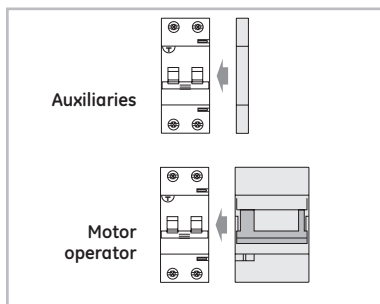
### Applications



### Approval

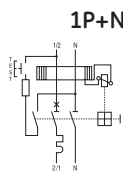


### Add-on devices



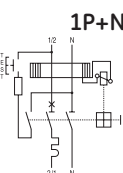
Dimensions ● pg B.32

### DPA100 - <sup>10000</sup>/<sub>3</sub> Type A - characteristic B



In (A)	10 mA		30 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
10	DPA100B10/010	608706	DPA100B10/030	608712	6
13	DPA100B13/010	608707	DPA100B13/030	608713	6
16	DPA100B16/010	608708	DPA100B16/030	608714	6
20	DPA100B20/010	608709	DPA100B20/030	608715	6
25	-	-	DPA100B25/030	608716	6
32	-	-	DPA100B32/030	608717	6

### DPA100 - <sup>10000</sup>/<sub>3</sub> Type A - characteristic C



In (A)	10 mA		30 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
10	DPA100C10/010	608757	DPA100C10/030	608763	6
13	DPA100C13/010	608758	DPA100C13/030	608764	6
16	DPA100C16/010	608759	DPA100C16/030	608765	6
20	DPA100C20/010	608760	DPA100C20/030	608766	6
25	-	-	DPA100C25/030	608767	6
32	-	-	DPA100C32/030	608768	6



DPA100

A

B

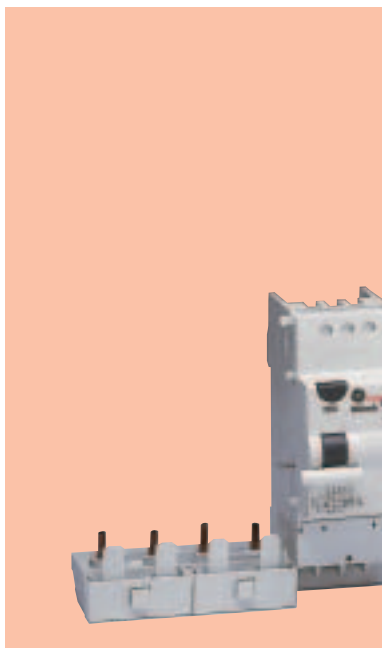
C

D

E

F

X




## Add-on Residual Current Devices

### Diff-o-Click

**EN/IEC 61009-1**

**Type AC** 

**Type A** 

**Type S** 

**Type Ai** on demand

**Type ASi** on demand

### Applications



### Approval / Marking



### Add-on devices

Integrated auxiliary contact on demand.

### Performance

<b>Thermal setting <math>I_n</math></b>	(A) 32, 63
<b>Residual current <math>I_{\Delta n}</math></b>	(mA) 30, 100, 300, 500, 1000
<b>Rated voltage AC <math>U_n</math></b>	(V) 2P: 240/415 3P: 415 4P: 415
<b>Minimum operating voltage <math>U_{Bmin}</math></b>	(V) 2P: 205 3P: 205 4P: 205
<b>Mechanical/electrical endurance</b>	20000/10000
<b>Tropicalisation acc.to EN/IEC 60068-2/3 and DIN 40046</b>	95%RH at 55°C
<b>Terminal capacity flexible/rigid cable</b>	(mm <sup>2</sup> ) 2P 32 & 63A: 25-35 3P 32 & 63A: 25-35 4P 2 mod. 32A: 16 4P 32 & 63A 4 mod.: 25-35
<b>Poles</b>	2, 3, 4
<b>Nuisance tripping resistance</b>	Type A, AC: 250A 8/20μs; 200A 0.5μs - 100kHz Type S: 3000A 8/20μs
<b>Ambient temperature</b>	(°C) Type AC: -5 up to 55 Type A, S: -25 up to 55
<b>Weight</b>	(g) 2P: 250 3P: 320 4P: 340

### Short-circuit capacity

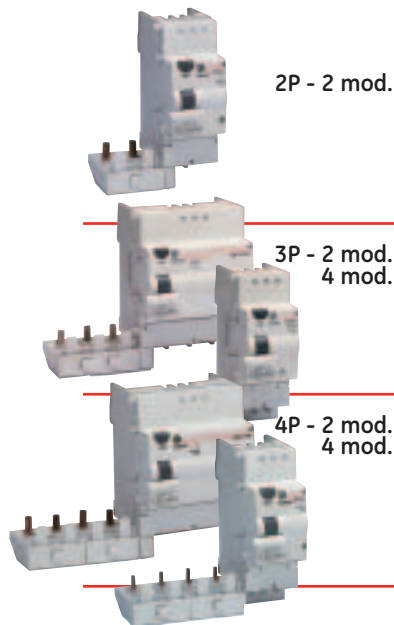
Depends on the associated MCB

		MCB	
		EP60	EP100
<b>Residual making and breaking capacity</b>	$I_{\Delta m}$	6000	7500
<b>Short-circuit capacity</b>	$I_{cn}$	6000	10000

More technical data ● pg B.4  
Dimensions ● pg B.30



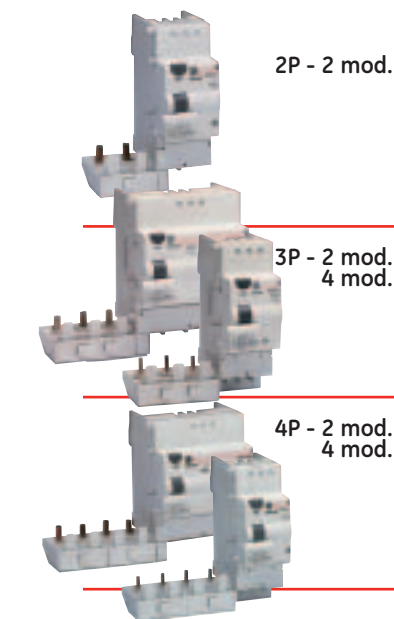
**Add-on RCD - Series Diff-o-Click - Type AC** 



In (A)	30 mA		100 mA		300 mA		500 mA		1000 mA		Pack.	
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.		
2P - 2 mod.	32	DOC 232/030	<b>607536</b>	DOC 232/100	<b>607537</b>	DOC 232/300	<b>607538</b>	DOC 232/500	<b>607539</b>	DOC 232/1000	<b>607540</b>	1
	63	DOC 263/030	<b>607542</b>	DOC 263/100	<b>607543</b>	DOC 263/300	<b>607544</b>	DOC 263/500	<b>607545</b>	DOC 263/1000	<b>607546</b>	1
3P - 2 mod. 4 mod.	32	DOC 332/030	<b>607620</b>	DOC 332/100	<b>607621</b>	DOC 332/300	<b>607622</b>	DOC 332/500	<b>607623</b>	DOC 332/1000	<b>607624</b>	1
	63	DOC 363/030	<b>607626</b>	DOC 363/100	<b>607627</b>	DOC 363/300	<b>607628</b>	DOC 363/500	<b>607629</b>	DOC 363/1000	<b>607630</b>	1
4P - 2 mod. 4 mod.	32	DOC 532/030	<b>607722</b>	DOC 532/100	<b>607723</b>	DOC 532/300	<b>607724</b>	DOC 532/500	<b>607725</b>	DOC 532/1000	<b>607726</b>	1
	63	DOC 463/030	<b>607734</b>	DOC 463/100	<b>607735</b>	DOC 463/300	<b>607736</b>	DOC 463/500	<b>607737</b>	DOC 463/1000	<b>607738</b>	1

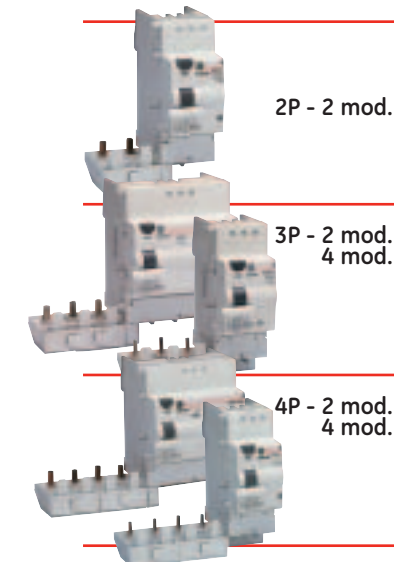
Note: 3P+N (unswitched) flying lead on request.

**Add-on RCD - Series Diff-o-Click - Type A** 



In (A)	30 mA		100 mA		300 mA		500 mA		1000 mA		Pack.	
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.		
2P - 2 mod.	32	DOCA 232/030	<b>607500</b>	DOCA 232/100	<b>607501</b>	DOCA 232/300	<b>607502</b>	DOCA 232/500	<b>607503</b>	DOCA 232/1000	<b>607504</b>	1
	63	DOCA 263/030	<b>607506</b>	DOCA 263/100	<b>607507</b>	DOCA 263/300	<b>607508</b>	DOCA 263/500	<b>607509</b>	DOCA 263/1000	<b>607510</b>	1
3P - 2 mod. 4 mod.	32	DOCA 332/030	<b>607584</b>	DOCA 332/100	<b>607585</b>	DOCA 332/300	<b>607586</b>	DOCA 332/500	<b>607587</b>	DOCA 332/1000	<b>607588</b>	1
	63	DOCA 363/030	<b>607590</b>	DOCA 363/100	<b>607591</b>	DOCA 363/300	<b>607592</b>	DOCA 363/500	<b>607593</b>	DOCA 363/1000	<b>607594</b>	1
4P - 2 mod. 4 mod.	32	DOCA 532/030	<b>607668</b>	DOCA 532/100	<b>607670</b>	DOCA 532/300	<b>607669</b>	DOCA 532/500	<b>607671</b>	DOCA 532/1000	<b>607672</b>	1
	63	DOCA 463/030	<b>607674</b>	DOCA 463/100	<b>607675</b>	DOCA 463/300	<b>607676</b>	DOCA 463/500	<b>607677</b>	DOCA 463/1000	<b>607678</b>	1
	63	DOCA 463/030	<b>607680</b>	DOCA 463/100	<b>607681</b>	DOCA 463/300	<b>607682</b>	DOCA 463/500	<b>607683</b>	DOCA 463/1000	<b>607684</b>	1

**Add-on RCD - Series Diff-o-Click - Type S**  



In (A)	100 mA		300 mA		500 mA		1000 mA		Pack.	
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.		
2P - 2 mod.	32	DOCS 232/100	<b>607513</b>	DOCS 232/300	<b>607514</b>	DOCS 232/500	<b>607515</b>	DOCS 232/1000	<b>607516</b>	1
	63	DOCS 263/100	<b>607519</b>	DOCS 263/300	<b>607520</b>	DOCS 263/500	<b>607521</b>	DOCS 263/1000	<b>607522</b>	1
3P - 2 mod. 4 mod.	32	DOCS 332/100	<b>607597</b>	DOCS 332/300	<b>607598</b>	DOCS 332/500	<b>607599</b>	DOCS 332/1000	<b>607600</b>	1
	63	DOCS 363/100	<b>607603</b>	DOCS 363/300	<b>607604</b>	DOCS 363/500	<b>607605</b>	DOCS 363/1000	<b>607606</b>	1
4P - 2 mod. 4 mod.	32	DOCS 532/100	<b>607687</b>	DOCS 532/300	<b>607688</b>	DOCS 532/500	<b>607689</b>	DOCS 532/1000	<b>607690</b>	1
	32	DOCS 432/100	<b>607693</b>	DOCS 432/300	<b>607694</b>	DOCS 432/500	<b>607695</b>	DOCS 432/1000	<b>607696</b>	1
	63	DOCS 463/100	<b>607699</b>	DOCS 463/300	<b>607700</b>	DOCS 463/500	<b>607701</b>	DOCS 463/1000	<b>607702</b>	1

Diff-o-Click

- A
- B
- C
- D
- E
- F
- X

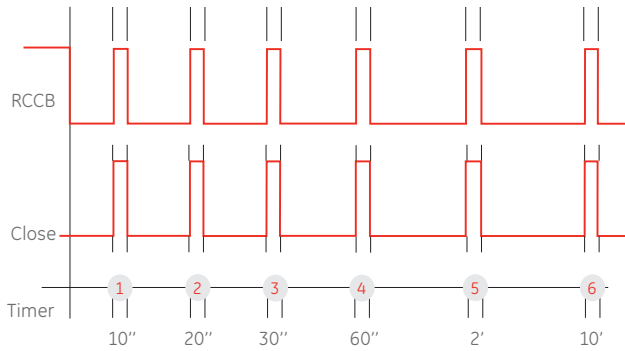




# TeleREC reconstructor

## Ensures power continuity in critical

The TeleREC relay automatically recloses the RCCB after an earth leakage or a manual disconnect. The relay will attempt to re-close 6 times with different time intervals between re-close attempts. After 6 unsuccessful attempts the TeleREC is locked.



**TeleREC BASIC**

Commercial, Banks, Office buildings, Hospitals	Farms, Public lighting, Traffic lighting
--	---

People protection

A

B

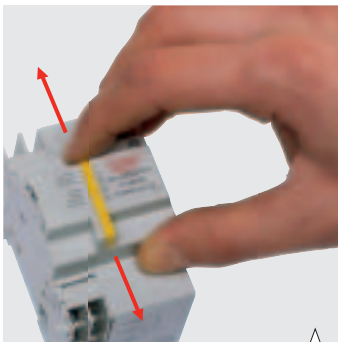
C

D

E

F

X



### Easy connection

The RCCB toggle slides easily into the toggle actuator of the relay.

### Status indicator

The yellow lever clearly indicates the status of the TeleREC. In position 1 the relay is ready to work, in position 0 the relay is blocked both electrically and mechanically.



## ElfaPlus

### Auxiliary contact

TeleREC is equipped with an auxiliary contact (LI) to operate the re-closing system from a push-button.

### Part of the family

For each series of RCCB's and Redline a specific TeleREC reconstructor is available.



**New**



# ing system for RCCB's

## applications



### Full awareness

The relay is also equipped with a volt free output to indicate the status of the protection (connected/ disconnected).



### Stable and secure

Strong clips to ensure a stable connection between the RCCB and the TeleREC relay.



### One fits all

Both 2 modules and 4 modules RCCB's can be connected to the reconnection relay TeleREC.

**New**

Complete range of reconnection relays

People protection

A

B

C

D

E

F

X

**TeleREC BASIC**  
For the residential/  
commercial markets



**TeleREC BASIC Ai**  
Power maintenance  
and reliability  
in one device



**Dimensional  
drawings**

**TeleREC PLUS**  
For the commercial/  
industrial markets



**TeleREC SOLAR**  
Specially designed  
for photovoltaic  
applications





New





For the residential/commercial market

Series TeleREC BASIC - Type AC

	In (A)	30 mA		Pack.
		Cat. No.	Ref. No.	
 2P Type AC	40	Tele REC BASIC 240/030	676949	1
	63	Tele REC BASIC 263/030	677118	1
 4P Type AC	40	Tele REC BASIC 440/030	676951	1
	63	Tele REC BASIC 463/030	677119	1
<b>300 mA</b>				
 2P Type AC	40	Tele REC BASIC 240/300	676950	1
	63	Tele REC BASIC 263/300	677120	1
 4P Type AC	40	Tele REC BASIC 440/300	676952	1
	63	Tele REC BASIC 463/300	677121	1

Series TeleREC BASIC - Type A

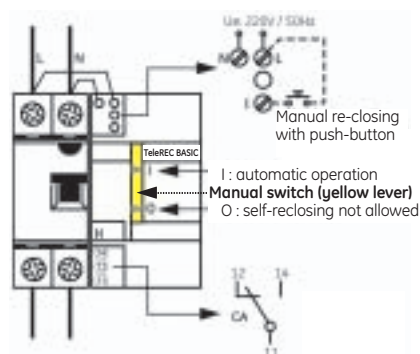
	In (A)	30 mA		Pack.
		Cat. No.	Ref. No.	
 2P Type A	40	Tele REC BASIC A 240/030	677122	1
	63	Tele REC BASIC A 263/030	677123	1
 4P Type A	40	Tele REC BASIC A 440/030	677124	1
	63	Tele REC BASIC A 463/030	677125	1
<b>300 mA</b>				
 2P Type A	40	Tele REC BASIC A 240/300	677126	1
	63	Tele REC BASIC A 263/300	677127	1
 4P Type A	40	Tele REC BASIC A 440/300	677128	1
	63	Tele REC BASIC A 463/300	677129	1

Power maintenance and reliability in one device

Series TeleREC BASIC - Type Ai

	In (A)	30 mA		Pack.
		Cat. No.	Ref. No.	
 2P Type Ai	40	Tele REC BASIC Ai 240/030	677130	1
	63	Tele REC BASIC Ai 263/030	677131	1

Electrical diagram



The complete solution in **only one device**:

- Total protection against person's indirect contacts.
- Safe reconnection of RCCB after trip by transitory earth leakage.
- Maintenance of power against trips provoked by high frequency earth leakages.
- Maintenance of power against shock waves up to 3000 A.

TeleREC BASIC

A

B

C

D

E

F

X



New

For the commercial/industrial market

## Series TeleREC PLUS



Reconnection relay

In (A)

Reconnection relay

Cat. No.

Ref. No.

Pack.

Tele REC PLUS Motor

677132

1



The reconnection relay TeleREC PLUS can be easily coupled to any RCCB:

## Series FP - Type AC

People protection

A

B

C

D

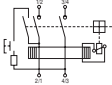
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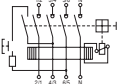


2P  
Type AC



In (A)	10*/30mA		100mA		300mA		500mA		1000mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
16	FP 216/010*	604048	-	-	-	-	-	-	-	-	1
25	FP 225/030	604275	FP 225/100	604050	FP 225/300	604051	FP 225/500	604052	FP 225/1000	604053	1
40	FP 240/030	604276	FP 240/100	604055	FP 240/300	604056	FP 240/500	604057	FP 240/1000	604058	1
63	FP 263/030	604277	FP 263/100	604060	FP 263/300	604061	FP 263/500	604062	FP 263/1000	604063	1
80	FP 280/030	604278	FP 280/100	604065	FP 280/300	604066	FP 280/500	604067	FP 280/1000	604068	1
100	FP 2100/030	604069	FP 2100/100	604070	FP 2100/300	604071	FP 2100/500	604072	FP 2100/1000	604073	1

4P  
Type AC

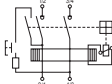


25	FP 425/030	604279	FP 425/100	604144	FP 425/300	604080	FP 425/500	604146	FP 425/1000	604147	3
40	FP 440/030	604281	FP 440/100	604149	FP 440/300	604282	FP 440/500	604151	FP 440/1000	604152	3
63	FP 463/030	604283	FP 463/100	604154	FP 463/300	604284	FP 463/500	604156	FP 463/1000	604157	3
80	FP 480/030	604158	FP 480/100	604159	FP 480/300	604160	FP 480/500	604161	FP 480/1000	604162	3
100	FP 4100/030	604163	FP 4100/100	604164	FP 4100/300	604165	FP 4100/500	604166	FP 4100/1000	604167	3

## Series FP - Type A

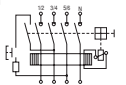


2P  
Type A



In (A)	10*/30mA		100mA		300mA		500mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
16	FPA 216/010*	604000	-	-	-	-	-	-	1
25	FPA 225/030	604001	FPA 225/100	604002	FPA 225/300	604003	FPA 225/500	604004	1
40	FPA 240/030	604006	FPA 240/100	604007	FPA 240/300	604008	FPA 240/500	604009	1
63	FPA 263/030	604011	FPA 263/100	604012	FPA 263/300	604013	FPA 263/500	604014	1
80	FPA 280/030	604016	FPA 280/100	604017	FPA 280/300	604018	FPA 280/500	604019	1
100	FPA 2100/030	604021	FPA 2100/100	604022	FPA 2100/300	604023	FPA 2100/500	604024	1

4P  
Type A

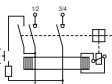


25	FPA 425/030	604096	FPA 425/100	604097	FPA 425/300	604098	FPA 425/500	604099	1
40	FPA 440/030	604101	FPA 440/100	604102	FPA 440/300	604103	FPA 440/500	604104	1
63	FPA 463/030	604106	FPA 463/100	604107	FPA 463/300	604108	FPA 463/500	604109	1
80	FPA 480/030	604111	FPA 480/100	604112	FPA 480/300	604113	FPA 480/500	604114	1
100	FPA 4100/030	604116	FPA 4100/100	604117	FPA 4100/300	604118	FPA 4100/500	604119	1

## Series FP - Type S

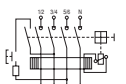


2P  
Type S



In (A)	100mA		300mA		500mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
40	FPS 240/100	604026	FPS 240/300	604027	FPS 240/500	604028	1
63	FPS 263/100	604030	FPS 263/300	604031	FPS 263/500	604032	1
80	FPS 280/100	604034	FPS 280/300	604035	FPS 280/500	604036	1
100	FPS 2100/100	604038	FPS 2100/300	604039	FPS 2100/500	604040	1

4P  
Type S



40	FPS 440/100	604121	FPS 440/300	604122	FPS 440/500	604123	1
63	FPS 463/100	604125	FPS 463/300	604126	FPS 463/500	604127	1
80	FPS 480/100	604129	FPS 480/300	604130	FPS 480/500	604131	1
100	FPS 4100/100	604133	FPS 4100/300	604134	FPS 4100/500	604135	1

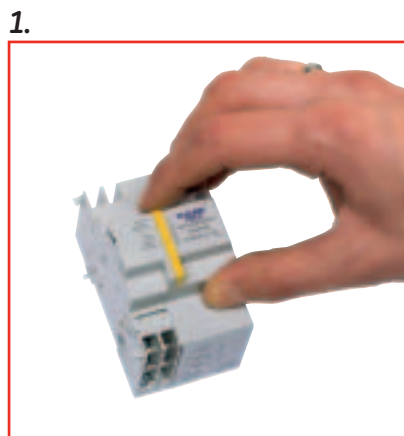
\*On request: 1000 mA

New

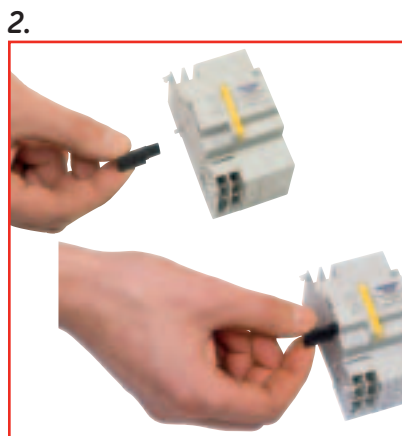




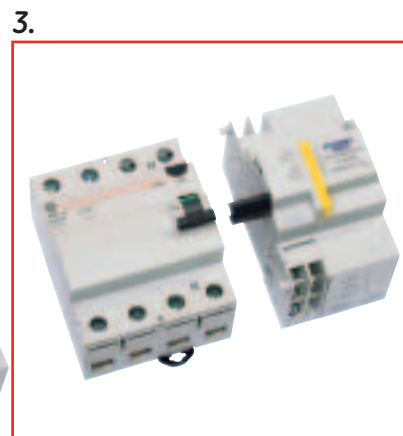
Mounting instructions TeleREC PLUS



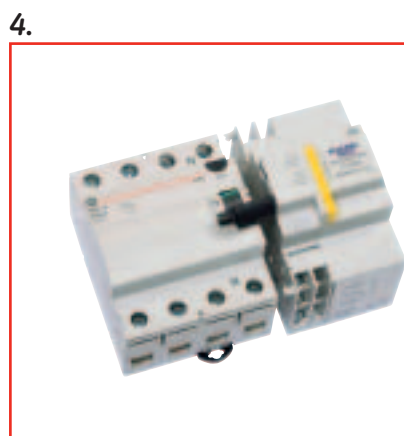
1. Place the reconnection relay on a flat surface and lock relay in OFF position using the yellow sliding lever.



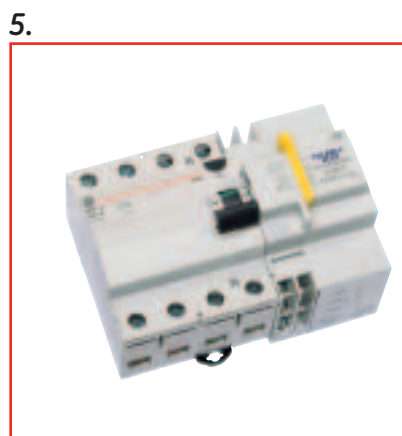
2. Install the toggle actuator in the relay.



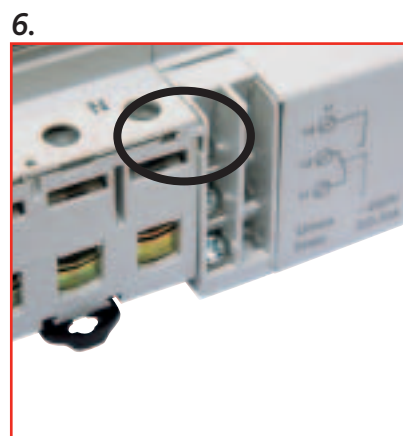
3. Ensure RCCB is OFF. Align relay and RCCB. Check the make and model of RCCB.  
**NOTE:** The motorized reconnecting system is only adequate for use with RCCB's of the following series : Series BP, BD.  
 Do not use for reconnecting circuit breakers with overload and/or short-circuit protection. It may result in damage to the breaker or the installation!



4. Approach devices ensuring the RCCB toggle slides into the toggle actuator.

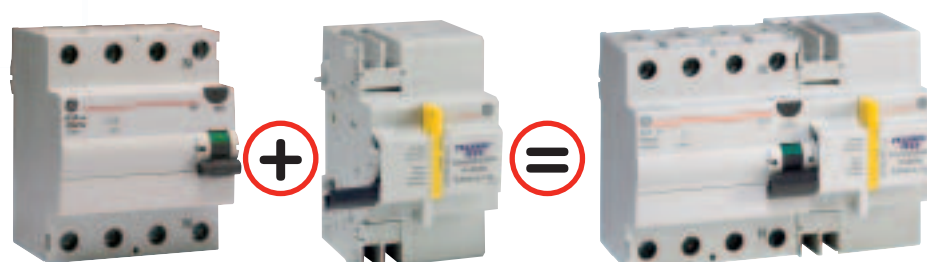
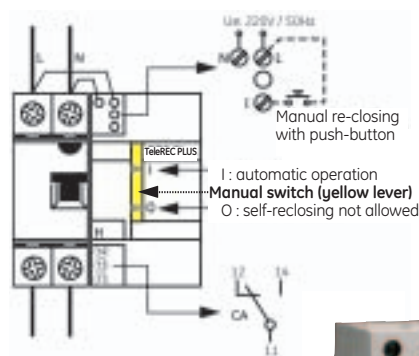


5. Press devices together until fixing clips "click" in place.



6. Inspect both clips to ensure correct fixation.

Electrical diagram



New



*Especially designed for photovoltaic applications*

**Series TeleREC SOLAR**

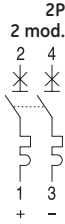


Reconnection relay

In (A)	Reconnection relay		
	Cat. No.	Ref. No.	Pack.
-	Tele REC SOLAR Motor	677133	1

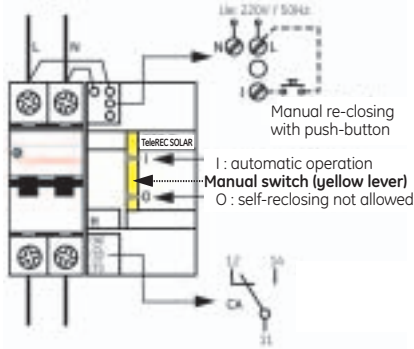
**+** *The reconnection relay TeleREC SOLAR can be easily coupled to MCB's series EP100 UC:*

**Series EP100 UC - 10kA - characteristic B-C**

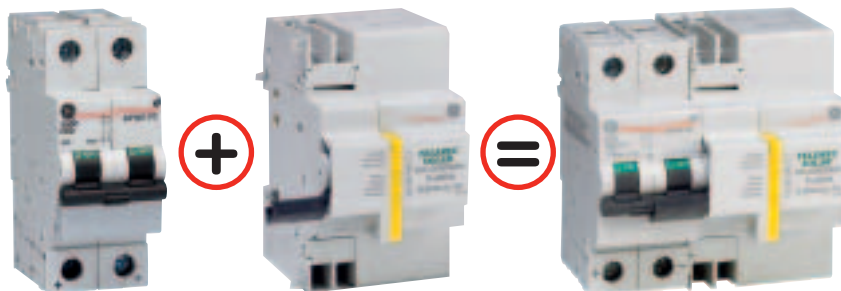


In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	EP102UCB06	673342	EP102UCC06	673322	6
10	EP102UCB10	673343	EP102UCC10	673324	6
16	EP102UCB16	673344	EP102UCC16	673326	6
20	EP102UCB20	673345	EP121UCC20	673327	6
25	EP102UCB25	673346	EP102UCC25	673328	6
32	EP102UCB32	673347	EP102UCC32	673329	6
40	EP102UCB40	673348	EP102UCC40	673330	6
50	EP102UCB50	673349	EP102UCC50	673331	6
63	EP102UCB63	673350	EP102UCC63	673332	6

*Electrical diagram*



*Only valid for photovoltaic application with MCB's Series EP102UC until 440Vdc (Icc<2In). The TeleREC SOLAR voltage is 230Vac.*

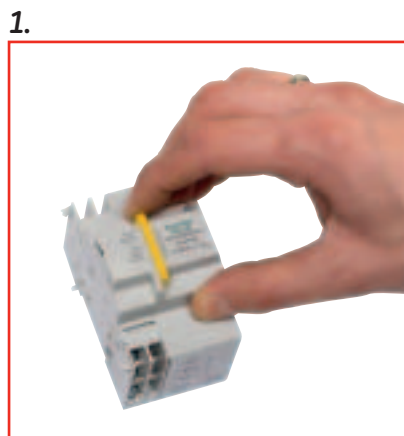


**New**

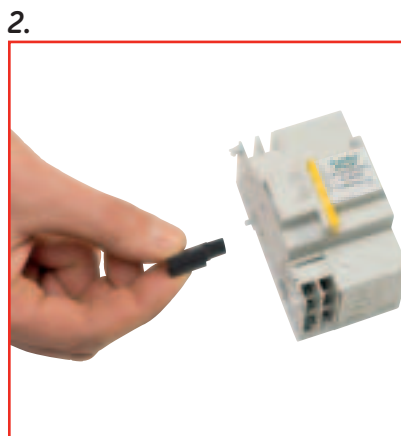




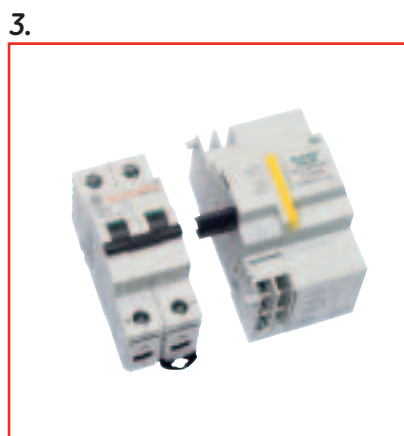
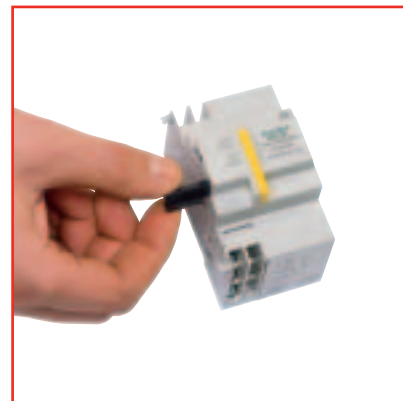
Mounting instructions TeleREC SOLAR



Place the reconnection relay on a flat surface and lock relay in OFF position using the yellow sliding lever.

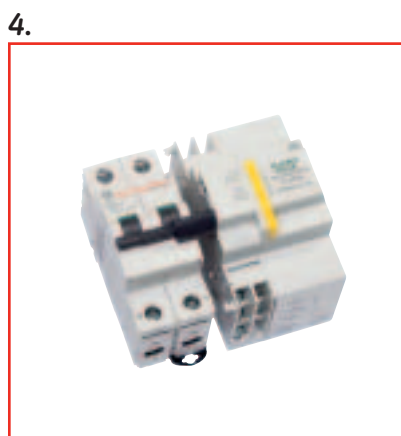


Install the toggle actuator in the relay.

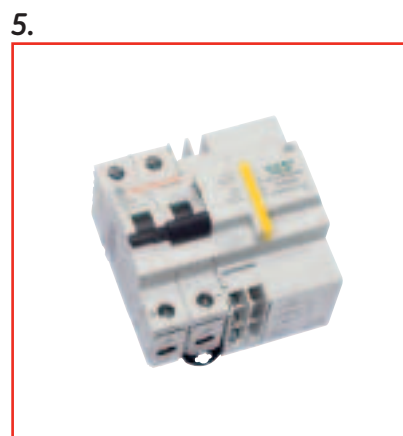


Ensure that the MCB EP 102UC is OFF. Align relay and MCB. Check the make and model of MCB.

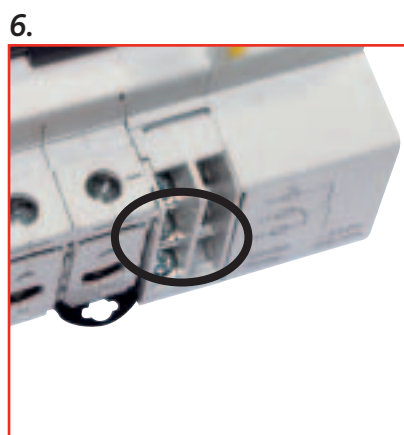
**NOTE:** The motorized reconnecting system is only adequate for use with MCB'S EP 102UC. Do not use for reconnecting circuit breakers with overload and/or short-circuit protection. It may result in damage to the breaker or the installation!



Approach devices ensuring the MCB toggle slides into the toggle actuator.

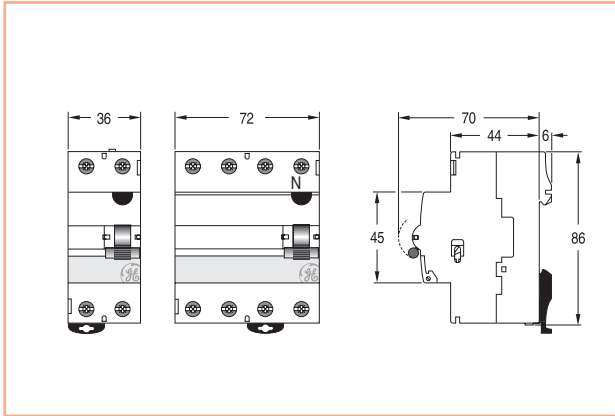


Press devices together until fixing clips "click" in place.

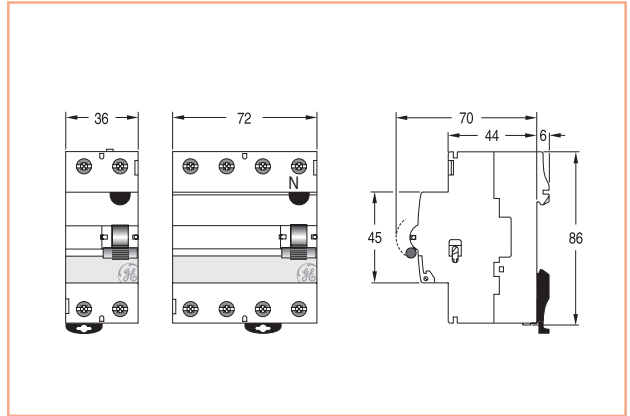


Dimensional drawings

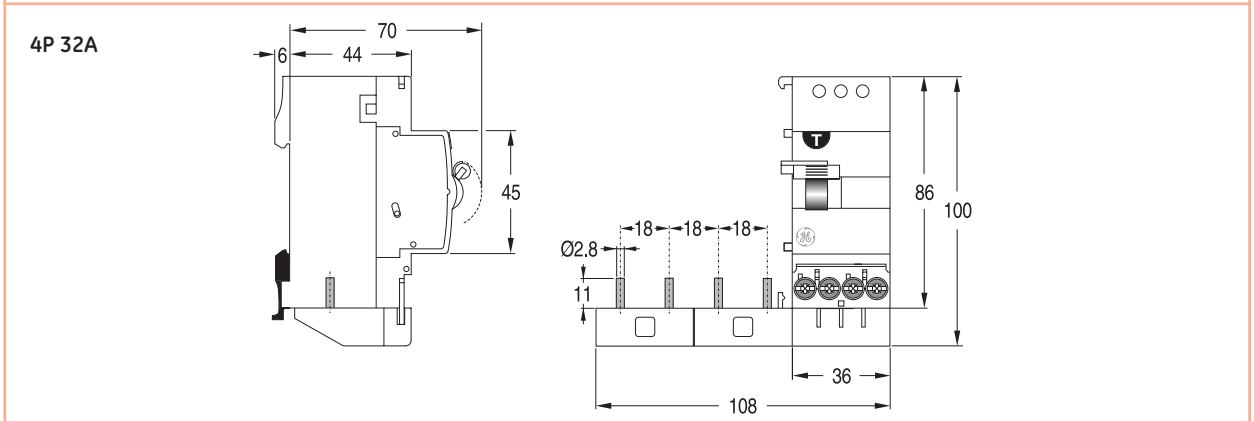
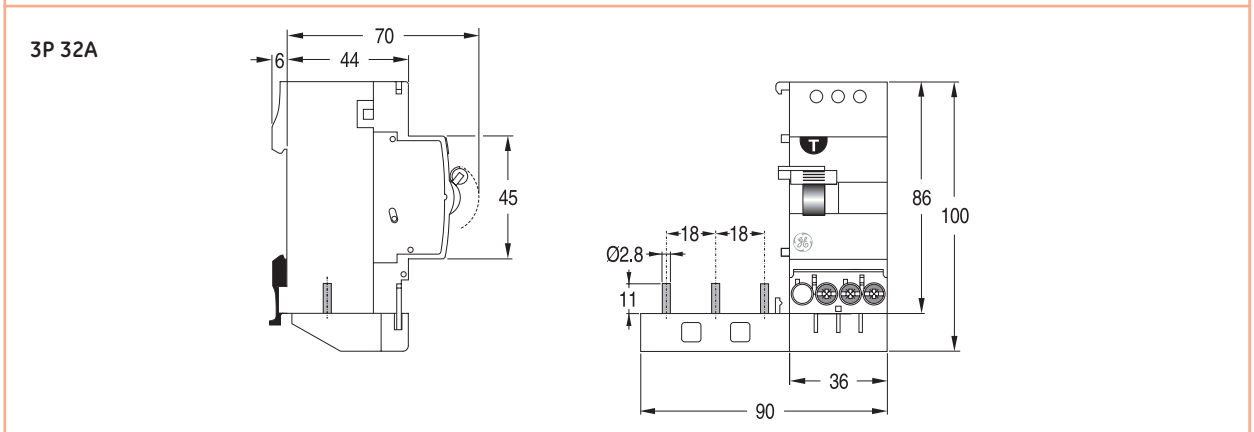
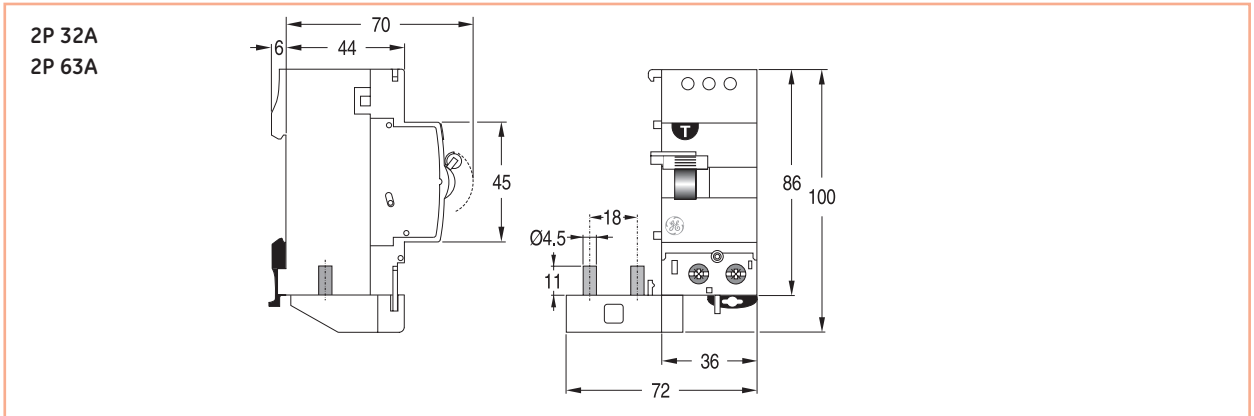
RCCB's - Series FP and FPAUL



RCCB's - Series FPP - Fixwell™

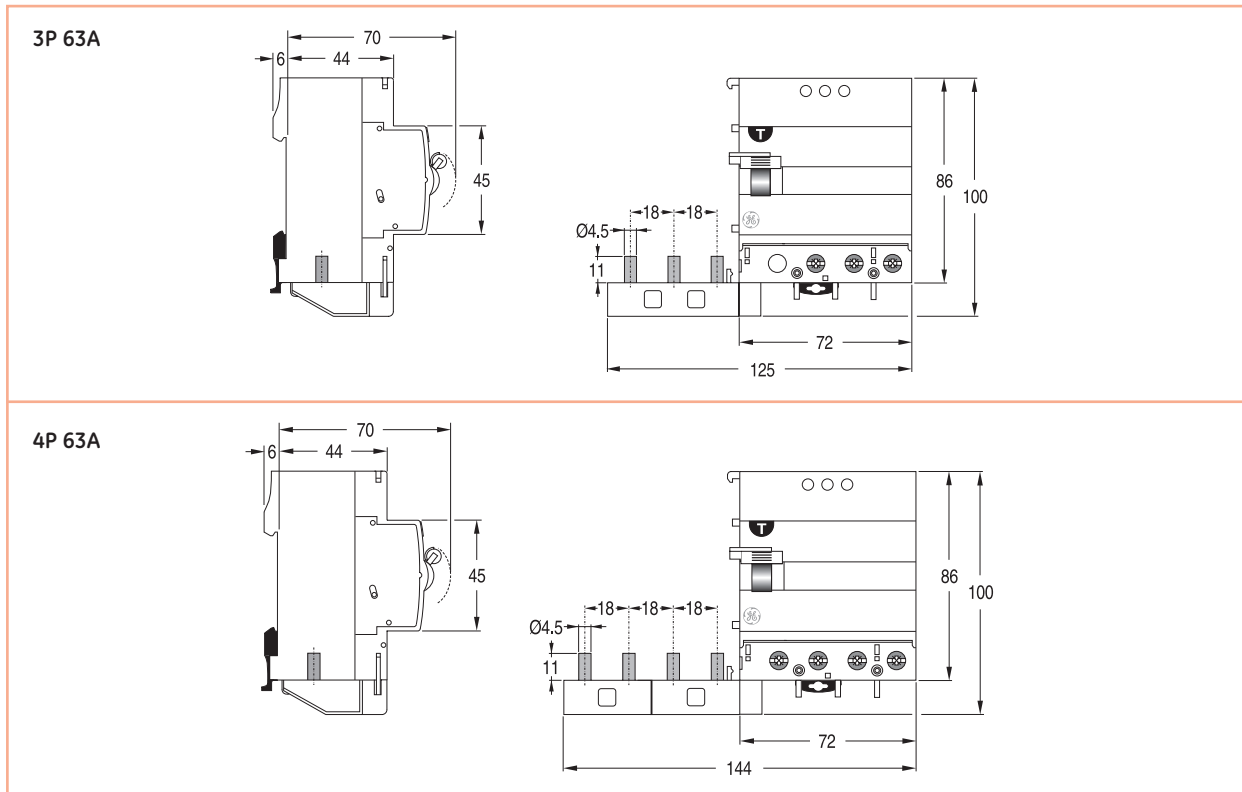


Add-on RCCB - Series Diff-o-Click

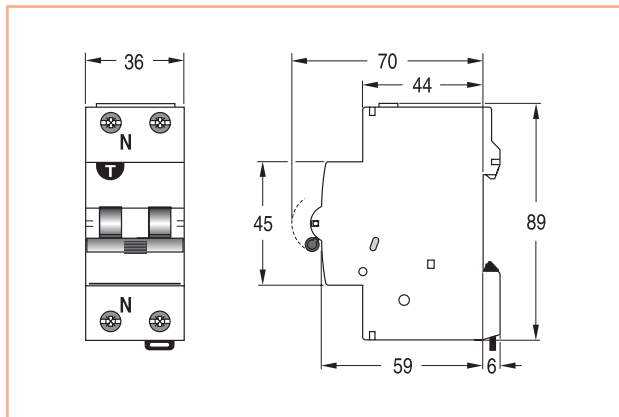


## Dimensional drawings

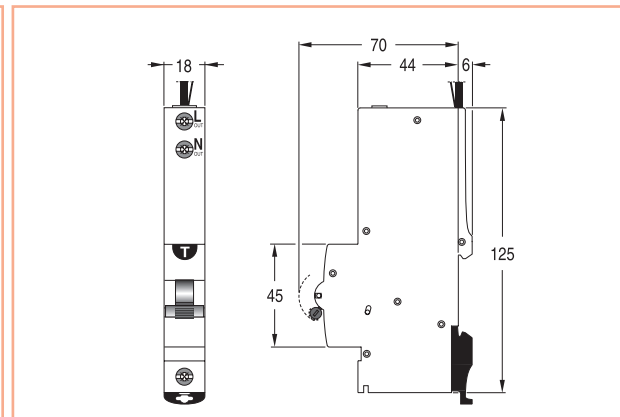
### Add-on RCCB - Series Diff-o-Click (continued)



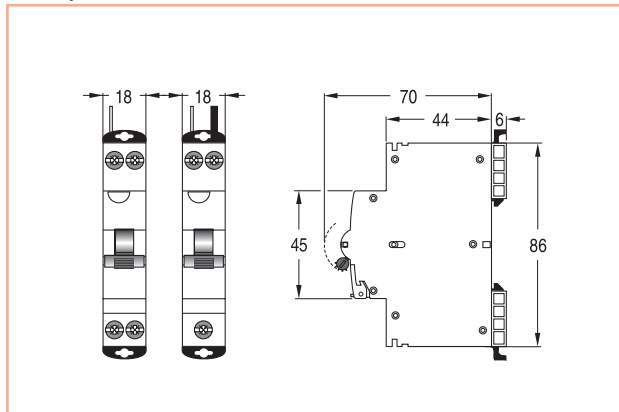
### RCBO's - Series DP, DPT and DPA100



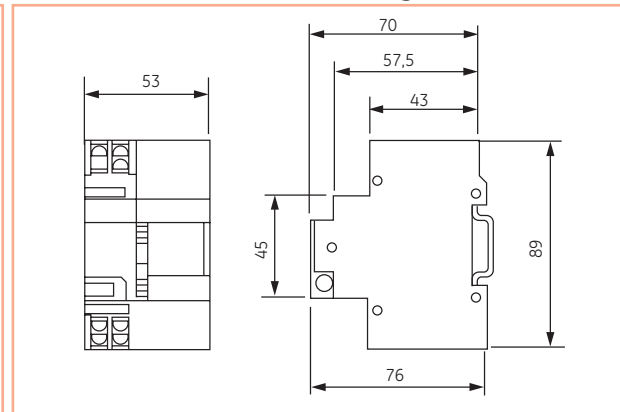
### RCBO's - Series DME



### Compact e-RCBO - Series DMCE & DICE



### TeleREC - Reconnection relay



Just feel

- C.2 Selection table
- C.3 Coupling combinations
- C.4 Auxiliary - **Series CA**
- C.5 Auxiliary - **Series CB**
- C.6 Unibis™ interface - **Series CA UN**
- C.7 Motor operator - **Tele MP**
- C.8 Shunt trip - **Tele L**
- C.8 Undervoltage release - **Tele U**
- C.8 Panel board switch - **PBS**
- C.10 Auxiliary contacts - **Series CBT**
- C.11 Shunt trip - **Series Tele LT**
- C.12 Dimensional drawings



Circuit Protection

A

People Protection

B

Add-on Devices

C

Comfort Functions

D

Busbars

E

Enclosures

F

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X

protected



Add-on devices for MCB's and RCD's

Add-on-devices



Common add-on devices suitable for all MCB's and RCD's

Function			Type
H		<b>Auxiliary Contact H</b> For monitoring the status of the protection device ( Open/Closed) independently, if it has been actuated manually or automatically.	CA
S		<b>Signal or Auxiliary Contact S/H</b> For signalling the automatic tripping of the protection devices: Overload or short-circuit for MCB's Earth leakage tripping for RCD's	CA
S/H+H		<b>Signal or Auxiliary Contact S/H + Auxiliary Contact H</b> Two change-over contacts that include both functions as described above (S/H+H)	CB
PBS		<b>Panel Board Switch</b> For opening the main device when the panel frame is removed	PBS
TL		<b>Shunt Trip (Distance tripping by emission)</b> For opening the device when it is fed locally or remotely	Tele L
TU		<b>Undervoltage Release</b> For opening the device when the voltage goes lower than a certain value	Tele U
TM		<b>Motor Operator</b> Allows to switch on/off the devices from a distance	Tele MP





### Coupling of add-on devices on MCB's, RCCB's, RCBO's and modular switches

Cat. No.	Description	Function	Unibis EPC	EP60	EP100	EP250	EP250M	EP100 UC EP100T EPP100	FP	DP	Series EP + Diff-o-Click	ASTER
CA H	Auxiliary contact	H	L-R <sup>(2)</sup>	L-R	L-R	L-R	L-R	L-R	R	R	L	L-R
CA S/H	Signal or auxiliary contact	S/H	L-R <sup>(2)</sup>	L-R	L-R	L-R	L-R	L-R	R	R	L	L-R
CA S/H-G	Signal or auxiliary contact, gold contact	S/H	L-R <sup>(2)</sup>	L-R	L-R	L-R	L-R	L-R	R	R	L	L-R
CA UN H	Auxiliary contact	H	L-R <sup>(1)</sup>	-	-	-	-	-	-	-	-	-
CA UN S/H	Signal or auxiliary contact	S/H	L-R <sup>(1)</sup>	-	-	-	-	-	-	-	-	-
CB SH/HH-R	Signal or auxiliary + auxiliary contact	S/H+H	-	R	R	R	R	R	R	R	-	-
CB SH/HH-L	Signal or auxiliary + auxiliary contact	S/H+H	-	L	L	L	L	L	-	-	L	-
PBS	Panel board switch	PBS	L-R <sup>(2)</sup>	L-R	L-R	L-R	L-R	L-R	-	-	L-R	-
Tele L	Shunt trip	TL	L-R <sup>(2)</sup>	L-R	L-R	L-R	L-R	L-R	R	R	L	-
Tele U	Undervoltage release	TU	L-R <sup>(2)</sup>	L-R	L-R	L-R	L-R	L-R	R	R	L	-
Tele MP	Motor operator	TM	L-R	L-R	L-R	L-R	L-R	L-R	R	R	L	-

(1) Except 3P Unibis™ that only accept CA UN on the **left** side

L = Coupling on the left

R = Coupling on the right

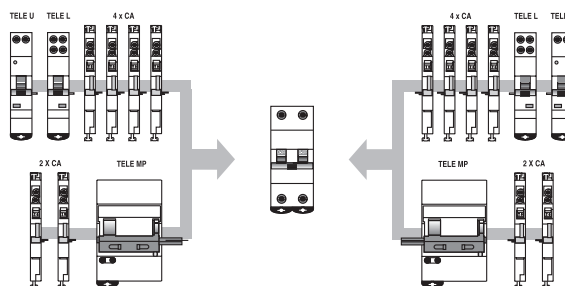
(2) Except Tele MP, all add-on devices on EPC need one CA UN as interface

For detailed information, see website

#### Miniature Circuit Breakers

Series EP

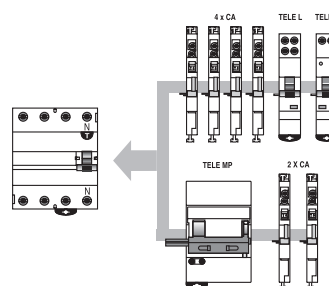
Series EPC Unibis<sup>(3)</sup>



(3) Except for Tele MP the first auxiliary contact on MCB should always be CA UN

#### Residual Current Circuit Breakers (RCCB)

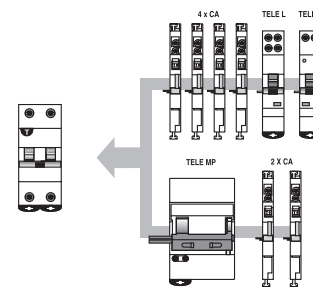
Series FP - FPP - FPAUL



#### Residual Current Circuit Breakers (RCBO)

with Overcurrent Protection

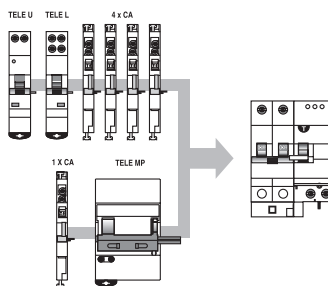
Series DP - DPT - DPA100 - DMCE - DICE



#### Miniature Circuit Breakers

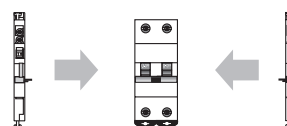
Series EP

+ Diff-o-Click



#### Modular switches

Aster



A

B

C

D

E

F

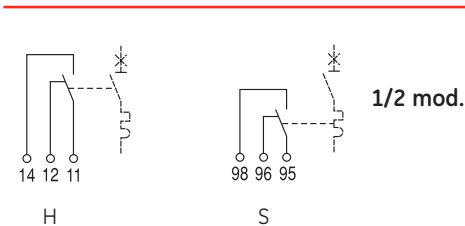
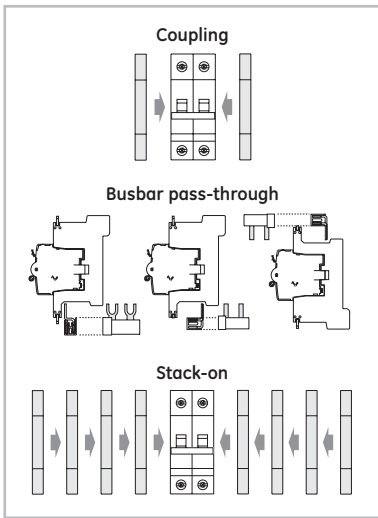
X



### Applications



### Approvals



## Auxiliary

### Series CA

### EN/IEC 62019

- Common for all modular protection devices: MCB's and RCBO's up to 63 A, RCCB's up to 100A and mains disconnect switches type ASTER (ASTM).
- Can be coupled on both sides of MCB's and modular switches type ASTM.
- Version with golden contacts, available for low current as well as low voltage applications.
- Stack-on left and right up to 4 CA units.
- Permits the pass-through of busbars, pin & fork, top and bottom, just changing the position of the base of the auxiliaries.

### Performance

Change-over contacts	1
Rated current I <sub>n</sub>	(A) 5
Rated voltage AC U <sub>n</sub>	(V) 240
Electrical endurance	10000
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> ) 2.5
Weight	(g) 70
Torque	(Nm) 0.8

### Utilisation

The auxiliary contacts are units to be added on to protection devices. They allow information to be monitored from a distance about the protection devices.

#### Auxiliary contact CA H (function H)

Provides the status of the protection device, OPEN/CLOSED.

#### Signal or auxiliary contact CA S/H, CA S/H G (function S/H)

This auxiliary can act as an auxiliary contact (function H) or as a signal contact (function S).

The user can change the function at the moment of installation.

Used as signal contact (function S) it provides the information about the automatic tripping of the protection devices: overload or short-circuit for MCB's, earth leakage tripping for RCD's.

- The device has a test button on the front to simulate the function (acting as a function H or S)
- Reset button for the contacts (function S)
- Tripping signal on the front (function S)

### Series CA

Function	Cat. No.	Ref. No.	Pack.	
H	CA H	672567	40	
S/H	CA S/H	672568	40	
S/H	CA S/H G	672569	40	golden contacts



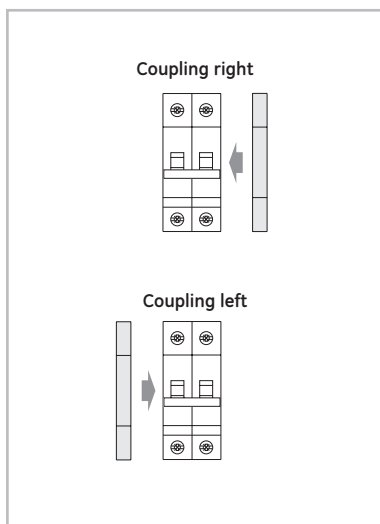
## Auxiliary



### Applications



### Approvals



### Series CB

### EN/IEC 62019

- Common for all modular protection devices: MCB's and RCBO's up to 63 A, RCCB's up to 100A and mains disconnect switches type ASTER (ASTM).
- Can be coupled on both sides of MCB's and modular switches type ASTM.
- Common for all modular protection devices: MCB's and RCBO's up to 63 A, RCCB's up to 100A.
- Can be coupled on both sides of MCB's and modular switches type ASTM.
- This device has 2 change-over contacts, the upper one with changeable function (S/H).
- Two versions: CB SH/HH-R to be coupled on the right side of the protection devices, CBSH/HH-L when assembled on the left side
- No stack-on possibilities (only 1 auxiliary)
- No busbar pass-through facilities

### Performance

Change-over contacts	2
Rated current I <sub>n</sub>	(A) 5
Rated voltage AC U <sub>n</sub>	(V) 240
Electrical endurance	10000
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> ) 2.5
Weight	(g) 80
Torque	(Nm) 0.5

### Utilisation

#### Bottom auxiliary contact (function H)

Provides the status of the protection device, OPEN/CLOSED.

#### Top signal or auxiliary contact (function S/H).

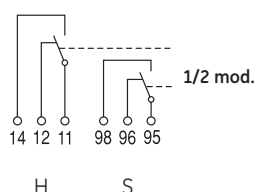
This auxiliary can act as an auxiliary contact (function H) or as a signal contact (function S)

The user can make the change of the function at the moment of installation.

Used as signal contact (function S) it provides information about automatic tripping of the protection devices: overload or short-circuit for MCB's, earth leakage tripping for RCD's.

- The device has a test button on the front to simulate the function (acting as a function H or S)
- Reset button for the contacts (function S)
- Tripping signal on the front (function S)

### Series CB



Function	Cat. No	Ref. No.	Pack.
SH/HH	CB SH/HH-R <sup>(1)</sup>	672570	40
SH/HH	CB SH/HH-L <sup>(2)</sup>	672571	40

(1) R= coupling on the right      (2) L= coupling on the left

More technical data ● website  
Dimensions ● pg C.12



Series CB

A

B

C

D

E

F

X



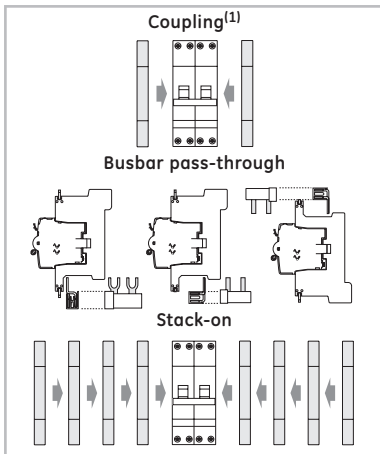
Applications



Approvals / Marking



Add-on devices



- (1) 3P Unibis™ MCB'S accept CA only on the left side
- (2) Only first auxiliary contact on MCB must be CA UN type as interface, than every extension can be stack-on mounted

Auxiliary

Series CA UN - Unibis™ Interface EN/IEC 62019

- Especially designed for MCB's Unibis, however also valid for all modular protection devices: MCB's and RCBO's up to 63 A, RCCB's up to 100A and mains disconnect switches type ASTER (ASTM).
- Can be coupled on both sides of MCB's<sup>(1)</sup> and modular switches type ASTM.
- Version with golden contacts, available for low current as well as low voltage applications.
- Stack-on left or right up to 4 CA UN units.
- Permits the pass-through of busbars, pin & fork, top and bottom, just changing the position of the base of the auxiliaries.

Performances

Change-over contacts	1	
Rated current In	(A) 5	
Rated voltage AC Un	(V) 240	
Electrical endurance	10000	
Series CB	flexible/rigid cable (mm <sup>2</sup> )	2.5
	(g)	70
	(Nm)	0.8

Unibis™ has a double function: as auxiliary monitoring contact for which it has

2. The interface function, which allows the use of all auxiliaries in combination with the Unibis™ MCB range.

Example: to couple the undervoltage release Tele U to a Unibis™ MCB, the CA UN 672972 has to be added in between the MCB and the Tele U as interface.

The auxiliary contacts are units to be added on to protection devices. They allow information to be monitored from a distance about the protection devices.

Auxiliary contact CA UN H (function H)

Provides the status of the protection device, OPEN/CLOSED.

Signal or auxiliary contact CA UN S/H, CA UN S/H G (function S/H)

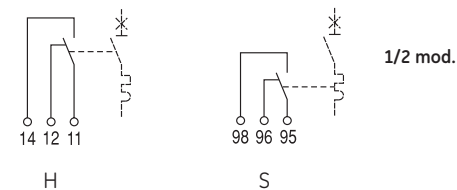
This auxiliary can act as an auxiliary contact (function H) or as a signal contact (function S).

The user can change the function at the moment of installation.

Used as signal contact (function S) it provides the information about the automatic tripping of the protection devices: overload or short-circuit for MCB's, earth leakage tripping for RCD's.

- The device has a test button on the front to simulate the function (acting as a function H or S)
- Reset button for the contacts (function S)
- Tripping signal on the front (function S)

Series CA UN - Unibis™ Interface



Function	Cat. No	Ref. No.	Pack.	
H	CA UN H	672972	1/40	
S/H	CA UN S/H	672973	1/40	
S/H	CA UN S/H G	672974	1/40	golden contacts

## Motor Operator

### Tele MP

- Common device for all modular protection devices.
- Can be coupled on both sides of MCB's and modular switches, on the right hand side of RCCB's and RCBO's.
- Stack-on left and right sides up to 4 modules. One of them can be coupled between the main device and the motor operator.
- Can be locked in off position with a lock.
- Manual operating is possible.

The Tele MP allows to remotely open or close any MCB, RCCB, RCBO or modular switch by means of a push-button or any other automatic management processor (PLC..).

In case of mounting a Tele MP and a Undervoltage Tele U together: when the Tele U trips, a manual reset of the Tele U is locally needed due to safety reasons.



### Applications

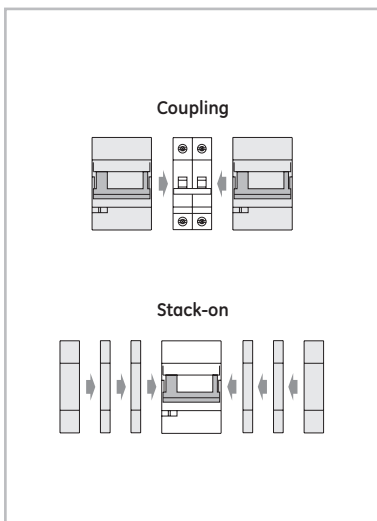


### Standard

EN/IEC 60947-2

### Performance

Rated voltage AC Un	(V)	240
Minimum voltage	(V)	200
Impulse to switch on	(ms)	50
Impulse to switch off	(ms)	50
Closing time	(s)	0.5
Opening time	(s)	0.2
Electrical endurance		10000
Terminal capacity flexible/rigid cable	(mm <sup>2</sup> )	2.5
Weight	(g)	380

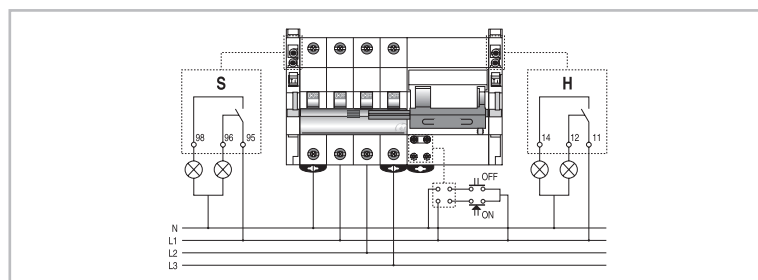


### Tele MP - Motor operator

	Voltage	Cat. No.	Ref. No.	Pack.
3 mod.	AC 230V	TELE MP	672580	1

### Application example



More technical data ● website  
Dimensions ● pg C.12



Tele MP

A

B

C

D

E

F

X



## Shunt trip, Undervoltage release, Panel board switch

- Common device for all modular protection devices.
- Can be coupled on both sides of MCB's, on the right side of RCCB's and RCBO's.
- Permit the pass-through of busbars, pin & fork, at top or bottom terminals.
- Stack-on left and right side up to 4 modules.

### Shunt Trip Tele L

The Tele L allows to remotely switch off any MCB, RCCB or RCBO by means of push-buttons or any other automatic management processor. A built-in contact in series with the coil prevents burn-out damage if the voltage remains.


### Performance

<b>Rated voltage</b>	(V) 110/415, 110/125 DC
	(V) 24/60, 24/48 DC
<b>Tripping time</b>	(ms) <10
<b>Electrical endurance</b>	10000
<b>Terminal capacity flexible/rigid cable</b>	(mm <sup>2</sup> ) 2.5
<b>Weight</b>	(g) 125
<b>Inrush current (Tele 2)</b>	at 110V AC 0.4A
	at 230V AC 0.9A
	at 415V AC 1.5A

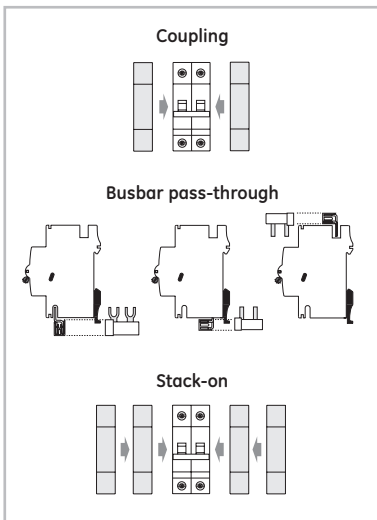
### Applications



### Approvals

EN/IEC 60947-2  (1)

(1) For TELE L-1 and TELE L-2



### Undervoltage Release Tele U



The Tele U releases the main MCB, RCCB, RCBO and modular switch in case the power supply drops below 0.5xUn. Time delay adjusting up to 300 ms.

### Performance

<b>Rated voltage AC Un</b>	(V) 240
<b>Rated voltage DC/AC Un</b>	(V) 12, 24, 48 DC/AC
<b>Tripping voltage</b>	(V) ≤0.5xUn±10%
<b>Resetting voltage</b>	(V) >0.5xUn±10%
<b>Tripping time</b>	(ms) Adjustable 0...300
<b>Electrical endurance</b>	2000
<b>Terminal capacity flexible/rigid cable</b>	(mm <sup>2</sup> ) 2.5
<b>Weight</b>	(g) 125

### Panel Board Switch PBS

The panel board switch PBS is a mechanical switch. When the panel frame releases the PBS switch, it will trip the protection devices (MCB's or RCD's). Consequently the distribution board will become isolated.

More technical data  website  
Dimensions  pg C.12

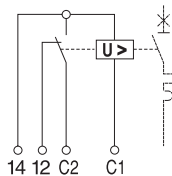




**Tele L - Shunt trip** 



1P  
1 mod.

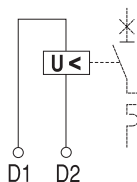


Voltage	Cat. No.	Ref. No.	Pack.
AC 24-60V DC 24-48V	TELE L-1	672573	1
AC 110-415V DC 110-125V	TELE L-2	672574	1

**Tele U - Undervoltage release**



1P  
1 mod.

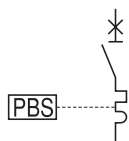


Voltage	Cat. No.	Ref. No.	Pack.
AC 240V	TELE U-230	672575	1
AC/DC 12V	TELE U-12	672576	1
AC/DC 24V	TELE U-24	672577	1
AC/DC 48V	TELE U-48	672578	1

**PBS - Panel board switch**

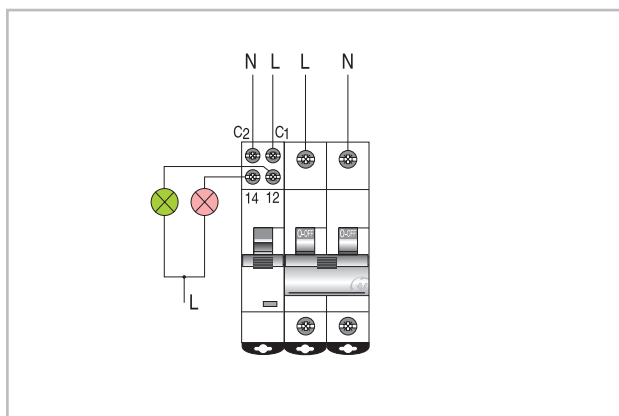


1P  
1/2 mod.

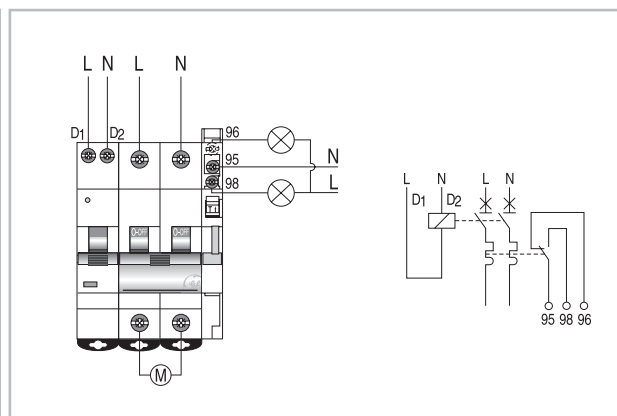


Cat. No.	Ref. No.	Pack.
PBS	672572	1

**Tele L**



**Tele U**



Tele L - Tele U - PBS

A

B

C

D

E

F

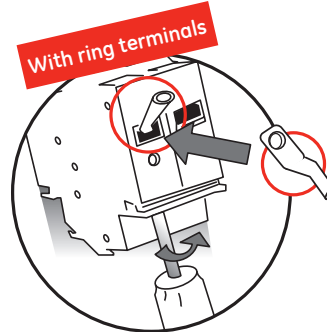
X





## Auxiliary contacts

### Series CBT



The miniature circuit breakers in RAIL-design have been developed with regard to shakes, shocks and vibrations

### Features

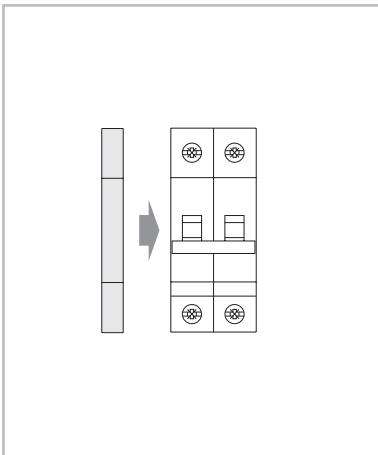
- Three versions: 1NO+1NC, 2NC, 2 NO
- CBT accepts ring terminals on wires
- Certified acc. new CEI UNI 11170 (higher protection against fires)
- Certified acc. to NF 16-101, smoke index F1
- Shock and vibration tests acc. to IEC 61373

### Standards

EN 60898, EN 60947-2, UNI CEI 11170, EN 61373

### Approval

Trenitalia n° 371441.01



### Technical data

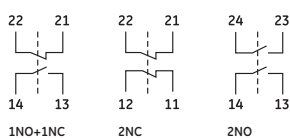
Number of change-over contacts	2
Thermal setting In	5A (230Vac), 4A (24Vdc), 1A (60Vdc)
Rated voltage Un	230Vac, 60Vdc
Endurance electrical	10.000
Terminal capacity for flexible/rigid cable	2.5 mm <sup>2</sup>
Unloosable screws	Pozidrive 2

#### Bottom auxiliary contact (function H)

Provides the status of the protection device: OPEN/CLOSED.

More technical data ● website  
Dimensions ● pg C.12

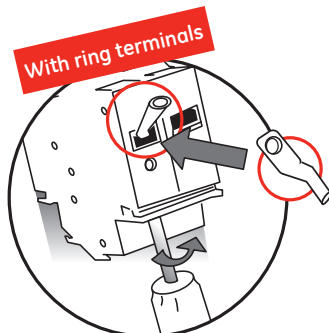
### Series CBT



Contact combination	Cat. No.	Ref. No.	Pack.
1NO+1NC	CBT H NO-NC	667249	1
2NC	CBT H 2NC	667250	1
2NO	CBT H 2NO	667251	1

## Shunt trip (distance tripping by emission)

### Series Tele LT



The miniature circuit breakers in RAIL-design have been developed with regard to shakes, shocks and vibrations

### Features

- Tele LT accepts ring terminals on wires
- Certified acc. new CEI UNI 11170 (higher protection against fires)
- Certified acc. to NF 16-101, smoke index F1
- Shock and vibrations tests acc. to IEC 61373

### Technical data

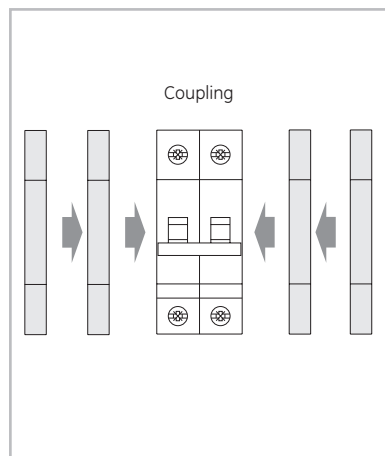
<b>Rated voltage</b>	(V) 110/415 ~ 110/128/150 ---
	(V) 24/60 ~ 24/48 ---
<b>Tripping time</b>	(ms) <10
<b>Electrical endurance</b>	10.000
<b>Terminal capacity flexible/rigid cable</b>	(mm <sup>2</sup> ) 2.5
<b>Unloosable screws</b>	Pozidrive 2
<b>U<sub>min</sub></b>	(V) 0.70 x Un
<b>U<sub>max</sub></b>	(V) 1.25 x Un

### Standards / Marking

EN 60898, EN 60947-2, UNI CEI 11170, EN 61373

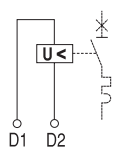
### Approval

Trenitalia n° 371441.01



More technical data ● website  
Dimensions ● pg C.12

### Tele LT



1/2 mod.

Voltage	Cat. No.	Ref. .No.	Pack.
CA 110/415 V ~ CC 110/128/150 V =	TELE LT-1	667252	1
CA 24/60 V ~ CC 24/48 V =	TELE LT-2	667253	1

Series Tele LT

A

B

C

D

E

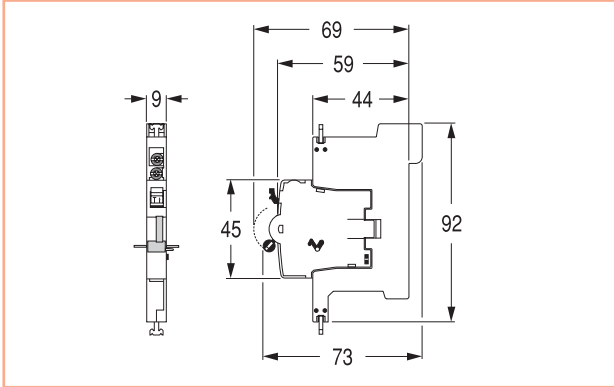
F

X

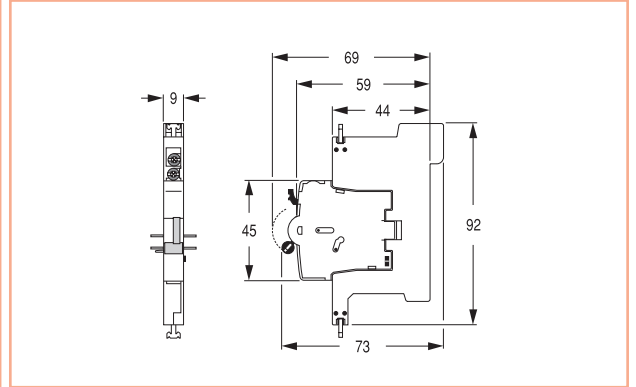


**Dimensional drawings**

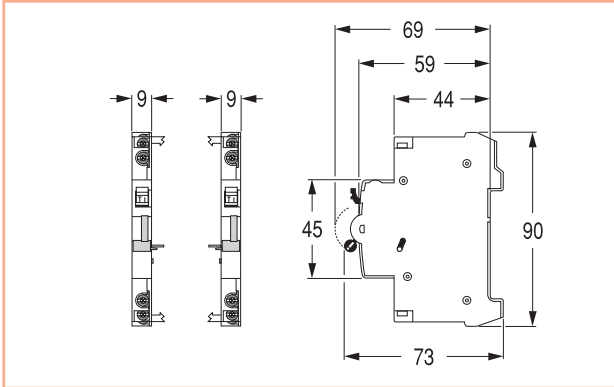
**Auxiliary - Series CA**



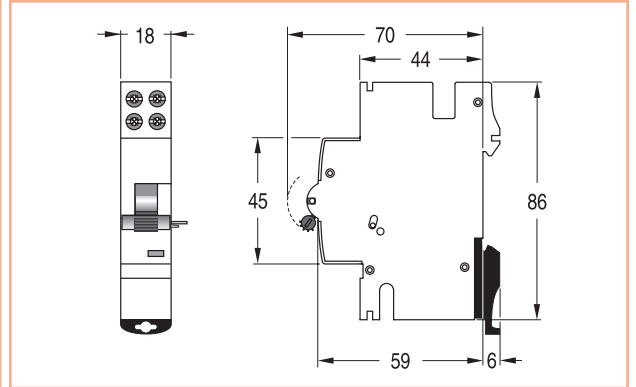
**Auxiliary interface - Series CA UN - Unibis™**



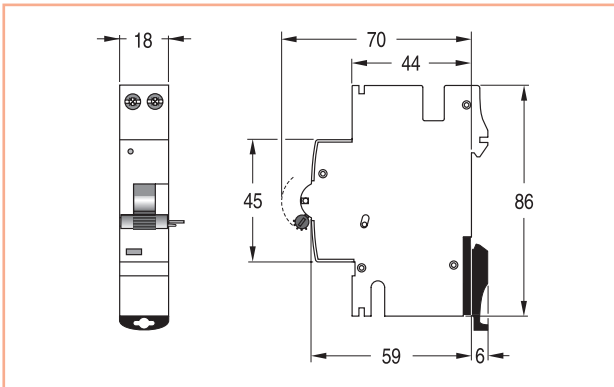
**Auxiliary - Series CB / CBT**



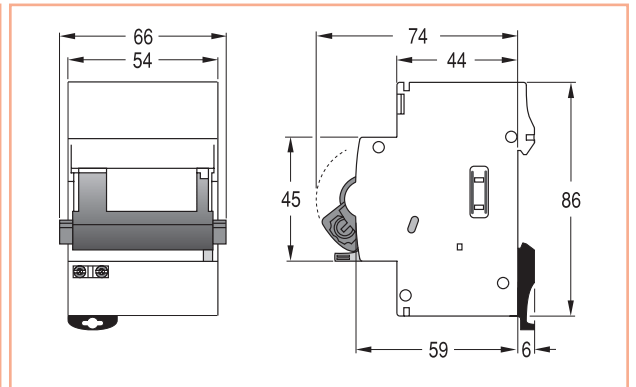
**Shunt Trip - Tele L / Tele LT**



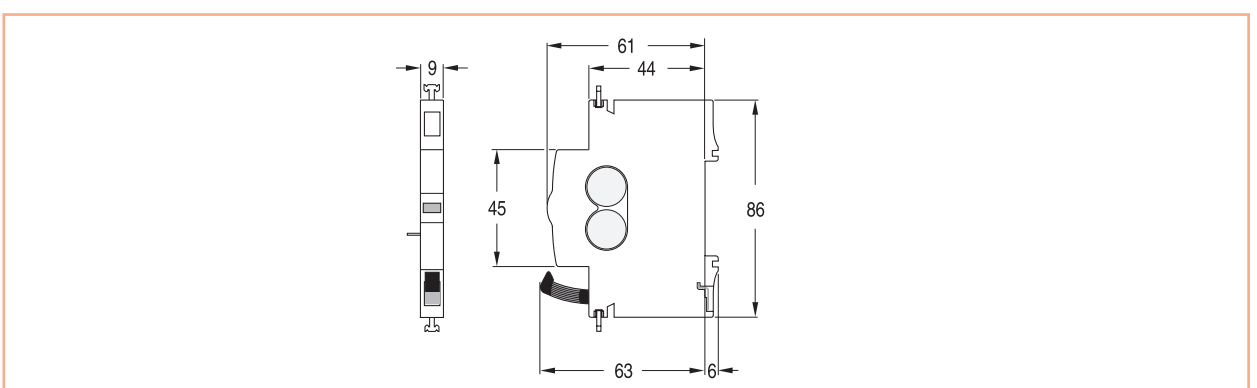
**Undervoltage Release - Tele U**



**Motor operator - Tele MP**



**Panel board switch - PBS**



Add-on-devices

A

B

C

D

E

F

X



D.2 Switches & Push-buttons - **Aster**

D.4 Indication Lamps - **Aster**

D.6 Contactors - **Contax**

New

D.8 Relays - **Contax R**

D.12 Impulse Switches - **Pulsar S**

D.16 Staircase Switches - **Pulsar TS**

D.18 Time Relays - **Pulsar T**

D.20 Analogue Time Switches - **Classic**

D.22 Digital Time Switches - **Galax**

D.24 Time Switches - **72x72 Classic and Galax**

D.26 Light Sensitive Switches - **Galax LSS**

D.28 Transformers - **Series T**

D.30 Measurement Instruments - **Series MT**

D.34 Priority and Sequence Phase Relays - **Series PR**

D.36 Surge Arresters - **SurgeGuard**

D.40 Terminal capacity

D.42 Dimensional drawings

Circuit Protection

A

People Protection

B

Add-on Devices

C

Comfort Functions

D

Busbars

E

Enclosures

F

Numerical Index

X



## Switches & Push-buttons

### Aster

### Applications



Switching of lighting and heating in homes, shops, offices, warehouses, factories, hospitals, etc.

### Features

Wide range with respect to available contact combinations and switching capacity. Mains disconnect switches and switches with change-over contact and off position available.

Compact (4-pole in 1 module) with high switching capacity due to double interruption per path.

All switches are sealable through padlock or by means of a lock.

The terminals are equipped with captive Pozidriv screws and have IP20 protection degree.

Mains disconnect switches accepts auxiliary contacts CA.

### Standards

<b>Switches 16/32A</b>	BS EN 60669-1
	VDE 0632 Part 1
<b>Mains disconnect switches 40-100</b>	BS EN 60947-3
	VDE 0632 Part 101
<b>Rotary switches</b>	BS EN 60947-3

### Function

Manual control of all kinds of electrical devices.

### Approvals<sup>(1)</sup>



(1) Depending on type.

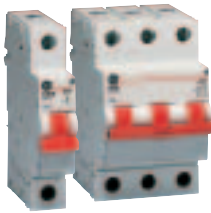
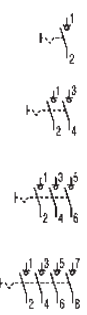

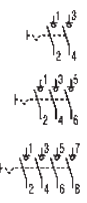





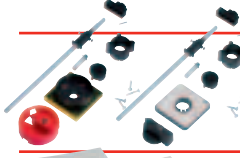

### Performance

	Push-buttons	Switches	Rotary switches	Mains disconnect switches
Nominal rated current	16A	16A   32A	32-40-63A	40-63-80-100A
Usable as mains disconnect switch	no	no	yes	yes
Impulse withstand voltage	-	-	8kV	8kV
Utilization category	-	-	AC-23A	AC-22A
Nominal voltage single pole devices	240V	240V	-	240/415V
Nominal voltage multipole devices	-	415V	240/415V	240/415V
Maximum allowed current during less than 1 s.	-	-	-	2kA
Mechanical service life (complete on-off-cycle)	>20000	>20000	>10000	>10000
Electrical service life, cos φ = 0.95, Un and In	>20000	>20000   >5000	>1500	>1500
Short-circuit resistance with upfront fuses Gg/gL 100A (nominal)	4.5kA (nominal)	4.5kA (nominal)	15kA (nominal)	16kA (nominal)
Protection degree	IP20	IP20	IP20	IP20
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 2	Pozidriv 2
Terminal capacity: min	1x1.5mm <sup>2</sup>	1x1.5mm <sup>2</sup>	1x2.5mm <sup>2</sup>	1x6mm <sup>2</sup>
max	1x10mm <sup>2</sup>	1x10mm <sup>2</sup>	1x25mm <sup>2</sup>	1x50mm <sup>2</sup>

- Auxiliary contacts ● pg. C.4
- More technical data ● website
- Dimensions ● pg D.42



**Aster - Switches & push-buttons**

	Nominal current	Contact combination	Number of modules	Cat. No.	Ref. No.	Pack.	
<b>Mains disconnect switch</b>  	40A/240V	1NO	1	AST M 40 10	666614	12	
	40A/415V	2NO	2	AST M 40 20	666615	6	
	40A/415V	3NO	3	AST M 40 30	666616	4	
	40A/415V	4NO	4	AST M 40 40	666617	3	
	63A/240V	1NO	1	AST M 63 10	666562	12	
	63A/415V	2NO	2	AST M 63 20	666563	6	
	63A/415V	3NO	3	AST M 63 30	666564	4	
	63A/415V	4NO	4	AST M 63 40	666565	3	
	80A/240V	1NO	1	AST M 80 10	666566	12	
	80A/415V	2NO	2	AST M 80 20	666567	6	
	80A/415V	3NO	3	AST M 80 30	666568	4	
	80A/415V	4NO	4	AST M 80 40	666569	3	
	100A/240V	1NO	1	AST M 100 10	666558	12	
	100A/415V	2NO	2	AST M 100 20	666559	6	
100A/415V	3NO	3	AST M 100 30	666560	4		
100A/415V	4NO	4	AST M 100 40	666561	3		
<b>Rotary switch</b>  	32A/415V	2NO	4	AST R 32 20	666574	1	
	32A/415V	3NO	4	AST R 32 30	666575	1	
	32A/415V	3NO+NC	4	AST R 32 3N	666576	1	
	32A/415V	4NO	4	AST R 32 40	666577	1	
	40A/415V	2NO	4	AST R 40 20	666578	1	
	40A/415V	3NO	4	AST R 40 30	666579	1	
	40A/415V	3NO+NC	4	AST R 40 3N	666580	1	
	40A/415V	4NO	4	AST R 40 40	666581	1	
	63A/415V	2NO	4	AST R 63 20	666582	1	
	63A/415V	3NO	4	AST R 63 30	666583	1	
	63A/415V	3NO+NC	4	AST R 63 3N	666584	1	
	63A/415V	4NO	4	AST R 63 40	666585	1	
<b>Changeover switches</b> 	16A/240V	1NO	1	AST S 16 10	666587	12	
	16A/415V	2NO	1	AST S 16 20	666589	12	
	16A/415V	3NO	1	AST S 16 30	666590	12	
	16A/415V	4NO	1	AST S 16 40	666593	12	
	16A/415V	3NO	2	AST S 16 30 2	666591	6	
	16A/415V	4NO	2	AST S 16 40 2	666592	6	
	16A/240V	1CO	1	AST S 16 1	666586	12	
	16A/240V	2CO	1	AST S 16 2	666588	12	
	32A/240V	1NO	1	AST S 32 10	666595	12	
	32A/415V	2NO	1	AST S 32 20	666597	12	
	32A/415V	3NO	1	AST S 32 30	666599	12	
	32A/415V	4NO	1	AST S 32 40	666600	12	
	32A/415V	3NO	2	AST S 32 30 2	666598	6	
	32A/415V	4NO	2	AST S 32 40 2	666601	6	
	32A/240V	1CO	1	AST S 32 1	666594	12	
	32A/240V	2CO	1	AST S 32 2	666596	12	
	<b>Switch with signal lamp</b> 	16A/240V	1NO	1	AST SL 16 10	666602	12
		16A/240V	2NO	1	AST SL 16 20	666603	12
32A/240V		1NO	1	AST SL 32 10	666604	12	
32A/240V		2NO	1	AST SL 32 20	666605	12	
<b>Changeover switches with zero position</b> 	16A/240V	1CO	1	AST SZ 16 1	666606	12	
	16A/240V	2CO	1	AST SZ 16 2	666607	12	
	32A/240V	1CO	1	AST SZ 32 1	666608	12	
	32A/240V	2CO	1	AST SZ 32 2	666609	12	
<b>Push-button</b> 	16A/240V	1NC	1	AST P 16 01	666570	12	
	16A/240V	1NO	1	AST P 16 10	666571	12	
	16A/240V	1NO+1NC	1	AST P 16 11	666572	12	
<b>Push-button with signal lamp</b> 	16A/240V	1NO	1	AST PL 16 10	666573	12	
<b>Accessories for rotary switches</b>							
<b>Extension shaft</b> 	238 mm with emergency handle			AST R ES E	666555	1	
	238 mm with standard handle			AST R ES S	666556	1	
<b>Sealing piece</b> 			4	AST R TS	666557	1	

Aster

A

B

C

D

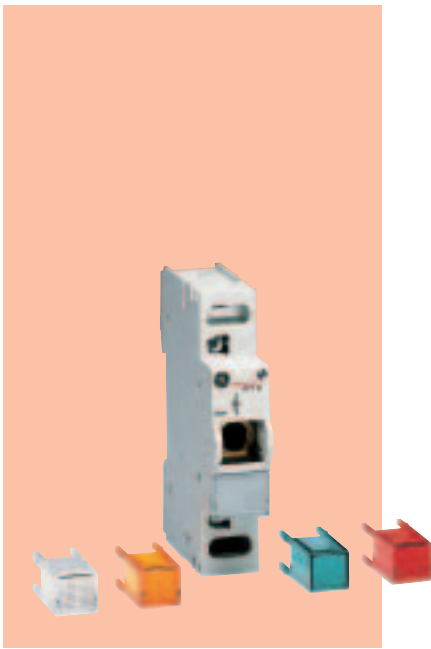
E

F

X







## Indication lamps

### Aster

#### Function

Status visualisation.

#### Applications



Mainly used to visualise the status of a (sub)part of the installation, heater, motor, fan, pump etc.

#### Features

Available in different voltages and with different coloured lenses.

## Performance

Nominal voltage	12V	24V	230V
Own consumption	120mA	85mA	2.2mA
Lamp	Incandescent lamp	Incandescent lamp	Neon lamp
Lens colours	Red, green, orange and transparent	Red, green, orange and transparent	Red, green, orange and transparent
Protection degree	IP20	IP20	IP20
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x1.5mm <sup>2</sup>	1x1.5mm <sup>2</sup>	1x1.5mm <sup>2</sup>
max	1x10mm <sup>2</sup> / 2x4mm <sup>2</sup>	1x10mm <sup>2</sup> / 2x4mm <sup>2</sup>	1x10mm <sup>2</sup> / 2x4mm <sup>2</sup>



## Socket-outlets

### MSC

#### Standards

BS EN C61112-1, NF C61-303 (86), IEC 60884-1

#### Approvals<sup>(1)</sup>




(1) Depending on type.

#### Performance



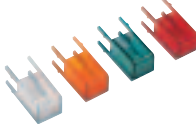
Nominal current	16A
Nominal voltage	250V
Operating temperature	-20 ... +55°C
Protection degree	IP20
Screws	Pozidriv 2
Terminal capacity: min	1x1 mm <sup>2</sup>
max	1x6 mm <sup>2</sup> or 2x2.5 mm <sup>2</sup>

More technical data ● website  
Dimensions ● pg D.43



### Aster - Indication lamps

	Nominal operating voltage	Colour	Number of modules	Cat. No.	Ref. No.	Pack.
 Lampholder	-	-	1	AST B	666347	12

### Accessories

	Nominal operating voltage	Colour	Number of modules	Cat. No.	Ref. No.	Pack.
 Lamp	12V	-	-	AST B 12	666340	12
	24V	-	-	AST B 24	666342	12
	230V	-	-	AST B 230	666341	12
 Lamp LED E10	235V ~/=	Green	-	AST LG 230V	666876	10
	235V ~/=	Amber	-	AST LA 230V	666874	10
	235V ~/=	Red	-	AST LR 230V	666877	10
	235V ~/=	Blue	-	AST LB 230V	666875	10
	235V ~/=	White	-	AST LW 230V	666878	10
 Lens	-	Transparent	-	AST L CL	666343	12
	-	Green	-	AST L GN	666344	12
	-	Orange	-	AST L OR	666345	12
	-	Red	-	AST L RD	666346	12

### MSC - Socket-outlets

	Nominal current	Nominal voltage	Number of modules	Cat. No.	Ref. No.	Pack.
 Edged with child protection	16A	250V	2.5	MSC SEP	666501	4
	16A	250V	2.5	MSC SE	666499	4
 Edged without child protection	16A	250V	2.5	MSC SPP	666502	4



Contax - Contactors

		Nominal current	Contact combination	Coil voltage	AC/DC	Number of modules	Cat. No.	Ref. No.	Pack.		
	Contactor 1 NO 1 NC	20A	1NO 1NC	24V	AC	1	CTX 20 11 024 A	666127	12		
		20A	1NO 1NC	230V	AC	1	CTX 20 11 230 A	666126	12		
		20A	2NC	24V	AC	1	CTX 20 02 024 A	666129	12		
		20A	2NC	230V	AC	1	CTX 20 02 230 A	666128	12		
		20A	2NO	12V	AC	1	CTX 20 20 012 A	666130	12		
		20A	2NO	24V	AC	1	CTX 20 20 024 A	666133	12		
		20A	2NO	48V	AC	1	CTX 20 20 048 A	666134	12		
		20A	2NO	230V	AC	1	CTX 20 20 230 A	666131	12		
		20A	2NO	240V	AC	1	CTX 20 20 240 A	666132	12		
			2 NO	24A	2NO 2NC	24V	AC/DC	2	CTX 24 22 024 U	666136	5
24A	2NO 2NC			230V	AC/DC	2	CTX 24 22 230 U	666135	5		
24A	3NO			24V	AC/DC	2	CTX 24 30 024 U	666138	5		
24A	3NO			230V	AC/DC	2	CTX 24 30 230 U	666137	5		
24A	4NC			24V	AC/DC	2	CTX 24 04 024 U	666140	5		
24A	4NC			230V	AC/DC	2	CTX 24 04 230 U	666139	5		
24A	4NO			12V	AC/DC	2	CTX 24 40 012 U	666141	5		
24A	4NO			24V	AC/DC	2	CTX 24 40 024 U	666144	5		
24A	4NO			48V	AC/DC	2	CTX 24 40 048 U	666145	5		
24A	4NO			230V	AC/DC	2	CTX 24 40 230 U	666142	5		
	2 NO 2 NC	24A	4NO	240V	AC/DC	2	CTX 24 40 240 U	666143	5		
		40A	2NC	230V	AC/DC	3	CTX 40 02 230 U	666170	3		
		40A	2NO	230V	AC/DC	3	CTX 40 20 230 U	666146	3		
		40A	3NO	24V	AC/DC	3	CTX 40 30 024 U	666149	3		
		40A	3NO	230V	AC/DC	3	CTX 40 30 230 U	666148	3		
		40A	4NO	12V	AC/DC	3	CTX 40 40 012 U	666150	3		
		40A	4NO	24V	AC/DC	3	CTX 40 40 024 U	666153	3		
		40A	4NO	48V	AC/DC	3	CTX 40 40 048 U	666154	3		
		40A	4NO	230V	AC/DC	3	CTX 40 40 230 U	666151	3		
		40A	2NO	24V	AC/DC	3	CTX 40 20 024 U	666147	3		
	4 NC	40A	4NO	240V	AC/DC	3	CTX 40 40 240 U	666152	3		
		63A	4NO	24V	AC/DC	3	CTX 63 40 024 U	666158	3		
		63A	4NO	230V	AC/DC	3	CTX 63 40 230 U	666156	3		
		63A	2NO	230V	AC/DC	3	CTX 63 20 230 U	666155	3		
	4 NO	63A	4NO	240V	AC/DC	3	CTX 63 40 240 U	666157	3		
		<b>Contactor Day and Night</b>									
		20A	2NO	230V	AC	1	CTX DN 20 20 230 A	666164	12		
		24A	3NO	230V	AC/DC	2	CTX DN 24 30 230 U	666165	5		
	2 NO	24A	4NO	230V	AC/DC	2	CTX DN 24 40 230 U	666166	5		
		40A	2NO	230V	AC/DC	3	CTX DN 40 20 230 U	666167	3		
		40A	3NO	230V	AC/DC	3	CTX DN 40 30 230 U	666168	3		
		40A	4NO	230V	AC/DC	3	CTX DN 40 40 230 U	666169	3		
			3 NO	40A	4NO	230V	AC/DC	3	CTX DN 40 40 230 U	666169	3
				40A	4NO	230V	AC/DC	3	CTX DN 40 40 230 U	666169	3
	4 NO	40A	4NO	230V	AC/DC	3	CTX DN 40 40 230 U	666169	3		
		40A	4NO	230V	AC/DC	3	CTX DN 40 40 230 U	666169	3		

Add-on auxiliary contact for 24-40-63A contactors

		Nominal current	Contact combination			Number of modules	Cat. No.	Ref. No.	Pack.	
	Left mounting	6A	1NO 1NC	-	-	0.5	CTX 06 11	666162	5	
		6A	2NO	-	-	0.5	CTX 06 20	666163	5	
		<b>Accessories</b>								
	Sealing piece					2	CTX TS 2	666160	3	
						3	CTX TS 3	666159	3	
	Spacer					0.5	PLS + / CTX + SP	686069	50	

Accessories

		Nominal current	Contact combination			Number of modules	Cat. No.	Ref. No.	Pack.
	Sealing piece					2	CTX TS 2	666160	3
						3	CTX TS 3	666159	3
	Spacer					0.5	PLS + / CTX + SP	686069	50

Contax

A

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### Standards / Marking

EN 60947-4-1 

## Relays

### Contax R

### Function

Relays are electromechanically controlled switches used to control low power loads.



### Applications



- Switching of lighting, heating, etc.
- Galvanic insulation of i.e. status signalisation lamps from a (high) power (high voltage) circuit.
- Galvanic insulation of PLC-inputs or outputs to avoid destruction through excessive voltage.

### Features

- The switch position is visualised by the position of the front handle.
- The safety terminals are equipped with captive Pozidriv screws and have IP20 protection degree.
- Add-on auxiliary contacts available.
- Because of the advanced product design, no spacers are needed.
- Increased safety: sealing caps for both coil and terminal are available.

More technical data  website  
 Dimensions  pg D.44

**New**



## Performance

			Contax R
			CTX + R16
<b>Rated current (according to EN 60947-4-1)</b>			
250VAC (1 & 2 pole) / 400VAC (3 & 4 pole)		A	16
Nominal thermal current (I <sub>th</sub> )		A	16
Number of pole			1 → 4
<b>Contacts</b>	NO		1 → 4
	Changeover ("m" contacts)		1 → 4
	NO + NC		1+1 / 2+2
<b>Width (in 17.8mm DIN modules)</b>	1P & 2P	Mod.	1
	3P & 4P	Mod.	2
<b>Coil specifications</b>			
Supply voltage : DC/AC ratio <sup>(1)</sup>			0.5 / 1
Supply voltage range (in % of U <sub>n</sub> )		%	85-110
Coil pick-up power	1P & 2P	VA	3.4
	3P & 4P	VA	6.7
Coil power loss - AC	1P & 2P	VA	1.8
	3P & 4P	VA	3.4
Coil power loss - DC	1P & 2P	W	2.1
	3P & 4P	W	3.9
Maximum coil holding voltage time			unlimited
<b>Contact bounce time at closing</b>		sec.	<0.010
<b>Operate and release time (bounce time incl.)</b>			
Pick-up time	NO contact	sec.	< 0.040
(from 0 to U <sub>n</sub> )	NC contact	sec.	< 0.020
Drop-out time	NO contact	sec.	< 0.050
(from U <sub>n</sub> to 0)	NC contact	sec.	< 0.050
<b>Maximum peak current at closing</b>			
Single phase 250VAC cos φ = 0.95		A	45
3-phase 400V~ cos φ = 0.65		A	60
<b>Maximum peak current at opening</b>			
Single phase 250VAC cos φ = 0.95		A	75
3-phase 400V~ cos φ = 0.65		A	60
<b>Lifetime (in number of operations)<sup>(2)</sup></b>			
Electrical (in AC-1 - At full load)			3 × 10 <sup>5</sup>
Mechanical			2 × 10 <sup>6</sup>
<b>Load specifications per phase</b>			
Maximum load AC-1	1P & 2P	kW	3.0
	3P & 4P	kW	8.5
Maximum load AC-5b		kW	1.8
Maximum load AC-7b		kW	0.9
Maximum load AC-3	250VAC	kW	1.5
	400VAC	kW	2.2
Minimum load (under 5V)		W	2
Short-circuit fuse protection		A	20
<b>Maximum lamp load (10<sup>3</sup> operations/h)</b>			
Incandesc. & halogen (40 to 200 W lamps)		W	1,800
Fluorescence, compensated (cos φ = 0.9)			
	Serial compensation	VA	1,800
	Parallel compensation	VA	500
Fluorescence, non compensated (cos φ = 0.5)		VA	900
<b>General specifications</b>			
Auxiliary contact add-on (PLS / CTX R)			yes
Need for spacer			no
DIN rail mounting			yes
2-position DIN rail lock			yes
Front handle for manual operation			yes
Permanent ON/OFF			no
Indicator of contact position			yes
Clamping terminals			yes
Unlosable screws			yes
Sealable terminals (coil and load)			yes
Cable cross section (Ø min./max)	Coil	mm <sup>2</sup>	1.5 / 10
	Load	mm <sup>2</sup>	1.5 / 10
Maximum torque on terminals		Nm	1
Ambient temperature at installation point (min./max.)		°C	-20 / +45

(1) DC supply voltage = AC supply voltage × DC/AC ratio, except for 8VAC and 115VAC (48VDC)

(2) 1 cycle = 2 operations per pole (closing + opening)

Contax R

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New

**Impulse switches and relays: maximum lamp loads**

Comfort functions

A

B

C

D

E

F

X










Lamps type	Lamp Watts	Pulsar S	Pulsar S	Contax R
	Power consumption	PLS + 16	PLS + 32	CTX + R16
<b>Incandescent lamps</b>				
Max. load 230VAC		3000 W	4000 W	1800 W
Max. number of lamps	15 W	200	266	120
	25 W	120	160	72
	40 W	75	102	45
	60 W	50	65	30
	75 W	40	52	24
	100 W	30	40	18
	150 W	20	26	12
	200 W	15	20	9
	300 W	9	12	6
	500 W	5	8	3
<b>Fluo lamp PF uncorrected</b>				
Max. load 230VAC		1800 W	2200 W	900 W
Max. number of lamps	18 W	81	110	50
	36 W	44	58	25
	40 W	38	53	23
	58 W	29	35	16
	65 W	26	34	13
<b>Fluo twin lamps</b>				
Max. load 230VAC		3000 W	4000 W	1800 W
Max. number of lamps	2 x 18 W	78	110	50
	2 x 36 W	38	55	25
	2 x 40 W	35	50	23
	2 x 58 W	23	34	16
	2 x 65 W	22	30	13
<b>Fluo lamp parallel compensation</b>				
Max. load 230VAC		2500 W	3200 W	500 W
Max. number of lamps	18 W	103	132	17
	36 W	55	72	13
	40 W	50	65	12
	58 W	34	45	8
	65 W	30	40	7
<b>Halogen 230V</b>				
Max. load 230VAC		3000 W	4000 W	1800 W
Max. number of lamps	150 W	20	26	12
	250 W	12	16	7
	300 W	10	13	6
	400 W	7	10	4
	500 W	6	8	3
	1000 W	3	4	2
<b>HP sodium vapour</b>				
Max. load 230VAC		1200 W	1600 W	800 W
Max. number of lamps	70 W	15	18	10
	150 W	8	10	5
	250 W	4	6	3
	400 W	3	4	2
	1000 W	1	1	-
<b>LP sodium vapour</b>				
Max. load 230VAC		1400 W	2000 W	400 W
Max. number of lamps	55 W	27	36	6
	90 W	16	22	4
	135 W	11	14	3
	180 W	8	11	2
	185 W	8	10	2
<b>HP mercury vapour</b>				
Max. load 230VAC		1200 W	1600 W	800 W
Max. number of lamps	50 W	19	25	16
	80 W	15	20	10
	125 W	9	12	7
	250 W	4	6	3
	400 W	3	4	2
	1000 W	1	2	-
<b>VLV halogen</b>				
Max. load 230VAC		2300 W	3200 W	1500 W
Max. number of lamps	20 W	116	160	72
	50 W	46	64	29
	75 W	31	42	20
	100 W	24	32	15
	150 W	15	21	10
	200 W	12	16	7
	300 W	7	10	5
<b>Electronic reactor</b>				
Max. load 230VAC		1600 W	2200 W	1000 W
Max. number of lamps	1 x 18 W	83	112	38
	1 x 36 W	46	61	30
	1 x 58 W	31	38	17
	2 x 18 W	40	56	19
	2 x 36 W	23	30	15
	2 x 58 W	14	19	8

New





Contax R - Relays

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of Modules	Cat. No.	Ref. No.	Pack.
	2	1 NO	8	-	1	CTX + R 16 10 008 A	686007	12
		1 NO	12	6	1	CTX + R 16 10 012 A	686008	12
		1 NO	24	12	1	CTX + R 16 10 024 A	686009	12
		1 NO	48	24	1	CTX + R 16 10 048 A	686010	12
		1 NO	115	48	1	CTX + R 16 10 115 A	686011	12
		1 NO	230	115	1	CTX + R 16 10 230 A	686013	12
		1 NO	230/60Hz	-	1	CTX + R 16 10 23060	686012	12
		1 NO	240	120	1	CTX + R 16 10 240 A	686014	12
	14 12	1 CO	8	-	1	CTX + R 16 1 008 A	686000	12
		1 CO	12	6	1	CTX + R 16 1 012 A	686001	12
		1 CO	24	12	1	CTX + R 16 1 024 A	686002	12
		1 CO	48	24	1	CTX + R 16 1 048 A	686003	12
		1 CO	115	48	1	CTX + R 16 1 115 A	686004	12
		1 CO	230	115	1	CTX + R 16 1 230 A	686005	12
		1 CO	240	120	1	CTX + R 16 1 240 A	686006	12
	4 2	2 NO	8	-	1	CTX + R 16 20 008 A	686036	12
		2 NO	12	6	1	CTX + R 16 20 012 A	686037	12
		2 NO	24	12	1	CTX + R 16 20 024 A	686038	12
		2 NO	48	24	1	CTX + R 16 20 048 A	686039	12
		2 NO	115	48	1	CTX + R 16 20 115 A	686040	12
		2 NO	230	115	1	CTX + R 16 20 230 A	686042	12
		2 NO	230/60Hz	-	1	CTX + R 16 20 23060	686041	12
		2 NO	240	120	1	CTX + R 16 20 240 A	686043	12
			4 2	1 NO 1 NC	8	-	1	CTX + R 16 11 008 A
1 NO 1 NC	12			6	1	CTX + R 16 11 012 A	686016	12
1 NO 1 NC	24			12	1	CTX + R 16 11 024 A	686017	12
1 NO 1 NC	48			24	1	CTX + R 16 11 048 A	686018	12
1 NO 1 NC	115			48	1	CTX + R 16 11 115 A	686019	12
1 NO 1 NC	230			115	1	CTX + R 16 11 230 A	686021	12
1 NO 1 NC	230/60Hz			-	1	CTX + R 16 11 23060	686020	12
1 NO 1 NC	240			120	1	CTX + R 16 11 240 A	686022	12
	24 22 14 12			2 CO	8	-	1	CTX + R 16 2 008 A
		2 CO	12	6	1	CTX + R 16 2 012 A	686024	12
		2 CO	24	12	1	CTX + R 16 2 024 A	686026	12
		2 CO	48	24	1	CTX + R 16 2 048 A	686028	12
		2 CO	115	48	1	CTX + R 16 2 115 A	686030	12
		2 CO	230	115	1	CTX + R 16 2 230 A	686032	12
		2 CO	240	120	1	CTX + R 16 2 240 A	686034	12
			6 4 2	3 NO	12	6	2	CTX + R 16 30 012 A
3 NO	24			12	2	CTX + R 16 30 024 A	686051	6
3 NO	48			24	2	CTX + R 16 30 048 A	686052	6
3 NO	230			115	2	CTX + R 16 30 230 A	686053	6
	8 6 4 2			4 NO	8	-	2	CTX + R 16 40 008 A
		4 NO	12	6	2	CTX + R 16 40 012 A	686060	6
		4 NO	24	12	2	CTX + R 16 40 024 A	686061	6
		4 NO	48	24	2	CTX + R 16 40 048 A	686062	6
		4 NO	230	115	2	CTX + R 16 40 230 A	686064	6
		4 NO	230/60Hz	-	2	CTX + R 16 40 23060	686063	6
		4 NO	240	120	2	CTX + R 16 40 240 A	686065	6
			44 42 34 32 24 22 14 12	4 CO	12	6	2	CTX + R 16 4 012 A
4 CO	24			12	2	CTX + R 16 4 024 A	686055	6
4 CO	48			24	2	CTX + R 16 4 048 A	686056	6
4 CO	115			48	2	CTX + R 16 4 115 A	686057	6
4 CO	230			115	2	CTX + R 16 4 230 A	686058	6
4 CO	240			120	2	CTX + R 16 4 240 A	686059	6
	8 6 4 2			2 NO 2 NC	8	-	2	CTX + R 16 22 008 A
		2 NO 2 NC	12	6	2	CTX + R 16 22 012 A	686044	6
		2 NO 2 NC	24	12	2	CTX + R 16 22 024 A	686045	6
		2 NO 2 NC	48	24	2	CTX + R 16 22 048 A	686046	6
		2 NO 2 NC	230	115	2	CTX + R 16 22 230 A	686048	6
		2 NO 2 NC	230/60Hz	-	2	CTX + R 16 22 23060	686047	6
		2 NO 2 NC	240	120	2	CTX + R 16 22 240 A	686049	6

Terminal identification, see page D.41

Contax R

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New



## Impulse switches

### Pulsar S

#### Standards / Marking

IEC 60669-1, IEC 60669-2-2



#### Function

Impulse switches are electromechanically controlled switches used to control single- or multi-phase medium-power loads while the control itself can be (very) low power. The device switches between 2 stable positions, each time a (brief) impulse energises its control circuit.

#### Applications



Mainly used for the switching of lighting and heating equipment and/or to obtain a simplified wiring in case the load needs to be controlled at reduced voltage and/or from more than 2 different places.

#### Features

- Besides the normal operation through electrically energising the coil, manual operation is possible at all times, except PLS series SA & SB.
- The switch position is visualised by the position of the front handle for all devices, except PLS series SA & SB.
- The central command version was developed to force several devices at the same time to the on or off position, independently of the current status of each individual device. Also in this case, the possibility of operating the device locally remains.
- The safety terminals are equipped with captive Pozidriv screws and have IP20 protection degree.
- An add-on auxiliary contact, add-on central-command module and a spacer are available.
- 3 & 4 poles devices are multi voltage (except all-in central command).
- The use of a large number of luminous push-buttons is possible.
- Availability of sealing cap for coil and load terminals.

For the table Impulse switches maximum lamp loads, see page D.10

More technical data ● website  
Dimensions ● pg D.44

New



## Performance

		PLS +				PLS + C <sup>(4)</sup>	
		PLS + 16	PLS + 32	PLS + SA & SB	PLS + PU 16	PLS + C 16	PLS + C 32
<b>Rated current (acc. to IEC 669-2-3)</b>							
250VAC (1 & 2 pole) / 400VAC (3 & 4 pole)	A	16	32	16	16	16	32
Direct Current (at 30 VDC)	A	16	16	16	16	16	16
Number of poles		1 → 4	1 → 4	2	1 → 4	1 → 3	1 → 3
<b>Contacts</b>	NO	1 → 4	1 → 4	2	1 → 4	1 → 3	1 → 3
	Changeover ("m")	1 → 4	-	-	1 → 4	1 → 3	-
	NO + NC	1+1 / 2+2	-	-	1+1 / 2+2	-	-
<b>Width (in 17.8mm DIN modules)</b>							
1 P	Mod.	1	1	-	1	1	1
2 P	Mod.	1	1	1	1	1½	1½
3 P	Mod.	2	2	-	2	2	2
4 P	Mod.	2	2	-	2	-	-
<b>Coil specifications</b>							
Supply voltage : DC/AC ratio <sup>(1)</sup>		0.5 / 1	0.5 / 1	0.5 / 1	0.5 / 1	0.5 / 1	0.5 / 1
Supply voltage range (in % of Un)	%	90-110	90-110	90-110	90-110	90-110	90-110
Coil pick-up power (AC)	1P & 2P	VA	14.5	16.0	14.5	4.8	14.5
	3P & 4P	VA	14.5	16.0	-	8.0	16.0
Coil power loss - AC	1P & 2P	VA	11.0	11.5	11.0	3.2	11.0
	3P & 4P	VA	11.0	11.5	-	6.0	11.0
Coil power loss - DC	1P & 2P	W	7.5	8.0	7.5	2.9	12.5
	3P & 4P	W	7.5	8.0	-	5.4	14.5
Maximum coil holding voltage time		<sup>(2)</sup>	<sup>(2)</sup>	<sup>(2)</sup>	unlimited	<sup>(2)</sup>	<sup>(2)</sup>
<b>Impulse times</b>							
Minimum impulse time (under Un)	sec.	0.050	0.050	0.050	0.050	0.100	0.100
Minimum impulse time (90% Un)	sec.	0.100	0.100	0.100	0.100	0.100	0.100
Minimum time between impulses	sec.	0.150	0.150	0.150	0.150	0.150	0.150
Maximum number of impulses per mn		250	250	250	250	250	250
<b>Lifetime (in number of operations)<sup>(3)</sup></b>							
Electrical (in AC-1 - At full load) <sup>(4)</sup>		4 × 10 <sup>5</sup>	3 × 10 <sup>5</sup>	3 × 10 <sup>5</sup>	2 × 10 <sup>5</sup>	4 × 10 <sup>5</sup>	3 × 10 <sup>5</sup>
Mechanical		2 × 10 <sup>6</sup>	2 × 10 <sup>6</sup>	2 × 10 <sup>6</sup>	1 × 10 <sup>6</sup>	2 × 10 <sup>6</sup>	2 × 10 <sup>6</sup>
<b>Load specifications</b>							
Maximum load AC-1 per phase	A	20	32	20	20	20	32
Maximum load DC (30VDC)	A	16	16	16	16	16	16
Minimum load per phase (under 5V)	W	2	2	2	2	2	2
Short-circuit fuse protection	A	20	32	20	20	20	32
<b>Maximum lamp load (10<sup>3</sup> operations/h)</b>							
Incandescence & halogen (40 to 200 W lamps)	W	3,000	4,000	3,000	3,000	3,000	4,000
Fluorescence, compensated (cos φ = 0.9)							
	Serial compensation	VA	3,000	4,000	3,000	3,000	4,000
	Parallel compensation	VA	2,500	3,200	2,500	2,500	3,200
Fluorescence, non compensated (cos φ = 0.5)	VA	1,800	2,200	1,800	1,800	1,800	2,200
<b>Maximum number of push-buttons</b>							
Non illuminated push-buttons		unlimited	unlimited	unlimited	unlimited	unlimited	unlimited
Luminous push-buttons (0.6mA)							
4 terminals		unlimited	unlimited	unlimited	unlimited	unlimited	unlimited
3 terminals	Without compensator	8	8	8	6	8	8
	1 compensator	18	18	18	15	27	27
	2 compensators	45	45	45	38	43	43
<b>General specifications</b>							
Power contact add-on		yes	yes	no	no	no	no
Auxiliary contact add-on (PLS / CTX R)		yes	yes	no	yes	yes	yes
Need for spacer <sup>(2)</sup>		yes	yes	yes	no	yes	yes
DIN rail mounting		yes	yes	yes	yes	yes	yes
2-position DIN rail lock		yes	yes	yes	yes	yes	yes
2-position handle		yes	yes	no	yes	yes	yes
Indicator of contact position		yes	yes	yes	yes	yes	yes
Clamping terminals		yes	yes	yes	yes	yes	yes
Unlosable screws		yes	yes	yes	yes	yes	yes
Sealable terminals (coil and load)		yes	yes	yes	yes	yes	yes
Cable cross section (Ø min/max)	Coil	mm <sup>2</sup>	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
	Load 1P-3P & 4P	mm <sup>2</sup>	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
	Load 2P	mm <sup>2</sup>	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 6	1.5 / 10
Maximum torque on terminals	Nm	1	1	1	1	1	1
Ambient temperature at installation point (min./max.)	°C	-20 / +45	-20 / +45	-20 / +45	-20 / +45	-20 / +45	-20 / +45

(1) For all impulse relays, DC supply voltage = AC supply voltage × DC/AC ratio, except for 8 VAC and 115VAC (48 VDC)

(2) Whenever the normal use of the impulse relay integrates a permanent coil working, use of a spacer is required on both sides. Make sure that the duty factor allows the device to come back to the ambient temperature (not required for PLS PU)

(3) 1 cycle = 2 operations per pole (closing + opening)

(4) For any central command installation, a PLS SG module per phase must be installed in order to protect the coils against overvoltages

Pulsar S - Impulse switches

Comfort functions

A

B

C

D

E

F

X

		Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.				
	Impulse switches 	16A	1NO	8	-	1	PLS + 16 10 008 A	686078	12				
		16A	1NO	12	6	1	PLS + 16 10 012 A	686079	12				
		16A	1NO	24	12	1	PLS + 16 10 024 A	686080	12				
		16A	1NO	48	24	1	PLS + 16 10 048 A	686081	12				
		16A	1NO	115	48	1	PLS + 16 10 115 A	686082	12				
		16A	1NO	230	115	1	PLS + 16 10 230 A	686083	12				
		16A	1NO	230/60Hz	-	1	PLS + 16 10 23060	686284	12				
		16A	1NO	240	120	1	PLS + 16 10 240 A	686084	12				
		16A	1CO	8	-	1	PLS + 16 1 008 A	686071	12				
		16A	1CO	12	6	1	PLS + 16 1 012 A	686072	12				
		16A	1CO	24	12	1	PLS + 16 1 024 A	686073	12				
		16A	1CO	48	24	1	PLS + 16 1 048 A	686074	12				
		16A	1CO	115	48	1	PLS + 16 1 115 A	686075	12				
		16A	1CO	230	115	1	PLS + 16 1 230 A	686076	12				
		16A	1CO	240	120	1	PLS + 16 1 240 A	686077	12				
				16A	2NO	8	-	1	PLS + 16 20 008 A	686102	12		
				16A	2NO	12	6	1	PLS + 16 20 012 A	686103	12		
				16A	2NO	24	12	1	PLS + 16 20 024 A	686104	12		
16A	2NO			48	24	1	PLS + 16 20 048 A	686105	12				
16A	2NO			115	48	1	PLS + 16 20 115 A	686106	12				
16A	2NO			230	115	1	PLS + 16 20 230 A	686108	12				
16A	2NO			230/60Hz	-	1	PLS + 16 20 23060	686107	12				
16A	2NO			240	120	1	PLS + 16 20 240 A	686109	12				
16A	1NO 1NC			8	-	1	PLS + 16 11 008 A	686086	12				
16A	1NO 1NC			12	6	1	PLS + 16 11 012 A	686087	12				
16A	1NO 1NC			24	12	1	PLS + 16 11 024 A	686088	12				
16A	1NO 1NC			48	24	1	PLS + 16 11 048 A	686089	12				
16A	1NO 1NC			115	48	1	PLS + 16 11 115 A	686090	12				
16A	1NO 1NC			230	115	1	PLS + 16 11 230 A	686091	12				
16A	1NO 1NC			230/60Hz	-	1	PLS + 16 11 23060	686285	12				
16A	1NO 1NC			240	120	1	PLS + 16 11 240 A	686092	12				
				16A	2CO	8	-	1	PLS + 16 2 008 A	686093	12		
				16A	2CO	12	6	1	PLS + 16 2 012 A	686094	12		
		16A	2CO	24	12	1	PLS + 16 2 024 A	686095	12				
		16A	2CO	48	24	1	PLS + 16 2 048 A	686096	12				
		16A	2CO	115	48	1	PLS + 16 2 115 A	686097	12				
		16A	2CO	230	115	1	PLS + 16 2 230 A	686098	12				
		16A	2CO	240	120	1	PLS + 16 2 240 A	686099	12				
				32A	1NO	8	-	1	PLS + 32 10 008 A	686110	12		
				32A	1NO	12	6	1	PLS + 32 10 012 A	686111	12		
				32A	1NO	24	12	1	PLS + 32 10 024 A	686112	12		
				32A	1NO	48	24	1	PLS + 32 10 048 A	686113	12		
				32A	1NO	115	48	1	PLS + 32 10 115 A	686114	12		
				32A	1NO	230	115	1	PLS + 32 10 230 A	686115	12		
				32A	1NO	240	120	1	PLS + 32 10 240 A	686116	12		
						32A	2NO	8	-	1	PLS + 32 20 008 A	686118	12
						32A	2NO	12	6	1	PLS + 32 20 012 A	686119	12
						32A	2NO	24	12	1	PLS + 32 20 024 A	686120	12
						32A	2NO	48	24	1	PLS + 32 20 048 A	686121	12
32A	2NO					115	48	1	PLS + 32 20 115 A	686122	12		
32A	2NO					230	115	1	PLS + 32 20 230 A	686123	12		
32A	2NO					240	120	1	PLS + 32 20 240 A	686124	12		
	Add-on power contact					16A	2NO	-	-	1	PLS + 16 20	686100	10
						16A	1NO 1NC	-	-	1	PLS + 16 11	686085	10
						16A	2CO	-	-	1	PLS + 16 2	686101	10
						32A	2NO	-	-	1	PLS + 32 20	686117	10
	Step by step multi circuit   SA= 0-A-0-B-0 SB=0-A-AB-B-0	16A	2NO			12	6	1	PLS + SA 16 20 012 A	686182	12		
		16A	2NO			24	12	1	PLS + SA 16 20 024 A	686183	12		
		16A	2NO			48	24	1	PLS + SA 16 20 048 A	686184	12		
		16A	2NO			230	115	1	PLS + SA 16 20 230 A	686185	12		
		16A	2NO			240	120	1	PLS + SA 16 20 240 A	686186	12		
		16A	2NO			12	6	1	PLS + SB 16 20 012 A	686187	12		
		16A	2NO	24	12	1	PLS + SB 16 20 024 A	686188	12				
		16A	2NO	48	24	1	PLS + SB 16 20 048 A	686189	12				
		16A	2NO	230	115	1	PLS + SB 16 20 230 A	686190	12				
		16A	2NO	240	120	1	PLS + SB 16 20 240 A	686191	12				
			Permanent use   	16A	2NO	24	12	1	PLS + PU 16 20 024 A	686178	12		
				16A	2NO	230	115	1	PLS + PU 16 20 230 A	686179	12		
				16A	2CO	24	12	1	PLS + PU 16 2 024 A	686176	12		
				16A	2CO	230	115	1	PLS + PU 16 2 230 A	686177	12		
				16A	4NO	24	12	2	PLS + PU 16 40 024 A	686180	6		
				16A	4NO	230	115	2	PLS + PU 16 40 230 A	686181	6		

32A other version available on request.  
Terminal identification, see page D.40



New

Pulsar S - Impulse switches

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.
<b>All-in central command</b>	16A	1NO	8	-	1	PLS + C 16 10 008 A	686132	12
	16A	1NO	12	6	1	PLS + C 16 10 012 A	686133	12
	16A	1NO	24	12	1	PLS + C 16 10 024 A	686134	12
	16A	1NO	48	24	1	PLS + C 16 10 048 A	686135	12
	16A	1NO	230	115	1	PLS + C 16 10 230 A	686136	12
	16A	1NO	240	120	1	PLS + C 16 10 240 A	686137	12
	16A	1CO	8	-	1	PLS + C 16 1 008 A	686126	12
	16A	1CO	12	6	1	PLS + C 16 1 012 A	686127	12
	16A	1CO	24	12	1	PLS + C 16 1 024 A	686128	12
	16A	1CO	48	24	1	PLS + C 16 1 048 A	686129	12
	16A	1CO	230	115	1	PLS + C 16 1 230 A	686130	12
	16A	1CO	240	120	1	PLS + C 16 1 240 A	686131	12
	16A	2NO	8	-	1.5	PLS + C 16 20 008 A	686144	8
	16A	2NO	12	6	1.5	PLS + C 16 20 012 A	686145	8
	16A	2NO	24	12	1.5	PLS + C 16 20 024 A	686146	8
	16A	2NO	48	24	1.5	PLS + C 16 20 048 A	686147	8
	16A	2NO	230	115	1.5	PLS + C 16 20 230 A	686148	8
	16A	2NO	240	120	1.5	PLS + C 16 20 240 A	686149	8
16A	2CO	8	-	1.5	PLS + C 16 2 008 A	686138	8	
16A	2CO	12	6	1.5	PLS + C 16 2 012 A	686139	8	
16A	2CO	24	12	1.5	PLS + C 16 2 024 A	686140	8	
16A	2CO	48	24	1.5	PLS + C 16 2 048 A	686141	8	
16A	2CO	230	115	1.5	PLS + C 16 2 230 A	686142	8	
16A	2CO	240	120	1.5	PLS + C 16 2 240 A	686143	8	
16A	3CO	8	-	2	PLS + C 16 3 008 A	686150	6	
16A	3CO	12	6	2	PLS + C 16 3 012 A	686151	6	
16A	3CO	24	12	2	PLS + C 16 3 024 A	686152	6	
16A	3CO	48	24	2	PLS + C 16 3 048 A	686153	6	
16A	3CO	230	115	2	PLS + C 16 3 230 A	686154	6	
16A	3CO	240	120	2	PLS + C 16 3 240 A	686155	6	
32A	1NO	8	-	1	PLS + C 32 10 008 A	686156	12	
32A	1NO	12	6	1	PLS + C 32 10 012 A	686157	12	
32A	1NO	24	12	1	PLS + C 32 10 024 A	686158	12	
32A	1NO	48	24	1	PLS + C 32 10 048 A	686159	12	
32A	1NO	230	115	1	PLS + C 32 10 230 A	686160	12	
32A	1NO	240	120	1	PLS + C 32 10 240 A	686161	12	
32A	2NO	8	-	1.5	PLS + C 32 20 008 A	686162	8	
32A	2NO	12	6	1.5	PLS + C 32 20 012 A	686163	8	
32A	2NO	24	12	1.5	PLS + C 32 20 024 A	686164	8	
32A	2NO	48	24	1.5	PLS + C 32 20 048 A	686165	8	
32A	2NO	230	115	1.5	PLS + C 32 20 230 A	686166	8	
32A	2NO	240	120	1.5	PLS + C 32 20 240 A	686167	8	
32A	3NO	8	-	2	PLS + C 32 30 008 A	686168	6	
32A	3NO	12	6	2	PLS + C 32 30 012 A	686169	6	
32A	3NO	24	12	2	PLS + C 32 30 024 A	686170	6	
32A	3NO	48	24	2	PLS + C 32 30 048 A	686171	6	
32A	3NO	230	115	2	PLS + C 32 30 230 A	686172	6	
32A	3NO	240	120	2	PLS + C 32 30 240 A	686173	6	
<b>Add-on auxiliary contact</b>	5A	1NO 1NC	-	-	0.5	CTX + R 5 11	686067	16
	5A	2NO	-	-	0.5	CTX + R 5 20	686068	16
	5A	2NC	-	-	0.5	CTX + R 5 02	686066	16
<b>Add-on central control</b>	-	-	-	-	0.5	PLS + C	686125	16
<b>Multilevel central command module</b>	-	-	-	-	1	PLS + M	686175	12
<b>SurgeGuard safety module</b>	-	-	230/240	-	1	PLS + SG	686192	12
<b>Capacity module</b>	-	-	230/240	-	1	PLS + CAP	686174	12
<b>Spacer</b>	-	-	-	-	0.5	PLS + / CTX + SP	686069	50
<b>Sealing cap</b>	-	-	-	-	1	PLS + / CTX + TS 1	686070	50

Terminal identification, see page D.40

Pulsar S

A

B

C

D

E

F

X

New







## Staircase switches

### Pulsar TS

#### Function

Push-button operated single-shot timer, switching the power to the load after the push-button has been pushed briefly, and switching off again after the preset time has elapsed.

Energy saving: the PLTS + TD is especially developed to switch off during the preset time when the staircase switch receives a new impulse.

#### Applications



Lighting or ventilation of staircases, basements, halls, etc.

#### Features

- Designed for a real 3.500W switching capacity.
- User adjustable time.
- Electromechanical contact and electronic timer with manual override off or on possible at all time for PLTS + M.
- 3 or 4 wire wiring possible.
- Device for pre-extinction warning adjustable from 20 to 40 sec only for incandescence sources.
- Safety terminals equipped with captive Pozidriv screws and IP20 protection degree.
- Anti vandalisme: resistant to blocked push-buttons.

#### Standards / Marking

EN 60669-2-3



A

B

C






D

E

F

X

### Pulsar TS - Staircase switches

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of Modules	Cat. No.	Ref. No.	Pack.
 <p>Staircase switch</p> 	16	1NO	230	-	1	PLTS + M	686216	12
 <p>Dimmer for staircase switch</p>	16	3500W	230	-	1	PLTS + D	686214	12
To be used only in combination with the staircase switch. Wiring diagram on page D.17								
 <p>Time-delay impulse relay</p> 	16	1NO	230	-	1	PLTS + TD	666311	12

Terminal identification, see page D.41

More technical data ● website

Dimensions ● pg D.45

New

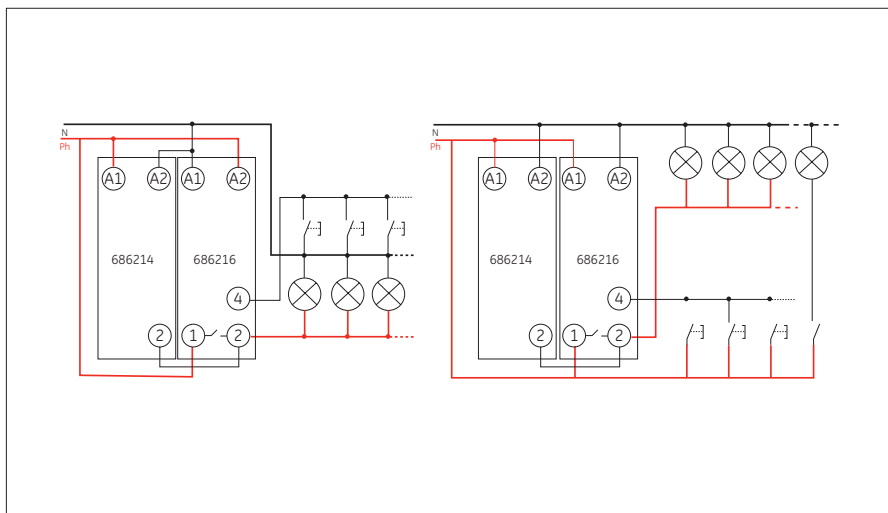


## Performance

		PLTS + TD	PLTS + M	PLTS + D
<b>Rated current (acc. IEC 609-2-3)</b>	A	16	16	16
<b>Width</b> (in number of DIN-modules)		1	1	1
<b>Contacts</b>	NO	1	1	1
<b>Time range</b>	1 function	1mn / 20mn	30s / 15mn	20s / 40s
<b>Supply voltage</b>	230V - 50/60 Hz	yes	yes	yes
	24VAC/24VDC	on request	on request	on request
Supply voltage range (in % of Un)	%	90-110	90-110	90-110
<b>Rated power consumption</b>				
Closed circuit current	230V	4.0	4.0	4.0
Working current (ignition & running)	230V	4.0	4.0	4.0
<b>Light types</b>				
Incandescent lamps		yes	yes	yes
Fluorescent lamps		yes	yes	no
<b>Switching capacity</b>				
AC-5b Incandescent lamps (40 to 200 W lamps)	W	3,500	3,500	3,500
Fluorescence compensated (cos $\Phi = 0.9$ )				
	Serial compensation	W	3,500	n/a
	Parallel compensation	VA	2,500	n/a
<b>Lifetime</b> (in number of operations) <sup>(1)</sup>				
Electrical (AC-1)	at 1,200 W	$2 \times 10^6$	$2 \times 10^6$	$2 \times 10^6$
	at full load	$1 \times 10^6$	$3 \times 10^5$	$3 \times 10^5$
Mechanical		$1 \times 10^7$	$1 \times 10^7$	$1 \times 10^7$
<b>Max. number of push-buttons</b>				
Non illuminated push-buttons		unlimited	unlimited	unlimited
Luminous push-buttons (0.6mA):				
4 terminals		unlimited	unlimited	unlimited
3 terminals	Without compensator	39	83	83
	1 compensator (2 $\mu$ F) <sup>(2)</sup>	45	300	300
	2 compensators (2 x 2 $\mu$ F)	59	600	600
<b>General specifications</b>				
DIN rail mounting		yes	yes	yes
Silent operations		yes	yes	yes
Setting accuracy - Full range	%	+/- 15	+/- 15	+/- 15
3-wire and 4-wire installation		yes	yes	yes
Resistant to blocked push-buttons		yes	yes	yes
Continuously adjustable time-lag		yes	yes	yes
Manual switching (number of positions)		2	3	-
Front switch-off lever		yes	yes	-
Clamping screw terminals, unloosable screws		yes	yes	yes
Cable cross section ( $\emptyset$ min/max)	Coil	mm <sup>2</sup>	1.5 / 10	1.5 / 10
	Load	mm <sup>2</sup>	1.5 / 10	1.5 / 10
Maximum torque on terminals		N x m	1	1
Ambient temperature at installation point (min./max.)		°C	-20 / +45	-20 / +45

(1) cycle = 2 operations per pole (closing + opening)  
 (2) See page D.15: code 686174

## Wiring diagram







## Time Relays

### Pulsar T

#### Function

Conditioning of incoming source to exact predictable output.

#### Applications



From the delayed lighting of driveways (to avoid unnecessary on/off switching), to after-circulation of a pump (to build in some hysteresis, again to avoid continuous on/off switching) to the post-present ventilation of a meeting room.

#### Features

- Devices with delay on (ON), delay off (OFF), combined on-off-delay (ON/OFF), astable (AS), positive edge single shot (PS) negative edge single shot (NS) and even with all the above combined in one multi-function (MF) device are available.
- User presettable prescaler and time.
- In the case of the multi-function relay, the function itself is also user selectable.
- The loss-proof safety terminals are equipped with Pozidriv screws and have IP20 protection degree.

#### Standards / Marking

IEC 60669-2-3



#### Performance

		PLT + AS	Other PLT +
<b>Rated current (acc. IEC 669-2-3)</b>	A	1 (static)	16
<b>Width</b> (number of DIN-modules)		1	1
<b>Contacts</b>	Changeover	-	1
	Static input	1	-
<b>Time range</b>	1 function	0.1s./ 60s.	1s / 60mn
	Multifunction	no	0.1s. / 20h.
<b>Supply voltage</b>	230/240V - 50/60 Hz	yes	yes
	24VAC/24VDC	yes	yes
Supply voltage range (in % of Un)	%	90-110	90-110
<b>Rated power consumption</b>			
Closed circuit current	230V VA	4.0	1.5
	24V VA	-	0.2
Working current(ignition & running)	230V VA	4.0	4.0
	24V VA	-	2.0
<b>Light types</b>			
Incandescent lamps		yes	yes
Fluorescent lamps		yes	yes
<b>Switching capacity</b>			
AC-5b Incandescent lamps (40 to 200 W lamps)	W	2,300	2,300
Fluorescence compensated (cos φ =0.9)			
	Serial compensation W	-	2,300
	Parallel compensation VA	-	1,000
Inductive load cos φ =0.5		230W	10A
	Load AC-7b W	-	900
<b>Lifetime</b> (in number of operations) <sup>(1)</sup>			
Electrical (AC-1)	at 1,200 W	2 x 10 <sup>6</sup>	2 x 10 <sup>6</sup>
	at full load	1 x 10 <sup>6</sup>	3 x 10 <sup>5</sup>
Mechanical		1 x 10 <sup>7</sup>	1 x 10 <sup>7</sup>
<b>General specifications</b>			
DIN rail mounting		yes	yes
Silent operations		yes	yes
Setting accuracy - Full range	%	+/- 15	+/- 15
Continuously adjustable time-lag		yes	yes
Front switch-off lever		yes	no
Clamping screw terminals, unlosable screws		yes	yes
Cable cross section (Ø min/max)	Coil mm <sup>2</sup>	1.5 / 10	1.5 / 10
	Load mm <sup>2</sup>	1.5 / 10	1.5 / 10
Maximum torque on terminals	N x m	1	1
Ambient temperature at installation point (min./max.)	°C	-20 / +45	-20 / +45

(1) cycle = 2 operations per pole (closing + opening)



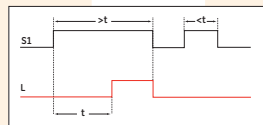

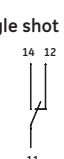
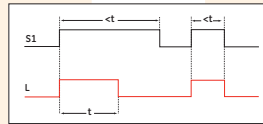

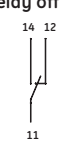
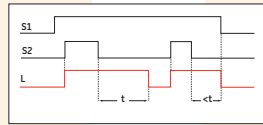

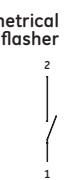
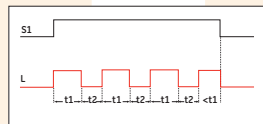


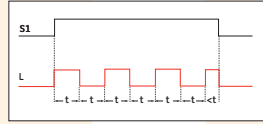


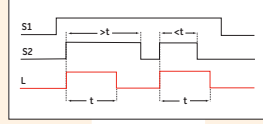

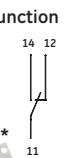
More technical data ● website

Dimensions ● pg D.45

New



**Pulsar T - Time Relays**

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.
<b>Delay on</b>  	<b>Operating scale from 1 sec. up to 60 seconds</b>							
	16 A	1 CO	24	24	1	PLT + ON 024U 1-60S	<b>686207</b>	12
	16 A	1 CO	230	-	1	PLT + ON 230A 1-60S	<b>686209</b>	12
	<b>Operating scale from 1 min. up to 60 minutes</b>							
	16 A	1 CO	24	24	1	PLT + ON 024U 1-60M	<b>686206</b>	12
	16 A	1 CO	230	-	1	PLT + ON 230A 1-60M	<b>686208</b>	12
								
<b>Positive edge single shot</b>  	<b>Operating scale from 1 sec. up to 60 seconds</b>							
	16 A	1 CO	24	24	1	PLT + PS 024U 1-60S	<b>686211</b>	12
	16 A	1 CO	230	-	1	PLT + PS 230A 1-60S	<b>686213</b>	12
	<b>Operating scale from 1 min. up to 60 minutes</b>							
	16 A	1 CO	24	24	1	PLT + PS 024U 1-60M	<b>686210</b>	12
	16 A	1 CO	230	-	1	PLT + PS 230A 1-60M	<b>686212</b>	12
								
<b>Delay off</b>  	<b>Operating scale from 1 sec. up to 60 seconds</b>							
	16 A	1 CO	24	24	1	PLT + OF 024U 1-60S	<b>686203</b>	12
	16 A	1 CO	230	-	1	PLT + OF 230A 1-60S	<b>686205</b>	12
	<b>Operating scale from 1 min. up to 60 minutes</b>							
	16 A	1 CO	24	24	1	PLT + OF 024U 1-60M	<b>686202</b>	12
	16 A	1 CO	230	-	1	PLT + OF 230A 1-60M	<b>686204</b>	12
								
<b>Asymmetrical flasher</b>  	1 A	1 NO	230	-	1	PLT + AS 230A	<b>686195</b>	12
								
<b>Symmetrical flasher</b>  	16 A	1 CO	24	24	1	PLT + SS 024U	<b>686218</b>	6
	16 A	1 CO	230	-	1	PLT + SS 230A	<b>686219</b>	6
								
<b>Impulse generator</b>  	16 A	1 CO	24	24	1	PLT + IG 024U	<b>686196</b>	6
	16 A	1 CO	230	-	1	PLT + IG 230A	<b>686197</b>	6
								
<b>Multifunction</b>  	<b>Operating scale from 0.1 sec. up to 60 minutes</b>							
	16 A	1 CO	24	24	1	PLT + MF 024U 0.1S-60M <sup>(1)</sup>	<b>686198*</b>	1/6
	16 A	1 CO	230	-	1	PLT + MF 230A 0.1S-60M <sup>(1)</sup>	<b>686200*</b>	1/6
	<b>Operating scale from 30 sec. up to 20 hours</b>							
	16 A	1 CO	24	24	1	PLT + MF 024U 30S-20H <sup>(1)</sup>	<b>686199*</b>	1/6
	16 A	1 CO	230	-	1	PLT + MF 230A 30S-20H <sup>(1)</sup>	<b>686201*</b>	1/6

(1) PLT + MF = Multifunction, including functions PLT + ON, PLT + OF and PLT + PS.  
Terminal identification, see page D.41



## Analogue Time Switches

### Classic

### Features

Very easy programming by means of mechanical switches on a dial, but with restricted possibilities compared to the digital time switches. Both devices with 1 dial for programming of daily or weekly events, as well as devices with 2 dials for 2 channel daily events and combined daily and weekly events are available in 2 versions: quartz and net synchronised, with and without running reserve respectively. Manual override Off or On is possible at all times. All devices are sealable.

### Applications



Going from the pre-programmed switching of lighting (car park, advertising signs, public roads, etc.) over pre-programmed switching of heating equipment (home and work-environment, waterheating, etc.), to the pre-programmed switching of motors for pumps and fans and even to presence simulation.

### Function

Pre-programmed switching of all kinds of electrical devices.

### Standards

VDE 0633, BS EN 60730-1, BS EN 60730-2-7





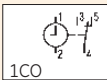

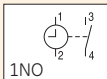
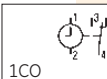



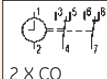

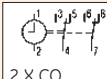
### Performance

	Plastic switches				Metallic switches	
	Net synchronised 1 module	Net synchronised 3&6 modules	Quartz synchronised 1 module	Quartz synchronised 3&6 modules	Net synchronised 3 modules	Quartz synchronised
<b>Contacts</b>						
Contact	Voltage free NO	Voltage free CO	Voltage free NO	Voltage free CO	Voltage free CO	Voltage free CO
Fix on, Fix off, Auto switch	Not fix off	yes	Not fix off	yes	yes	yes
Rated switching capacity						
- Resistive load	16A/250V	16A/250V	16A/250V	16A/250V	16A/250V	16A/250V
- Inductive load (cos φ = 0.6)	4A/250V	4A/250V	4A/250V	4A/250V	4A/250V	2A/250V
- Incandescent lamps	1000W	1350W	1000W	1350W	1350W	1350W
Shortest switching time day-program	30min.	30min.	30min.	30min.	15min.	15min.
Shortest switching time week-program	-	3h	-	3h	2h	2h
<b>Screws</b>	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>
max	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>
<b>Clockwork</b>						
Operating voltage	220 - 240V 50Hz	220 - 240V 50Hz	230V - 130VDC	230V - 130VDC	230V 50Hz	230V 50/60Hz
Own consumption at 230V	1VA	1VA	1VA	1VA	1VA	1VA
Running reserve	-	-	150h	150h	-	300h
Battery charging time	-	-	70h	70h	-	72h
Operating temperature range	-20...+55°C	-20...+55°C	-20...+55°C	-20...+55°C	-20...+55°C	-20...+55°C
Accuracy	net synchronised	net synchronised	±2.5s./day at 20°C	±2.5s./day at 20°C	±2.5s./day at 20°C	±2.5s./day at 20°C
Sealable	yes	yes	yes	yes	yes	yes
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>	1x0.5mm <sup>2</sup>
max	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>	1x6 or 2x2.5mm <sup>2</sup>


More technical data ● website  
Dimensions ● pg D.46



Classic - Analogue time switches

NET SYNCHRONISED		Program	No. of channels	Nominal current	Operating voltage	Running reserve	Shortest switch time	Fix on/off auto	No. of mod.	Cat. No.	Ref. No.	Pack.
	Day programmable	1x24x2	1NO	16A/250V	220 ... 240V 50Hz	-	30min.	Not "OFF"	1	CLS S 11 D	666111	1
		1x24x2	1CO	16A/250V	220 ... 240V 50Hz	-	30min.	yes	3	CLS S 31 D	666112	1
		1x24x4	1CO	16A/250V	230V 50Hz	-	15min.	yes	3	CLS S 31 D M	666113	1
												
	Week programmable	7x24/3	1CO	16A/250V	220 ... 240V 50Hz	-	3h	yes	3	CLS S 31 W	666114	1
		7x24/2	1CO	16A/250V	230V 50Hz	-	2h	yes	3	CLS S 31 W M	666115	1
												
QUARTZ SYNCHRONISED												
	Day programmable	1x24x2	1NO	16A/250V	130VDC/ 230V	50h	30min.	Not "OFF"	1	CLS Q 11 D	666105	1
		1x24x2	1CO	16A/250V	130VDC/ 230V	150h	30min.	yes	3	CLS Q 31 D	666104	1
		1x24x4	1CO	16A/250V	230V	300h	15min.	yes	3	CLS Q 31 D M	666106	1
												
	Week programmable	7x24/3	1CO	16A/250V	130VDC/ 230V	150h	3h	yes	3	CLS Q 31 W	666109	1
		7x24/3	1CO	16A/250V	230V	300h	2h	yes	3	CLS Q 31 W M	666110	1
												
	Day-Day programmable	1x24x2 + 1x24x2	2CO	16A/250V	130VDC/ 230V	150h	30/30min.	yes	6	CLS Q 62 DD	666103	1
												
	Day-Week programmable	1x24x2 + 7x24/3	2CO	16A/250V	130VDC/ 230V	150h	30min./3h	yes	6	CLS Q 62 DW	666108	1
												

Accessories

		No. of mod.	Cat. No.	Ref. No.	Pack.
	Surface mounting set	1	SMS 1	666100	1
		3	SMS 3	666101	1
		6	SMS 6	666102	1



## Digital Time Switches

### Galax

### Applications



Going from the pre-programmed switching of lighting (car park, advertising signs, public roads, etc.) over pre-programmed switching of heating equipment (home and work environment, water heating, etc.), to the pre-programmed switching of motors for pumps and fans and even to random presence simulation.

### Function

Pre-programmed switching of all kinds of electrical devices.

### Standards

BS EN-60730-1, BS EN-60730-2-7, VDE 0633

### Features

Very easy programming, with quasi unlimited possibilities compared to the analogue time switches. Devices with daily, weekly and yearly event programming possibilities are available in 1, 2 and 4 channel execution. All devices have a shortest switching time of one minute, some of them even one second, and are all internally quartz-synchronized, some of them with the possibility of being DCF77-synchronized. On some devices, the summer/winter time change is fully automatic. Devices with block-programming, holiday, random and impulse-function are available. Manual On or Off override is possible at all times and all devices are sealable.

ASTRO timers are specially designe for lighting applications. Only the longitude and latitude need to be entered for precice automatic determination of the times for sunrise and sunset.

### Performance

	Galax 1, 2, 4 CO
<b>Contacts</b>	
Contact	Voltage-free changeover
Rated switching capacity	
- Resistive load	16A/250V
- Inductive load (cos φ = 0.6)	8A/250V
- Incandescent lamps	1000W
DC switching capacity	on request
Shortest switching time	depending on type: 1min. or 1s.
Screws	Pozidriv 1
Terminal capacity: min	1x0.5mm <sup>2</sup>
max.	1mod-2.5mm <sup>2</sup> ; 2mod-4mm <sup>2</sup> ; 6mod-6mm <sup>2</sup>
<b>Clockwork</b>	
Operating voltage	230V 50-60Hz
Own consumption at 230V	5VA
Running reserve (at 20° C)	3 years / 6 mod: 6 years
Battery	all Lithium
Operating temperature range	-25...+55°C
Accuracy	±2.5s./day at 20°C / 6 modules device: ±1s./day at 20°C
Sealable and unloosable cover	yes
Screws	Pozidriv 1
Terminal capacity: min	1x0.5mm <sup>2</sup>
max.	1mod-2.5mm <sup>2</sup> ; 2mod-4mm <sup>2</sup> ; 6mod-6mm <sup>2</sup>

More technical data ● website  
Dimensions ● pg D.46





## Time Switches

### 72 X 72 Classic and Galax



### Applications



Going from the pre-programmed switching of lighting (car park, advertising signs, public roads, etc.) over pre-programmed switching of heating equipment (home and work environment, water heating, etc.), to the pre-programmed switching of motors for pumps and fans and even to random presence simulation.

### Features

Very easy programming by means of mechanical switches or digital buttons. Devices with daily and weekly event programming possibilities. Analogue devices have a shortest switching time of 15 minutes and digital device has 1 minute.

### Function

Pre-programmed switching of all kind of electrical devices.

## Performance

	Weekly timers		Daily timers		Daily/weekly timer
Code	666176	666175	666178	666177	666179
Type	CLS 72Q41W	CLS72S41W	CLS72Q41D	CLS72S41D	GLX72Q41DW
Running reserve	150 h	-	150 h	-	3 yr.
Shortest switch time	2 h	2 h	15 min	15 min	1 min
Modules	4	4	4	4	4
Nominal current	16A/250V	16A/250V	16A/250V	16A/250V	16A/250V
Accuracy	<2.5 s/day	<2.5 s/day	<2.5 s/day	<2.5 s/day	<2.5 s/day
Number of channels	1CO	1CO	1CO	1CO	1CO
Operating voltage	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz
Fix on/off auto	yes	yes	yes	yes	yes
Flush mounting	yes	yes	yes	yes	yes
Surface mounting	yes	yes	yes	yes	yes
DIN-rail mounting	yes	yes	yes	yes	yes
Number of memory position	-	-	-	-	50

More technical data ● website

Dimensions ● pg D.46



72 X 72 Classic - Analogue time switches

	Program	No. of channels	Nominal current	Operating voltage	Running reserve	Shortest switch time	Fix on/off auto	No. of mod.	Cat. No.	Ref. No.	Pack.
Day program	1x24	1CO	16A/250V	220...240 VAC	-	15 min	yes	4	CLS72S41D	666177	1
	1x24	1CO	16A/250V	220...240 VAC	150 h	15 min	yes	4	CLS72Q41D	666178	1
Week program	7x24	1CO	16A/250V	220...240 VAC	-	2 h	yes	4	CLS72S41W	666175	1
	7x24	1CO	16A/250V	220...240 VAC	150 h	2 h	yes	4	CLS72Q41W	666176	1



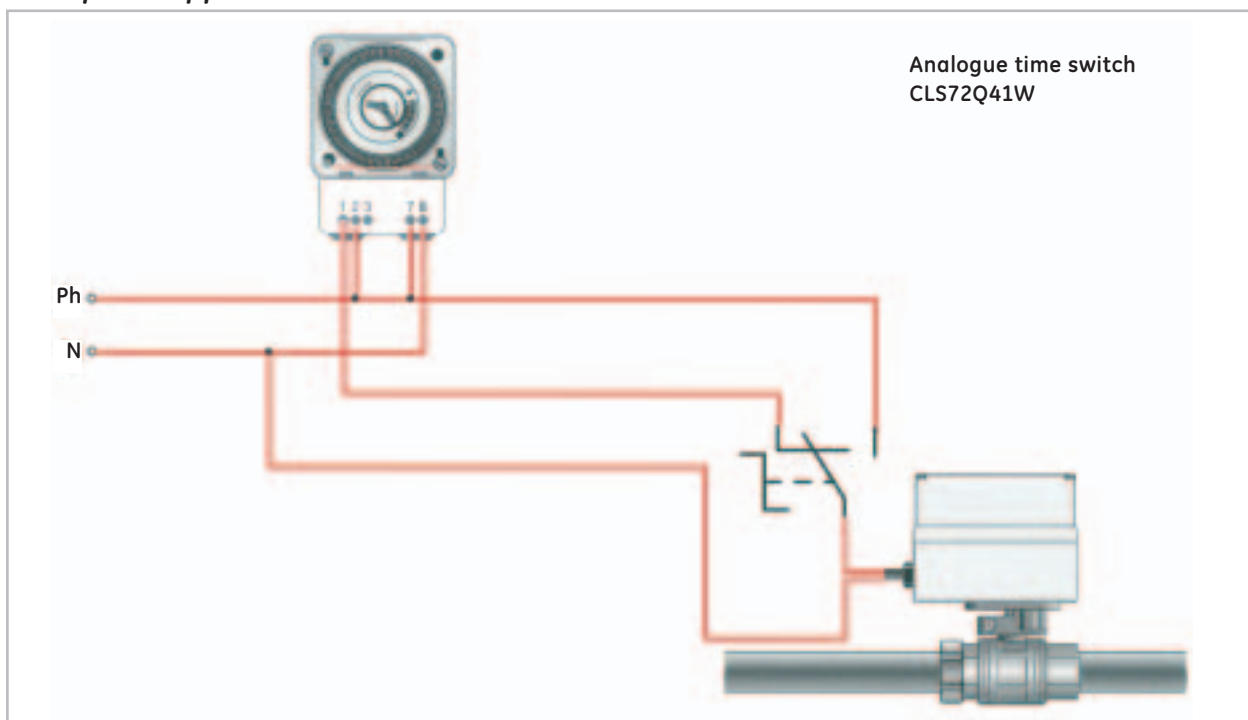
72 X 72 Galax - Digital time switches

	Program	No. of channels	Nominal current	Operating voltage	Running reserve	Shortest switch time	Fix on/off auto	No. of mod.	Cat. No.	Ref. No.	Pack.
Day-Week program	1x24/7x24	1CO	16A/250 V	220 240VAC	3 yr.	1 min	yes	4	GLX72Q41DW	666179	1

- Easy to use  
 - Text programming in different languages (D, GB, F, E, I, P, Cz, NL)  
 - Summer/winter time change is fully automatic  
 - Switching capacity for inductive load 8A/250V



Example of application





## Light Sensitive Switches

### Galax LSS

### Applications



Control of lighting in shop windows, offices, car parking areas, controlling street lights, advertising signs, sun blinds, shutters, or even lighting in a home to simulate the presence of people.

### Features

User presettable switch light intensity, intensity range and hysteresis (to avoid on/off a stable behavior). Reaction time is also user presettable. 1 channel and 2 channel with week-cycle, all with separate photocell are available besides a 1 channel all-in-one device.

### Function

Electronic switch controlled by the intensity of the ambient light, detected by a separate or integrated photocell (depending on the model). When the light intensity drops below the threshold setting, the switch changes its state to the on position. An increasing ambient light intensity eventually will switch off the device again.

### Standards

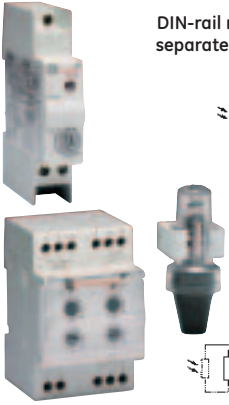
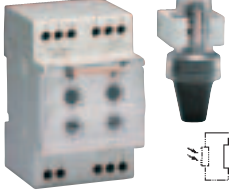

VDE 0632, VDE 0633,  
BS EN 60669-1

### Performance



	1 channel	2 channel	1 channel wall mounting
<b>Contacts</b>			
Contact	1 Voltage-free contact NO	Voltage-free change over	1 Voltage-free contact NO
Switching capacity			
- Resistive load	16A/250V	10A/250V	10A/250V
- Inductive load (cos φ = 0.6)	8A/250V	8A/250V	2A/250V
- Incandescent lamps	2000W	2000W	1200W
Switching capacity	800mA at 24V, 300mA at 60V; 150mA at 220V		Not allowed
Shortest switching time	-	-	-
Screws	Pozidriv 1	Pozidriv 1	Slot head
Terminal capacity: min	1x0.5 mm <sup>2</sup>	1x0.5 mm <sup>2</sup>	1x0.5 mm <sup>2</sup>
max	1x6 mm <sup>2</sup> or 2x2.5 mm <sup>2</sup>	1x6 mm <sup>2</sup> or 2x2.5 mm <sup>2</sup>	1x6 mm <sup>2</sup> or 2x2.5 mm <sup>2</sup>
<b>Light sensitive operating part</b>			
Light intensity switching range	2 ... 500 lux	2 ... 500 lux	2 ... 2000 lux
Switching hysteresis		30% above On-switching point	
On/Off switching delay	100 s. On 100 s. Off	Use presettable from 0 to 100 s.	50 s. On 50 s. Off
Light sensitive sensor wire-length	max 100m	max 100 m	-
Light sensitive sensor protection degree	IP65	IP65	IP54 (complete device)
Operating voltage	220/240V 50/60Hz	230V 50/60Hz	220/240V 50/60Hz
Own consumption at 230V	5VA	2.5VA	6VA
Running reserve	-	-	-
Battery	-	-	-
Operating temperature range	-20 ... +55°C	-20 ... +55°C	-35 ... +60°C
Accuracy	-	-	-
Sealable	yes	yes	-
Screws	Pozidriv 1	Pozidriv 1	Slot head
Terminal capacity: min	1x0.5 mm <sup>2</sup>	1x0.5 mm <sup>2</sup>	1x0.5 mm <sup>2</sup>
max	1x6 mm <sup>2</sup> or 2x2.5 mm <sup>2</sup>	1x6 mm <sup>2</sup> or 2x2.5 mm <sup>2</sup>	1x6 mm <sup>2</sup> or 2x2.5 mm <sup>2</sup>

More technical data ● website  
Dimensions ● pg D.46

**Galax LSS - Light sensitive switches**

		Program	No. of channels	Nominal current	Operating voltage	No. of modules	Cat. No.	Ref. No.	Pack.
 <p>DIN-rail mounting, separate photo cell included</p>		2 ... 500 lux	1NO	16A/250V	230V	1	LSS 11	666361	1
 <p>DIN-rail mounting, separate photo cell included</p>		2 ... 500 lux	2CO	16A/250V	230V	3	LSS 32	666362	1
 <p>Wall mounting, photo cell incorporated</p>		2 ... 2000 lux	1NO	16A/250V	230V	-	LSS W	666364	1

**Accessories**

					No. of modules	Cat. No.	Ref. No.	Pack.
 <p>Photo cell (spare part)</p>					-	LSS LDR	666358	1
 <p>Surface mounting set</p>					1	SMS 1	666100	1
					3	SMS 3	666101	1

Galax LSS

A

B

C

D

E

F

X



## Transformers

### Series T



#### Function

Reducing the voltage to a very low (safety) voltage used mainly as control-voltage in order to reduce the risk of electrocution due to environmental circumstances (i.e. high degree of humidity like outdoors, in a swimming pool complex, etc.).

#### Approvals<sup>(1)</sup> / Marking



(1) Depending on the type

#### Performance

#### Applications



Going from supplying power to a bell circuit, to supplying power to the control circuit of impulse switches, relays or contactors for the control of lighting, heating, etc.

#### Features

Safety transformers have short-circuit protection and continuous nominal power. Bell transformers are recommended for intermittent use at the nominal power declared (50% for continuous use). Devices with integrated on/off switch or with integrated buzzer are available. Complete noiseless operation. Full power available at all secondary voltages. The safety terminals are equipped with captive Pozidriv screws and have IP20 protection degree.

#### Standards

IEC 61558-1-2-6: Safety transformer

IEC 61558-1-2-8: Bell transformer


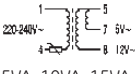
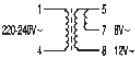

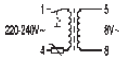







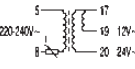


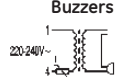


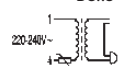

	Bell transformer	Safety transformer
Nominal primary voltage and frequency	230V 50Hz / 240V 60Hz	230V 50Hz / 240V 60Hz
Secondary voltage at nominal primary voltage	8 or 12V	12 or 24V
Maximum secondary voltage at zero load	1.5xUn sec.	1.05xUn sec.
Minimum secondary voltage at nominal load	0.85xUn sec.	1xUn sec.
Maximum load	Nominal power	Nominal power
Short-circuit protection	PTC	PTC
Operating temperature	-20...+40°C	-20...+40°C
Isolation voltage	4kV	4kV
Protection degree	IP 20	IP 20
Screw	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x1mm <sup>2</sup>	1x1mm <sup>2</sup>
max	1x16mm <sup>2</sup> or 2x6mm <sup>2</sup>	1x16mm <sup>2</sup> or 2x6mm <sup>2</sup>

More technical data ● website

Dimensions ● pg D.47



Series T - Transformers

		Output power	Secondary voltages	Primary voltage	Number of modules	Cat. No.	Ref. No.	Pack.
 <p><b>Bell transformer</b></p>  <p>5VA, 10VA, 15VA</p>  <p>8VA, 16VA, 30VA</p>		5VA	8/12V	220..240V	2	TR B 5	666638	1
		10VA	8/12V	220..240V	2	TR B 10	666636	1
		15VA	8/12V	220..240V	2	TR B 15	666637	1
		8VA	12/24V	220..240V	2	TR B 8	666650	1
		16VA	12/24V	220..240V	2	TR B 16	666651	1
		30VA	12/24V	220..240V	2	TR B 30	666652	1
 <p><b>Bell transformer integrated on-off switch</b></p> 		8VA	8/12V	220..240V	2	TR B 8S	666640	1
 <p><b>Safety transformer</b></p>        		15VA	12/24V	220..240V	3	TR S 15	666641	1
		25VA	12/24V	220..240V	4	TR S 25	666642	1
		40VA	12/24V	220..240V	4	TR S 40	666643	1
	63VA	12/24V	220..240V	6	TR S 63	666644	1	
 <p><b>Buzzers</b></p>  				220..240V	1	BU 230	666629	12
				12V	1	BU 12	666630	12
 <p><b>Bells</b></p>  				220..240V	1	BE 230	666632	12
				12V	1	BE 12	666633	12

Series T

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## Measurement Instruments

### Series MT

### Applications



Measurement of all possible electrical values from simple measurement as voltage, current, frequency over more complex such as power and energy, to all-in-one measurement with the netanalysing devices. To avoid down-time due to abnormal situations, i.e. power-supply voltage too high, absorbed power too high, etc., leading to malfunctioning and even breakdown of the machinery, the measurement and monitoring of the electrical values like voltage, current, power, energy etc. is an absolute must and even an indispensable asset when it comes to preventive maintenance.

### Function

Measurement, visualisation and logging of voltage, current, frequency, hours of operation, power, energy,  $\cos \varphi$ , etc.

### Standards / Marking

EN 61010-1, BS EN 60051-1-2



### Features

AC measurement devices with analogue as well as with digital technology and readout are available. The simple devices (one measurement only i.e. voltage, current, frequency) are only available in single phase, while the complex devices (more than one measurement i.e. power, energy, netanalyser) are also available in 3-phase execution. High currents can be measured through the intermediate use of a current transformer (for the analogue amp-meter combined with an interchangeable scale-plate). All devices have very good precision and have also a very low self-consumption to limit as much as possible the measurement error. Using one monophase-volt or amp-meter in a 3-phase system is possible by using the appropriate selector switch.

The energy meters as well as the netanalysers are true RMS measuring devices. Monitoring and logging all electrical values on to a PC is possible by using the MT PRG software.









### Performance

	Analogue instruments	Digital instruments	Net analyser
<b>Readout</b>	Polycarbonate+carbon needle	3digit 7segment LED	LCD display
Scale selection	Interchangeable scaleplate	Dip-switches	Dip-switches
Own consumption current meters	0.3VA	1.5VA	-
Own consumption other meters	1.5VA	1.5VA	-
Operating temperature range	-10 ... +55°C	-5 ... +55°C	-10 ... +55°C
Test voltage	2000V at 50Hz during 1 minute	2000V at 50Hz during 1 minute	2000V at 50Hz during 1 minute
Class of precision (accuracy)	1.5 (0.5 for frequency meter)	0.5% ±1 digit referred to full scale	0.5% ±1 digit referred to full scale
Overload current coils			
- 1 second	10xIn	10xIn	10xIn
- Continuous	2xIn	2xIn	2xIn
Overload voltage coils			
- 0.5 second	2xUn	2xUn	2xUn
- Continuous	1.2xUn	1.2xUn	1.2xUn
Vibration resistance	0.35 mm at 10/55Hz on 3 axes, duration of 6 hours	0.35 mm at 10/55Hz on 3 axes, duration of 6 hours	0.35 mm at 10/55Hz on 3 axes, duration of 6 hours
Shock resistance	50g	50g	50g
Protection degree	IP40	IP40	IP40
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x1 mm <sup>2</sup>	1x1 mm <sup>2</sup>	1x1 mm <sup>2</sup>
max	1x16 mm <sup>2</sup> or 2x6 mm <sup>2</sup>	1x16 mm <sup>2</sup> or 2x6 mm <sup>2</sup>	1x16 mm <sup>2</sup> or 2x6 mm <sup>2</sup>

More technical data ● website  
Dimensions ● pg D.48



Series MT - Analogue measurement instruments

		Scale	Accuracy	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.
	Voltmeter 	300V	1.5	1	3	MT AV 300	666417	1
		500V	1.5	1	3	MT AV 500	666418	1
	Ammeter 	-	1.5	1	3	MT AA	666414	1
		5A	1.5	1	3	MT AA 5	666413	1
		10A	1.5	1	3	MT AA 10	666408	1
		15A	1.5	1	3	MT AA 15	666409	1
		20A	1.5	1	3	MT AA 20	666410	1
		25A	1.5	1	3	MT AA 25	666411	1
		30A	1.5	1	3	MT AA 30	666412	1
	Frequency meter 	45 ... 65Hz	0.5	1	3	MT AF	666415	1
	Hour counter 	230V/50Hz	-	1	2	MT AH230	666416	1
		110V/50Hz	-	1	2	MT AH110	666431	1
		24V/50Hz	-	1	2	MT AH24	666432	1

Series MT

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Series MT - Digital measurement instruments

Comfort functions

A

B









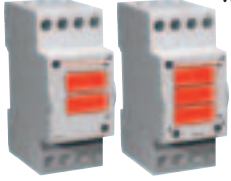








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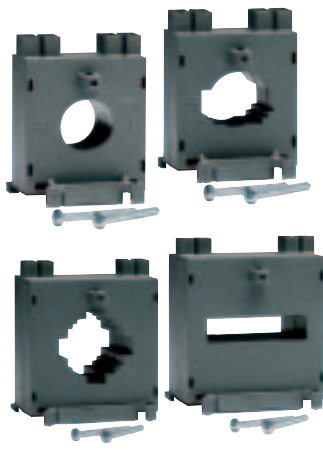
	Scale	Accuracy	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.
 <p>Volt meter</p> 	500V	0.5% ± 2 dig	1	2	MT DV 500 2M	666670	1
 <p>Ammeter</p> 	5A	0.5% ± 2 dig	1	2	MT DA 5 2M	666671	1
 <p>Ammeter and Voltmeter</p> 	5A	0.5% ± 2 dig	1	2	MT DA DV 52M	666674	1
 <p>Frequency meter</p> 	40 ... 80Hz	0.3% ± 1 dig	1	2	MT DF 2M	666673	1
 <p>Watt meter</p> 	9,99 W 999 W	1% ± 2 dig 1% ± 2 dig	1 3	2 2	MT DW 110 MT DW 11000	667214 667215	1 1
 <p>Multifunction relays</p>	1-phase: V, A, W, cosφ, energy meter kWh, hour counter with buzzer alarm, priority relay. AC/DC supply	0.5%	1	2	MTDNPRI1	666448	1
	3-phase: V, A, W, cosφ, Hz (F-F; F-N; A in neutral); kWh (imp-exp); hour counter; phase sequence; phase-neutral asymmetric phase-neutral voltage, AC/CC supply.	0.5%	3+N	2	MTDNPRI3	666449	1
 <p>Energy meter</p> 	5(30)A 5(32)A	2 2	1 1	1 2	MT DE 1 1M MT DE 1I 32A	666675 666434	1 1
	5A	2	3+N	4	MT DE 3N15A	666452	1
	5A	2	3	4	MT DE 3I O	666676 <sup>(1)</sup>	1
	63A 63A	2 2	1 3+N	2 4	MT DE 1I 63A MT DE 3N I 63A	666450 666631	1 1
 <p>Net analyser</p>	5A	1	3(+N)	6	MT DN 3L	666451	1 <sup>(2)</sup>
							
 <p>Digital-multimeter</p>	5A (x/5A)	1.5	3+N	4	MT DN 3R 4M	666453	1
							

(1) Only for net 3P+N  
(2) Oscilloscope function

New



Series MT - Current transformer



Scale	Accuracy	Power (VA)	Type	Cat. No.	Ref. No.	Pack.
40/5A	3	2	TAM 1D	MT CT 40	666381	1
50/5A	3	2	TAM 1D	MT CT 50	666383	1
60/5A	3	2	TAM 1D	MT CT 60	666385	1
80/5A	3	3	TAM 1D	MT CT 80	666387	1
100/5A	1	2	TAM 3D	MT CT 100	666375	1
150/5A	1	3	TAM 3D	MT CT 150	666377	1
200/5A	1	3	TAM 3D	MT CT 200	666378	1
250/5A	0.5	2	TAM 3D	MT CT 250	666379	1
300/5A	0.5	2	TAM 3D	MT CT 300	666380	1
400/5A	0.5	3	TAM 3D	MT CT 400	666382	1
500/5A	0.5	10	TAM 4D	MT CT 500	666384	1
600/5A	0.5	10	TAM 4D	MT CT 600	666386	1
800/5A	0.5	10	TAM 6	MT CT 800	666388	1
1000/5A	0.5	10	TAM 6	MT CT 1000	666376	1
1200/5A	0.5	-	-	MT CT 1200	666677	1
1500/5A	0.5	-	-	MT CT 1500	666678	1
2000/5A	0.5	-	-	MT CT 2000	666679	1

Interchangeable Ammeter scaleplates



40/5A	-	-	-	MT SP 40	666395	10
50/5A	-	-	-	MT SP 50	666397	10
60/5A	-	-	-	MT SP 60	666399	10
80/5A	-	-	-	MT SP 80	666401	10
100/5A	-	-	-	MT SP 100	666389	10
150/5A	-	-	-	MT SP 150	666391	10
200/5A	-	-	-	MT SP 200	666392	10
250/5A	-	-	-	MT SP 250	666393	10
300/5A	-	-	-	MT SP 300	666394	10
400/5A	-	-	-	MT SP 400	666396	10
500/5A	-	-	-	MT SP 500	666398	10
600/5A	-	-	-	MT SP 600	666400	10
800/5A	-	-	-	MT SP 800	666402	10
1000/5A	-	-	-	MT SP 1000	666390	10

Accessories

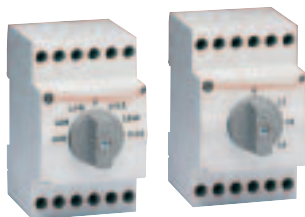


RS485 to RS232 signal converter

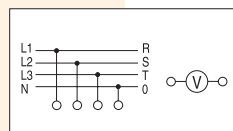
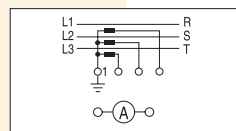


	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.
	-	2	MT RSC	666404	1

Selector switch



Amperage	3	3	MT S 4	666405	1
Voltage	3	3	MT S 7	666406	1



Series MT

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### Function

Priority relays offer the possibility to limit the energy consumption in installations with a defined maximum power. This limitation is getting measuring the installation total current continuously and in the case consumption would be higher then fixed value, priority relay would disconnect the non-priority load.

## Priority and sequence phase relays

### Series PR

### Applications



In some installations the maximum power is limited by the contracted power with the electricity company. If this contracted power is surpassed, the main MCB of the installation opens. Priority relays are used in order to avoid the opening of the main MCB.

A similar case, for exemple, would be an installation where new loads would be added without changing the installation (cable sizes, MCB's...). In this case a priority relay will be installed before the non priority load that would be disconnected when the contracted or limited power is surpassed. Priority... disconnected. The priority relay will realise that the installation total load will come back to be lower than its..., the non priority load will come back to be connected.

### Characteristics

Priority relay can work in nets with nominal power of 6 kW if we make a direct connection or higher if we use a current transformer to connect the priority relay to the net. In each case priority relay could be able to disconnect loads with a nominal power from 0 to 6kW or from 0% to 100% when current transformer is used.

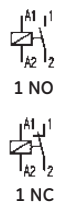
### Standard/Marking

IEC 61095 

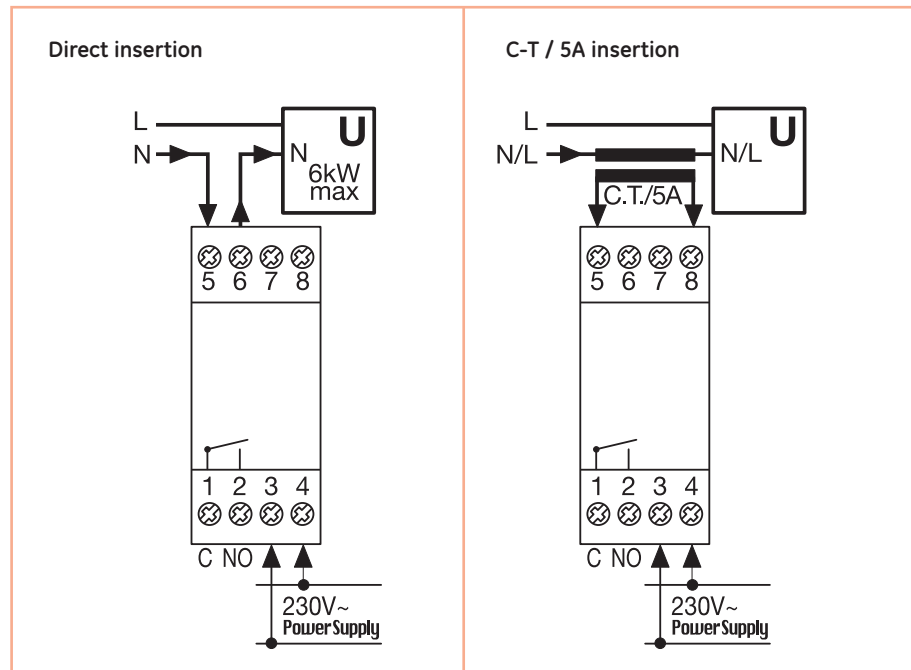
### Performance

	Priority Relay Series PR
Nominal Voltage Un	230V
Maximum nominal current	32A direct, 5A with current transformer
Nominal current	2...32A
Compact capacity	Pozidriv 1/2x2.5mm <sup>2</sup> or 1x6mm <sup>2</sup>
Contact type	NC or NO
Work temperature	-20...+55°C
Work area	0 to 7 kW
Fixed delay time	0.5sc
Isolation tension (contact-coil)	2.5 kV
Isolation class	II
IP	IP20
Electrical endurance	100,000 ops.
Mechanical endurance	1,000,000 ops.
Maximum changeover frequency	750 ops./h

Series PR - Priority relay



Output number	Module number	Contact	Cat. No.	Ref. No.	Pack.
1	2	1NO	PRI 10	666445	1
1	2	1NC	PRI 01	666446	1



Controls and sequence phase relays



Functions number	Module number	Contact	Cat. No.	Ref. No.	Pack.
2	2	1CO	MTAP 3N2F	666690	1
4	3	1CO	MTAP 3N	666433	1

Functions	Min. voltage value range	Ref. No.
Phases sequence Phases presence	-	666690
Phases sequence Phases presence Neutral presence Min. voltage control	70-100%	666433

Series PR

A

B

C

D

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## Surge Arresters

### SurgeGuard

#### Functions

Protection of an electrical installation and all electrical and electronic devices connected to this installation against destructive surges. Such voltage surges can be generated by lightning induced currents, by network polluting devices (such a motors, frequency converters, dimmers, etc..) and by power supply networks switching operations.

#### Standards

IEC 61643-I  
IEC 61643-II  
DIN VDE 0675-6  
NF C61-740  
BS EN 62305: 2006

#### Marking



#### Applications



Surge arresters cover the protection of home appliances (TV, Hifi, VCR, laundry machine, dishwasher...), commercial building equipment (computer, data networks, intrusion and alarm systems, access control and building automation systems), but also industrial equipment (PLC, instrumentation, medical apparatus, monitoring devices) and even the protection of entire off-shore drilling platforms.

#### Features

- The line of surge arresters includes a full range of compact protectors for installation on DIN-rail. The SPD's are especially designed to provide complete and effective protection against surges, protecting equipment and property connected to the low voltage network.
- The range includes Class I/B 15 kA to 100 kA surge arresters in 10/350 ms wave form, and Class II/C surge arresters with different discharge capacities: 15 kA, 40 kA and 100 kA in wave form 8/20 ms. Class II SPD's for DC photo-voltaic applications, communication and TV lines are also available. The most suitable value will be selected according to the type of installation, premises and equipments to be protected.
- Several different formats one pole, single phase, two phase and three phases are available for all types of electrical net systems: TT, TN-S, TN-C, IT.
- Additionally, dedicated versions for temporary overvoltage (TOV) are included in the offer.  
TOV is a voltage peak of hundreds of volts for an indeterminate period due to the unbalance of the network (normally caused by neutral fault).

## Parameters

### Impulse current (Iimp)

This is the peak current that the SPD can withstand without failing. The waveform of the applied current is normalised as 10/350  $\mu$ s, used in Class I SPD.

### Maximum discharge current (Imax)

This is the peak current it can withstand in a single pulse without failing. The waveform of the applied current is normalised as 8/20  $\mu$ s. Used in Class II SPD.

### Nominal discharge current (In)

This is the current that the device is capable of shunting to ground at least 20 times without failing.

### Level of protection (Up)

This is the parameter that characterises the action of the protection device against surges by limiting the voltage between its terminals. It must be less than the surge withstand capacity given by the category of the equipment to be protected. However, if the protector is far from the equipment to be protected it may be necessary to use additional protectors.

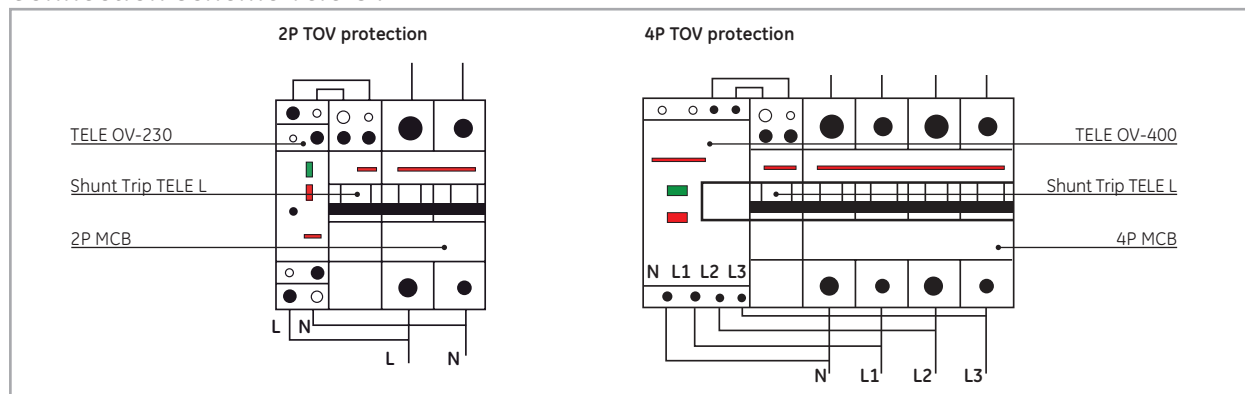
### Maximum continuous operating voltage Umax (Uc)

This is the maximum AC or DC voltage which may be continuously applied to the terminals of the SPD.

## Performance


	SA BLOCK I	SA BLOCK I&II	SA PLUGIN II single phase	SA PLUGIN II multi-phase	SA BLOCK II single phase	SA BLOCK II multi-phase
Energy impulse wave	10/350 $\mu$ s	10/350 $\mu$ s and 8/20 $\mu$ s	8/20 $\mu$ s	8/20 $\mu$ s	8/20 $\mu$ s	8/20 $\mu$ s
Response time	<100ns	<100ns	<25ns	<25ns	<25ns	<25ns
Thermal fuse	no	yes	yes	yes	yes	yes
Thermal fuse healthy indication	no	yes	yes	yes	yes	yes
Nominal voltage	230V or 400V	230V or 400V	230V or 400V	230V or 400V	230V or 400V	230V or 400V
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Useable in networks	TT, TN-S, TT, IT	TT, TN-S, TT, IT	TT, TN-S, TT, IT	TT, TN-S	TT, TN-S, TT, IT	TT, TN-S
Operating temperature	-40°C...+80°C	-40°C...+80°C	-40°C...+75°C	-40°C...+75°C	-40°C...+80°C	-40°C...+80°C
Screws	Pozidriv 3	Pozidriv 3	Pozidriv 3	Pozidriv 3	Pozidriv 3	Pozidriv 3
Terminal capacity: min	6mm <sup>2</sup>	6mm <sup>2</sup>	6mm <sup>2</sup>	6mm <sup>2</sup>	6mm <sup>2</sup>	6mm <sup>2</sup>
max (flexible/rigid)	35/50mm <sup>2</sup>	25/35mm <sup>2</sup>	25/50mm <sup>2</sup>	25/50mm <sup>2</sup>	25/35mm <sup>2</sup>	25/35mm <sup>2</sup>

## Connection scheme Tele OV




### SurgeGuard - Surge Arresters - Class I/B

The surge arresters have the capacity to divert excess energy for low voltage line protection.  
Class I surge arresters should be installed in areas at high risk from direct lightning strike discharge.

Single phase		Iimp	In	Up	Up (L-N)	Up (N-PE)	Umax	No. of poles	Auxiliary contact	No. modules	Cat. No.	Ref. No.	Pack
	TT, TN-S TN-C, IT	35kA	-	4000V	-	-	255V	1P	-	1	SA BLOCK I 35	667470	1
		100kA	-	4000V	-	-	255V	1P	-	1	SA BLOCK I 100 N	667471	1
		100kA	100kA	-	-	-	500V	1P	-	1	SA BLOCK I PC	667472	1





### SurgeGuard - Surge Arresters - Class I and II

The surge arrester can operate as a Class I and Class II protection in accordance with the IEC 61643-11 Class I/B and Class II/C integrated in only one device. Used in main panelboards (incomer of installations) with high risk from direct lightning strike discharge. Decoupling coils not needed

Single phase		Iimp Class I/Class II	In Class II	Up	Up (L-N)	Up (N-PE)	Umax	No. of poles	Auxiliary contact	No. modules	Cat. No.	Ref. No.	Pack
	TT, TN-S TN-C, IT	15kA / 100kA	30kA	1300V	-	-	275V	1P	-	2	SA BLOCK I&II 100	667486	1
		30kA / 100kA	60kA	1500V	-	-	275V	1P	-	2	SA BLOCK I&II 100N	667487	1
		7,5kA / 65kA	20kA	1300V	-	-	275V	1P	-	1	SA BLOCK I&II 65	667517	1
		12kA / 65kA	20kA	1500V	-	-	275V	1P	-	1	SA BLOCK I&II 65N	667518	1

### SurgeGuard - Surge Arresters - Class II

The Class II protection is the most frequently used because it offers high protection and is compatible with most equipments.

Single phase plug-in (base+module)		Iimp	In	Up	Up (L-N)	Up (N-PE)	Umax	No. of poles	Auxiliary contact	No. modules	Cat. No.	Ref. No.	Pack	
	TT, TN-S TN-C, IT	15kA	5kA	1200V	-	-	280V	1P	-	1	SA PLUGIN II 15/230	667500	1	
		15kA	5kA	1300V	-	-	440V	1P	-	1	SA PLUGIN II 15/400	667501	1	
		40kA	20kA	1300V	-	-	280V	1P	-	1	SA PLUGIN II 40/230	667502	1	
		40kA	20kA	1300V	-	-	280V	1P	1CO	1	SA PLUGIN II 40/230 C	667504	1	
		40kA	20kA	1900V	-	-	440V	1P	-	1	SA PLUGIN II 40/400	667503	1	
		40kA	20kA	1900V	-	-	440V	1P	1CO	1	SA PLUGIN II 40/400 C	667505	1	
	Multi-phase plug-in (base+module)	40kA	20kA	-	1300V	1500V	280V	2P	-	2	SA PLUGIN II 40/230 LNE	667506	1	
		40kA	20kA	-	1300V	1500V	440V	4P	-	4	SA PLUGIN II 40/230 3L+NE	667507	1	
	Single phase monobloc	15kA	5kA	1200V	-	-	275V	1P	-	1	SA BLOCK II 15/230	667473	1	
		15kA	5kA	1200V	-	-	275V	1P	1CO	1	SA BLOCK II 15/230 C	667475	1	
		15kA	5kA	1800V	-	-	420V	1P	-	1	SA BLOCK II 15/400	667474	1	
		15kA	5kA	1800V	-	-	420V	1P	1CO	1	SA BLOCK II 15/400 C	667476	1	
		15kA	5kA	850V	-	-	255V	1P	-	1	SA BLOCK II 15N	667481	1	
		40kA	15kA	1300V	-	-	275V	1P	-	1	SA BLOCK II 40/230	667477	1	
		40kA	15kA	1300V	-	-	275V	1P	1CO	1	SA BLOCK II 40/230 C	667479	1	
		40kA	15kA	1800V	-	-	420V	1P	-	1	SA BLOCK II 40/400	667478	1	
		40kA	15kA	1800V	-	-	420V	1P	1CO	1	SA BLOCK II 40/400 C	667480	1	
		40kA	20kA	1200V	-	-	275V	1P	-	1	SA BLOCK II 40N	667482	1	
	Multi-phase monobloc	Common and differential mode protection												
		15kA	5kA	-	1200V	1500V	275V	2P	-	1	SA BLOCK II 15LN	667483	1	
		15kA	5kA	-	1200V	1500V	275V	2P	-	2	SA BLOCK II 15/230 LNE	667488	1	
		40kA	15kA	-	1300V	1500V	275V	2P	-	2	SA BLOCK II 40/230 LNE	667490	1	
		15kA	5kA	-	1200V	1500V	440V	4P	-	4	SA BLOCK II 15/400 3L+NE	667494	1	
		40kA	15kA	-	1300V	1500V	440V	4P	-	4	SA BLOCK II 40/400 3L+NE	667496	1	
		Common mode protection												
		15kA	5kA	1200V	-	-	275V	2P	-	2	SA BLOCK II 15/230 LLE	667489	1	
		40kA	15kA	1300V	-	-	275V	2P	-	2	SA BLOCK II 40/230 LLE	667491	1	
		15kA	5kA	1200V	-	-	440V	4P	-	4	SA BLOCK II 15/400 4L/NE	667495	1	
40kA	15kA	1300V	-	-	440V	4P	-	4	SA BLOCK II 40/400 4L/NE	667497	1			
40kA	15kA	1300V	-	-	440V	4P	1CO	4	SA BLOCK II 40/400 4L/NE C	667498	1			

Comfort functions

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B

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New







### SurgeGuard - Surge Arresters - Class II


Protection for (DC) photovoltaic applications	Iimp	In	Up	Up (L-N)	Up (N-PE)	Umax	No. of poles	Auxiliary contact	No. modules	Cat. No.	Ref. No.	Pack
	40kA	15kA	2600V	-	-	600Vdc	2P	-	2	SA PHOT 600V	667508	1
	40kA	15kA	3800V	-	-	1000Vdc	2P	-	2	SA PHOT 1000V	667509	1

The Protective devices should be installed for sensitive equipment both in home and industries.


For communication lines (telephone, modem, router, alarm installations, home automation)	I <sub>max</sub>	In	Up	Up (L-N)	Up (N-PE)	Umax	fg Bandwidth	protection type	No. modules	Cat. No.	Ref. No.	Pack
	10kA	5kA	200V	-	-	180V	3MHz	1 par	1	SA BLOCK ADSL	667484	1
For coax cables (radio frequency signals, TV, cameras, receivers, satellite, ...)	20kA	10kA	600V	-	-	230V	3GHz	BNC	-	SA TV	667510	1
												

### Accessories

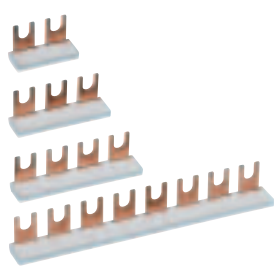
Class II - Replacement mod. for plug-in versions	I <sub>max</sub>	In	Up (L-PE)	Umax	No. of poles	Auxiliary contact	No. modules	Cat. No.	Ref. No.	Pack
	15kA	5kA	1200V	280V	1P	-	1	SA MODULE 15/230	667512	1
	15kA	5kA	1300V	440V	1P	-	1	SA MODULE 15/400	667513	1
	40kA	20kA	1200V	280V	1P	-	1	SA MODULE 40/230	667514	1
	40kA	20kA	1300V	440V	1P	-	1	SA MODULE 40/400	667515	1
	60kA	20kA	1500V	255V	1P	-	1	SA MODULE 60 NGND	667516	1

Decoupling coil	I <sub>max</sub>	In	Up (L-PE)	Umax	No. of poles	Auxiliary contact	No. modules	Cat. No.	Ref. No.	Pack
	-	35A	-	-	1P	-	2	SA C35	667492	1
	-	63A	-	-	1P	-	4	SA C63	667499	1

### TELE OV - Temporary overvoltage protection (TOV)<sup>(1)</sup>

Temporally overvoltage protection	In	Ua L-N	Tripping time (Ua) (400V)	Un	No. of poles	No. modules	Cat. No.	Ref. No.	Pack
	MCB's	254V	<4s <0,5s	230V	2	1	TELE OV 230	667485	1
	MCB's	254V	<4s <0,5s	400V	4	2	TELE OV 400	667493	1

### Insulated FORK type busbars

	Section	I(A)	Description	Cat. No.	Ref. No.	Pack
	10mm <sup>2</sup>	80	2x1P - 90°	EV-G.1.2.80-90°	624993	20
	10mm <sup>2</sup>	80	3x1P - 90°	EV-G.1.3.80-90°	644893	20
	10mm <sup>2</sup>	80	4x1P - 90°	EV-G.1.4.80-90°	568106	20
	10mm <sup>2</sup>	80	8x1P - 90°	EV-G.1.8.80-90°	644897	20

(1) Connection scheme Tele OV, see page D.37



New

Terminal capacity

Impulse switches - Pulsar S

Comfort functions

A

B

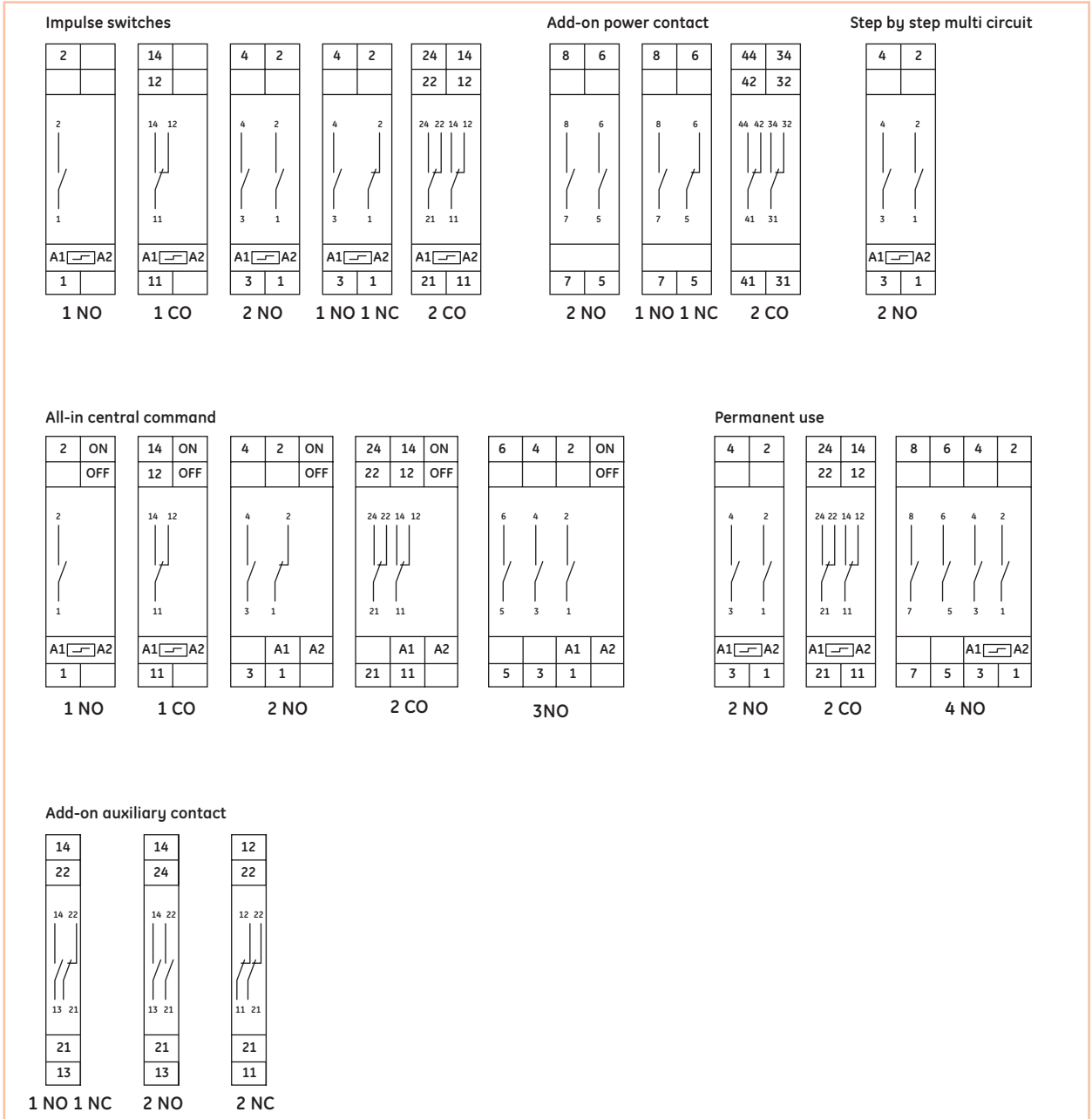
C

D

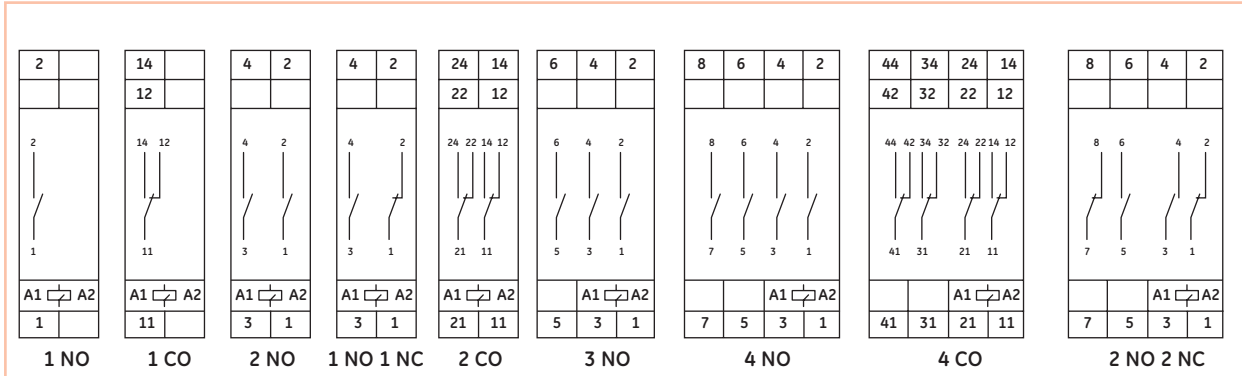
E

F

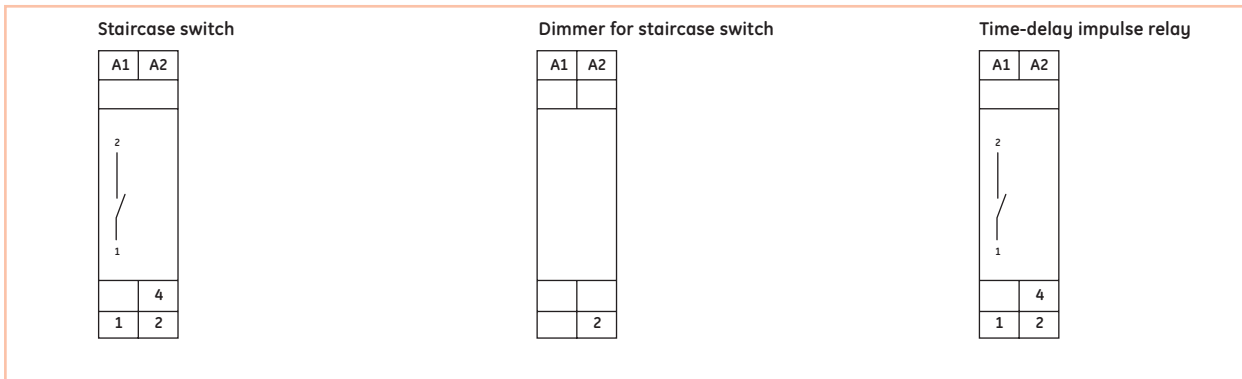
X



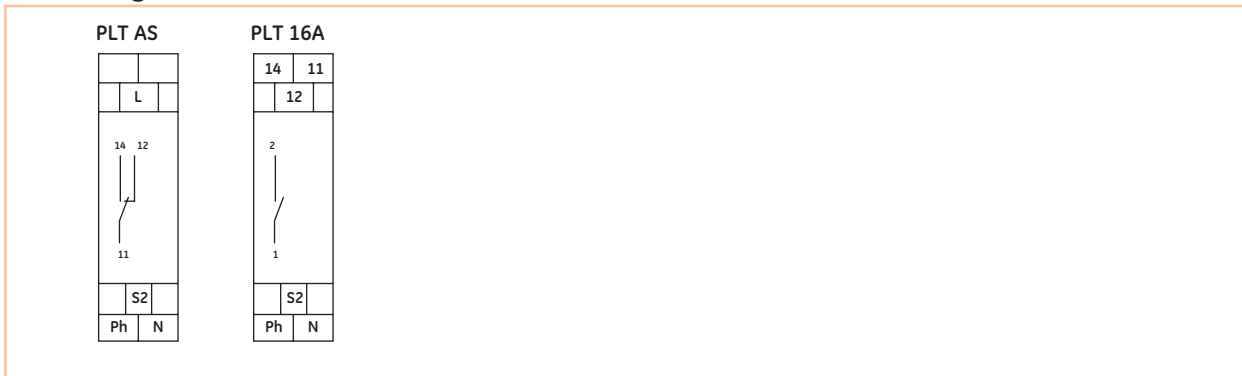
Relays - Contax R



Staircase switches - Pulsar TS



Time relays - Pulsar T



A

B

C

D

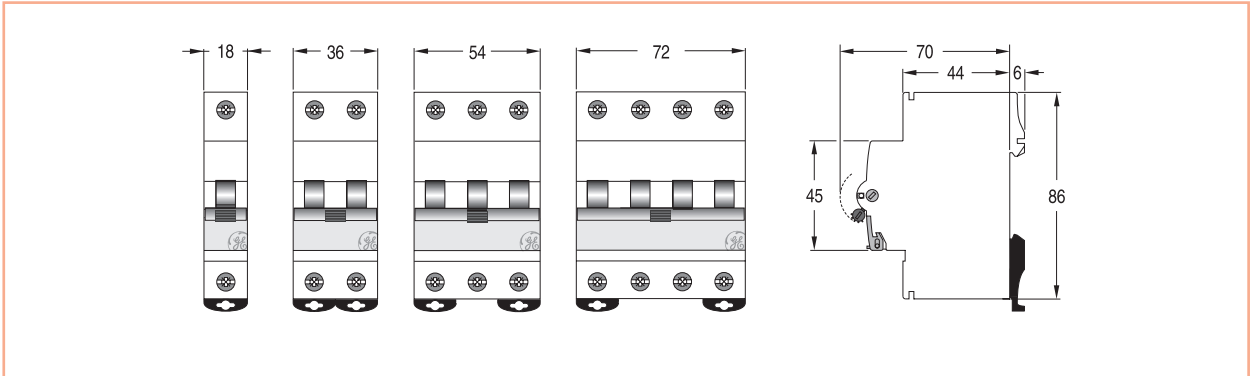
E

F

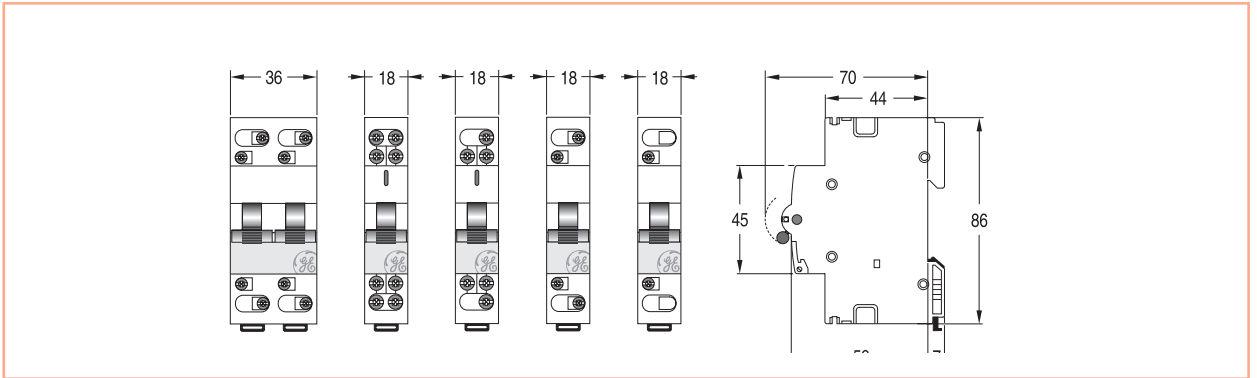
X

Dimensional drawings

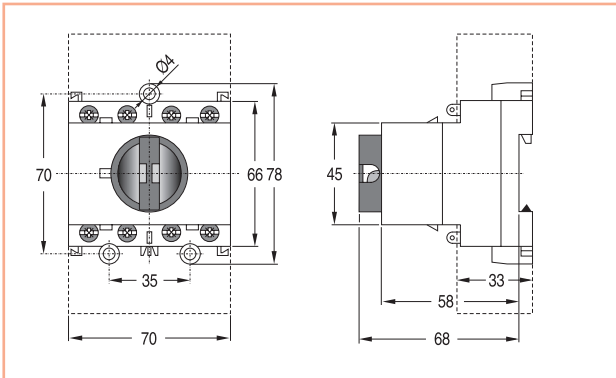
Mains disconnect switches - Aster



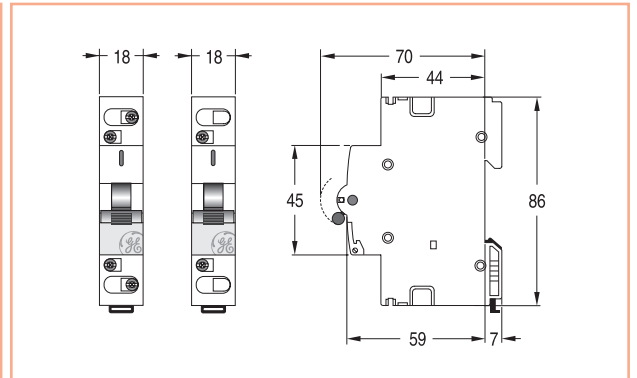
Switches - Aster



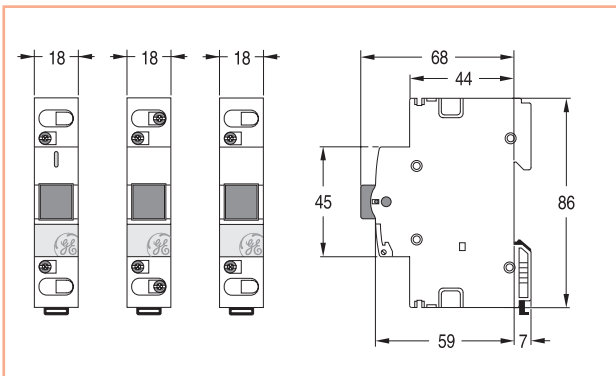
Rotary switches - Aster



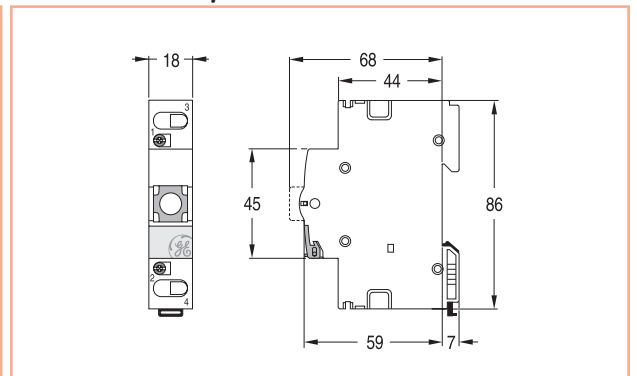
Switches with signal lamp - Aster



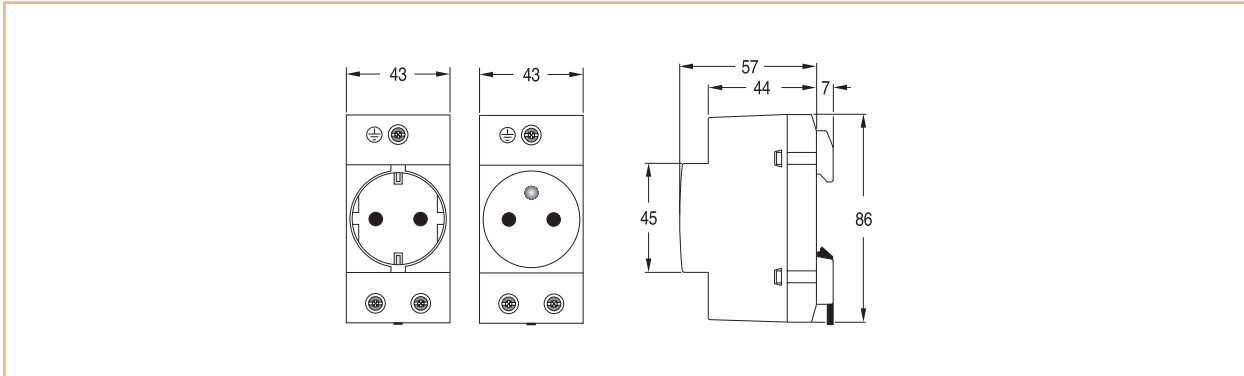
Push-buttons - Aster



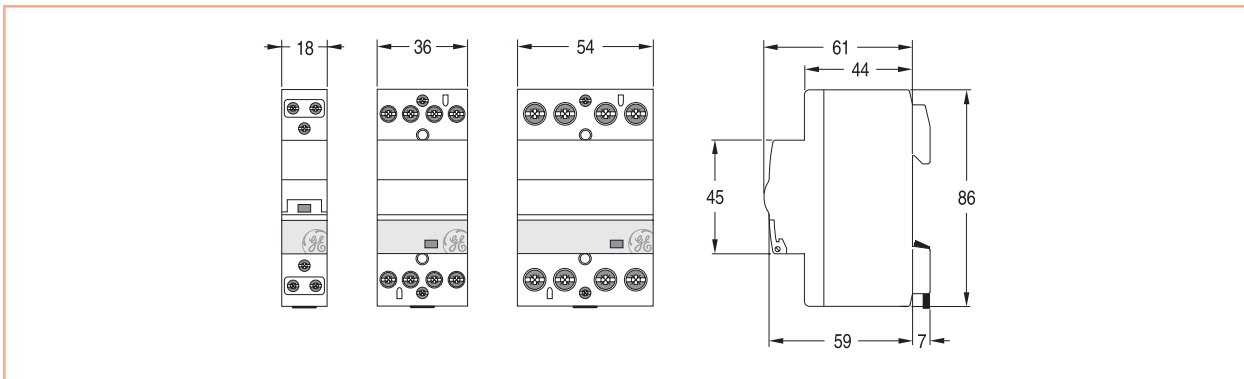
Indication lamp - Aster



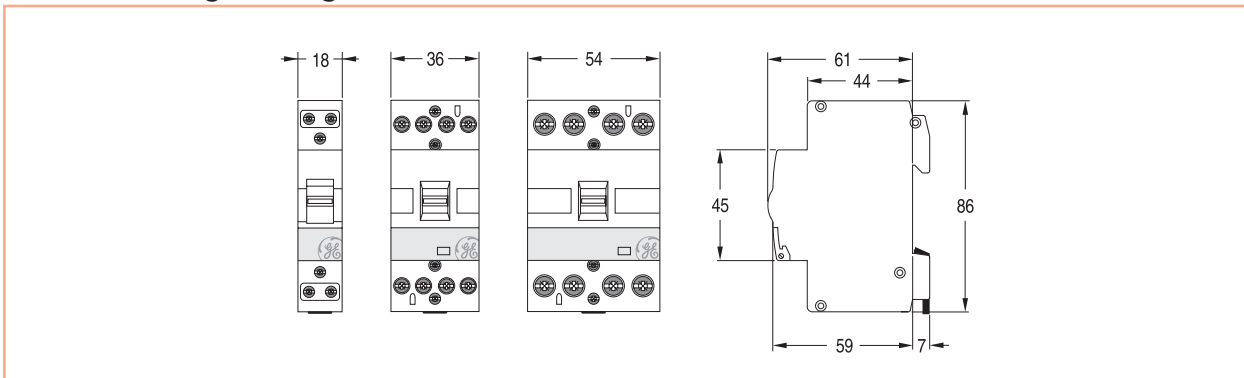
**Socket-outlet - Series MSC**



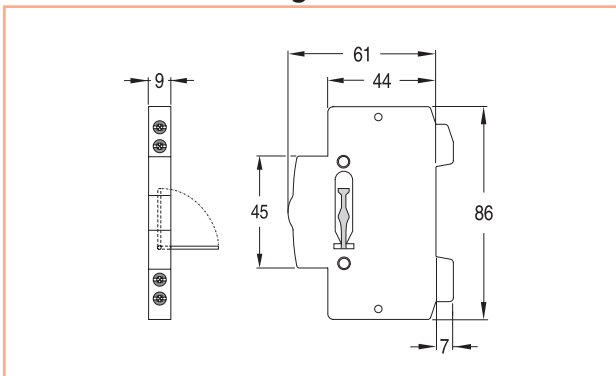
**Contactors - Contax**



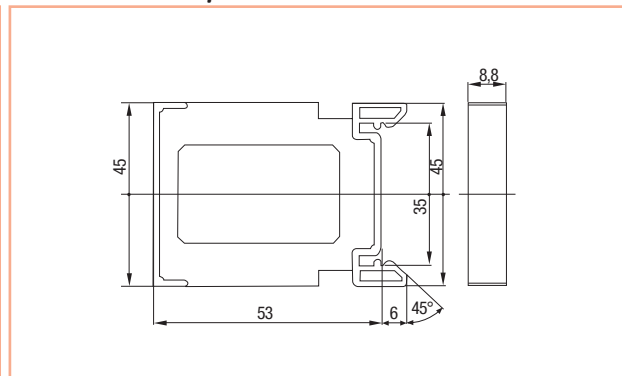
**Contactors Day and Night - Contax**



**Contactors - Auxiliary contact**



**Contactors - Spacer**



A

B

C

**D**

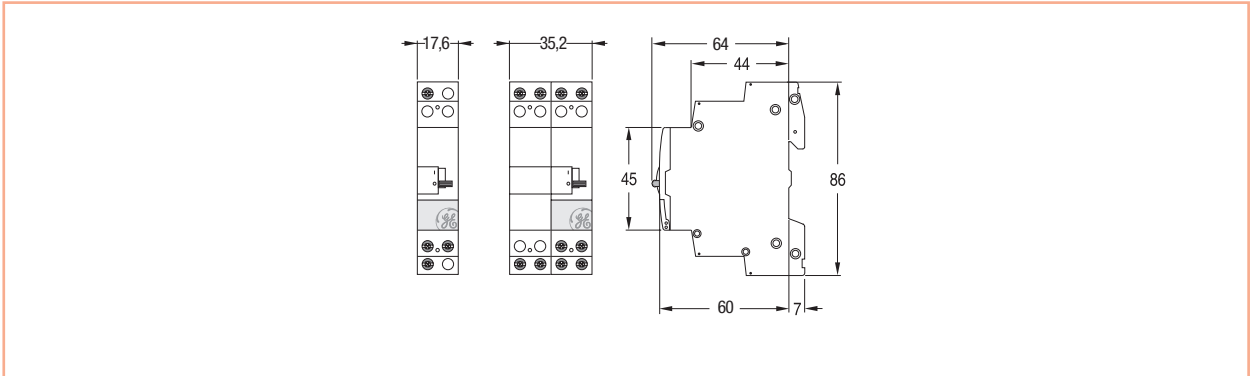
E

F

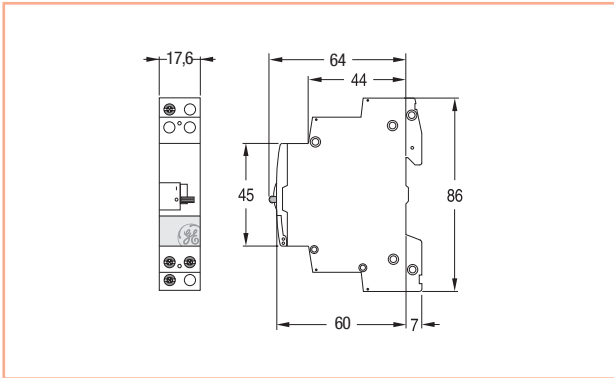
X

Dimensional drawings

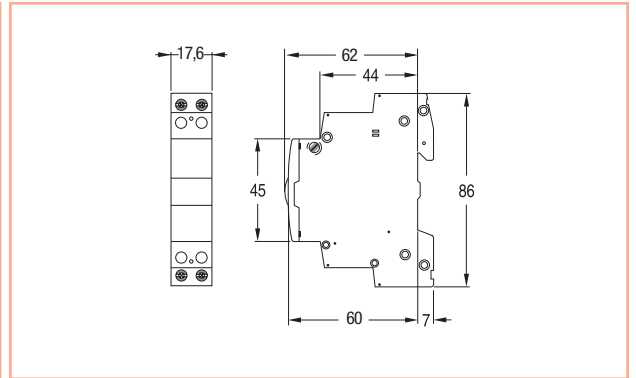
Relays - Contax R



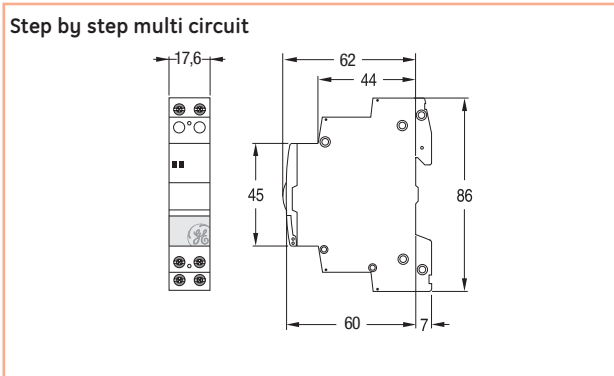
Impulse switches - Pulsar S



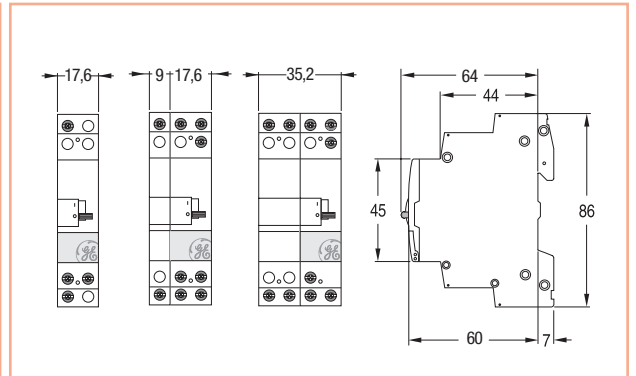
Impulse switches - Pulsar S



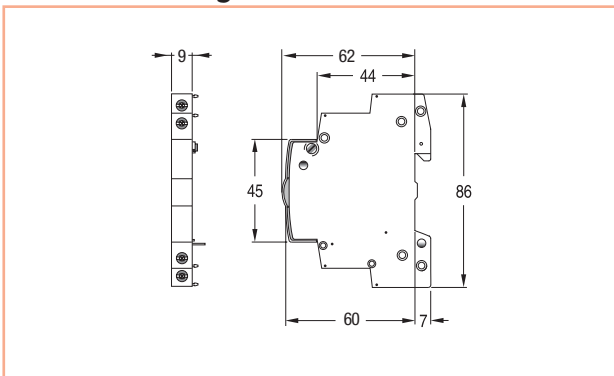
Impulse switches - Pulsar S



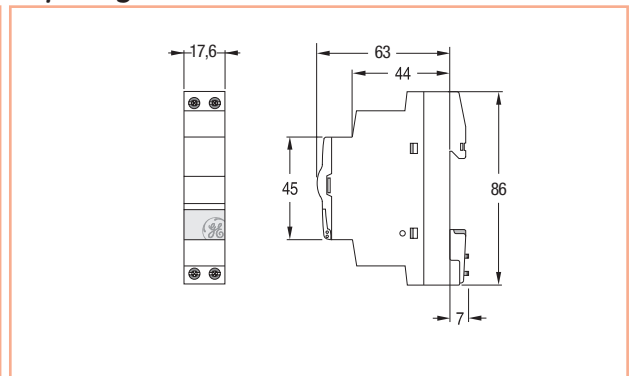
All-in central command - Pulsar S



Add-on auxiliary contact - Pulsar S

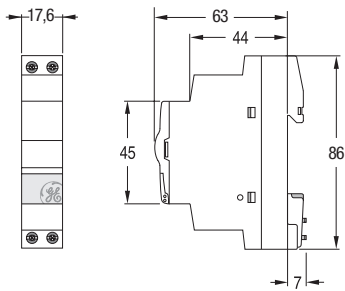


Capacity module - Pulsar S

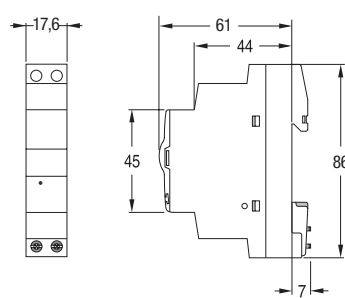


**Central command - Pulsar S**

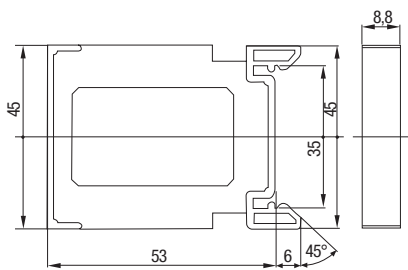
Multilevel central control module



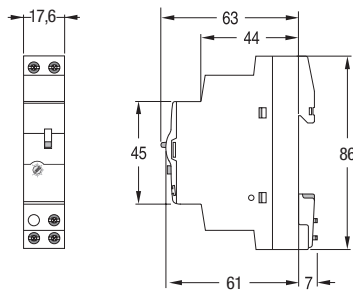
SurgeGuard safety module



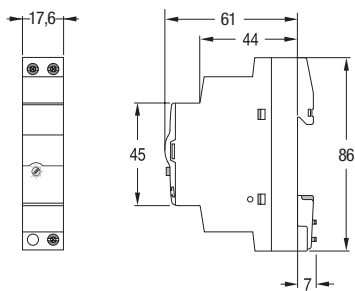
**Spacer - Pulsar S**



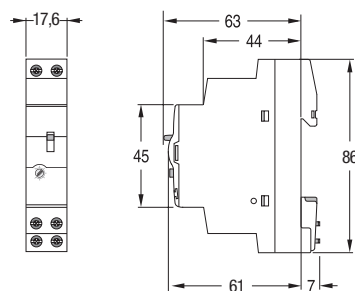
**Staircase switches - Pulsar TS**



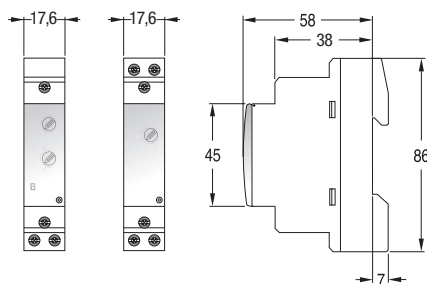
**Dimmer - Pulsar TS**



**Time-delay impulse relay - Pulsar TS**



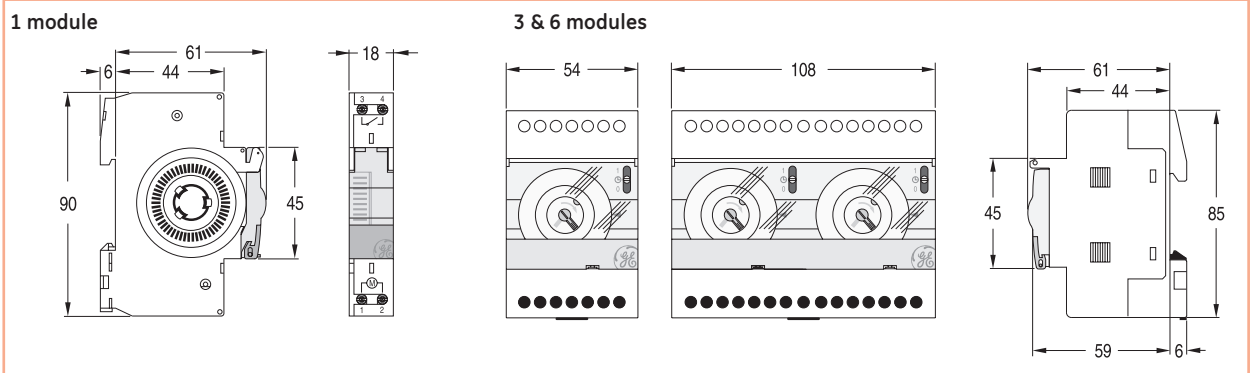
**Time relays - Pulsar T**



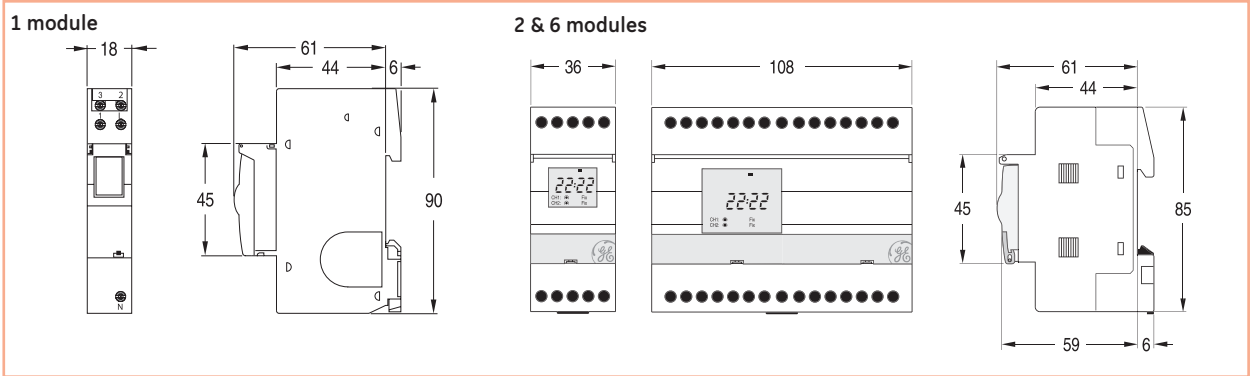


**Dimensional drawings**

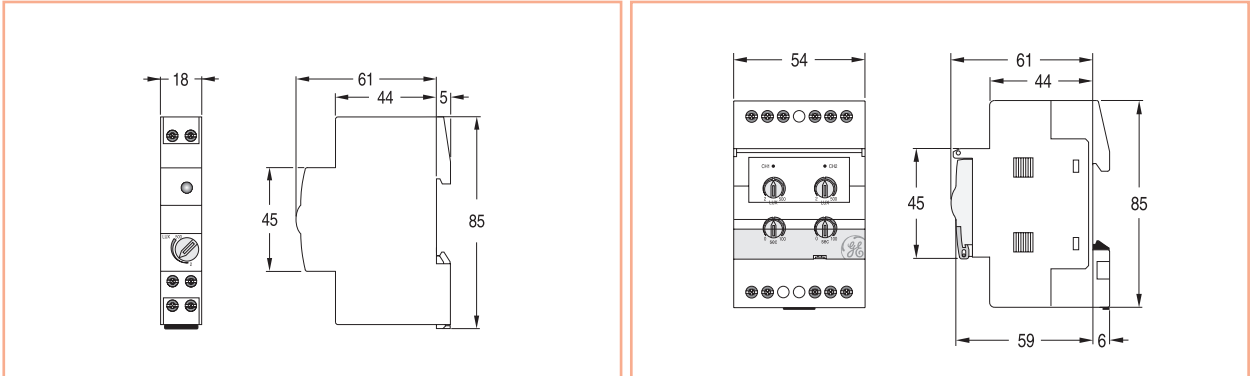
**Analogue time switches - Classic**



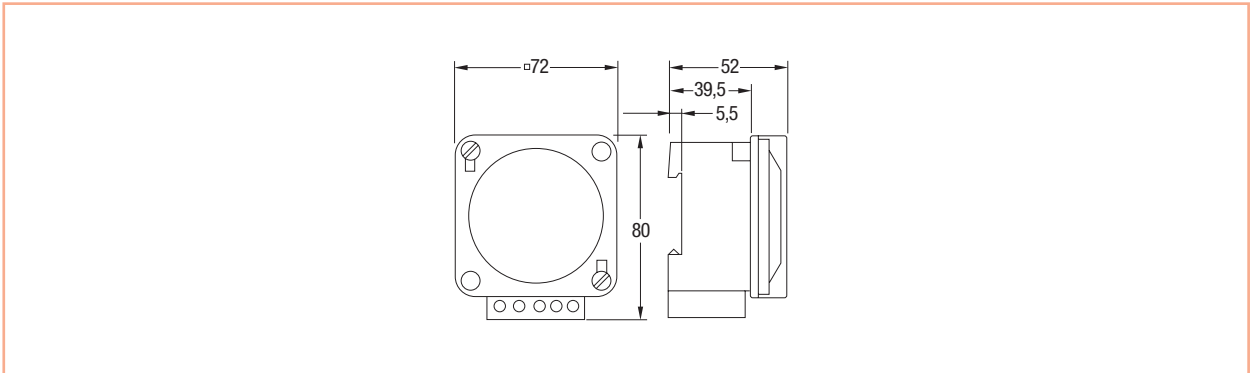
**Digital time switches - Galax**



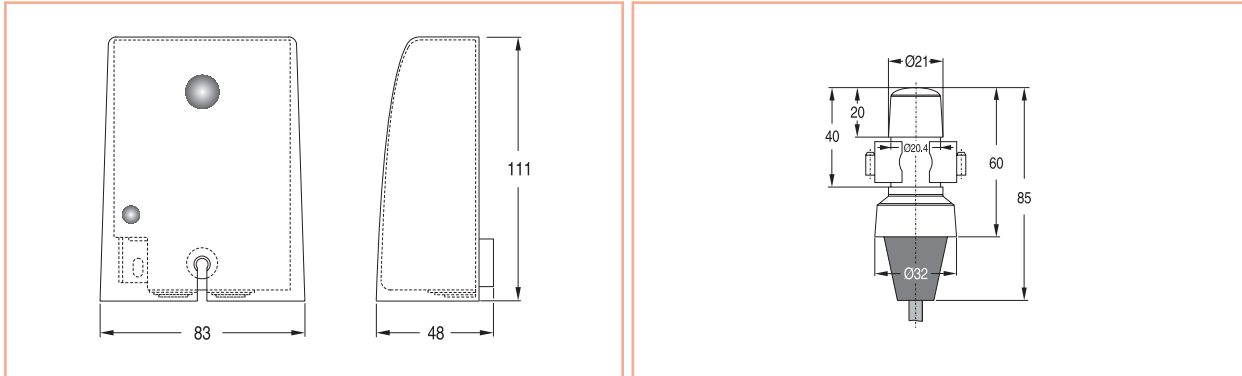
**Light sensitive switch 1 module - Galax LSS    Light sensitive switches 3 mod. - Galax LSS**



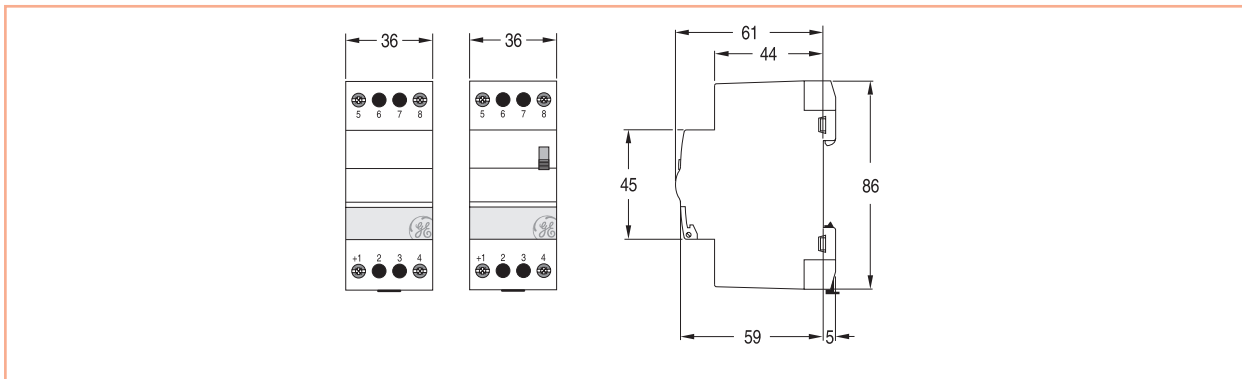
**Time Switches - 72x72 Classic and Galax**



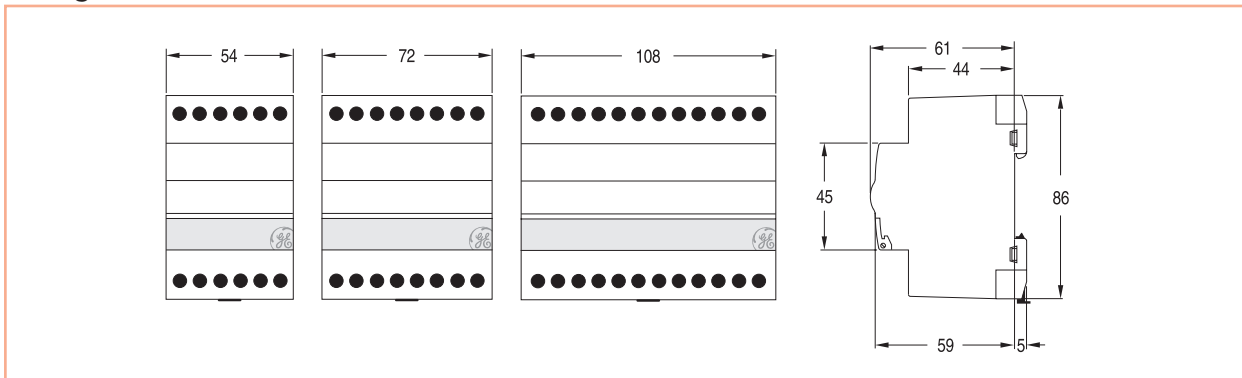
**Light sensitive switch photocell incorporated Light sensitive switches - Photocell**



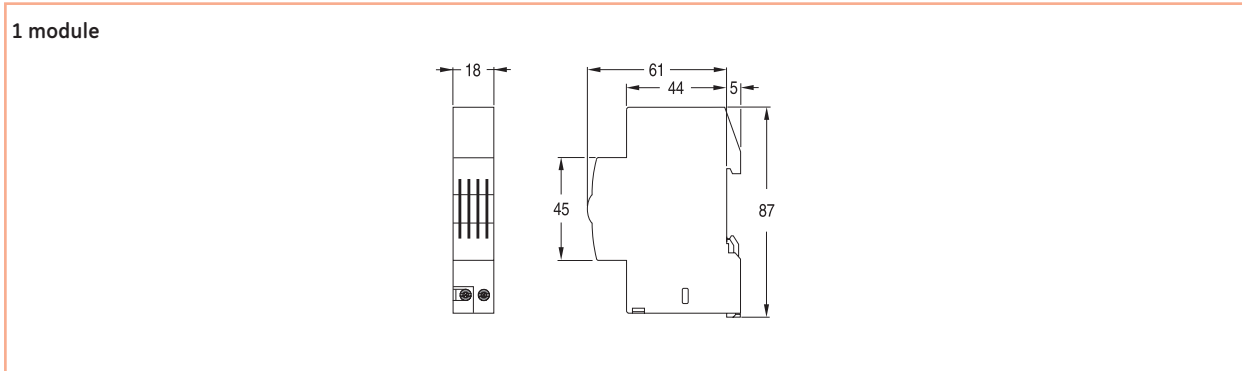
**Bell transformers - Series T**



**Safety transformers - Series T**



**Buzzers and bells - Series T**



A

B

C

D

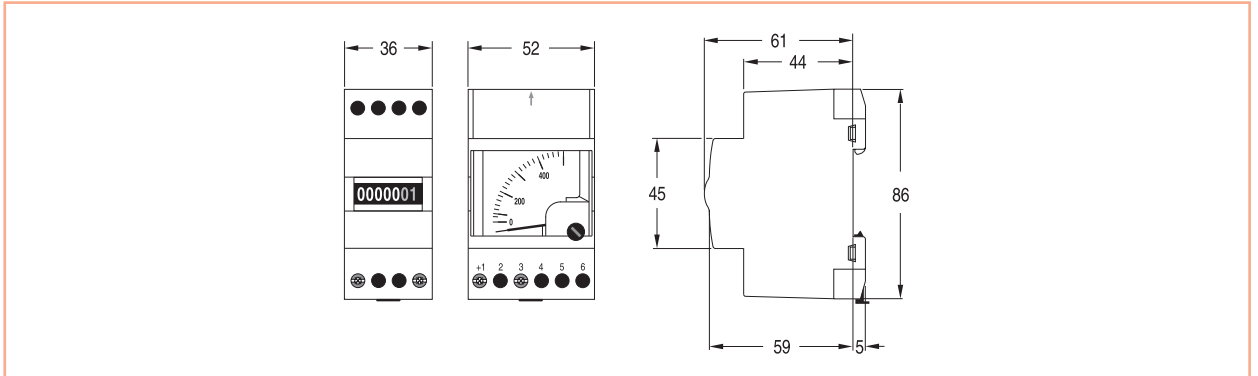
E

F

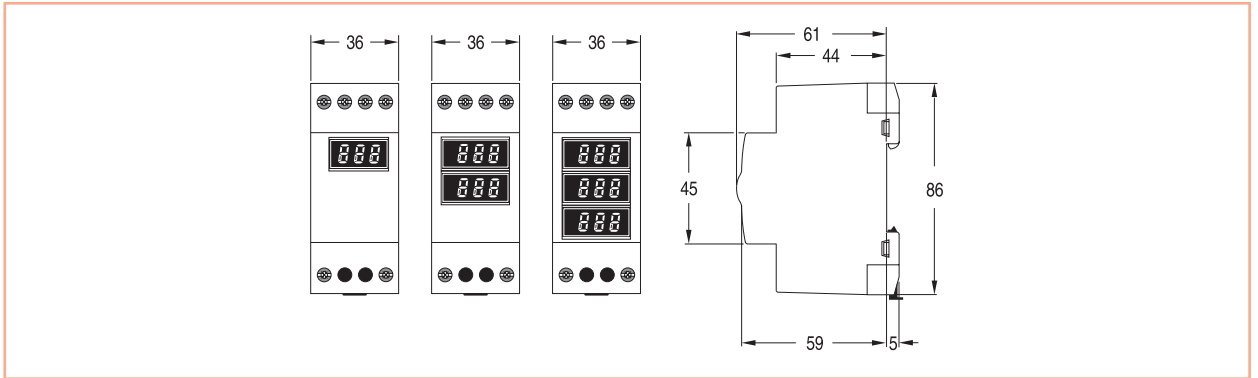
X

Dimensional drawings

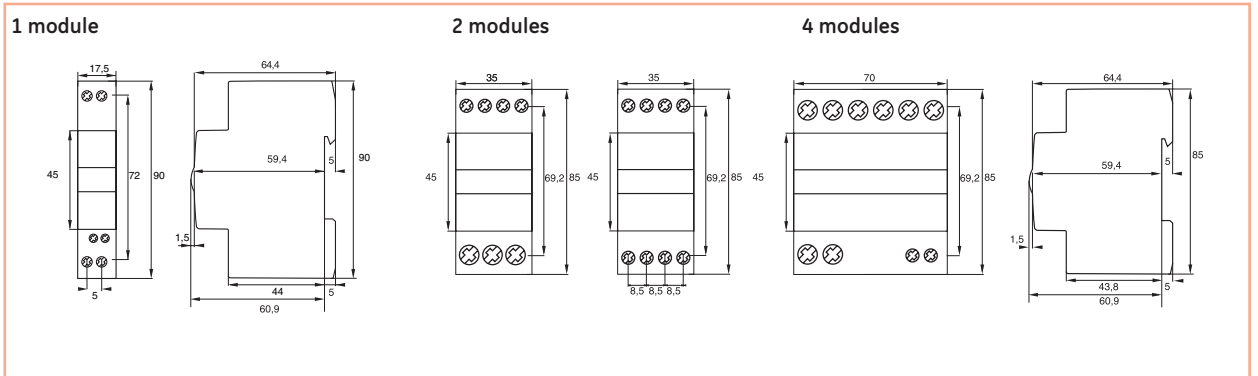
Analogue measurement instruments - Series MT



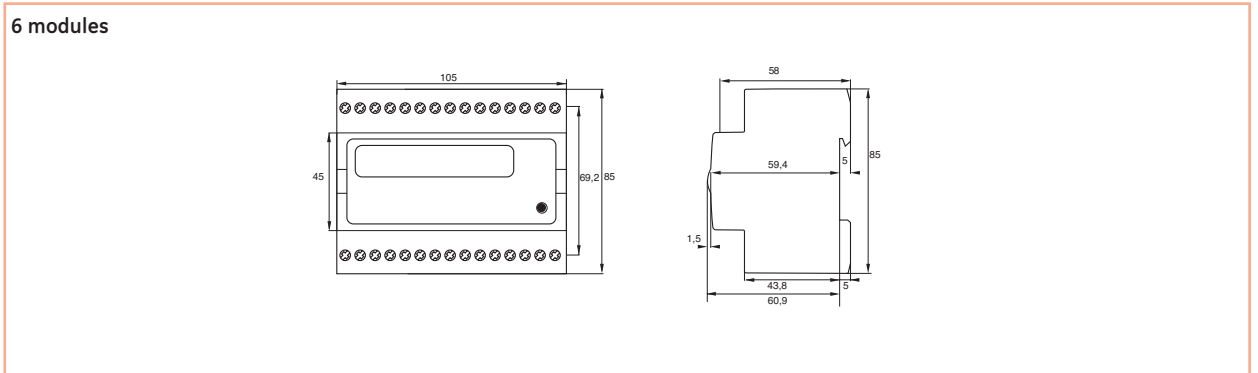
Digital measurement instruments - Series MT



Energy meter - Series MT

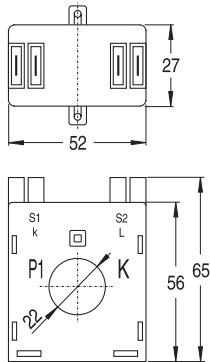


Network analyser - Series MT

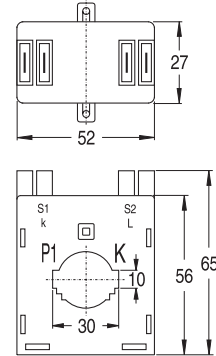


**Current transformer - Series MT**

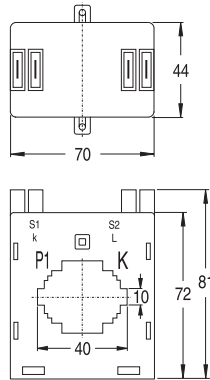
40 up to 80A



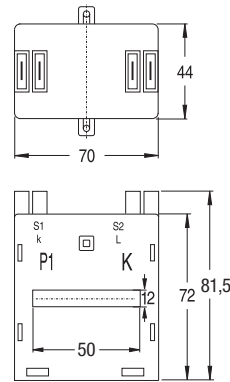
100 up to 400A



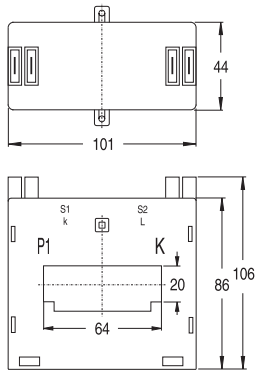
500 and 600A



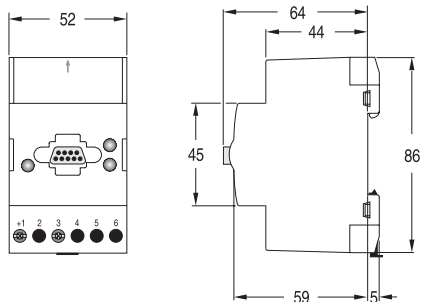
800A



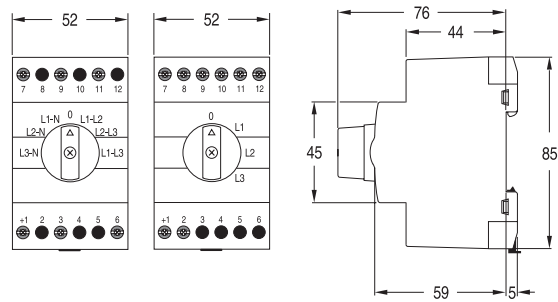
1000 and 2000A



**Signal converter - Series MT**



**Selector switch - Series MT**



A

B

C

D

E

F

X

Dimensional drawings

Surge arresters - SurgeGuard

Comfort functions

A

B

C

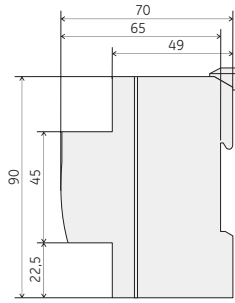
D

E

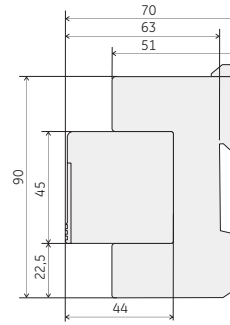
F

X

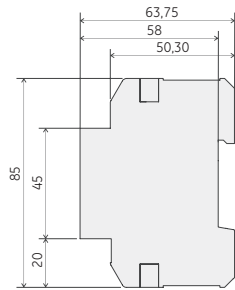
SA BLOCK, SA PHOT x 2 MODULES, SA BLOCK ADSL, SA C



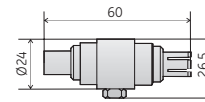
Plug-in types



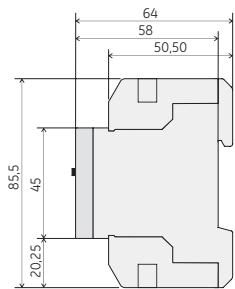
SA BLOCK II 15 LN



For coax cables



TELE OV - Overvoltage protection





- E.3 **Busbar system**
- E.4 Insulated PIN type busbars
- E.6 Insulated FORK type busbars
- E.8 Accessories

- Circuit Protection
- People Protection
- Add-on Devices
- Comfort Functions

**Busbars**

Enclosures

Numerical Index

	A
	B
	C
	D
	E
	F
	X



Notes

Busbars

A

B

C

D

E

F

X

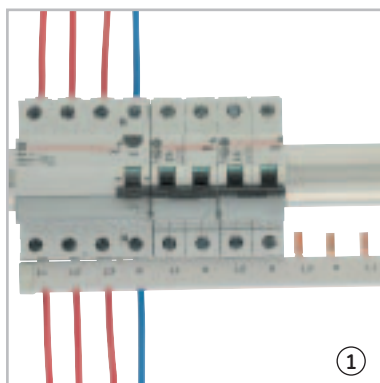
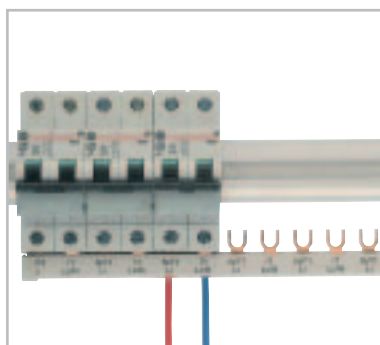
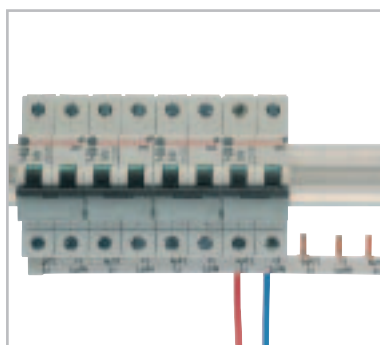
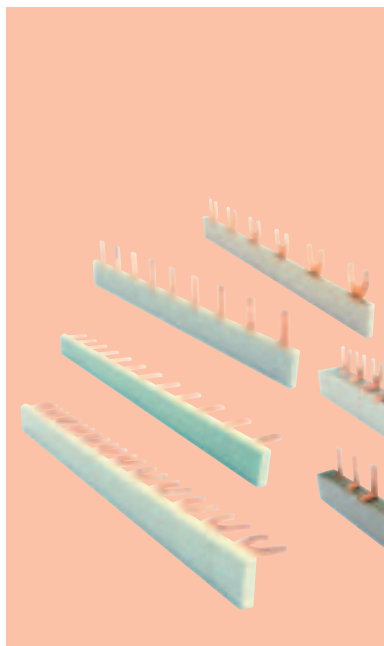
Grid of red dots for notes.





## Busbar system

### Rails



### Technical data

<b>Rail</b>	copper (oxygen free)
<b>Insulation strip</b>	plastic heat resistant > 96 °C self extinguishing V0
<b>Dielectric strength</b>	36kV/mm (acc. to DIN 53481/1.2)
<b>Short-circuit resistance</b>	25kA (100A fuse)
<b>Climate proofing</b>	according to IEC 60068-2-30
<b>Creepage resistance/tracking index</b>	400V (acc. to IEC 60112)
<b>Insulation group acc. to EN 60439-1</b>	Material group II, 400V

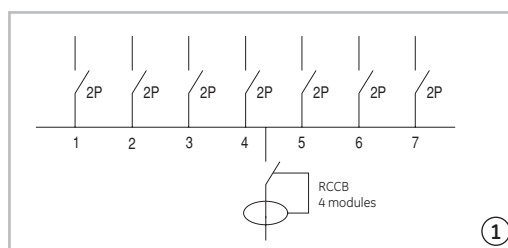
### Load values in A (Ith)

Connection	1 pole			
	side		middle	
Section (mm <sup>2</sup> )	Ith (A)	K (mm <sup>2</sup> )	Ith (A)	K (mm <sup>2</sup> )
10 isolated	80	10	100	25
12 non isolated	90	16	110	35
16 non isolated	110	25	130	35
24 non isolated	160	25	180	2x25
36 non isolated	200	35	220	2x35

Connection	n poles			
	side		middle	
Section (mm <sup>2</sup> )	Ith (A)	K (mm <sup>2</sup> )	Ith (A)	K (mm <sup>2</sup> )
10 isolated	80	16	100	25
16 isolated	120	25	130	35

K = section of the connection wire

n = 2P, 1P + N, 3P, 3P + N, 4P



A
B
C
D
E
F
X

**Insulated PIN type busbars**

Busbars

A

B

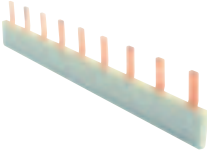
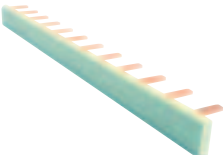
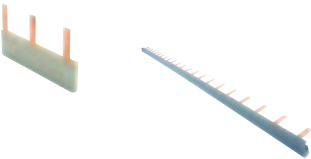
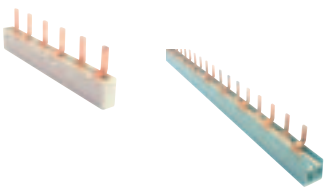
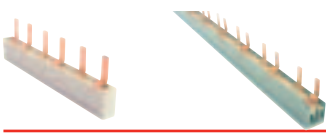
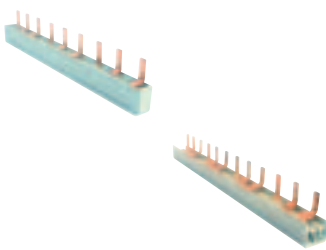
C

D

E

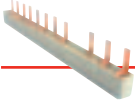
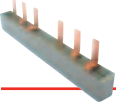
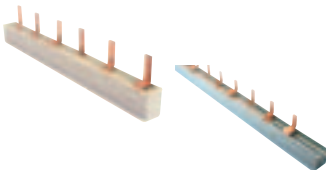
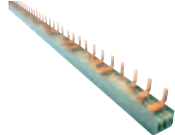
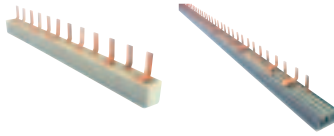
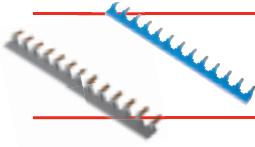
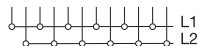
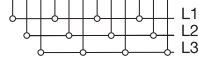
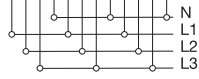
F

X

	Section	Description	Ref. No.	Pack.
<b>1-phase</b>				
	10mm <sup>2</sup>	2x1P	546253	10
	10mm <sup>2</sup>	6x1P	546254	10
	10mm <sup>2</sup>	12x1P	546255	10
	10mm <sup>2</sup>	13x1P	650156	10
	10mm <sup>2</sup>	57x1P - length 1m	624991	1/10
	16mm <sup>2</sup>	57x1P - length 1m	544193	1/10
<b>1-phase 90°</b>				
	10mm <sup>2</sup>	3x1P - 90°	624959	20
	10mm <sup>2</sup>	4x1P - 90°	624960	20
	10mm <sup>2</sup>	5x1P - 90°	624961	20
	10mm <sup>2</sup>	6x1P - 90°	624962	20
	10mm <sup>2</sup>	7x1P - 90°	624963	20
	10mm <sup>2</sup>	8x1P - 90°	624964	20
	10mm <sup>2</sup>	9x1P - 90°	624965	20
	10mm <sup>2</sup>	10x1P - 90°	624966	20
	10mm <sup>2</sup>	11x1P - 90°	624967	20
	10mm <sup>2</sup>	12x1P - 90°	624968	20
	10mm <sup>2</sup>	13x1P - 90°	624969	20
	10mm <sup>2</sup>	14x1P - 90°	624970	20
	10mm <sup>2</sup>	15x1P - 90°	624971	20
	10mm <sup>2</sup>	16x1P - 90°	624972	20
10mm <sup>2</sup>	17x1P - 90°	624973	20	
10mm <sup>2</sup>	18x1P - 90°	624974	20	
<b>1-phase with 1P + auxiliary</b>				
	10mm <sup>2</sup>	2 x (1P + auxiliary)	546256	10
	10mm <sup>2</sup>	6 x (1P + auxiliary)	546257	10
	10mm <sup>2</sup>	8 x (1P + auxiliary)	546237	10
	10mm <sup>2</sup>	36 x (1P + auxiliary) or MCB's Hti - length 1m	546152	1/50
16mm <sup>2</sup>	36 x (1P + auxiliary) or MCB's Hti - length 1m	624994	1/50	
<b>2-phase</b>				
	10mm <sup>2</sup>	4x1P or 2x2P	546265	10
	10mm <sup>2</sup>	6x1P or 3x2P	546266	10
	10mm <sup>2</sup>	12x1P or 6x2P	546267	10
	10mm <sup>2</sup>	14x1P or 7x2P	544186	10
	10mm <sup>2</sup>	18x1P or 9x2P	624805	10
	16mm <sup>2</sup>	14x1P or 7x2P	618294	20
16mm <sup>2</sup>	56x1P or 28x2P - length 1m	546139	1/20	
<b>2-phase with 2P + auxiliary</b>				
	10mm <sup>2</sup>	3 x (2P + auxiliary)	546269	10
	10mm <sup>2</sup>	5 x (2P + auxiliary)	546270	10
	16mm <sup>2</sup>	22 x (2P + auxiliary) - length 1m	546126	1/20
<b>3-phase</b>				
	10mm <sup>2</sup>	6x1P or 3x2P or 2x3P	546277	10
	10mm <sup>2</sup>	9x1P or 4x2P or 3x3P	546308	10
	10mm <sup>2</sup>	12x1P or 4x3P or 3x4P	546278	10
	10mm <sup>2</sup>	15x1P or 5x3P	544180	10
	10mm <sup>2</sup>	18x1P or 6x3P	544181	10
	10mm <sup>2</sup>	21x1P or 7x3P	544182	10
	10mm <sup>2</sup>	24x1P or 12x2P or 8x3P	624839	20
	10mm <sup>2</sup>	57x1P or 28x2P or 19x3P - length 1m	546142	1/20
	16mm <sup>2</sup>	57x1P or 28x2P or 19x3P - length 1m	546143	1/20



**Insulated PIN type busbars (continued)**

	Section	Description	Ref. No.	Pack.
<b>3-phase for screwless MCB's Fixwell™</b>				
	10mm <sup>2</sup>	1xRCD + 6x1P or 3x2P	544183	10
	10mm <sup>2</sup>	1xRCD + 8x1P or 4x2P	544184	10
<b>3-phase with 2P + auxiliary</b>				
	10mm <sup>2</sup>	2 x (3P + auxiliary)	555434	10
	10mm <sup>2</sup>	4 x (3P + auxiliary)	555435	10
	10mm <sup>2</sup>	15 x (3P + auxiliary) - length 1m	544195	1/20
<b>3-phase with 1P + auxiliary</b>				
	10mm <sup>2</sup>	6 x (1P + auxiliary) or 6x 1P MCB's Hti or 3x2P MCB's Hti or 2x3P MCB's Hti	546396	10
	10mm <sup>2</sup>	(1) 8 x (1P + auxiliary) or 8 x 1P Hti MCB or 4 x 2P Hti MCB	544185	10
	10mm <sup>2</sup>	9 x (1P + auxiliary) or 3x3P MCB's Hti	546397	10
	10mm <sup>2</sup>	36 x (1P + auxiliary) or 18 x 2P Hti MCB or 12 x 3P Hti MCB - length 1m	546128	1/20
<b>4-phase 4P or 3P+N</b>				
	10mm <sup>2</sup>	2x4P or 2x3P+N	546282	5
	10mm <sup>2</sup>	3x4P or 3x3P+N	546283	5
	10mm <sup>2</sup>	4x4P or 4x3P+N	544187	5
	10mm <sup>2</sup>	14x4P or 14x3P+N - length 1m	624807	1/15
	16mm <sup>2</sup>	14x4P or 14x3P+N - length 1m	546130	1/15
<b>4-phase 1P+N or 2P</b>				
	10mm <sup>2</sup>	6x1P+N or 6x2P	546284	5
	10mm <sup>2</sup>	9x1P+N or 9x2P	546285	5
	10mm <sup>2</sup>	27x1P+N or 27x2P - length 1m	624995	1/15
	16mm <sup>2</sup>	27x1P+N or 27x2P - length 1m	624996	1/15
<b>1-phase 90° for compact MCB's Unibis™</b>				
	10mm <sup>2</sup>	13x1P - 90° - grey	646091	15
	10mm <sup>2</sup>	13x1P - 90° - blue	646092	15
<b>1-phase+N / 2P for compact MCB's Unibis™</b>				
	10mm <sup>2</sup>	18x1P+N / 2P	624796	20
	10mm <sup>2</sup>	55x1P+N / 2P - length 1m	624893	1/20
<b>3-phase for compact MCB's Unibis™</b>				
	10mm <sup>2</sup>	12x2P	624797	15
	10mm <sup>2</sup>	55x2P - length 1m	624798	1/15
<b>4-phase for compact MCB's Unibis™</b>				
	10mm <sup>2</sup>	55x3P or 4P - length 1m incl. 4 end caps and 4 connection clamps	624800	1/5
	10mm <sup>2</sup>	55x2P - length 1m	624892	1/10

**Insulated FORK type busbars**

Busbars

A

B

C

D

E

F

X

	Section	Description	Ref. No.	Pack.	
<b>1-phase</b>					
	10mm <sup>2</sup>	2x1P	546247	20	
	10mm <sup>2</sup>	3x1P	644873	20	
	10mm <sup>2</sup>	4x1P	546341	20	
	10mm <sup>2</sup>	5x1P	650164	20	
	10mm <sup>2</sup>	6x1P	546248	20	
	10mm <sup>2</sup>	12x1P	546249	20	
	10mm <sup>2</sup>	13x1P	650152	20	
	10mm <sup>2</sup>	57x1P - length 1m	546187	1/10	
	16mm <sup>2</sup>	57x1P - length 1m	544188	1/10	
	<b>1-phase 90°</b>				
	10mm <sup>2</sup>	2x1P - 90°	624975	20	
	10mm <sup>2</sup>	4x1P - 90°	624976	20	
	10mm <sup>2</sup>	5x1P - 90°	624977	20	
	10mm <sup>2</sup>	6x1P - 90°	624978	20	
	10mm <sup>2</sup>	7x1P - 90°	624979	20	
	10mm <sup>2</sup>	8x1P - 90°	624980	20	
	10mm <sup>2</sup>	9x1P - 90°	624981	20	
	10mm <sup>2</sup>	10x1P - 90°	624982	20	
	10mm <sup>2</sup>	11x1P - 90°	624983	20	
	10mm <sup>2</sup>	12x1P - 90°	624984	20	
	10mm <sup>2</sup>	13x1P - 90°	624985	20	
	10mm <sup>2</sup>	14x1P - 90°	624986	20	
	10mm <sup>2</sup>	15x1P - 90°	624987	20	
	10mm <sup>2</sup>	16x1P - 90°	624988	20	
	10mm <sup>2</sup>	17x1P - 90°	624989	20	
	10mm <sup>2</sup>	18x1P - 90°	624990	20	
	16mm <sup>2</sup>	57x1P - 90° - length 1m	644890	1/50	
	10mm <sup>2</sup>	2x1P - 90° for surge arresters SurgeGuard	624993	20	
	10mm <sup>2</sup>	3x1P - 90° for surge arresters SurgeGuard	644893	20	
10mm <sup>2</sup>	4x1P - 90° for surge arresters SurgeGuard	568106	20		
10mm <sup>2</sup>	8x1P - 90° for surge arresters SurgeGuard	644897	20		
<b>1-phase with 1P + auxiliary</b>					
	10mm <sup>2</sup>	2 x (1P + auxiliary)	546250	20	
	10mm <sup>2</sup>	3 x (1P + auxiliary)	644875	20	
	10mm <sup>2</sup>	4 x (1P + auxiliary)	644876	20	
	10mm <sup>2</sup>	5 x (1P + auxiliary)	644877	20	
	10mm <sup>2</sup>	6 x (1P + auxiliary)	546251	20	
	10mm <sup>2</sup>	8 x (1P + auxiliary)	546295	20	
	10mm <sup>2</sup>	9 x (1P + auxiliary)	546252	20	
	<b>1-phase with 1P + auxiliary 90°</b>				
	10mm <sup>2</sup>	2 x (1P + auxiliary) - 90°	544272	20	
	10mm <sup>2</sup>	7 x (1P + auxiliary) - 90°	544277	20	
	10mm <sup>2</sup>	13 x (1P + auxiliary) - 90°	544296	50	
	10mm <sup>2</sup>	14 x (1P + auxiliary) - 90°	644879	20	
	10mm <sup>2</sup>	15 x (1P + auxiliary) - 90°	644880	20	
	16mm <sup>2</sup>	15 x (1P + auxiliary) - 90°	544327	20	
	10mm <sup>2</sup>	37 x (1P + auxiliary) - 90° - length 1m	546197	1/50	
	16mm <sup>2</sup>	37 x (1P + auxiliary) - 90° - length 1m	544189	1/50	
	<b>2-phase</b>				
		10mm <sup>2</sup>	4x1P or 2x2P	546259	10
10mm <sup>2</sup>		6x1P or 3x2P	546260	10	
10mm <sup>2</sup>		10x1P or 5x2P	644881	10	
10mm <sup>2</sup>		12x1P or 6x2P	546261	10	
10mm <sup>2</sup>		14x1P or 7x2P	544178	10	
10mm <sup>2</sup>		18x1P or 9x2P	644882	10	
10mm <sup>2</sup>		56x1P or 28x2P - length 1m	544191	1/20	
16mm <sup>2</sup>		56x1P or 28x2P - length 1m	546227	1/20	



**Insulated FORK type busbars (continued)**

	Section	Description	Ref. No.	Pack.
<b>2-phase with 2P + auxiliary</b>				
	10mm <sup>2</sup>	2 x (2P + auxiliary)	546262	10
	10mm <sup>2</sup>	3 x (2P + auxiliary)	546263	10
	10mm <sup>2</sup>	4 x (2P + auxiliary)	544344	10
	10mm <sup>2</sup>	5 x (2P + auxiliary)	546264	10
	16mm <sup>2</sup>	22 x (2P + auxiliary) - length 1m	546125	1/20
<b>3-phase</b>				
	10mm <sup>2</sup>	6x1P or 3x2P or 2x3P	546271	10
	10mm <sup>2</sup>	7x1P	624957	10
	10mm <sup>2</sup>	9x1P or 3x3P	546296	10
	10mm <sup>2</sup>	12x1P or 6x2P or 4x3P	546272	10
	10mm <sup>2</sup>	13x1P	650153	10
	10mm <sup>2</sup>	14x1P or 7x2P	650154	10
	10mm <sup>2</sup>	15x1P or 5x3P	544172	10
	10mm <sup>2</sup>	18x1P or 9x2P or 6x3P	544173	10
	10mm <sup>2</sup>	21x1P or 7x3P	544174	10
	10mm <sup>2</sup>	24x1P or 12x2P or 8x3P	624958	20
	10mm <sup>2</sup>	57x1P or 28x2P or 19x3P - length 1m	546229	1/20
	16mm <sup>2</sup>	All forks on the lateral side of the busbar 57x1P or 19x3P - length 1m	546176	1/20
	16mm <sup>2</sup>	All forks in the middle of the busbar 57x1P or 28x2P or 19x3P - length 1m	546230	1/20
	<b>3-phase RCD's</b>			
	10mm <sup>2</sup>	1xRCD + 5x1P	555609	10
	10mm <sup>2</sup>	1xRCD + 6x1P or 3x2P or 2x3P	544175	10
	10mm <sup>2</sup>	1xRCD + 8x1P or 4x2P	544176	10
<b>3-phase with 3P + auxiliary</b>				
	10mm <sup>2</sup>	2 x (3P + auxiliary)	546273	10
	10mm <sup>2</sup>	3 x (3P + auxiliary)	644884	10
	10mm <sup>2</sup>	4 x (3P + auxiliary)	546274	10
	10mm <sup>2</sup>	5 x (3P + auxiliary)	644885	10
	10mm <sup>2</sup>	6 x (3P + auxiliary)	644886	10
	16mm <sup>2</sup>	15 x (3P + auxiliary) - length 1m	546129	1/20
<b>3-phase with 1P + auxiliary</b>				
	10mm <sup>2</sup>	6 x (1P + auxiliary) or 6x MCB's Hti	546275	10
	10mm <sup>2</sup>	8 x (1P + auxiliary) or 8x MCB's Hti	544177	10
	10mm <sup>2</sup>	9 x (1P + auxiliary) or 9x MCB's Hti	546276	10
	16mm <sup>2</sup>	36 x (1P + auxiliary) - length 1m	546127	1/20
<b>4-phase 4P or 3P+N</b>				
	10mm <sup>2</sup>	2x4P or 2x3P+N	546279	5
	10mm <sup>2</sup>	3x4P or 3x3P+N	546280	5
	10mm <sup>2</sup>	4x4P or 4x3P+N	544179	5
	10mm <sup>2</sup>	14x4P or 14x3P+N - length 1m	618293	1/15
	16mm <sup>2</sup>	14x4P or 14x3P+N - length 1m	546234	1/15

**Insulated FORK type busbars (continued)**

	Section	Description	Ref. No.	Pack.
<b>4-phase 1P+N or 2P</b>				
	10mm <sup>2</sup>	6x1P+N or 6x2P	546398	5
	10mm <sup>2</sup>	9x1P+N or 9x2P	546281	5
	10mm <sup>2</sup>	2xAdd on 32A +4P	546228	5
	10mm <sup>2</sup> 16mm <sup>2</sup>	27x1P+N or 27x2P - length 1m 27x1P+N or 27x2P - length 1m	624799 544192	1/15 1/15

<b>4-phase with 4P + auxiliary</b>				
	10mm <sup>2</sup>	2 x (4P + auxiliary) or 2 x (3P+N + auxiliary)	646084	5
	16mm <sup>2</sup>	12 x (4P + auxiliary) or 12 x (3P+N + auxiliary) - length 1m	646083	1/15

<b>Busbars for connection of auxiliaries</b>				
	<b>For auxiliary function added on 1P MCB</b>			
		27mm / 8P	546244	10
		27mm / 4P	544346	10
	<b>For auxiliary function added on 2P MCB</b>			
		45mm / 5P	546245	10
		45mm / 4P	544347	10
<b>For auxiliary function added on 3P MCB</b>				
	63mm / 4P	546246	10	

**Accessories**

	<b>End caps</b>			
	10mm <sup>2</sup> /16mm <sup>2</sup>	for 1P busbars	644891	50
	10 mm <sup>2</sup>	for 2P busbars	546181	10
	10 mm <sup>2</sup>	for 3P busbars	546200	10
	16 mm <sup>2</sup>	for 2P and 3P busbars	546184	10
	10 and 16 mm <sup>2</sup>	for 4P busbars	629867	10
	<b>Connection clamps</b>			
	25mm <sup>2</sup>	fork	546287	30
	25mm <sup>2</sup>	pin	546288	30
	25mm <sup>2</sup>	pin long	546289	50
	35mm <sup>2</sup>	for fork and pin direct on busbar	546290	10
	25mm <sup>2</sup>	4P compact MCB's Unibis™	624795	30
	<b>Insulation cap</b>			
		Pin/fork - Yellow (RAL 1004)	546291	10
<b>Insulation strip</b>				
	For fork and pin - length 1m	624992	10	
<b>Clamps for neutral conductor</b>				
16mm <sup>2</sup>	7 poles	546297	10	
16mm <sup>2</sup>	12 poles	546298	10	
16mm <sup>2</sup>	12 poles, insulated	568083	10	
16mm <sup>2</sup>	15 poles	546299	10	
<b>Clamps for phase conductors</b>				
16mm <sup>2</sup>	7 poles	546300	10	
16mm <sup>2</sup>	12 poles	546301	10	
16mm <sup>2</sup>	12 poles, insulated	568084	10	
16mm <sup>2</sup>	15 poles	546302	10	
<b>DIN-rail (EN 50022)</b>				
	Length 1000mm - Height 7mm	564092	10	

## Metal enclosures

- F.2 Surface mounting - **Fix-o-Rail Metal Design**
- F.3 Surface mounting - **Fix-o-Rail Metal Standard**
- F.3 Surface mounting - **Fix-o-Rail 150 M**
- F.4 Surface mounting - **Modular 200 - Type A**
- F.6 Surface mounting - **Modular 200 - Type B**
- F.10 Surface mounting - **Fix-o-Rail Senior**
- F.12 Surface & flush mounting - **Fix-o-Rail 144**

## Insulated plastic enclosures

- F.16 Surface mounting - **Fix-o-Rail Covers**
- F.18 Surface mounting - **Fix-o-Rail Classic**
- F.22 Surface mounting - **Fix-o-Rail Junior**
- F.24 Surface mounting - **Consumer unit**
- F.30 Surface mounting - **Abaco S**
- F.32 Surface mounting - **Fix-o-Rail 150**
- F.36 Surface mounting - **Fix-o-Rail 55**
- F.38 Surface mounting - **Europe Line**
- F.40 Flush mounting - **Abaco F**
- F.42 Flush mounting - **Fix-o-Rail 150-F4**
- F.44 Junction boxes - **Flex-o-Box**
- F.46 Junction boxes - **Series 55**
- F.49 Dimensional drawings

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A

People Protection

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Comfort Functions

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Busbars

E

**Enclosures**

**F**

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## Surface mounting

### Fix-o-Rail Metal Design



### Fix-o-Rail Metal Standard - Fix-o-Rail 150 M

#### Common features

- For surface mounting
- Suitable for DIN-rail mounting devices up to 70 mm as MCB's, RCCB's, relays, switches, timers, contactors, etc.
- Manufactured from panel flat quality mild steel, cold reduced CR4 from 1.0 mm
- Pre-treated prior to powder coating, fully immersed in iron phosphate solution
- Electrostatic powder coating on a continuous line base colour RAL 7035
- Slotted fixing holes on the base permit all adjustment
- Earth and neutral fitted to the base, each terminal being able to accept a 16 mm<sup>2</sup> stranded round conductor
- With DIN-rails
- Earth and neutral terminals standard
- Distance between two DIN-rails: 150 mm
- Generous wiring room
- With plain grey or transparent door
- Door opens 180°

#### Applications

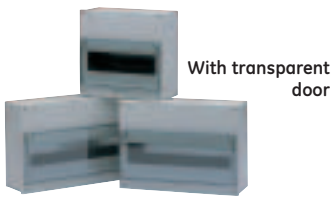


#### Marking



**Fix-o-Rail Metal Design**

**IP40**



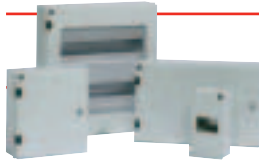
H x W x D (mm)	Equipment	Number of modules	Ref. No.	Pack.
208 x 220 x 108	Earth bar: connection 8 x 16 mm <sup>2</sup> Neutral bar: connection 8 x 16 mm <sup>2</sup>	10	618442	1
208 x 292 x 108	Earth bar: connection 12 x 16 mm <sup>2</sup> Neutral bar: connection 12 x 16 mm <sup>2</sup>	14	618443	1
208 x 370 x 108	Earth bar: connection 16 x 16 mm <sup>2</sup> Neutral bar: connection 16 x 16 mm <sup>2</sup>	18	618444	1

Knockouts

Side (mm)	Top and bottom (mm)	Rear (mm)	Number of modules
1x32	4x20 and 2x25	2x42	10
1x32	6x20 and 2x25	2x42	14
1x32	9x20 and 2x25	2x42	18

**Fix-o-Rail Metal Standard**

**IP30**



4 modules without door with plain grey door

H x W x D (mm)	Equipment	Number of modules	Ref. No.	Pack.
208 x 112 x 85	Earth bar: connection 3 x 16 mm <sup>2</sup>	4	618910	1
208 x 112 x 110	Earth bar: connection 3 x 16 mm <sup>2</sup>	4	618911	1

8 modules with plain grey door

208 x 112 x 110	Earth bar: connection 8 x 16 mm <sup>2</sup> Neutral bar: connection 8 x 16 mm <sup>2</sup>	8	618923	1
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12 modules with plain grey door with transparent door

270 x 322 x 110	Earth bar: connection 12 x 16 mm <sup>2</sup> Neutral bar: connection 12 x 16 mm <sup>2</sup>	12	618929	1
270 x 322 x 110	Earth bar: connection 12 x 16 mm <sup>2</sup> Neutral bar: connection 12 x 16 mm <sup>2</sup>	12	618930	1

24 modules with plain grey door with transparent door

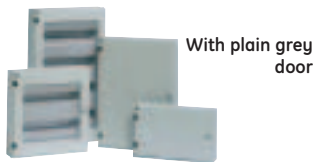
450 x 322 x 110	Earth bar: connection 16 x 16 mm <sup>2</sup> Neutral bar: connection 2(12 x 16 mm <sup>2</sup> )	24	618969	1
450 x 322 x 110	Earth bar: connection 16 x 16 mm <sup>2</sup> Neutral bar: connection 2(12 x 16 mm <sup>2</sup> )	24	618970	1

Knockouts

Top and bottom (mm)	Rear (mm)	Number of modules
1x25	2x25	4
2x25 and 4x20	2x42	8
2x25 and 6x20	4x42	12
2x20 and 2x25	6x42	24

**Fix-o-Rail 150 M**

**IP40**



With plain grey door

H x W x D (mm)	Equipment	Number of modules	Ref. No.	Pack.
270 x 430 x 110	Earth bar: connection 16 x 16 mm <sup>2</sup> Neutral bar: connection 16 x 16 mm <sup>2</sup>	18	618938	1
450 x 430 x 110	Earth bar: connection 2(16 x 16 mm <sup>2</sup> ) Neutral bar: connection 2(16 x 16 mm <sup>2</sup> )	36	618941	1
600 x 430 x 110	Earth bar: connection 3(16 x 16 mm <sup>2</sup> ) Neutral bar: connection 3(16 x 16 mm <sup>2</sup> )	54	618944	1
750 x 430 x 110	Earth bar: connection 4(16 x 16 mm <sup>2</sup> ) Neutral bar: connection 4(16 x 16 mm <sup>2</sup> )	72	618947	1

With transparent door

270 x 430 x 110	Earth bar: connection 16 x 16 mm <sup>2</sup> Neutral bar: connection 16 x 16 mm <sup>2</sup>	18	618939	1
450 x 430 x 110	Earth bar: connection 2(16 x 16 mm <sup>2</sup> ) Neutral bar: connection 2(16 x 16 mm <sup>2</sup> )	36	618942	1
600 x 430 x 110	Earth bar: connection 3(16 x 16 mm <sup>2</sup> ) Neutral bar: connection 3(16 x 16 mm <sup>2</sup> )	54	618945	1
750 x 430 x 110	Earth bar: connection 4(16 x 16 mm <sup>2</sup> ) Neutral bar: connection 4(16 x 16 mm <sup>2</sup> )	72	618948	1

Knockouts

Top and bottom (mm)	Rear (mm)	Number of modules
2x25 and 9x20	4x42	18
2x25 and 9x20	6x42	36
2x25 and 9x20	8x42	54
2x25 and 9x20	10x42	72



A

B

C

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X



## Metal enclosures surface mounting MCB distribution board

### Modular 200 - Type A

IP40

#### Applications



#### Marking



Total safety



Complete



Time saving features



High quality



Great design

#### Performance

<b>Incomer ratings</b>	(A) 100 (main switch) 80 (RCD)
<b>RCD sensitivity</b>	(mA) 30
<b>Rated voltage</b>	(V) 240
<b>Busbar rating</b>	(A) 100
<b>Busbar short-circuit capacity</b>	(kA) 16
<b>Terminal capacity</b>	(mm <sup>2</sup> ) 50 (main switch/RCD) (mm <sup>2</sup> ) 25 (E+N terminal bars)
<b>Enclosure colour</b>	Light grey (RAL7035)
<b>Ingress protection</b>	IP40

#### Features

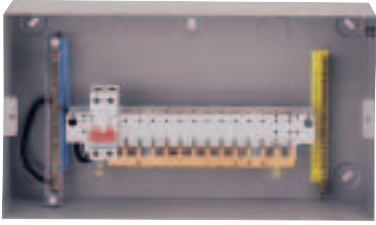
- In accordance with BS5486 and BS EN 60439-3
- Sturdy folded sheet steel construction
- Durable structured powder coated finish
- Matching light grey used throughout range
- Phase busbar rating 120A
- Incoming device cable terminal capacity 50mm<sup>2</sup>
- Terminal bar cable capacity 25mm<sup>2</sup>
- Shrouded neutral terminal bar
- Generous wiring room even using 1 module RCBO
- Comprehensive range of incomers
- Pre assembled ready to accept MCBs and RCBOs
- DIN enclosure option so you can "design it yourself"

Dimensions ● pg. F.57

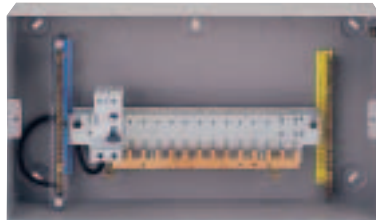


**Modular 200 - Type A - MCB Distribution Board**

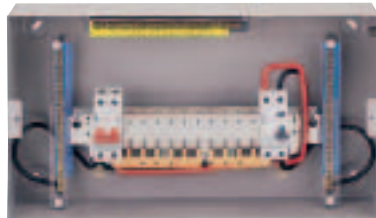
	No of outgoing ways	H x W x D (mm) (code)	Terminal Capacity	Ref. No.	Pack.
<b>Main Switch – 2P 100A</b>	6	270x368x127 (A)	50mm <sup>2</sup>	<b>617971</b>	1
	9	270x412x127 (B)	50mm <sup>2</sup>	<b>617972</b>	1
	13	270x484x127 (C)	50mm <sup>2</sup>	<b>617973</b>	1
<b>RCD – 2P 80A 30mA</b>	6	270x368x127 (A)	50mm <sup>2</sup>	<b>619974</b>	1
	9	270x412x127 (B)	50mm <sup>2</sup>	<b>619975</b>	1
	13	270x484x127 (C)	50mm <sup>2</sup>	<b>619976</b>	1
<b>Split Load – 2P 100A Main Switch, 2P 80A 30mA RCD</b>	10	270x412x127 (B)	50mm <sup>2</sup>	<b>619977</b>	1
	14	270x484x127 (C)	50mm <sup>2</sup>	<b>619979</b>	1
<b>DIN Enclosure</b>	10	270x368x127 (A)	-	<b>617957</b>	1
	14	270x412x127 (B)	-	<b>617958</b>	1
	18	270x484x127 (C)	-	<b>617959</b>	1



e.g. 617973



e.g. 619976



e.g. 619979



**Accessories**

	Clean earth kit	
	617960	1

Modular 200 - Type A

A

B

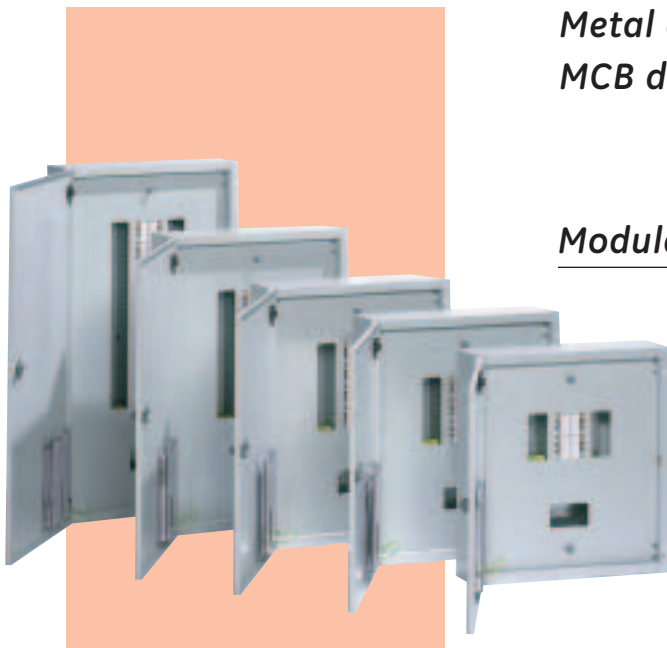
C

D

E

F

X



## Metal enclosures surface mounting MCB distribution board

**Modular 200 - Type B**

**IP40**

### Applications



### Marking



Total safety



Complete



Time saving features



High quality



Great design

### Performance

Busbar rating	(A)	200
Busbar short circuit capacity	(kA)	16
Rated voltage	(V)	415
Earth+Neutral out terminal capacity	(mm <sup>2</sup> )	25
Earth+Neutral incoming cable capacity	(mm <sup>2</sup> )	70
No of 3 Pole ways		4, 6, 8, 12, 18, 24
Ingress protection		IP40
Enclosure colour		RAL 7035

### Features

- In accordance with BS5486 and BS EN 60439-3
- Durable powder coated finish
- Matching light grey throughout the range
- All incomers benefit from positive contact indication
- Modular extension boxes to install modular control devices
- Pan assembly can be easily removed to ease installation
- One piece (no welds or rivets) phase busbar - NO hot spots!
- Ample space behind pan assembly aids wiring installation
- Split terminal bars to reduce wiring installation time
- Neutral disconnect as standard to aid speedy testing
- Doors can be removed to ease installation
- Sturdy folded sheet steel construction
- Accepts 6kA, 10kA and 15kA MCB's
- Generous wiring room even when using 1 module RCBO
- Clean earth facility available on request
- Reversible doors (left or right mounting)
- Door can be equipped with a security lock
- Documentholder included
- Door on all units with bounding conductors

Dimensions ● pg. F.57



## Components

### Type B distribution boards

Extension box can be added to install control devices and is applied with cross-bar support.

Clean earth facility can be site installed using the knockouts provided for computer installations.

Pan assembly is raised with ample space behind to facilitate wiring.

Compatibility with standard 6 kA, 10 kA and 15 kA MCB's. Pan assembly can be easily removed to reduce installation time.

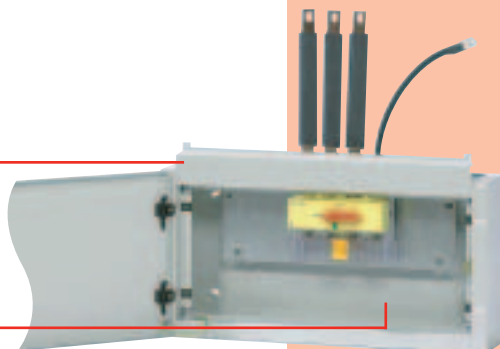
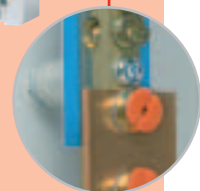
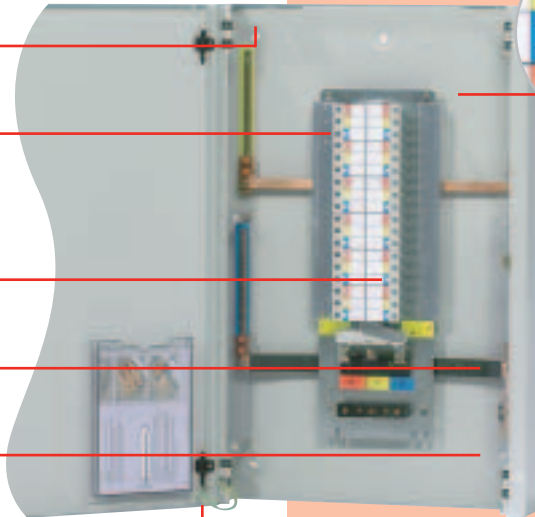
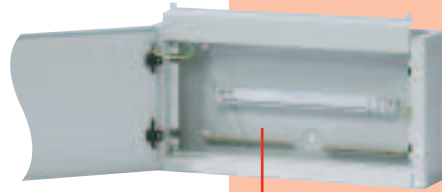
Shrouded neutral bar(s) for increased safety.

Quick neutral disconnect facility as standard aids speedy testing.

Unique hinges allow door(s) to be opened to 180° within board width, permitting boards to be fitted directly adjacent.

Cross bar supports are supplied with add-on incomers. Full fitting instructions and top plate are supplied with the main board.

Comprehensive range of incomers up to 200A - all with positive contact indication.



A

B

C

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X

### Modular 200 - Type B - Distribution boards (pan assembly included)



No of 3P ways	Busbar rating	Terminals included 25mm <sup>2</sup>		Ref. No.	Pack.	H x W x D (mm) (code)
		Neutral	Earth			
4	200A	18	18	619100	1	534x135x500 (A)
6	200A	18	18	619101	1	588x135x500 (B)
8	200A	27	27	619102	1	642x135x500 (C)
12	200A	36	36	619103	1	750x135x500 (D)
18	200A	54	54	619104	1	912x135x500 (E)
24	200A	72	72	619122	1	1136x135x500 (F)

### Accessories



**Integral incomer kits**  
 Suitable for internal fitting in all type B MCB distribution boards

- Switch disconnectors acc. BS EN 60947-3
- RCCB acc. BS 4293 and BS EN 61008
- All incomer kits complete with copper links and shroud as appropriate.



**Switch disconnectors**

100A - 3P	619111	1
Terminal capacity: 50mm <sup>2</sup>		
125A - 3P	619114	1
Terminal capacity: 50mm <sup>2</sup>		
125A - 4P	619124	1
Terminal capacity: 50mm <sup>2</sup>		



**RCD Main switch**

100A - 4P - 30mA RCD	619119	1
Terminal capacity: 50mm <sup>2</sup>		
100A - 4P - 100mA RCD	619112	1
Terminal capacity: 50mm <sup>2</sup>		
100A - 4P - 300mA RCD	619113	1
Terminal capacity: 50mm <sup>2</sup>		
100A - 4P - 100mA time delayed RCD	619120	1
Terminal capacity: 50mm <sup>2</sup>		



**MCB Main switch**

63A - 3P	619605	1
Terminal capacity: 35mm <sup>2</sup>		
100A - 3P	619606	1
Terminal capacity: 70mm <sup>2</sup>		



**Direct connection kit**

200A - 3P	619115	1
Terminal capacity: 95mm <sup>2</sup>		

**Single phase conversion kit**

100A - 1P+N	618300	1
Terminal capacity: 50mm <sup>2</sup>		



**Add-on incomer extension kits**

Suitable for add-on extension of all type B MCB distribution boards

- Add-on extension module housing incoming device to permit full current carrying capacity (200A) of all type B MCB distribution boards.
- All incomer modules are supplied complete as enclosure, incoming device, solid copper links and shroud.
- Terminal capacity:- standard palm: 70 mm<sup>2</sup>  
 - narrow palm: 150 mm<sup>2</sup>

**Switch disconnector Dilos**

200A - 4P - 250x135x500 mm (G)	619110	1
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**MCCB non auto Record Plus**

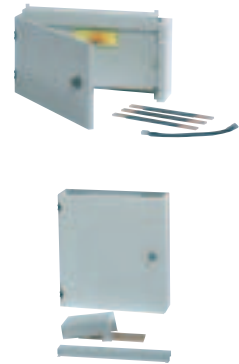
200A - 3P - 500x135x500 mm (H)	619107	1
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**TP automatic MCCB Record Plus**

200A - 3P - 500x135x500 mm (H)	619109	1
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**TP MCCB with RCD Record Plus**

200A - 3P - 500x135x500 mm (H)	619108	1
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**Add-on extension modules**

- All equipment extension modules supplied with coupling cross-bar support.
- Modular devices extension modules suitable for all modular DIN-rail.
- Modular devices extension module complete with earth and neutral bars (enables module to be used as single phase board).
- Spreader box extension module designed for extra space where larger incoming cables are used.

**18 module modular devices**

Dimension code G	619105	1
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**Modular spreader box**

Dimension code G	619106	1
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**Heavy duty gland plate 2mm thick**

	619116	1
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Accessories Modular 200 (continued)

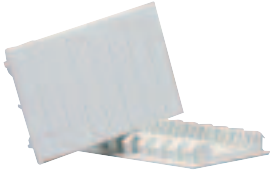


<b>Busbar shroud</b>		
	<b>619018</b>	<b>10</b>

3 module busbar shroud for unused ways preformed in 1 module widths.

<b>Security lock</b>		
	<b>674164</b>	<b>1</b>

Ronis security door lock supplied with two keys



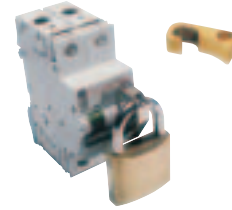
<b>Blank plate</b>		
	<b>610142</b>	<b>4</b>

	<b>610484</b>	<b>500</b>
--	---------------	------------

length: 72 mm  
cut out width : 45 mm  
can be cut into 9 mm lenght  
RAL 7035

<b>Safety</b>		
	<b>624929</b>	<b>2</b>

MCB padlocking bracket (padlocks not supplied)



<b>Clean earth facility</b>		
	<b>619118</b>	<b>1</b>

can be fitted for increased flexibility

A

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C

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X




## Metal enclosures Surface mounting

### Fix-o-Rail Senior

IP41

#### Features

- **Secure: total insulation**  **Double wall: a steel outer wall plus an inner insulated extruded wall**
- Protection degree: IP41-IK08
- Universal: for DIN-rail equipment up to 92.5 mm
- Installation friendly: ample wiring room and a removable mounting frame
- Flexible cable entries, integrated in the base

#### Components

The Fix-o-Rail Senior enclosure includes:

- base in RAL 9002
- mounting frame
- labels for circuit indication
- coverplates
- a transparent or grey door in RAL 9002
- closed by handle without lock
- padlocking option



#### Applications



As an elegant insulated enclosure in:

- restaurants and hotels
- workshops
- hospitals
- shopping centers
- offices
- commercial buildings
- leisure and sport locations

#### Approvals / Marking



#### Fix-o-Rail Senior

	H x W x D (mm)	Number of modules	Number of rows	Ref. No.	Pack.
Plain door	650 x 300 x 210	48	4	610239	1
	800 x 300 x 210	60	5	610248	1
	650 x 550 x 210	96	4	610240	1
	800 x 550 x 210	120	5	610249	1
	950 x 550 x 210	144	6	610257	1
<b>New</b>	1100 x 550 x 210	168	7	610241	1
	1250 x 550 x 210	192	8	610242	1
	1100 x 800 x 210	252	7	610243	1
	1250 x 800 x 210	288	8	610244	1
Transparent door	650 x 300 x 210	48	4	610328	1
	800 x 300 x 210	60	5	610330	1
	650 x 550 x 210	96	4	610329	1
	800 x 550 x 210	120	5	610331	1
	950 x 550 x 210	144	6	610332	1

Dimensions ● pg F.54

## Accessories



<b>4 pole terminals</b>		
610022	18	
63A		
Connection range 4 x (10 x 16 mm <sup>2</sup> )		
Cu section 6,5 x 9 mm		



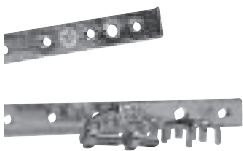
617992	5	
160 A		
with cover		
4x (1 x 10 to 50 mm <sup>2</sup> incoming		
+ 3 x 6 to 35 mm <sup>2</sup> + 8 x 2.5 to 16 mm <sup>2</sup>		
outgoing)		
Cu section 12 x 10 mm		



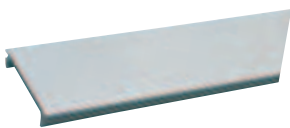
610020	1	
160A		
connection range 4 x (10 x 10mm <sup>2</sup> )		
Cu section 12 x 5 mm		



<b>Protective shroud</b>		
610021	1	
For 160A terminal (ref. 610020)		

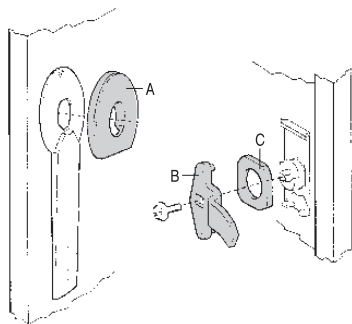


<b>Earth bar</b>		
828152	1	
For enclosure width 300 mm - length 190mm		
828153	1	
For enclosure width 550 mm - length 437mm		
828149	1	
For enclosure width 800 mm - length 684mm		

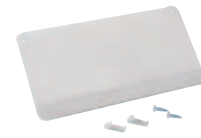


<b>Cover strip</b>		
828056	1	
For cut out of 45 mm		

Adaptor kit = A + B + C



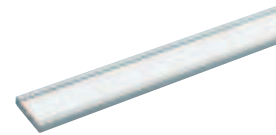
<b>Standard plates</b>		
815094	1	



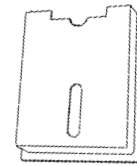
<b>Pre-drilled plates</b>		
815093	5	
17 x PG13.5		
815092	5	
1 x PG21 - PG48 / 2 x PG13.5		
2 x PG29 / 4 x PG13.5		



<b>Label for circuit indication</b>		
610232	10	
For enclosure width 300 mm		
610233	10	
For enclosure width 550 mm		
610238	10	
For enclosure width 800 mm		



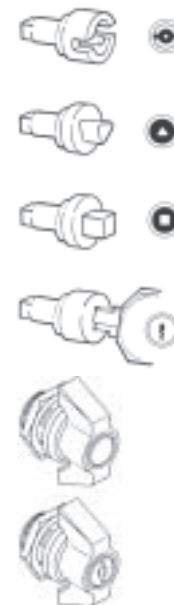
<b>Pocket for drawings</b>		
832000	1	
Self adhesive		
To be fitted on the innerside of the door		
W x H = 155 x 225		



<b>Non standard lock</b>		
487/089000-016	815105	1
Adaptor kit		
+		
451/070152-061	811327	1
Insert 3 mm double bit key		

The standard handle can be replaced by adaptor kit + insert or handle

451/070152-051	811326	1
Insert 8 mm triangle key		
451/070152-041	811325	1
Insert 8 mm square key		
451/070158-011	811331	1
Cylinder with 2 keys V2432-E		
485/087000-014	813146	1
Neutral handle		
485/087000-023	813156	1
Handle with key V2432-E		



Fix-o-Rail Senior

A

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C

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## Metal enclosures

### Fix-o-Rail 144 F (flush mounting)

### Fix-o-Rail 144 S (surface mounting)

IP40

## Features

- In accordance with EN60439-1 and EN/IEC 439-1
- Protection degree: IP40 – IK07 without door  
IP40 – IK08 with plain door  
IP40 – IK07 with transparent door
- Each DIN-rail can be equipped with 24 modules
- Centre distance between two DIN-rails: 150 mm
- Flush mounting depth: 105 mm
- Can be equipped with the Record Plus 160A D-frame
- Colour: RAL 7035

### Electrical properties

- Designated voltage: 415Vac
- Designated current: 160A

### Masking frame and door

- Ridged masking frame
- Manufactured in quality mild steel of 1 mm thick, cold reduced
- Pre-treated prior to electrostatic powder coating in RAL 7035 (light grey)
- Transparent or plain door

### Protection plate

- Made from PVC
- Easy fixations with 1/4 screws

### Base

- Ridged base (mono-block)
- Manufactured in sendzimir zinc plated steel of 1 mm thick (F.O.R 144F)
- Sidewalls foreseen with position lugs (F.O.R 144F)
- Pre-treated prior to electrostatic powder coating in RAL 7035, light grey (F.O.R 144S)
- Knock-outs in the upper, lower and the bottom side of the base
- Fixing points for the fixation of cables with cable ties

### Mounting frame

- Ridged and removable mounting frame
- Adjustable in depth (+/-20mm) (F.O.R 144F)
- Adjustable left or right (+/-10mm) (F.O.R 144F)
- Distance between two DIN-rails: 150 mm

### Door

- Transparent or plain door, security lock included

### Earth bar (L = 380 mm)

- Copper bar, 12x5 mm, 18 x M5 threaded holes + connectors and screws

## Advantages

- Suitable for DIN-rail mounting devices up to 70 mm as MCB's, RCD's, relays, ...
- Door, transparent or plain easy to install (optional)
- Generous wiring room
- Easy to install
- Earth terminal can be installed on the upper and the lower side of the base
- Removable mounting frame
- Easy removable protection plates
- Electrostatic powder coating RAL 7035
- Flush mounting depth base 105 mm
- Can be equipped with wiring trunks (W x H): 15x40 mm, 25x40 mm, 40x40 mm, 60x40 mm

## Components

### The enclosure packaging includes:

- Base
- Mounting frame
- Earth terminal
- Protection plate
- Masking frame
- User instructions

### The door packaging includes:

- Plain or transparent door
- Security lock
- Hinges
- Earth continuity set
- User instructions





## Fix-o-Rail 144-F - Flush mounting enclosures without door <sup>(1)</sup>

Included ref. 617965 = an earth terminal: copper bar 12 x 5 mm, 18 threaded holes M 5, connectors and screws

H x W x D (mm)	Number of modules	Number of rows	Power dissipation (W)		Ref. No.	Pack.
			Without door	With door		
650 x 740 x 140 <sup>(1)</sup> 560 x 610 x 105 <sup>(2)</sup>	72	3	140	83	617934	1
800 x 740 x 140 <sup>(1)</sup> 710 x 610 x 105 <sup>(2)</sup>	96	4	152	95	617935	1
950 x 740 x 140 <sup>(1)</sup> 860 x 610 x 105 <sup>(2)</sup>	120	5	164	110	617936	1
1100 x 740 x 140 <sup>(1)</sup> 1010 x 610 x 105 <sup>(2)</sup>	144	6	176	116	617937	1
1100 x 740 x 140 <sup>(1)</sup> 1010 x 610 x 105 <sup>(2)</sup>	120	5	176	116	617938	1

Equipped with function for Record Plus 160A D-frame

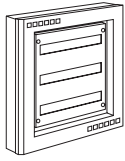
## Transparent and plain doors

For enclosure	Number of modules	Number of rows	Transparent door	Plain door	Pack.
			Ref. No.	Ref. No.	
	72	3	617939	617943	1
	96	4	617940	617944	1
	120	5	617941	617945	1
	144	6	617942	617946	1
	120	5	617942	617946	1

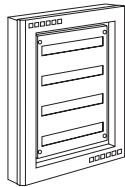
(1) External dimensions  
(2) Internal dimensions

## Fix-o-Rail 144-S - Surface mounting enclosures without door

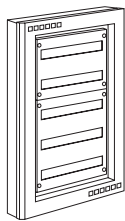
Included ref. 617965 = an earth terminal: copper bar 12 x 5 mm, 18 threaded holes M 5, connectors and screws



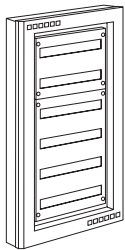
Dimensions H x W x D (mm)	Number of modules	Number of rows	Power dissipation (W)		Ref. No.	Pack.
			Without door	With door		
650 x 740 x 140	72	3	160	88	617966	1



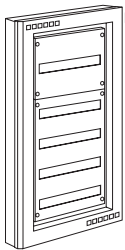
800 x 740 x 140	96	4	175	100	617967	1
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950 x 740 x 140	120	5	187	115	617968	1
-----------------	-----	---	-----	-----	--------	---



1100 x 740 x 140	144	6	195	125	617969	1
------------------	-----	---	-----	-----	--------	---



Equipped with function for Record Plus 160A D-frame

1100 x 740 x 140	120	5	195	125	617970	1
------------------	-----	---	-----	-----	--------	---

## Transparent and plain doors



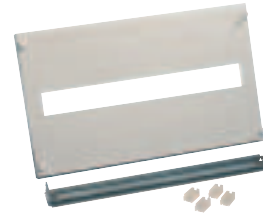
For enclosure	Number of modules	Number of rows	Transparent door	Plain door	Pack.
			Ref. No.	Ref. No.	
617966	72	3	617939	617943	1
617967	96	4	617940	617944	1
617968	120	5	617941	617945	1
617969	144	6	617942	617946	1
617970	120	5	617942	617946	1

## Accessories



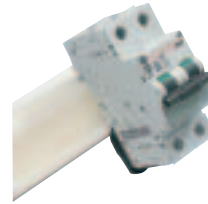
<b>4 pole terminals</b>		
	<b>617992</b>	<b>5</b>
160 A with cover 4x (1 x 10 to 50 mm <sup>2</sup> incoming + 3 x 6 to 35 mm <sup>2</sup> + 8 x 2.5 to 16 mm <sup>2</sup> outgoing) Cu section 12 x 10 mm		

<b>Function for Record Plus 125A</b>		
<b>D-frame</b>		
Fix-o-Rail 144 F/S	<b>617018</b>	<b>1</b>
VP-System	<b>617964</b>	<b>1</b>
height = 300 mm		



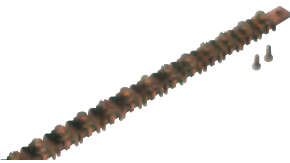
	<b>610020</b>	<b>1</b>
160A connection range 4 x (10 x 10mm <sup>2</sup> ) Cu section 12 x 5 mm		

<b>Depth adapter &amp; support</b>		
	<b>617947</b>	<b>1</b>
PVC profile : lenght 355 mm used with the function 617964		



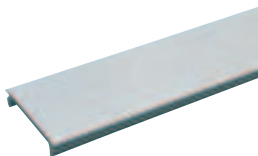
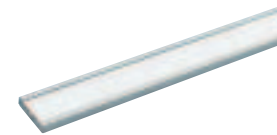
<b>Protective shroud</b>		
	<b>610021</b>	<b>1</b>
For 160A terminal (ref. 610020)		

<b>Security lock</b>		
	<b>617948</b>	<b>1</b>
With two keys		



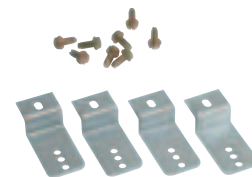
<b>Earth terminal kit</b>		
	<b>617965</b>	<b>1</b>
Cu bar 12x5, 18 threaded holes M5, L=380 mm, with connectors and screws Can be installed in the upper and lower side of the base		

<b>Label for circuit indication</b>		
	<b>610233</b>	<b>10</b>
For enclosure width 550 mm		



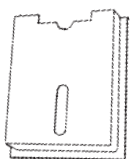
<b>Cover strip</b>		
	<b>828056</b>	<b>1</b>
For cut out of 45 mm		

<b>Support for wiring-trunking</b>		
	<b>617949</b>	<b>1</b>



<b>Blank plate</b>		
	<b>610142</b>	<b>4</b>
	<b>610484</b>	<b>500</b>
Length: 72 mm Cut-out width: 45 mm Can be cut into 9 mm lengths RAL 7035		

<b>Wiring supports</b>		
	<b>828145</b>	<b>1</b>
Cable-tray support (20 pieces)		
	<b>828146</b>	<b>1</b>
Cable-tray (10 pieces)		



<b>Pocket for drawings</b>		
	<b>832000</b>	<b>1</b>
Self adhesive - format A4 To be fitted on the innerside of the door W x H = 155 x 225		







## Insulated enclosures Surface mounting

### Fix-o-Rail Covers

IP30

#### Applications



#### Marking



#### Features

##### Made from high resistance ABS

- Protection degree: IP30
- Flame resistance: self extinguishing material, resist the 960°C
- Colour: Grey RAL 7035
- Installation temperature: -15°C up to +60°C

##### Made from high resistance PS

- Protection degree: IP30
- Flame resistance: self extinguishing material, resist the 650°C
- Colour: Grey RAL 9003
- Installation temperature: -15°C up to +60°C



## Fix-o-Rail Covers in ABS (without door)



H x W x D (mm)	No. of modules	No. of rows	Ref. No.	Pack.
139 x 51 x 61	2	1	610090	50
139 x 88 x 61	4	1	610091	60
140 x 165 x 72	6	1	610354	28
198 x 200 x 72	8	1	610355	18

## Fix-o-Rail Covers in PS (without door)



H x W x D (mm)	No. of modules	No. of rows	Ref. No.	Pack.
139 x 51 x 61	2	1	600579	50
139 x 88 x 61	4	1	600580	60
140 x 165 x 72	6	1	600581	28
198 x 200 x 72	8	1	600582	18

A

B

C

D

E

**F**

X



## Insulated enclosures Surface mounting

### Fix-o-Rail Classic

IP30 / IP40

### Applications



Fix-o-Rail Classic and the accessories are a homogeneous system for power distribution in new homes, adding add-on devices and replacing old units.

### Approvals / Marking



### Standards

BS EN 60439-3

### Features

- Protection degree: IP30
- IP40 with door (optional)
- Colour: RAL 9010
- 13, 26, 39 and 52 modules
- Total insulation  $\square$  (with backplate and door)
- Transparent or plain door
- Surface mounting
- Adjustable DIN-rail
- ABS for the covers
- Polycarbonate for the transparent doors
- Flame resistance: self extinguishing material, resist the glowwire 650°C

### Components

#### The Fix-o-Rail Classic A packaging includes:

- A mounting frame
- A protective cover
- A backplate
- A support with earth and neutral terminals
- A modular blank plate
- Four insulating caps
- Labels for circuit identification
- Installation guidelines

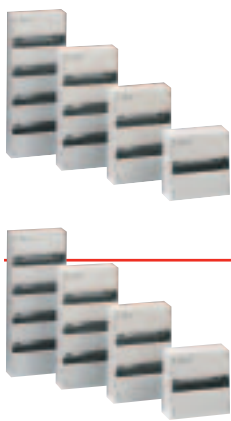
#### The Fix-o-Rail Classic B packaging includes:

- A mounting frame
- A protective cover
- Labels for circuit identification
- Installation guidelines

### Advantages

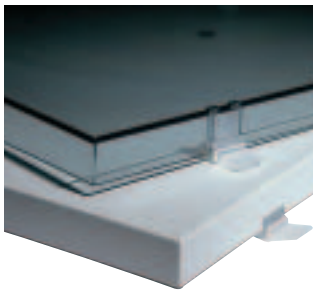
- Two DIN-rail positions: 47 and 55 mm
- Generous wiring room 30 mm behind the mounting frame
- 13 modules on each row
- 125 mm distance between two DIN-rails
- Self positioning protective cover, fixation with four captive quarter-turn screws
- Door can be opened to the left or the right and hinges over 180°
- The Classic range can be coupled

## Fix-o-Rail Classic



Classic A	H x W x D (mm)	Equipment	Number of rows	Number of modules	Ref. No.	Pack.
	250 x 250 x 94	Earth bar: connection 8 x 16 mm <sup>2</sup> Neutral bar: connection 10 x 16 mm <sup>2</sup>	1	13	619200	1
	375 x 250 x 94	Earth bar: connection 18 x 16 mm <sup>2</sup> Neutral bar: connection 2(8 x 16 mm <sup>2</sup> )	2	26	619201	1
	500 x 250 x 94	Earth bar: connection 27 x 16 mm <sup>2</sup> Neutral bar: connection 2(8 x 16 mm <sup>2</sup> )	3	39	619202	1
	625 x 250 x 94	Earth bar: connection 27 x 16 mm <sup>2</sup> Neutral bar: connection 2(8 x 16 mm <sup>2</sup> )	4	52	618116	1
Classic B	H x W x D (mm)	Equipment	Number of rows	Number of modules	Ref. No.	Pack.
	250 x 250 x 94		1	13	619203	1
	375 x 250 x 94		2	26	619204	1
	500 x 250 x 94		3	39	619205	1
	625 x 250 x 94		4	52	618117	1

## Accessories



Transparent door + hinges		
	618503	1
1 row		
	618509	1
2 rows		
	618515	1
3 rows		
	617961	1
4 rows*		
Plain white door + hinges		
	619206	1
1 row		
	619207	1
2 rows		
	619208	1
3 rows		
	617962	1
4 rows*		

### Insulated support for earth and neutral terminals

618530 1

Can be fixed on a mounting frame easily

Can be equipped with below mentioned earth or neutral terminals



1x	2x	3x	Combination
8 x 16 mm <sup>2</sup>	8 x 16 mm <sup>2</sup>	8 x 16 mm <sup>2</sup>	1 (8 x 16 mm <sup>2</sup> ) + 1 (10 x 16 mm <sup>2</sup> )
10 x 16 mm <sup>2</sup>	10 x 16 mm <sup>2</sup>		1 (8 x 16 mm <sup>2</sup> ) + 1 (14 x 16 mm <sup>2</sup> )
14 x 16 mm <sup>2</sup>			1 (8 x 16 mm <sup>2</sup> ) + 1 (18 x 16 mm <sup>2</sup> )
18 x 16 mm <sup>2</sup>			1 (10 x 16 mm <sup>2</sup> ) + 1 (14 x 16 mm <sup>2</sup> )
27 x 16 mm <sup>2</sup>			

### Equipped insulated support 3P+N + earth assembly

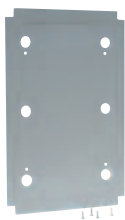
618529 1

5 (8 x 16 mm<sup>2</sup>)



### Insulated backplate + screws

Protects the cables and devices when the cover is mounted on a moist or aggressive surface



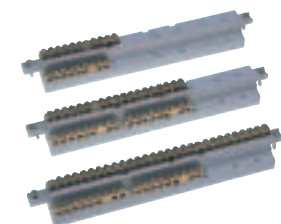
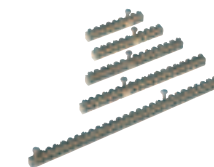
	618505	1
For Classic B - 1 row		
	618511	1
For Classic B - 2 rows		
	618517	1
For Classic B - 3 rows		
	619411	1
For Classic B - 4 rows		

### Equipped insulated support

	618506	1
For Classic B - 1 row		
E: 8 x 16 mm <sup>2</sup> & N: 10 x 16 mm <sup>2</sup>		
	618512	1
For Classic B - 2 rows		
E: 18 x 16 mm <sup>2</sup> & N: 2 (8 x 16 mm <sup>2</sup> )		
	618518	1
For Classic B - 3 rows		
E: 27 x 16 mm <sup>2</sup> & N: 2 (8 x 16 mm <sup>2</sup> )		

### Earth or neutral terminals

	618519	4
8 x 16 mm <sup>2</sup>		
	618520	4
10 x 16 mm <sup>2</sup>		
	618521	4
14 x 16 mm <sup>2</sup>		
	618522	4
18 x 16 mm <sup>2</sup>		
	618523	4
27 x 16 mm <sup>2</sup>		



E = earth connection  
N = neutral connection

\* in metal

A

B

C

D

E

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X

## Accessories Fix-o-Rail Classic (continued)



**Shrouding for earth and neutral support**  
Protects against direct contact with live parts

618531	1
--------	---

### Cable entry

For a perfect finish  
Can be fixed on the top as well as on the bottom of the mounting frame

619084	1
--------	---

Knockouts: 11 x PG 13.5 + 1 x PG 21/29



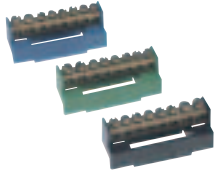
### Metal support for connection terminals

618524	1
--------	---

### Blank plate 4 modules

610382	4
--------	---

Length: 72 mm  
Cut out width : 45 mm  
Can be cut into 9 mm length  
RAL 9010



### Connection terminals

610185	4
--------	---

Phase terminal 6 x 10 mm<sup>2</sup> + 2 x 16 mm<sup>2</sup>

610186	4
--------	---

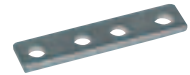
Earth terminal 6 x 10 mm<sup>2</sup> + 2 x 16 mm<sup>2</sup>

610187	4
--------	---

Neutral terminal 6 x 10 mm<sup>2</sup> + 2 x 16 mm<sup>2</sup>

### Coupling

618528	2
--------	---



### Sealing bracket

618527	2
--------	---



Notes

A large grid of red dots for taking notes.

A
B
C
D
E
F
X





## Insulated enclosures Surface mounting

### Fix-o-Rail Junior

IP40



### Applications



For new buildings, replacing old units and adding add-on devices.

### Standards

BS EN 60439-3

### Approvals / Marking



### Features

- High resistance material
- Modern design
- Compact construction
- High protection degree IP40
- Total insulation □
- Total security
- Transparent cover allowing visibility of devices
- For all modular equipment
- Available in 4 and 8 modules
- Colour: RAL 7035
- ABS for the base  
Flame resistance: self extinguishing material, resist the 650 °C
- Polycarbonate for the lid  
Flame resistance: self extinguishing material, resist the 960 °C



Dimensions ● pg F.49



## Fix-o-Rail Junior



H x W x D (mm)	Equipment	No. of modules	Ref. No.	Pack.
170 x 90 x 100 Max. depth of the devices: 70 mm Entries: 2 x PG29, 4 x PG21	Earth terminal: connection 5 x 16 mm <sup>2</sup> Neutral terminal: connection 5 x 16 mm <sup>2</sup>	4	610344	1/15
170 x 175 x 120 Max. depth of the devices: 92.5 mm Entries: 2 x PG21, 4 x PG21, 4 x PG16	Earth terminal: connection 6 x 10 + 2 x 16 mm <sup>2</sup> Neutral terminal: connection 6 x 10 + 2 x 16 mm <sup>2</sup>	8	610345	1/8

## Accessories

	<b>Earth/neutral terminals</b> For Junior 4 modules	<table border="1"> <tr> <td>610141</td> <td>2</td> </tr> </table>	610141	2	<b>Sealing bracket</b> <table border="1"> <tr> <td>610140</td> <td>2</td> </tr> </table>	610140	2			
	610141	2								
610140	2									
Connection range 5 x 16 mm <sup>2</sup>										
	<b>Earth/neutral terminals</b> For Junior 8 modules	<table border="1"> <tr> <td>610186</td> <td>4</td> </tr> </table>	610186	4	<b>Blank plate 4 modules</b> <table border="1"> <tr> <td>610142</td> <td>4</td> </tr> <tr> <td>610484</td> <td>500</td> </tr> </table>	610142	4	610484	500	
	610186	4								
	610142	4								
610484	500									
<b>Earth</b> connection range 6 x 10 mm <sup>2</sup> + 2 x 16 mm <sup>2</sup>	<table border="1"> <tr> <td>610187</td> <td>4</td> </tr> </table>	610187	4	length: 72 mm cut out width : 45 mm can be cut into 9 mm length RAL 7035						
610187	4									
<b>Neutral</b> connection range 6 x 10 mm <sup>2</sup> + 2 x 16 mm <sup>2</sup>	<table border="1"> <tr> <td>610187</td> <td>4</td> </tr> </table>	610187	4							
610187	4									
	<b>Grommets</b>	<table border="1"> <tr> <td>610130</td> <td>25</td> </tr> </table>	610130	25						
	610130	25								
	PG16	<table border="1"> <tr> <td>610132</td> <td>25</td> </tr> </table>	610132	25						
	610132	25								
PG21	<table border="1"> <tr> <td>610133</td> <td>25</td> </tr> </table>	610133	25							
610133	25									
PG29										

A

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C

D

E

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X



## Insulated enclosures Surface mounting

**Consumer Unit - BS EN60439-3**

**IP40**

### Applications



### Standard

BS EN 60439-3

### Marking



### Performance

<b>Voltage</b>	240V 50Hz
<b>Rating main switch</b>	100A/63A
<b>Rating RCCB</b>	63A, 80A & 100A
<b>IP rating</b>	IP40
<b>Poles</b>	1P+N
<b>Terminal capacity</b>	25mm <sup>2</sup> + 16mm <sup>2</sup>

### Dimensions Insulated

Dimension code	Height	Width	Depth
A (4 module)	245	198	120
B (10 module)	245	306	120
C (14 module)	245	378	120
D (18 module)	245	468	120

### Dimensions Metal

Dimension code	Height	Width	Depth
A (4 module)	175	112	90
B (10 module)	208	218	108
C (14 module)	208	292	108
D (18 module)	208	370	108

## Insulated main switch up to 100A



MCB ways	Rating (A)	HxWxD code	Cat. No.	Ref. No.	Pack.
1 <sup>(1)</sup>	63A	A	MS1	662100	1
2 <sup>(1)</sup>	63A	A	MS2	662101	1
4	100A	B	MS4	662102	1
6	100A	B	MS6	662103	1
8	100A	B	MS8	662104	1
11	100A	C	MS11	662105	1
16	100A	D	MS16	662106	1

## Insulated RCCB main switch up to 80A



MCB ways	Rating (A)	Sensitivity (mA)	HxWxD code	Cat. No.	Ref. No.	Pack.
1 <sup>(2)</sup>	63A	30mA	A	RM1	662108	1
2 <sup>(2)</sup>	63A	30mA	A	RM2	662109	1
4	80A	30mA	B	RM4	662110	1
6	80A	30mA	B	RM6	662111	1
8	80A	30mA	B	RM8	662112	1
11	80A	30mA	C	RM11	662113	1
13	80A	30mA	D	RM14SPD	662115	1
16	80A	30mA	D	RM16	662114	1

## Insulated split load 100A main switch & 80A 30mA RCCB



MCB ways	Split		HxWxD code	Cat. No.	Ref. No.	Pack.
	Iso	RCCB				
<b>Pre-configured</b>						
6	3	3	B	SL33	662119	1
10	5	5	C	SL55	662120	1
10	6	4	C	SL64	662121	1
12	6	6	D	SL66	662122	1
14	7	7	D	SL77	662123	1
<b>Flexible busbar</b>						
10	3/7	7/3	D	FSL10	662125	1
14	5/9	9/5	D	FSL14	662126	1

## Insulated time delayed RCCB split load - 100A 100mA TD RCCB & 80A 30mA RCCB



MCB ways	Split		HxWxD code	Cat. No.	Ref. No.	Pack.
	Iso	RCCB				
10	5	5	C	SLTD55	662129	1

(1) Main switch rated at 63A  
 (2) RCD main switch rated at 63A

## Insulated split load 100A main switch & Dual 80A 30mA RCCB



No. of ways	Split			HxWxD code*	Cat. No.	Ref. No.	Pack.
	Iso	RCCB	RCCB				
<b>Pre-configured</b>							
6	2	2	2	C	TSL222	662152	1
10	3	4	5	D	TSL345	662153	1
10	4	4	2	D	TSL442	662154	1
12	2	5	5	D	TSL255	662155	1
12	4	5	5	D	TSL444	662156	1
<b>Flexible busbar</b>							
12	3/4/5	5/4/3		D	FTSL12	662161	1

## Insulated split load 100A main switch & 80A 30mA RCCB



No. of ways	Split		HxWxD code*	Cat. No.	Ref. No.	Pack.
	RCCB	RCCB				
<b>Pre-configured</b>						
10	4	4	C	DSL44	662157	1
10	6	4	D	DSL64	662158	1
10	5	5	D	DSL55	662159	1
12	6	6	D	DSL66	662160	1
<b>Flexible busbar</b>						
12	5/7	7/5	D	DFSL12	662163	1

## Garage & Shower



Description	RCCB Rating (A)	HxWxD code	Cat. No.	Ref. No.	Pack.
Garage unit 16A+6A	40A	A	GA40	662116	1
Shower unit 40A MCB	63A	A	SH40	662117	1
Shower unit 50A MCB	63A	A	SH50	662118	1

## Metal main switch up to 100A



MCB ways	Rating (A)	HxWxD code	Cat. No.	Ref. No.	Pack.
2 <sup>(1)</sup>	63A	A	VCM2	<b>618401</b>	1
4	100A	B	VCM4	<b>618402</b>	1
6	100A	B	VCM6	<b>618403</b>	1
9	100A	C	VCM9	<b>618404</b>	1
13	100A	D	VCM13	<b>618405</b>	1

## Metal RCCB main switch up to 80A



MCB ways	Rating (A)	Sensitivity (mA)	HxWxD code	Cat. No.	Ref. No.	Pack.
2 <sup>(2)</sup>	63A	30mA	A	VCMA2	<b>618406</b>	1
4	80A	30mA	B	VCMA4	<b>618407</b>	1
6	80A	30mA	B	VCMA6	<b>618409</b>	1
9	80A	30mA	C	VCMA9	<b>618411</b>	1
13	80A	30mA	D	VCMA13	<b>618413</b>	1

## Metal split load 100A main switch & 80A 30mA RCCB

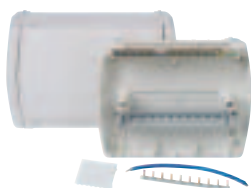


MCB ways	Split		HxWxD code	Cat. No.	Ref. No.	Pack.
	Iso	RCCB				
<i>Pre-configured</i>						
6	3	3	C	VCM3A3	<b>618416</b>	1
8	4	4	D	VCM4A4	<b>618419</b>	1
10	5	5	D	VCM5A5	<b>618423</b>	1
14	7	7	D	VCM7A7	<b>618489</b>	1

(1) Main switch rated at 63A  
 (2) RCD main switch rated at 63A

NOTES  
 a) Metal consumer unit also required.  
 b) Flush frame supplied separately for fitting by the installer.  
 c) Image shows frame and consumer unit assembled  
 d) To select the correct frame, match the frame and consumer unit dimension code.

## Insulated design enclosures



Modules	Busbar ways	HxWxD code	Cat. No.	Ref. No.	Pack.
4	3	A	CU4BN	662131	1
10	9	B	CU10BN	662132	1
14	13	C	CU14BN	662133	1
18	17	D	CU18BN	662134	1

Insulated enclosures supplied with busbar and neutral link cable

## Half DIN-rail adaptor (metal consumer units only)

Description	Modules	Cat. No.	Ref. No.	Pack
Half DIN-rail adaptor	2	HDIN2	618794	1

## Blanks, shrouds & locks



Description	Modules	Cat. No.	Ref. No.	Pack
Cover blanking plate	4	BLANK4	610382	4
Busbar shroud	3	SHR3	619018	10
Consumer unit door lock	-	CKEY	662137	1
Device padlock bracket	-	KS	624929	2

## Transparent consumer unit doors



Description	Modules	Cat. No.	Ref. No.	Pack.
Transparent door	4	CD4	662139	1
Transparent door	10	CD10	662140	1
Transparent door	14	CD14	662141	1
Transparent door	18	CD18	662142	1

## Connection cables & linking pins



Description	Cat. No.	Ref. No.	Pack.
Split load cable kit 10/14 modules	CSLKIT14	662136	1
Split load cable kit 18 modules	CSLKIT18	662138	1
Live link cable	LLINK1	409000	1
Neutral link cable	NLINK1	594009	1

Notes

Grid area for notes.

Consumer unit

A
B
C
D
E
F
X







## Insulated enclosures Surface mounting

**Abaco S**

**IP40**

### Marking

**CE**

### Standards

EN/IEC 695-2-1, CEI 670, CEI 23-48

### Applications



The Abaco surface enclosures are used for power distribution in house building and commercial buildings as offices, banks, etc.

### Features

- Protection degree IP40.
- Total insulation: class II ☐ .
- Four dimensions in two colours.
- Colours: grey RAL 7030 and white RAL 9010.
- Range from 8 modules up to 39 modules.
- Flame resistance: self extinguishing material, resists the 650°C.
- Operating temperature: -15°C to +60°C.
- Chemical resistance against water, salt solution, acid rain.
- Surface mounting with flat panels; easy mounting of cable entries.
- The DIN rails can be taken off to make the equipment externally.
- The position of the mounting frame can be adjusted.

**Abaco S - Transparent door**



Colour	H x W x D (mm)	Modules 17.5 mm	Number of rows	Ref. No.	Pack.
Grey: RAL 7030	230 x 200 x 110	8/10	1	619375	14
White: RAL 9010	230 x 200 x 110	8/10	1	619376	14
Grey: RAL 7030	300 x 200 x 110	12/14	1	619369	10
White: RAL 9010	300 x 200 x 110	12/14	1	619372	10
Grey: RAL 7030	315 x 400 x 110	24/26	2	619370	1
White: RAL 9010	315 x 400 x 110	24/26	2	619373	1
Grey: RAL 7030	315 x 525 x 110	36/39	3	619371	1
White: RAL 9010	315 x 525 x 110	36/39	3	619374	1

**Accessories**

<b>Insulated support for earth and neutral</b> <b>619319</b> 120 for enclosure 6/10 modules connection range 2 x 16 mm <sup>2</sup> + 8 x 10 mm <sup>2</sup> <b>619320</b> 120 for enclosure 10/14 modules connection range 2 x 16 mm <sup>2</sup> + 12 x 10 mm <sup>2</sup> <b>619321</b> 60 for enclosure 24/36 modules connection range 2 x 16 mm <sup>2</sup> + 12 x 10 mm <sup>2</sup>	<b>Blank plate</b> <b>619323</b> 150 Grey, 5 modules <b>619338</b> 150 White, 5 modules <b>619339</b> 1 Metallised black, 5 modules		
	<b>Security lock</b> <b>619350</b> 1 24 and 36 modules		

Abaco S

A

B

C

D

E

F

X





## Insulated enclosures Surface mounting

With screwless earth bar

### Fix-o-Rail 150

IP40



Total safety



Complete



Important time saving features



High quality



Great design

### Applications



Fix-o-Rail 150 is the best choice for power distribution purposes in:

- hotels, restaurants, offices, ...
- the house building industry.

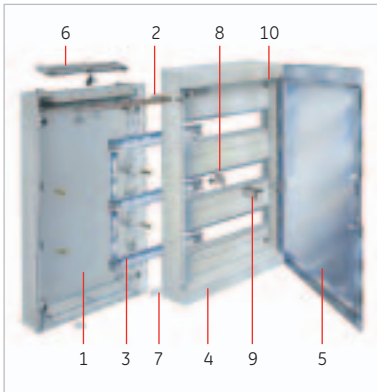
For applications in new homes, for replacing old units or adding add-on devices.

### Approvals / Marking



### Standards

EN 60439-3



Dimensions ● pg F.49

### Features

- High protection degree: IP40 with closed door
- Total insulation ☐
- High impact strength: IK08
- 1-2-3-4 rows / 18 modules per row
- For surface mounting
- With transparent or grey door
  - can be opened to 180°
- For DIN-rail equipment up to 92.5 mm
- Optional security lock
- Generous wiring room:
  - 30 mm behind the mounting frame
  - 150 mm centre distance between DIN rails
  - above and below the base
  - shallow base
- Fixation with four captive quarter-turn screws
- Removable mounting frame
- All knockouts are easy to remove
- High impact resistance material, colour RAL 7035
- Enclosure and mounting frame are extremely sturdy
- ABS for the base
- Flame resistance: self extinguishing material, resist the 650°C
- Polycarbonate for the lid



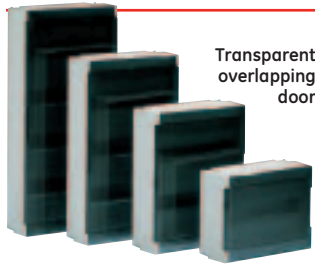
### Components

- A Fix-o-Rail 150 enclosure also includes:
- screwless earth bar
  - labels
  - entry plate
  - adhesive pictograms
  - blank plate
  - installation guidelines
  - four insulating caps = ☐

- |                             |                     |                        |
|-----------------------------|---------------------|------------------------|
| 1. Shallow base             | 4. Protection cover | 8. Fastener            |
| 2. Screwless earth bar      | 5. Transparent door | 9. Hinge               |
| 3. Removable mounting frame | 6. Entry plate      | 10. Quarter-turn screw |
|                             | 7. Insulation caps  |                        |



## Fix-o-Rail 150



Transparent overlapping door



Plain overlapping door

H x W x D (mm)	Equipment	No. of modules	No of rows	Ref. No.	Pack.
270 x 355 x 150	Earth bar screwless : connection 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup> In 80A	18	1	610275	1
450 x 355 x 150	Earth bar screwless: connection 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup> In 80A	36	2	610285	1
600 x 355 x 150	Earth bar screwless: connection 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup> In 100A	54	3	610295	1
750 x 355 x 150	Earth bar screwless: connection 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup> In 100A	72	4	610303	1
270 x 355 x 150	Earth bar screwless: connection 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup> In 80A	18	1	610276	1
450 x 355 x 150	Earth bar screwless: connection 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup> In 80A	36	2	610286	1
600 x 355 x 150	Earth bar screwless: connection 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup> In 100A	54	3	610296	1
750 x 355 x 150	Earth bar screwless: connection 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup> In 100A	72	4	610304	1

Neutral terminal is optional; order the ref nrs **610386** for the 1 and 2 rows  
Neutral terminal is optional; order the ref nrs **610385** for the 3 and 4 rows

## Accessories



<b>4 pole terminals</b>		
	<b>610022</b>	18
63A		
Connection range		
4 x ( 10 x 16 mm <sup>2</sup> )		
Cu section 6,5 x 9 mm		



	<b>617992</b>	5
160A		
with cover 4x (1 x 10 to 50 mm <sup>2</sup>		
incoming + 3 x 6 to 35 mm <sup>2</sup>		
+ 8 x 2.5 to 16 mm <sup>2</sup> outgoing)		
Cu section 12 x 10 mm		



	<b>610020</b>	1
160A		
Connection range 4 x (10 x 10mm <sup>2</sup> )		
Cu section 12 x 5 mm		

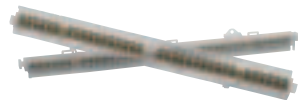
### Support with earth or neutral terminals

	<b>610386</b>	4
Cable section: 14 x 16 mm <sup>2</sup>		
	<b>610385</b>	4
Cable section: 18 x 16 mm <sup>2</sup>		



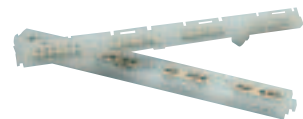
### Support with terminal bars

	<b>610532</b>	4
Cable section: 2 (17 x 16 mm <sup>2</sup> )		



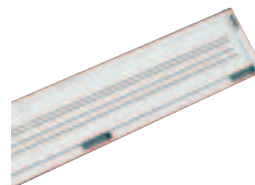
### Support with terminal bars L1-L2-L3-N

	<b>610387</b>	4
Cable section: 4 (5 x 16 mm <sup>2</sup> )		



### Universal entry plate

	<b>610264</b>	2
For a sound and safe quality of finish. Increases the dust protection. With moulded-in marks for conduits.		



### Universal entry cap

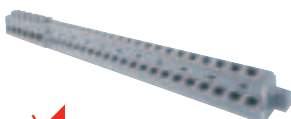
	<b>610272</b>	1
Width: 355 mm		
Can be mounted at the bottom or at the top of the enclosure. Easy to fix. Useful for the installation of cable glands or universal cable entries		



<b>Protective shroud</b>		
	<b>610021</b>	1
For 160A terminal (ref. 610020)		



<b>Support with screwless earth bar</b>		
	<b>610396</b>	1
Connection: 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup>		
Included with all enclosures		



New

A

B

C

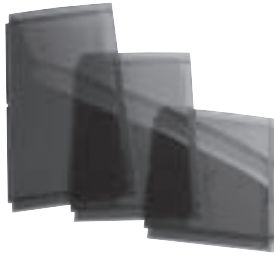
D

E

F

X

## Accessories Fix-o-Rail 150 (continued)



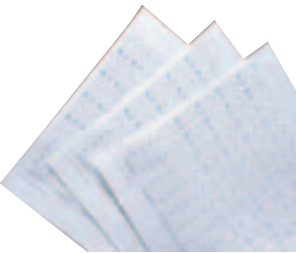
### Transparent replacement door

610277	1
For enclosure 610275	
610287	1
For enclosure 610285	
610297	1
For enclosure 610295	
610305	1
For enclosure 610303	



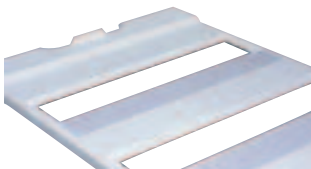
### Plain replacement door

610281	1
For enclosure 610276	
610291	1
For enclosure 610286	
610301	1
For enclosure 610296	
610306	1
For enclosure 610304	



### Adhesive pictograms

610380	1
For clear and permanent identification of circuits	
Set of 50 pieces	



### Labels and labelholders

610270	1
Set of 50 pieces	

### Security lock

610170	1
With 2 keys	



### Blank plate

610142	4
610484	500

Length: 72 mm  
Cut-out width: 45 mm  
Can be cut into 9 mm lengths  
RAL 7035



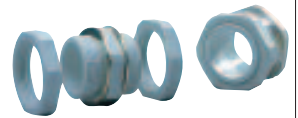
### Drawing pocket

610265	1
To be fixed at the bottom or at the top of the protective cover	

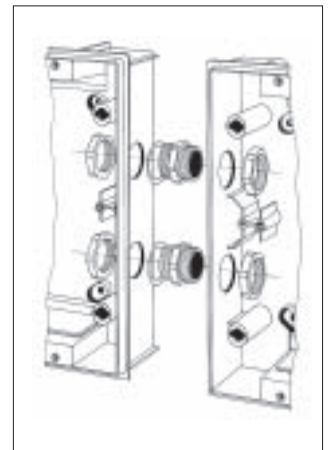


### Coupling - 2 x PG21

Allows the facility to couple several Fix-o-Rail enclosures laterally, top and bottom



610327	1
--------	---



Notes

Grid of red dots for notes.

Fix-o-Rail 150

A

B

C

D

E

F

X





## Insulated enclosures Surface mounting

**Fix-o-Rail 55**

**IP55**

### Applications



The Fix-o-Rail 55 enclosures are designed for power distribution in environments requiring a high protection degree.

### Approvals / Marking



### Standards

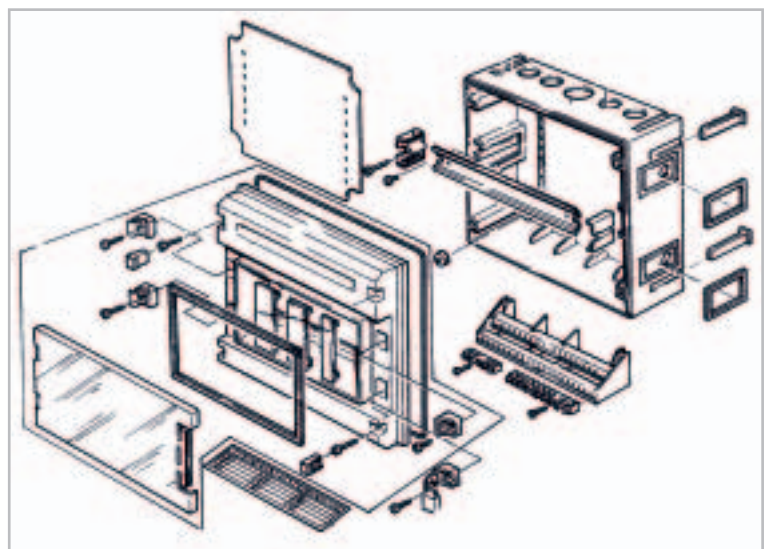
EN 60439-3

### Components

- Rigid base and protection cover, colour RAL 7035
- Transparent door
- DIN-rails, the centre distance between two DIN-rail is 125 mm
- Labeling facilities
- With earth bar for the 12, 24 & 36 modules

### Features







- Total insulation ☑
- Protection degree IP55-IK07
- Can be coupled
- Transparent door
- Adjustable DIN-rails, according the height of the DIN equipment
- For equipment up to 92.5 mm
- Padlocking option
- The transparent door can be opened to the left and the right
- Base:
  - ABS for the 3 up to 8 modules
  - Polystyreen for the 12 up to 36 modules
- Flame resistance: self extinguishing material, resist the 650°C
- Polycarbonate for the transparent door
- Halogene free





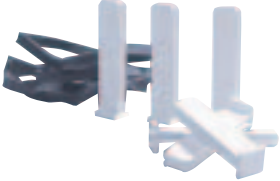

Dimensions ● pg F.53



## Fix-o-Rail 55

	H x W x D (mm)	Equipment	Number of modules	Number of rows	Ref. No.	Pack.
	175 x 83 x 106	Without earth bar	3	1	600573	12
	175 x 125 x 114	Without earth bar	5	1	600574	20
	175 x 215 x 114	Without earth bar	8	1	600575	12
	250 x 285 x 136	Earth bar, connection range: 2x16 mm <sup>2</sup> and 6x10 mm <sup>2</sup>	12	1	610316	1
	375 x 285 x 136	Earth bar, connection range: 2x16 mm <sup>2</sup> and 8x16 mm <sup>2</sup>	24	2	610317	1
	500 x 285 x 136	Earth bar, connection range: 2x16 mm <sup>2</sup> and 12x16 mm <sup>2</sup>	36	3	610318	1

## Accessories

	<b>Terminal</b> Additional busbar for earth and neutral connections	
	610314 1 Cable section: 2 x 16 mm <sup>2</sup> and 6 x 6 mm <sup>2</sup>	
	<b>Coupling set</b> To couple two enclosures in a simple way	
	610315 1	

Fix-o-Rail 55

A

B

C

D

E

F

X



## Insulated enclosures Surface mounting

**Europe Line**

**IP30**

### Features

- Masking frame, base and protective cover made from high resistance material
- Metal door, powder coated, opens through 180°
- Cable entry from top, below, from side and from rear side
- Cable entry plate (top, bottom) removable for easy cable mounting from front side
- Clamp relief possibility
- Sealing possible
- Label for circuit indication
- Rated voltage up to 400V/50Hz
- Rated current up to 63A
- Protection class II (total isolation)

### Standards

DIN 43871 and DIN VDE 0603 Part 1

A

### Distribution boards



B

C

D

E

F

X

Description	Dimensions H x W (mm)	Ref. No.	Pack
1 row, 12 mod.	245 x 300	564538	1
2 rows, 24 mod.	370 x 300	564539	1
3 rows, 36 mod.	495 x 300	564540	1
4 rows, 48 mod.	620 x 300	564541	1
<b>Versions with screwless earth (PE/N) bar</b>			
1 row, 12 mod.	245 x 300	619413	1
2 rows, 24 mod.	370 x 300	619414	1
3 rows, 36 mod.	495 x 300	619415	1
4 rows, 48 mod.	620 x 300	619416	1

### Doors



	No. of rows	Dimensions HxWxD (mm)	Ref. No.	Pack
Plain metal door	1	189 x 300 x 8.5	564533	1
	2	314 x 300 x 8.5	564546	1
	3	439 x 300 x 8.5	564547	1
	4	564 x 300 x 8.5	564548	1
Metal door with clear window	1	189 x 300 x 8.5	564061	1
	2	314 x 300 x 8.5	564062	1
	3	439 x 300 x 8.5	564063	1
	4	564 x 300 x 8.5	564064	1

Accessories

	Description	Ref. No.	Pack	
	Mounting plate			
	2 rows	564066	1	
	3 rows	564067	1	
	4 rows	564068	1	
	Door security lock			
	Surface mounting, different keys	564350	1	
	Surface mounting, same keys	564056	1	
	PE / N bar without support			
	12-pole	564050	1	
	16-pole	564051	1	
	33-pole	564052	1	
	Busbars			
	Screwless terminal PE 1-16 / N 1-16	619393	20	
	Screwless terminal N 1-26	619394	20	
	Screwless terminal PE 1-26	619395	20	
	Support			
	PE terminal	564047	1	
	PE / N terminal	564048	1	
	PE / N terminal	564049	1	
	N terminal	564046	1	
	Partition vertical			
	2 rows	564043	1	
	4 rows	564045	1	
	Partition horizontal	564041	1	
	RCCB clamps	564053	1	
	Mounting rail with reduced height	564054	1	
	Label for circuit indication			
	1, 2 rows	564352	1	
	3, 4 rows	564353	1	
	Clamps for neutral conductor			
	7 poles	546297	10	
	12 poles	546298	10	
	15 poles	546299	10	
	Clamps for protective conductor			
	7 poles	546300	10	
	12 poles	546301	10	
	DIN-rail	EN 50022 - 1000 mm long	564092	10
	Filling piece	8,75 mm to disperse the heat for DIN-rail EN 50022	546331	25

Europe Line

A

B

C

D

E

F

X





## Insulated enclosures Flush mounting

### Abaco F

IP40

### Applications



Abaco F enclosures find their place in the power distribution into the house building industry: new homes, apartments, offices, hotels. Due to the design of the masking frame and the door, the Abaco flush mounting enclosure offers significant aesthetic appeal, particularly in applications where appearance is important.


### Marking



### Standards





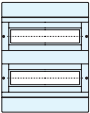
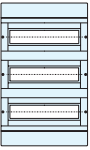
EN/IEC 695-2-1, CEI 670, CEI 23-48

### Features



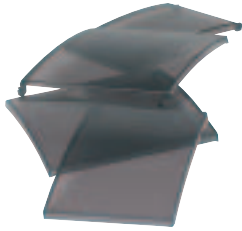
- Flush mounting
- Total insulation 
- Protection degree IP40
- Six dimensions in three colours
- Colours: grey RAL 7030, white RAL 9010 and metallised black
- Range from 2 modules up to 39 modules
- Transparent door made from polycarbonate
- High impact resistance material
- Removable mounting frame
- 20 mm clearance behind the mounting frame
- Colours:
  - Grey: RAL 7035
  - White: RAL 9010
  - Metallised black



## Abaco F - Enclosure base with transparent door

	Colour	H x W x D (mm)	Modules 17.5 mm	Number of rows	Ref. No.	Pack.
	Grey	120 x 200 x 73	2/4	1	<b>619300</b>	12
	Metallised black	120 x 200 x 73	2/4	1	<b>619362</b>	12
	Grey	180 x 200 x 73	4/7	1	<b>619301</b>	24
	White	180 x 200 x 73	4/7	1	<b>619325</b>	24
	Metallised black	180 x 200 x 73	4/7	1	<b>619331</b>	24
	Grey	230 x 200 x 73	6/10	1	<b>619302</b>	14
	White	230 x 200 x 73	6/10	1	<b>619326</b>	14
	Metallised black	230 x 200 x 73	6/10	1	<b>619332</b>	14
	Grey	300 x 200 x 73	10/14	1	<b>619303</b>	12
	White	300 x 200 x 73	10/14	1	<b>619327</b>	12
	Metallised black	300 x 200 x 73	10/14	1	<b>619333</b>	12
	Grey	315 x 400 x 80	24/26	2	<b>619304</b>	1
	White	315 x 400 x 80	24/26	2	<b>619328</b>	1
	Metallised black	315 x 400 x 80	24/26	2	<b>619334</b>	1
	Grey	315 x 525 x 80	36/39	3	<b>619305</b>	1
	White	315 x 525 x 80	36/39	3	<b>619329</b>	1
	Metallised black	315 x 525 x 80	36/39	3	<b>619335</b>	1

## Accessories

	<b>Coupling</b>					
	<b>619322</b>	10/100/600				
		2/4 and 10/14 modules				
	<b>Blank plate</b>					
	<b>619323</b>	150/450				
			Grey, 5 modules			
	<b>619338</b>	150/450				
			White, 5 modules			
	<b>619339</b>	1/450				
			Metallised black, 5 modules			
	<b>Security lock</b>					
	<b>619323</b>	1				
			24 and 36 modules			
	<b>Transparent lid</b>					
	<b>619340</b>	1				
			2/4 modules			
	<b>619341</b>	1				
			4/7 modules			
	<b>619342</b>	1				
			6/10 modules			
	<b>619343</b>	1				
			10/14 modules			
	<b>619344</b>	1				
			24/26 modules			
	<b>619345</b>	1				
			36/39 modules			
	<b>Insulated support for earth or neutral</b>					
<b>619337</b>	1/30/180					
		for enclosure 4/7 modules connection range 7 x 10 mm <sup>2</sup>				
<b>619319</b>	1/20/120					
		for enclosure 6/10 modules connection range 2 x 16 mm <sup>2</sup> + 8 x 10 mm <sup>2</sup>				
<b>619320</b>	1/20/210					
		for enclosure 10/14 modules connection range 2 x 16 mm <sup>2</sup> + 12 x 10 mm <sup>2</sup>				
<b>619321</b>	1/10/60					
		for enclosure 24/36 modules connection range 2 x 16 mm <sup>2</sup> + 12 x 10 mm <sup>2</sup>				



## Insulated enclosures Flush mounting

**Fix-o-Rail 150-F4**

**IP40**



**Total safety**



**Complete**



**Important time saving features**



**High quality**



**Great design**

### Approvals / Marking



### Standards

BS EN 60439-3

### Applications



The Fix-o-Rail 150-F4 is an electrical distribution board for the following applications:

- homes: new buildings, renovations and add-on devices

- commercial buildings: offices, shops, etc.

Due to the discreet design and colour of the masking frame and door, the Fix-o-Rail 150-F4 flush mounting enclosure offers significant aesthetic appeal, particularly in applications where appearance is important.

### Features

- High protection degree: IP40-IP07

- **Total insulation**

- CEBEC-approval

- 1-2-3-4 rows / 14 modules per row

- For all flush mounting installations

- One enclosure for installation in brickwork and studded walls

- Transparent or plain door

- Universal for all modular equipment with a shoulder height of 47 mm and a max. depth of 70 mm

- Wiring space:
  - 20 mm behind the mounting frame
  - 150 mm between the DIN-rails
  - above and below the base

- Removable mounting frame / Removable entries

- Easy to install

- Base, cable entries and protective cover are made in high resistant material

- ABS for the base and cover

- Flame resistance: self extinguishing material, resist the 850°C

- The **door and the masking** frame are in **sheet steel**, coated with a white epoxy powder (colour RAL 9010)

- In accordance with EN 60439-3

- Sturdy enclosure and mounting frame

- Due to the discreet design of the masking frame and door, the Fix-o-Rail 150-F4 offers significant aesthetic appeal

- Colour RAL 9010

- Optional security lock

### Components

Fix-o-Rail 150-F4 enclosure includes:

- earth bar

- label holders

- neutral bar

- installation guidelines

- adhesive pictograms

- a blank plate

- labels for circuit identification

- protective plate on the base (against dust and plaster)

Dimensions pg F.50

## Fix-o-Rail 150-F4 - Base and door included



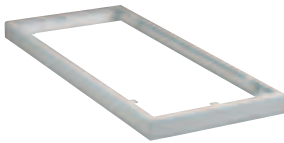
Transparent door

H x W x D (mm)	E & N: 14 x 16 mm <sup>2</sup>	In 50A	No. of modules	No. of rows	Ref. No.	Pack.
350 x 375 x 108			14	1	610368	1
525 x 375 x 108			28	2	610369	1
675 x 375 x 108			42	3	610370	1
825 x 375 x 108			56	4	610371	1

Plain door

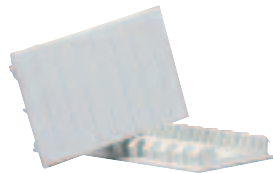
350 x 375 x 108	E & N: 14 x 16 mm <sup>2</sup>	In 50A	14	1	610372	1
525 x 375 x 108	E & N: 17 x 16 mm <sup>2</sup>	In 563A	28	2	610373	1
675 x 375 x 108	E & N: 2 (14 x 16 mm <sup>2</sup> )	In 80A	42	3	610374	1
825 x 375 x 108	E & N: 2 (14 x 16 mm <sup>2</sup> )	In 100A	56	4	610375	1

## Accessories



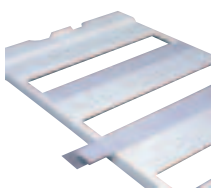
Half-inset frame (RAL 9010)		
	610376	1
For 1 row enclosure		
	610377	1
For 2 rows enclosure		
	610378	1
For 3 rows enclosure		
	610379	1
For 4 rows enclosure		

Security lock		
	610384	1
With two keys		



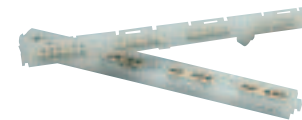
Blank plate		
	610382	500
Length = 72 mm		
Cut-out width = 45 mm		
Section of 9 mm		
Colour RAL 9010		

Support with earth or neutral terminals		
	610385	4
Cable section: 18 x 16 mm <sup>2</sup>		
Delivered with 3 and 4 rows enclosures		
	610386	4
Cable section: 14 x 16 mm <sup>2</sup>		
Delivered with 1 and 2 rows enclosures		



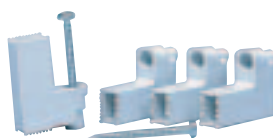
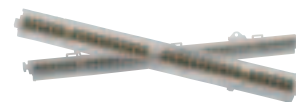
Labels and label holders		
	610383	1
Set of 50 pieces		

Support with terminals L1, L2, L3, N		
	610387	4
Cable section: 4 (5 x 16 mm <sup>2</sup> )		



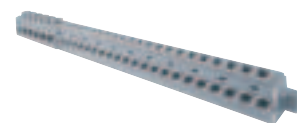
Adhesive pictograms		
	610380	1
For clear and permanent identification of circuits		
Set of 50 pieces		

Support with terminals		
	610532	4
Cable section: 2 (17 x 16 mm <sup>2</sup> )		



Grips		
For building into studded walls		
	610381	1

Support with screwless earth bar		
	610396	1
Connection: 6x16 mm <sup>2</sup> and 21x4 mm <sup>2</sup>		



New





### Approvals / Marking



## Junction boxes

### Flex-o-Box

IP65



### Features

#### Flex-o-Box Junior

##### Technical data

- Suitable for surface mounting
- 2.5 mm<sup>2</sup> - 500V
- IP65 protection degree
- Standards and approvals  
CEBEC: NBN C 68-685-2-0  
NBN C68-685-1  
KEMA: EN/IEC 670
- Colour: RAL 7035
- Material: resists the 650°C incandescent wire test
- Halogen-free
- Operating temperature: -5°C to +60°C
- Total insulation: ☐

##### Eight flexible entries

- 7 x Ø 20 in the side wall
- 1 x Ø 20 in the back
- Suitable for cable max. Ø 20
- Suitable for tubes 5/8" and 3/4"

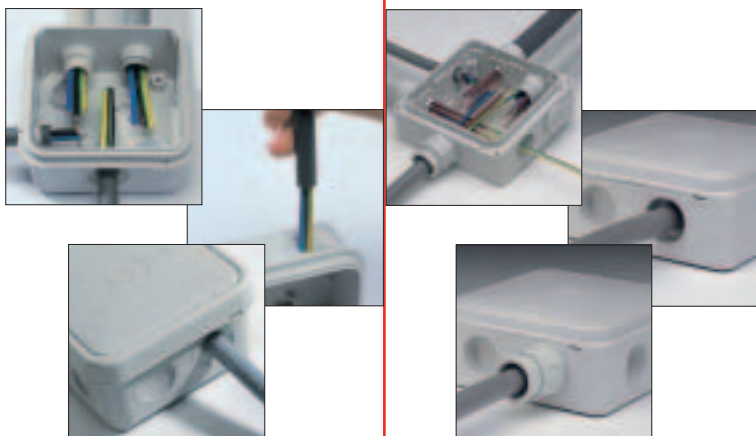
#### Flex-o-Box JB<sup>6</sup>

##### Technical data

- Suitable for surface mounting
- 6 mm<sup>2</sup> - 500V
- IP65 protection degree
- Standards and approvals:  
CEBEC: NBN C68-685-2-0  
NBN C68-685-1  
KEMA: EN/IEC 670
- Colour: RAL 7035
- Material: resists the 650°C incandescent wire test
- Halogen-free
- Operating temperature: -5°C to +60°C
- Total insulation: ☐



##### Nine flexible entries

- 7 x PG16 in the side wall
- 2 x Ø 20 mm max. entries in the back of the base
- Suitable for cable max. Ø 20
- Suitable for tubes 5/8" and 3/4"
- Suitable for cable seals (8 mm min. thread length)




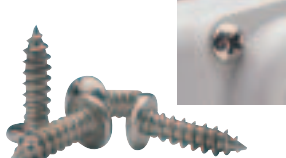


Dimensions ● pg F.56

## Flex-o-Box

		Description	Ref. No.	Pack.
	Junior	Junction box 2.5 mm <sup>2</sup>	600656	10/100
		Junction box 2.5 mm <sup>2</sup> (34 pieces in a red polybox basket)	600314	1
	JB <sup>6</sup>	Junction box 6 mm <sup>2</sup>	600651	10/100
		Junction box 6 mm <sup>2</sup> (24 pieces in a grey polybox basket)	600310	1

## Accessories

		for Junior and JB <sup>6</sup>	only for JB <sup>6</sup>				
	<b>Terminal block</b>				A		
		600950	30			851046	50
		6 mm <sup>2</sup> - 500V - pin-type				PG16 grey	
		5-terminal blocks					
	<b>Terminal strip</b>				B		
		600650	20/200			600933	25/300
		6 mm <sup>2</sup> - 500V - hole-type				PG16 for tube 5/8" grey	
		5-terminal strips				600934 25/300	
		Possible connections per terminal:		PG16 for tube 3/4" grey			
		6 x 1.5 mm <sup>2</sup>	2 x 6 mm <sup>2</sup>	for tube ø 16 mm			
		4 x 2.5 mm <sup>2</sup>	2 x 10 mm <sup>2</sup>	for tube ø 20 mm			
		3 x 4 mm <sup>2</sup>					
					C		
						600945	25
		PG16 grey					
					D		
						600652	40
		Stainless steel					
					E		
					F		
					X		



## Junction boxes

### Series 55

IP66

### Approval



### Applications

- As an empty box
- As a junction box (10/16/25 mm<sup>2</sup>)
- Coupled

### Features

- Standard: EN/IEC 529
- Material: thermoplastic high impact polyphenylene oxide
- Total insulation: ☑

### Dimensions

Three sizes - three types

**55100** - 125 x 125 x 75 mm

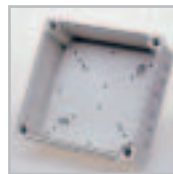
**55200** - 175 x 175 x 95 mm

**55300** - 225 x 175 x 95 mm

### Benefits



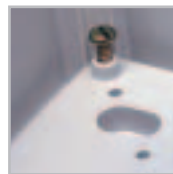
The cable entries are selective knockouts placed as close as possible to the wall.



Oval openings in the base allow levelling. Four fixing holes outside the gasket and two fixing holes inside the box.



The raised bottom avoids obstruction while cabling and bending of the cables.



Raised supports for the placement of the mounting plate.



The screws are thermoplastic, captive, full turn, with a big pitch and placed outside the gasket.





All the boxes are sealable.

Dimensions ● pg F.56




**Series 55100 - 10 mm<sup>2</sup>**

**IP66 - IK07**

	Cover	Entries	Description	Ref. No.	Pack.
	grey	5 x PG 16/21	Empty. Can be equipped with terminal blocks 600516	<b>600514</b>	16
	grey	5 x PG 16/21	Equipped with terminal blocks 600516: 5 clamps with maximum capacity: 5 x 4 mm <sup>2</sup> / 4 x 6 mm <sup>2</sup> / 3 x 10 mm <sup>2</sup>	<b>600515</b>	16




**Series 55200 - 16 mm<sup>2</sup>**

**IP66 - IK07**

	Cover	Entries	Description	Ref. No.	Pack.
	grey	6 x PG 16/21 5 x PG 21/29	Empty. Can be equipped with terminal blocks 600525 600526 (x5) 600544 (x5) 600545 (x5) 600516	<b>600517</b>	9
	grey	6 x PG 16/21 5 x PG 21/29	Equipped with terminal blocks 600525: 5 clamps with maximum capacity: 5 x 6 mm <sup>2</sup> / 4 x 10 mm <sup>2</sup> / 3 x 16 mm <sup>2</sup>	<b>600524</b>	9
	transparent	6 x PG 16/21 5 x PG 21/29	Empty	<b>600523</b>	9

**Series 55300 - 25 mm<sup>2</sup>**

**IP66 - IK07**

	Cover	Entries	Description	Ref. No.	Pack.
	grey	8 x PG 21 6 x PG 21/29	Empty. Can be equipped with terminal blocks 600544 (x5) 600545 (x5) 600525 600526 (x5)	<b>600532</b>	1
	grey	8 x PG 21 6 x PG 21/29	Equipped with terminal blocks 600544 (x5): 5 clamps/nuts with maximum capacity: 4 x 16 mm <sup>2</sup> / 3 x 25 mm <sup>2</sup> / 2 x 35 mm <sup>2</sup>	<b>600543</b>	9
	transparent	8 x PG 21 6 x PG 21/29	Empty	<b>600539</b>	9

Series 55

A

B

C

D

E

F

X



A

B

C

D

E

F

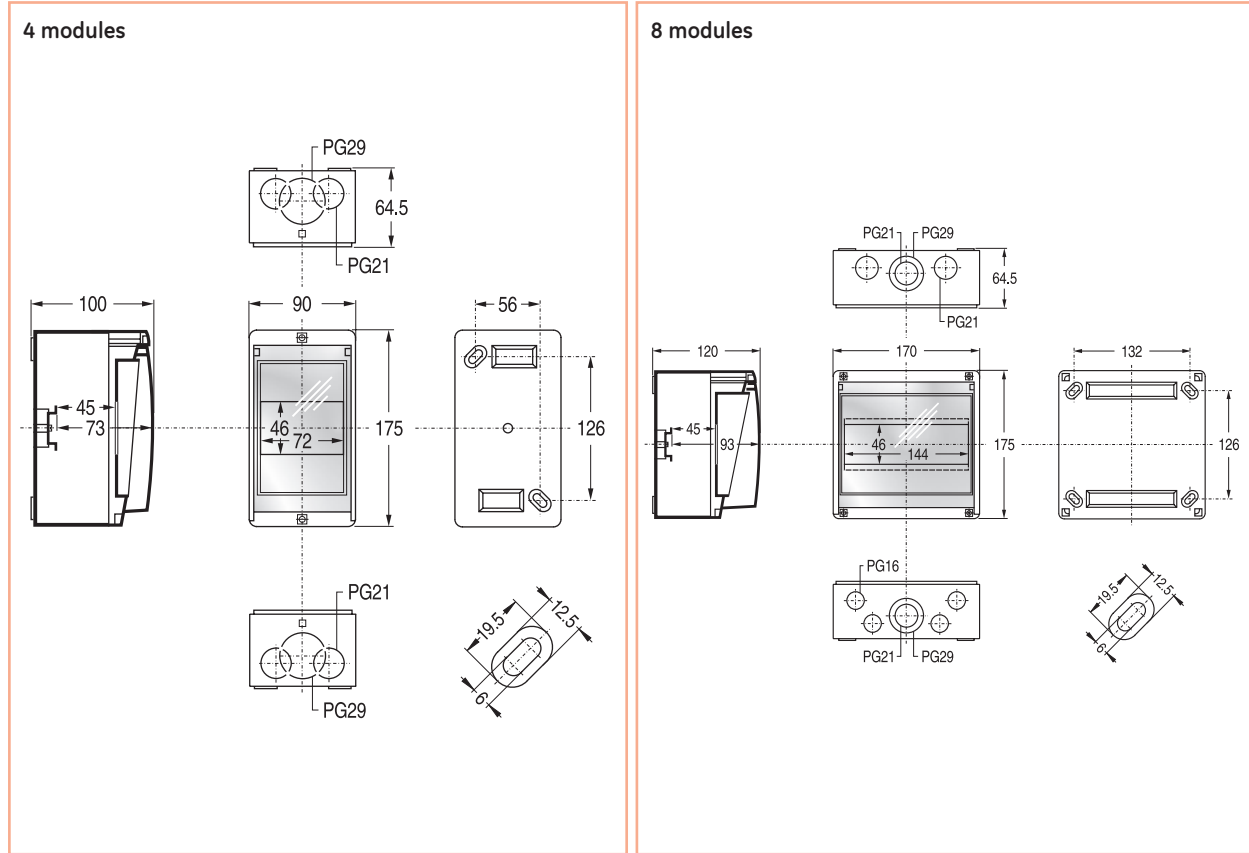
X

## Accessories Series 55

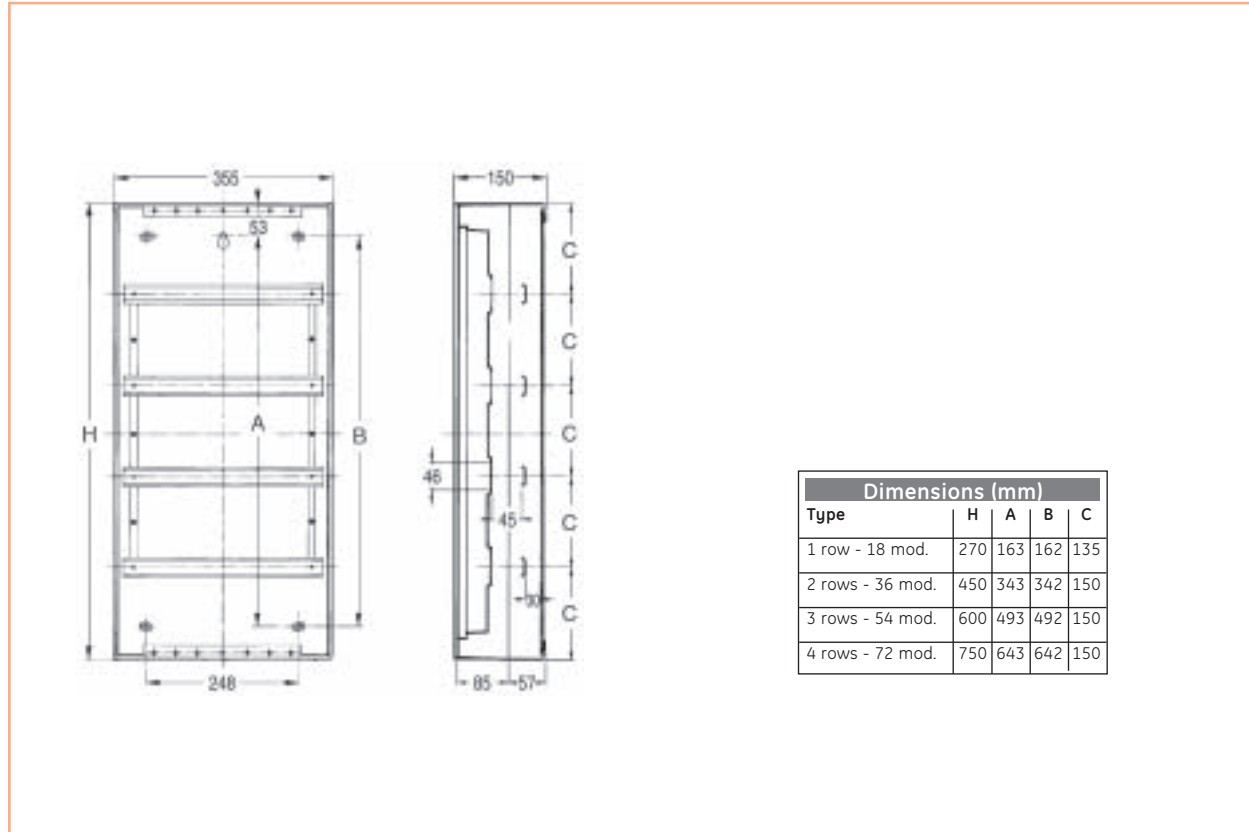
	<p><b>Terminal blocks 500V 10 mm<sup>2</sup></b></p> <table border="1"> <tr> <td>600516</td> <td>6</td> </tr> </table> <p>Set terminal blocks with two fixation screws. With five clamps suitable for Al or Cu connection.</p> <p>Maximum cable section per clamp: 5 x 4 mm<sup>2</sup> / 5 x 4 mm<sup>2</sup> / 5 x 4 mm<sup>2</sup>.</p> <p>Can be fitted in types 55100 and 55200.</p>	600516	6	<p><b>Couplings</b></p> <table border="1"> <tr> <td>600509</td> <td>1</td> </tr> </table> <p>Set of two pieces PG21</p> <p>It is possible to combine types 55200 and 55300</p>	600509	1					
600516	6										
600509	1										
	<p><b>Terminal blocks 500V 16 mm<sup>2</sup></b></p> <table border="1"> <tr> <td>600525</td> <td>6</td> </tr> </table> <p>With five clamps, suitable for Al or Cu connection.</p> <p>Maximum cable section per clamp: 5 x 6 mm<sup>2</sup> / 4 x 10 mm<sup>2</sup> / 3 x 16 mm<sup>2</sup>.</p> <p>Can be fitted in types 55200 and 55300.</p>	600525	6	<p><b>Compression glands</b></p> <table border="1"> <tr> <td>600504</td> <td>25</td> </tr> <tr> <td>600505</td> <td>25</td> </tr> </table> <p>PG21 with nut in glass fibre reinforced polyamide. Grey.</p> <p>PG29 with nut in glass fibre reinforced polyamide. Grey.</p>	600504	25	600505	25			
600525	6										
600504	25										
600505	25										
	<p><b>Terminal blocks 500V 16 mm<sup>2</sup></b></p> <table border="1"> <tr> <td>600526</td> <td>24</td> </tr> </table> <p>With one clamp/nut (with nut), suitable for Al or Cu connection.</p> <p>Maximum cable section per clamp: 5 x 6 mm<sup>2</sup> / 4 x 10 mm<sup>2</sup> / 3 x 16 mm<sup>2</sup>.</p> <p>Can be fitted in types 55200 and 55300.</p>	600526	24	<p><b>Compression glands</b></p> <table border="1"> <tr> <td>600501</td> <td>25</td> </tr> <tr> <td>600502</td> <td>25</td> </tr> </table> <p>PG21 polyamide with nut in glass fibre reinforced polyamide. Brown.</p> <p>PG29 polyamide with nut in glass fibre reinforced polyamide. Brown.</p>	600501	25	600502	25			
600526	24										
600501	25										
600502	25										
	<p><b>Terminal blocks 500V 25 mm<sup>2</sup></b></p> <table border="1"> <tr> <td>600544</td> <td>24</td> </tr> </table> <p>With one clamp/nut (with nut), suitable for Al or Cu connection.</p> <p>Maximum cable section per clamp: 4 x 16 mm<sup>2</sup> / 3 x 25 mm<sup>2</sup> / 2 x 35 mm<sup>2</sup>.</p> <p>Can be fitted in types 55200 and 55300.</p>	600544	24	<p><b>Locknuts</b></p> <table border="1"> <tr> <td>600506</td> <td>100</td> </tr> <tr> <td>600507</td> <td>50</td> </tr> </table> <p>Nut in glass fibre reinforced polyamide to connect compression glands PG21. Grey.</p> <p>Nut in glass fibre reinforced polyamide to connect compression glands PG29. Grey.</p>	600506	100	600507	50			
600544	24										
600506	100										
600507	50										
	<p><b>Terminal blocks 500V 25 mm<sup>2</sup></b></p> <table border="1"> <tr> <td>600545</td> <td>24</td> </tr> </table> <p>With one clamp/nut (double nut), suitable for Al or Cu connection.</p> <p>Maximum cable section per clamp: 4 x 16 mm<sup>2</sup> / 3 x 25 mm<sup>2</sup> / 2 x 35 mm<sup>2</sup>.</p> <p>Can be fitted in types 55200 and 55300.</p>	600545	24	<p><b>Universal entries (grey)</b></p> <table border="1"> <tr> <td>610130</td> <td>25</td> </tr> <tr> <td>610132</td> <td>25</td> </tr> <tr> <td>610133</td> <td>25</td> </tr> </table> <p>Cable max. 18 mm, drill 23 mm, PG16</p> <p>Cable max. 24 mm, drill 29 mm, PG21</p> <p>Cable max. 32 mm, drill 38 mm, PG29.</p>	610130	25	610132	25	610133	25	
600545	24										
610130	25										
610132	25										
610133	25										
	<p><b>Insulated cap</b></p> <table border="1"> <tr> <td>890838</td> <td>48</td> </tr> </table> <p>Suitable for terminal blocks 600526 600544 600545</p>	890838	48								
890838	48										

Dimensional drawings

Fix-o-Rail Junior - Surface mounting



Fix-o-Rail 150 - Surface mounting



Dimensions

A

B

C

D

E

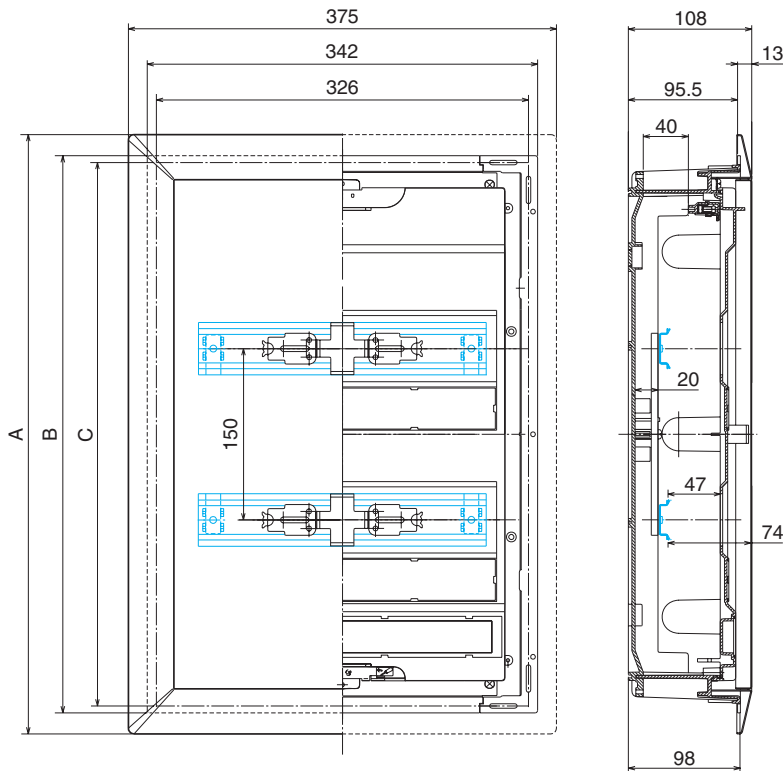
F

X

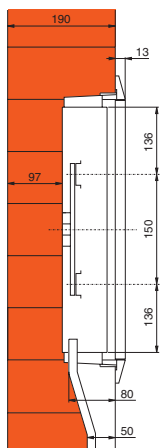


## Dimensional drawings

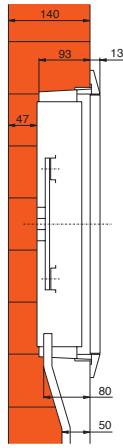
### Fix-o-Rail 150-F4 - Flush mounting



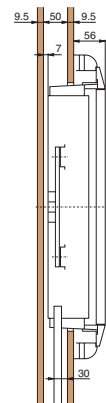
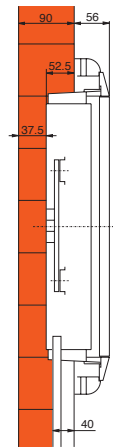
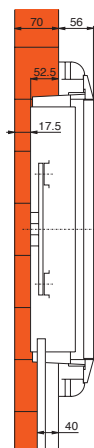
Dimensions (mm)			
Type	A	B	C
1 row - 14 mod.	350	313	301
2 rows - 28 mod.	525	488	476
3 rows - 42 mod.	675	638	626
4 rows - 56 mod.	825	788	776



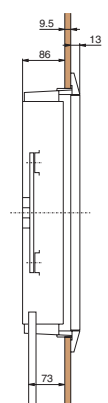
Flush mounting into brickwork



Flush mounting and semi flush mounting into brickwork



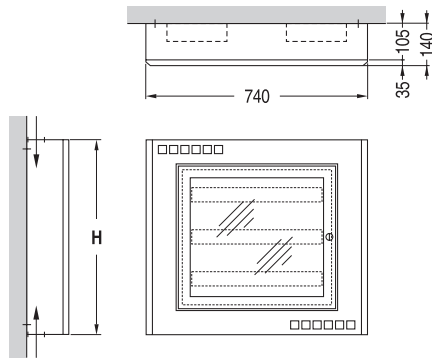
Semi flush mounting into studed walls





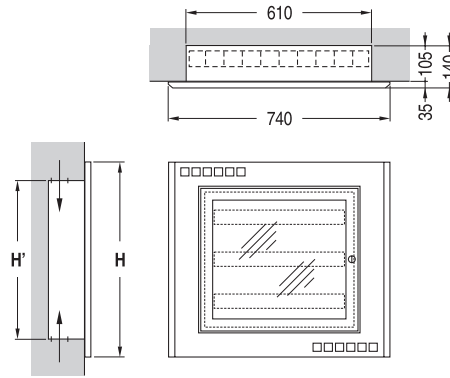
Fix-o-Rail 144

Fix-o-Rail 144 S  
Surface mounting

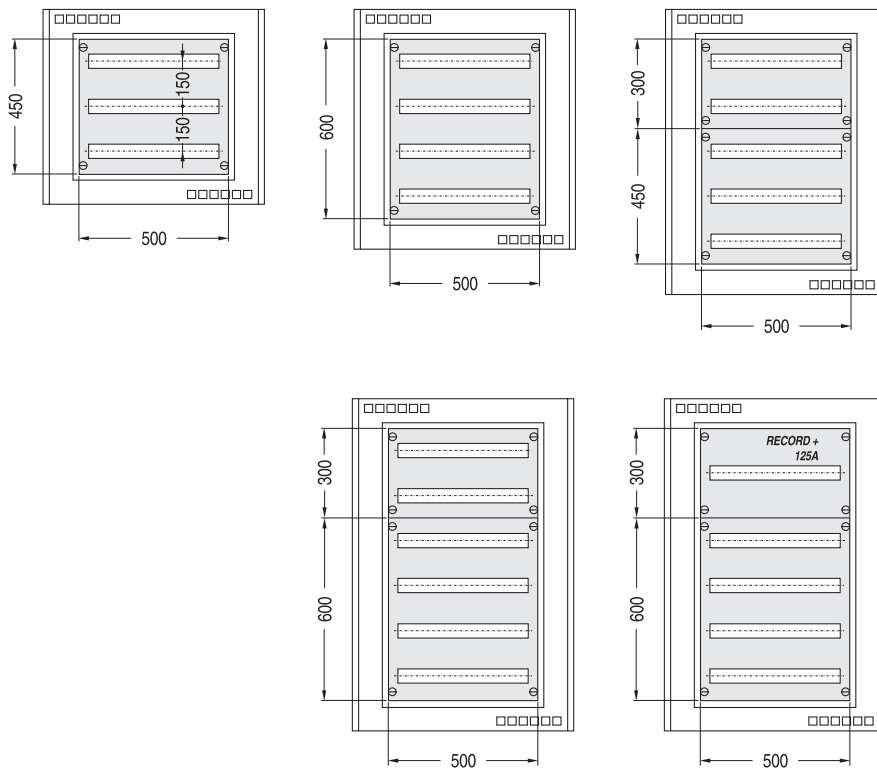


Dimensions (mm)	
	H
3 rows - 72 mod.	650
4 rows - 96 mod.	800
5 rows - 120 mod.	950
6 rows - 144 mod.	1100
4 rows+Record - 120 mod.	1100

Fix-o-Rail 144 F  
Flush mounting



Dimensions (mm)		
	H	H'
3 rows - 72 mod.	650	560
4 rows - 96 mod.	800	710
5 rows - 120 mod.	950	860
6 rows - 144 mod.	1100	1010
4 rows+Record - 120 mod.	1100	1010



Dimensions

A

B

C

D

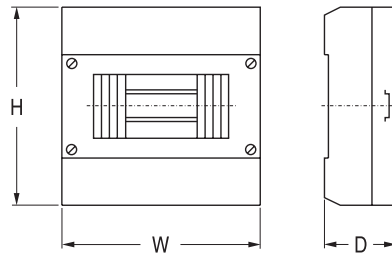
E

F

X

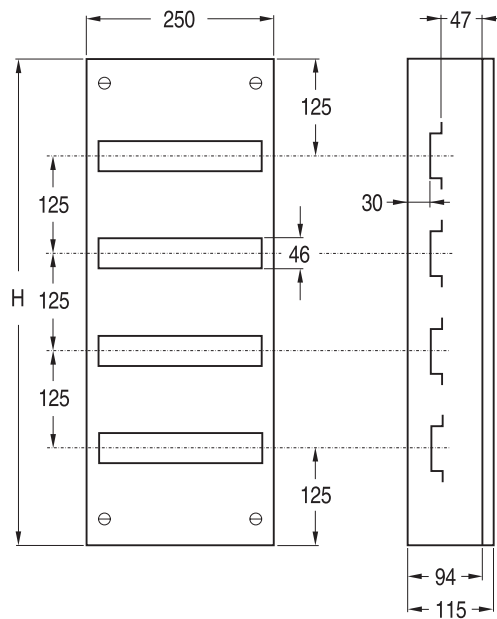
## Dimensional drawings

### Fix-o-Rail Covers - Surface mounting



Dimensions (mm)			
Type	H	W	D
2 mod.	139	51	61
4 mod.	139	88	61
6 mod.	140	165	72
8 mod.	198	200	72

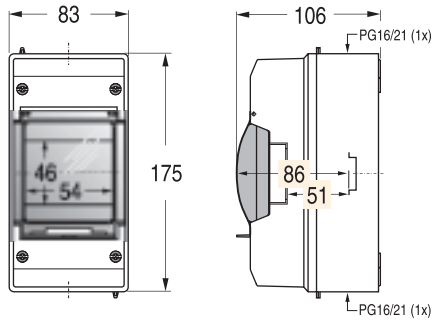
### Fix-o-Rail Classic - Surface mounting



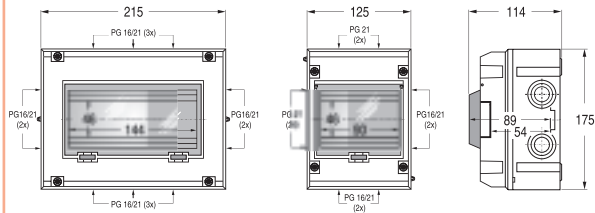
Dimensions (mm)	
Type	H
1 row - 13 mod.	250
2 rows - 26 mod.	375
3 rows - 39 mod.	500
4 rows - 52 mod.	625

Fix-o-Rail 55 - Surface mounting

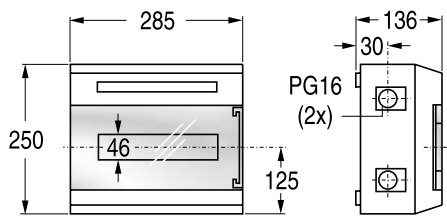
3 modules



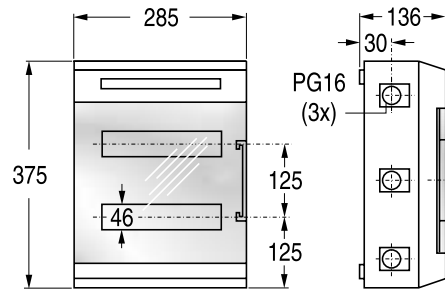
5-8 modules



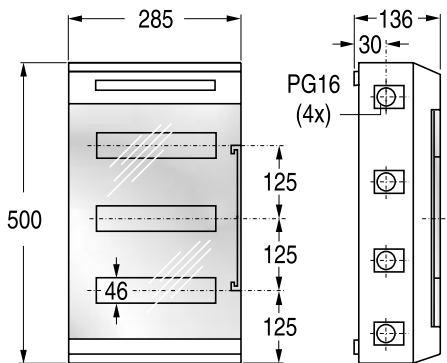
12 modules



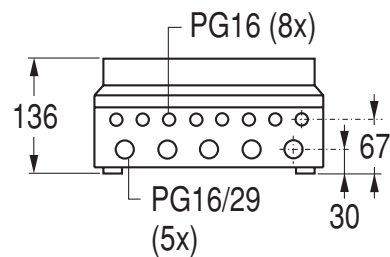
24 modules



36 modules



Top/bottom view



Dimensions

A

B

C

D

E

F

X

## Dimensional drawings

### Fix-o-Rail Senior - Surface mounting

Distribution boards

A

B

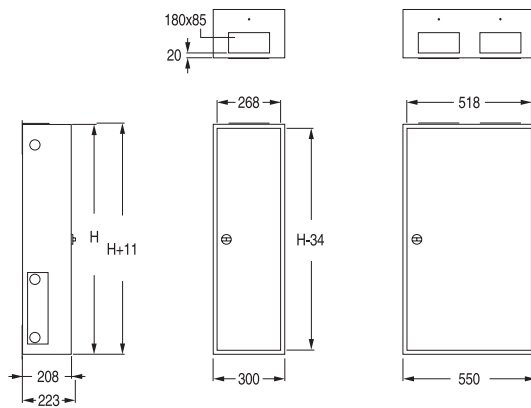
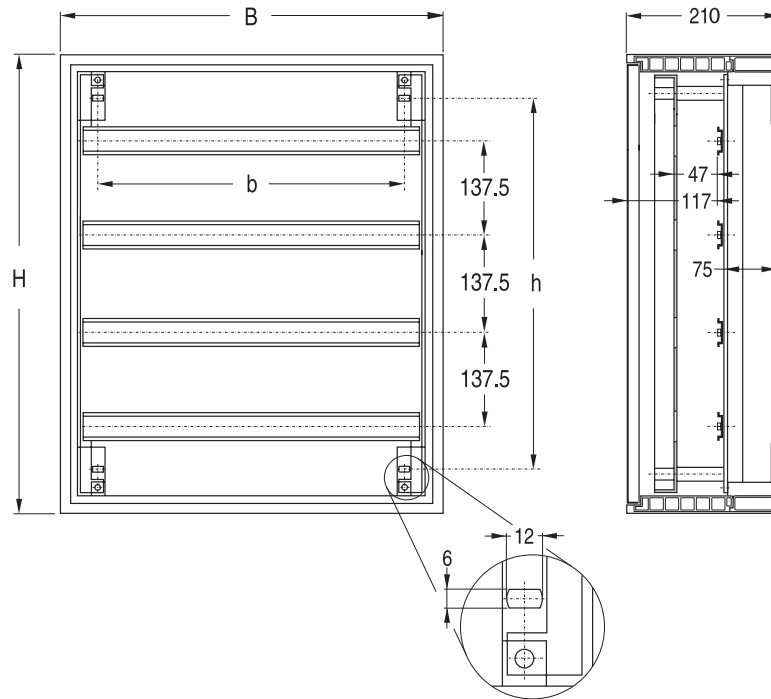
C

D

E

F

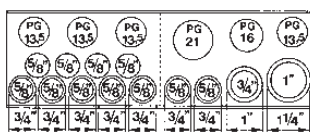
X



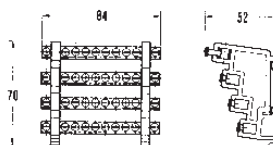
Dimensions (mm)				
Type	B	b	H	Ha
4 rows - 48 mod.	300	191	650	401
5 rows - 60 mod.	300	191	800	551
4 rows - 96 mod.	550	441	650	401
5 rows - 120 mod.	550	441	800	551
6 rows - 144 mod.	550	441	950	701
7 rows - 168 mod.	550	441	1100	851
7 rows - 252 mod.	550	441	1250	1001
8 rows - 192 mod.	800	691	1100	851
8 rows - 288 mod.	800	691	1250	1001

### Accessories distribution boards

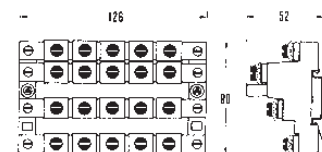
Gland plate



4P terminal 63A

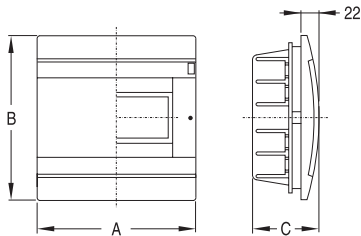


4P terminal 160A

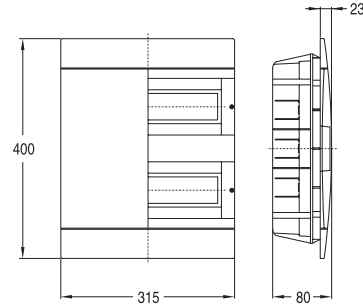


Abaco F - Flush mounting

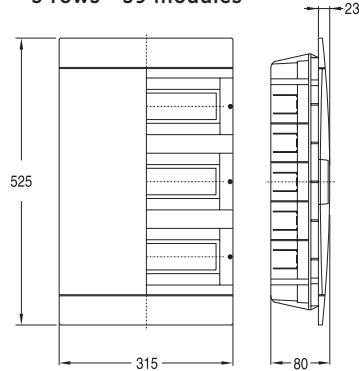
1 row - 14 modules



2 rows - 26 modules



3 rows - 39 modules



Dimensions (mm)			
Type	A	B	C
4 mod.	120	200	73
7 mod.	180	200	73
10 mod.	230	200	73
14 mod.	300	200	73

Dimensions

A

B

C

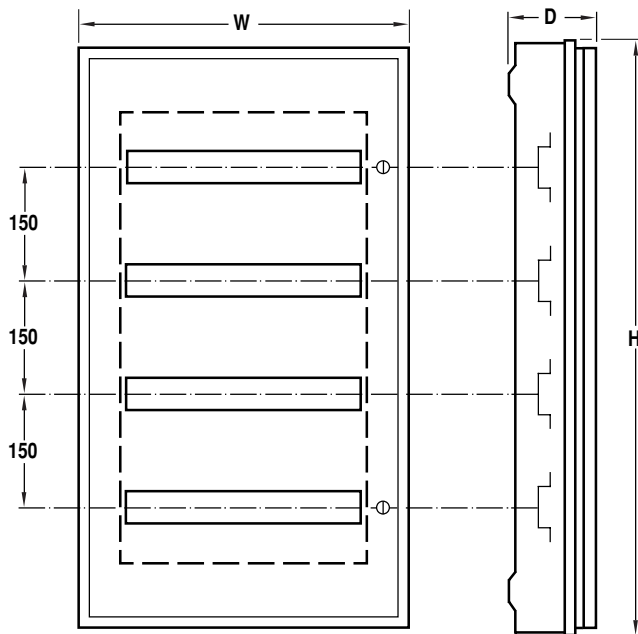
D

E

F

X

Fix-o-Rail 150 M - Surface mounting

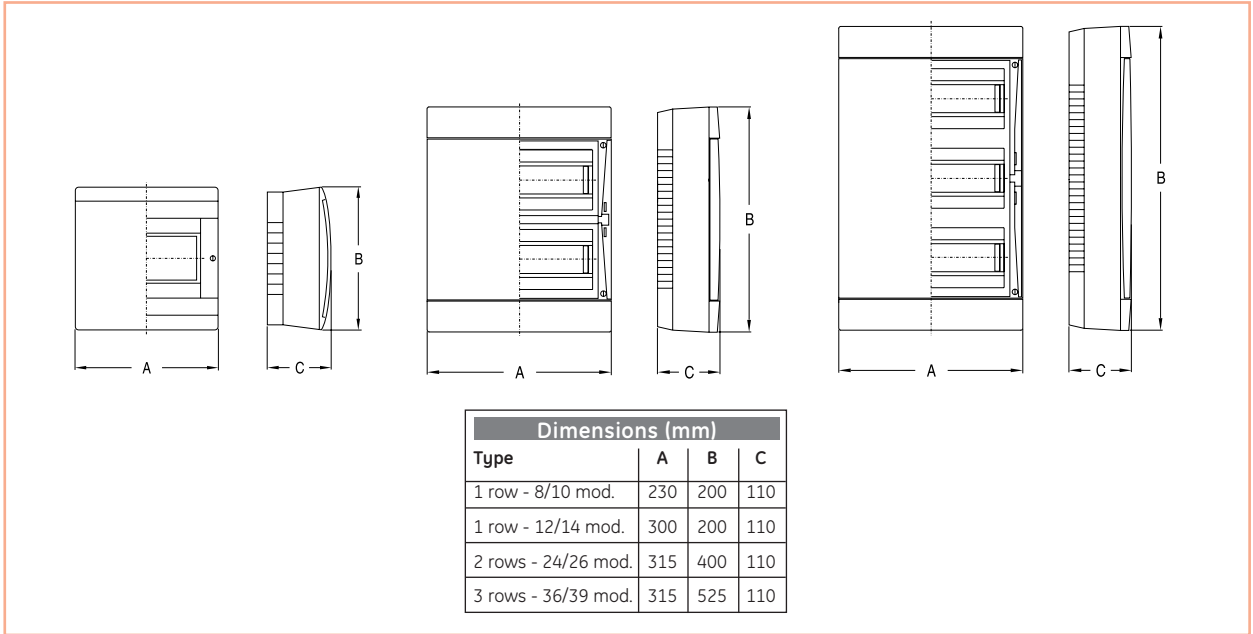


Dimensions (mm)			
Type	H	W	D
1 row - 18 mod.	216	415	110
2 rows - 36 mod.	376	437	110
3 rows - 54 mod.	610	437	110
4 rows - 72 mod.	768	437	110

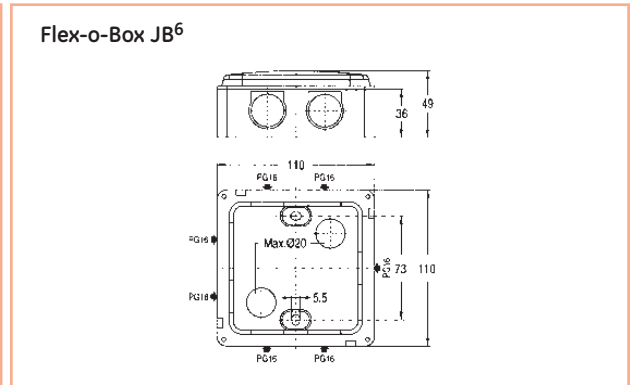
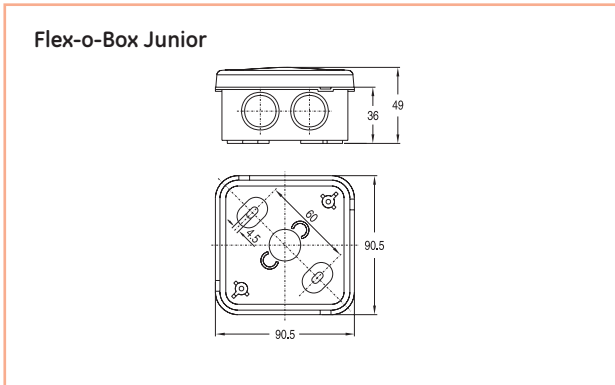


## Dimensional drawings

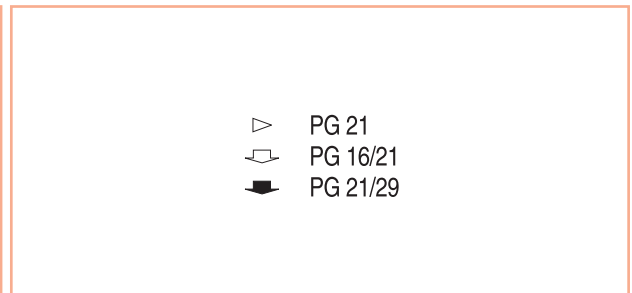
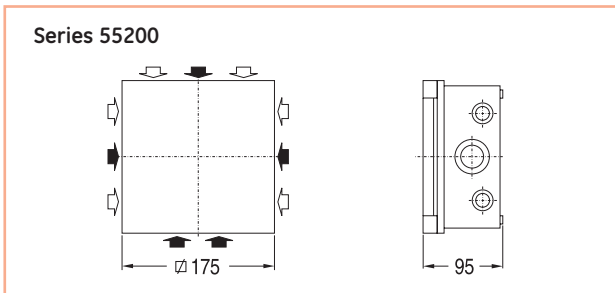
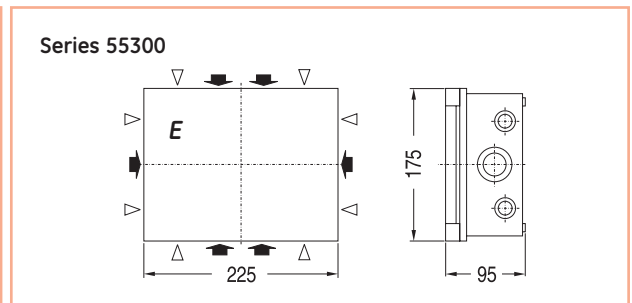
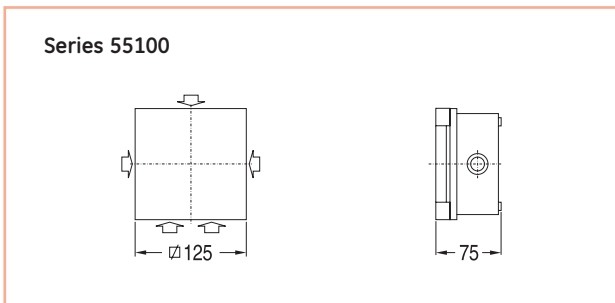
### Abaco S - Surface mounting



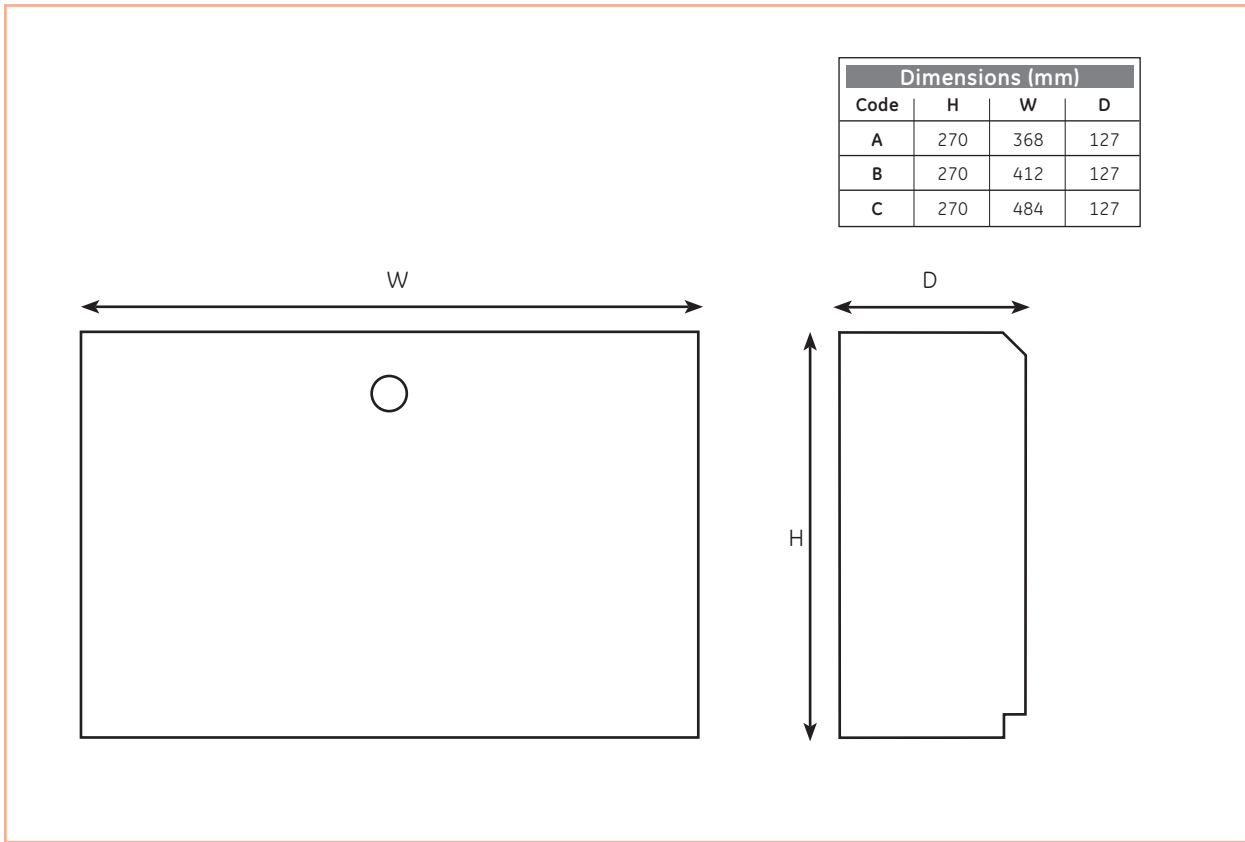
### Flex-o-Box - Junction box



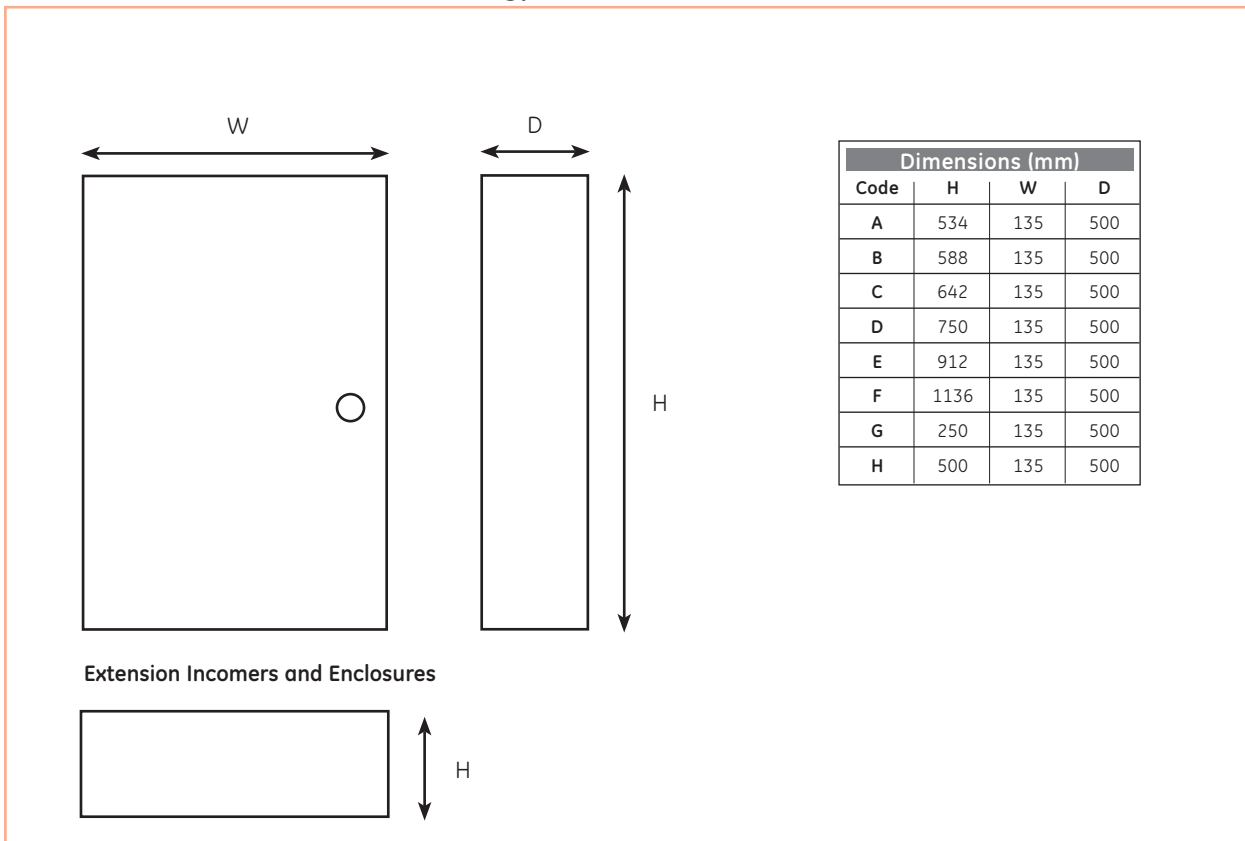
### Series 55 - Junction box



Modular 200 - distribution board - Type A



Modular 200 - distribution board - Type B



Dimensions

A

B

C

D

E

F

X





# Residential Catalogue

## By reference number

Numerical index

A

B

C

D

E

F

X

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290000			546290		E.8	566776	EP101 D25	A.17	604067	FP 280/500	B.26
290234	EP103ULHBO5	A.33	546291		E.8	566777	EP101 D32	A.17	604068	FP 280/1000	B.26
290237	EP103ULHB13	A.33	546295		E.6	566778	EP101 D40	A.17	604069	FP 2100/030	B.26
290238	EP103ULHB15	A.33	546296		E.7	566779	EP101 D50	A.17	604070	FP 2100/100	B.26
290242	EP103ULHB30	A.33	546297		E.8	566780	EP101 D63	A.17	604071	FP 2100/300	B.26
540000			546298		E.8	566806	EP102 D0.5	A.17	604072	FP 2100/500	B.26
544172		E.7	546299		E.8	566807	EP102 D01	A.17	604073	FP 2100/1000	B.26
544173		E.7	546300		E.8	566808	EP102 D02	A.17	604080	FP 425/300	B.26
544174		E.7	546301		E.8	566809	EP102 D03	A.17	604096	FPA 425/030	B.26
544175		E.7	546302		E.8	566810	EP102 D04	A.17	604097	FPA 425/100	B.26
544176		E.7	546308		E.4	566811	EP102 D06	A.17	604098	FPA 425/300	B.26
544177		E.7	546341		E.6	566812	EP102 D10	A.17	604099	FPA 425/500	B.26
544178		E.6	546396		E.5	566814	EP102 D16	A.17	604101	FPA 440/030	B.26
544179		E.7	546397		E.5	566815	EP102 D20	A.17	604102	FPA 440/100	B.26
544180		E.4	546398		E.7	566816	EP102 D25	A.17	604103	FPA 440/300	B.26
544181		E.4	550000			566817	EP102 D32	A.17	604104	FPA 440/500	B.26
544182		E.4	555434		E.5	566818	EP102 D40	A.17	604106	FPA 463/030	B.26
544183		E.5	555435		E.5	566819	EP102 D50	A.17	604107	FPA 463/100	B.26
544184		E.5	555609		E.7	566820	EP102 D63	A.17	604108	FPA 463/300	B.26
544185		E.5	560000			566846	EP103 D0.5	A.17	604109	FPA 463/500	B.26
544186		E.4	564092		E.8	566847	EP103 D01	A.17	604111	FPA 480/030	B.26
544187		E.5	566526	EP61 D0.5	A.15	566848	EP103 D02	A.17	604112	FPA 480/100	B.26
544188		E.6	566527	EP61 D01	A.15	566849	EP103 D03	A.17	604113	FPA 480/300	B.26
544189		E.6	566528	EP61 D02	A.15	566850	EP103 D04	A.17	604114	FPA 480/500	B.26
544191		E.6	566529	EP61 D03	A.15	566851	EP103 D06	A.17	604116	FPA 4100/030	B.26
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544277		E.6	566535	EP61 D20	A.15	566857	EP103 D32	A.17	604122	FPS 440/300	B.26
544296		E.6	566536	EP61 D25	A.15	566858	EP103 D40	A.17	604123	FPS 440/500	B.26
544327		E.6	566537	EP61 D32	A.15	566859	EP103 D50	A.17	604125	FPS 463/100	B.26
544344		E.6	566538	EP61 D40	A.15	566860	EP103 D63	A.17	604126	FPS 463/300	B.26
544346		E.8	566539	EP61 D50	A.15	566886	EP104 D0.5	A.17	604127	FPS 463/500	B.26
544347		E.8	566540	EP61 D63	A.15	566887	EP104 D01	A.17	604129	FPS 480/100	B.26
546125		E.7	566566	EP62 D0.5	A.15	566888	EP104 D02	A.17	604130	FPS 480/300	B.26
546126		E.4	566567	EP62 D01	A.15	566889	EP104 D03	A.17	604131	FPS 480/500	B.26
546127		E.7	566568	EP62 D02	A.15	566890	EP104 D04	A.17	604133	FPS 4100/100	B.26
546128		E.5	566569	EP62 D03	A.15	566891	EP104 D06	A.17	604134	FPS 4100/300	B.26
546129		E.7	566570	EP62 D04	A.15	566892	EP104 D10	A.17	604135	FPS 4100/500	B.26
546130		E.5	566571	EP62 D06	A.15	566894	EP104 D16	A.17	604144	FP 425/1000	B.26
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546176		E.7	566577	EP62 D32	A.15	566899	EP104 D50	A.17	604152	FP 440/1000	B.26
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546184		E.8	566579	EP62 D50	A.15	568083		E.8	604156	FP 463/500	B.26
546187		E.6	566580	EP62 D63	A.15	568084		E.8	604157	FP 463/1000	B.26
546197		E.6	566606	EP63 D0.5	A.15	568106	EV-G.1.4.80-90°	D.39	604158	FP 480/030	B.26
546200		E.8	566607	EP63 D01	A.15	600000			604159	FP 480/100	B.26
546227		E.6	566608	EP63 D02	A.15	600232	EDRE	A.42	604160	FP 480/300	B.26
546228		E.7	566609	EP63 D03	A.15	604000	FPA 216/010	B.26	604161	FP 480/500	B.26
546229		E.7	566610	EP63 D04	A.15	604001	FPA 225/030	B.26	604162	FP 480/1000	B.26
546230		E.7	566611	EP63 D06	A.15	604002	FPA 225/100	B.26	604163	FP 4100/030	B.26
546234		E.7	566612	EP63 D10	A.15	604003	FPA 225/300	B.26	604164	FP 4100/100	B.26
546237		E.4	566614	EP63 D16	A.15	604004	FPA 225/500	B.26	604165	FP 4100/300	B.26
546244		E.8	566615	EP63 D20	A.15	604006	FPA 240/030	B.26	604166	FP 4100/500	B.26
546245		E.8	566616	EP63 D25	A.15	604007	FPA 240/100	B.26	604167	FP 4100/1000	B.26
546246		E.8	566617	EP63 D32	A.15	604008	FPA 240/300	B.26	604275	FP 225/030	B.26
546247		E.6	566618	EP63 D40	A.15	604009	FPA 240/500	B.26	604276	FP 240/030	B.26
546248		E.6	566619	EP63 D50	A.15	604011	FPA 263/030	B.26	604277	FP 263/030	B.26
546249		E.6	566620	EP63 D63	A.15	604012	FPA 263/100	B.26	604278	FP 280/030	B.26
546250		E.6	566646	EP64 D0.5	A.15	604013	FPA 263/300	B.26	604279	FP 425/030	B.26
546251		E.6	566647	EP64 D01	A.15	604014	FPA 263/500	B.26	604281	FP 440/030	B.26
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546253		E.4	566649	EP64 D03	A.15	604017	FPA 280/100	B.26	604283	FP 463/030	B.26
546254		E.4	566650	EP64 D04	A.15	604018	FPA 280/300	B.26	604284	FP 463/300	B.26
546255		E.4	566651	EP64 D06	A.15	604019	FPA 280/500	B.26	605004	DPE 100B25/010	B.13
546256		E.4	566652	EP64 D10	A.15	604021	FPA 2100/030	B.26	605005	DPE 100B32/010	B.13
546257		E.4	566654	EP64 D16	A.15	604022	FPA 2100/100	B.26	605006	DPE 100B40/010	B.13
546259		E.6	566655	EP64 D20	A.15	604023	FPA 2100/300	B.26	605007	DPE 100B06/030	B.13
546260		E.6	566656	EP64 D25	A.15	604024	FPA 2100/500	B.26	605008	DPE 100B10/030	B.13
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546263		E.6	566659	EP64 D50	A.15	604028	FPS 240/500	B.26	605012	DPE 100B32/030	B.13
546264		E.6	566660	EP64 D63	A.15	604030	FPS 263/100	B.26	605013	DPE 100B40/030	B.13
546265		E.4	566686	EP61N D0.5	A.15	604031	FPS 263/300	B.26	605014	DPE 100C06/010	B.13
546266		E.4	566687	EP61N D01	A.15	604032	FPS 263/500	B.26	605015	DPE 100C10/010	B.13
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546269		E.4	566689	EP61N D03	A.15	604035	FPS 280/300	B.26	605017	DPE 100C20/010	B.13
546270		E.4	566690	EP61N D04	A.15	604036	FPS 280/500	B.26	605018	DPE 100C25/010	B.13
546271		E.7	566691	EP61N D06	A.15	604038	FPS 2100/100	B.26	605019	DPE 100C32/010	B.13
546272		E.7	566693	EP61N D10	A.15	604039	FPS 2100/300	B.26	605020	DPE 100C40/010	B.13
546273		E.7	566694	EP61N D16	A.15	604040	FPS 2100/500	B.26	605021	DPE 100C06/030	B.13
546274		E.7	566695	EP61N D20	A.15	604048	FP 216/010	B.26	605022	DPE 100C10/030	B.13
546275		E.7	566696	EP61N D25	A.15	604050	FP 225/100	B.26	605023	DPE 100C16/030	B.13
546276		E.7	566697	EP61N D32	A.15	604051	FP 225/300	B.26	605024	DPE 100C20/030	B.13
546277		E.4	566698	EP61N D40	A.15	604052	FP 225/500	B.26	605025	DPE 100C25/030	B.13
546278		E.4	566699	EP61N D50	A.15	604053	FP 225/1000	B.26	605026	DPE 100C32/030	B.13
546279		E.7	566700	EP61N D63	A.15	604055	FP 240/100	B.26	605027	DPE 100C40/030	B.13
546280		E.7	566766	EP101 D0.5	A.17	604056	FP 240/300	B.26	605092	DPEA100B06/030	B.13
546281		E.7	566767	EP101 D01	A.17	604057	FP 240/500	B.26	605093	DPEA100B10/030	B.13
546282		E.5	566768	EP101 D02	A.17	604058	FP 240/1000	B.26	605094	DPEA100B16/030	B.13
546283		E.5	566769	EP101 D03	A.17	604060	FP 263/100	B.26	605095	DPEA100B20/030	B.13
546284		E.5	566770	EP101 D04	A.17	604061	FP 263/300	B.26	605096	DPEA100B25/030	B.13
546285		E.5	566771	EP101 D06	A.17	604062	FP 263/500	B.26	605097	DPEA100B32/030	B.13
546287		E.8	566772	EP101 D10	A.17						

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605109	DPEA100B20/030	B.13	607732	DOC 432/1000	B.21	609659	DPA 100C40/300	B.11	624980		E.6
605110	DPEA100B25/030	B.13	607734	DOC 463/030	B.21	609665	DP 100B06/030	B.11	624981		E.6
605111	DPEA100B32/030	B.13	607735	DOC 463/100	B.21	609666	DP 100B10/030	B.11	624982		E.6
605112	DPEA100B40/030	B.13	607736	DOC 463/300	B.21	609668	DP 100B16/030	B.11	624983		E.6
605720	DPEA100B50/030	B.13	607737	DOC 463/500	B.21	609670	DP 100B25/030	B.11	624984		E.6
605721	DPEA100B50/030	B.13	607738	DOC 463/1000	B.21	609671	DP 100B32/030	B.11	624985		E.6
605732	DPE 100B50/030	B.13	608377	FPAUL 216/010	B.18	609672	DP 100B40/030	B.11	624986		E.6
605733	DPE 100C50/030	B.13	608378	FPAUL 225/030	B.18	609673	DPT100 B06/030	B.17	624987		E.6
607500	DOCA 232/030	B.21	608379	FPAUL 225/100	B.18	609674	DPT100 B10/030	B.17	624988		E.6
607501	DOCA 232/100	B.21	608380	FPAUL 225/300	B.18	609676	DPT100 B16/030	B.17	624989		E.6
607502	DOCA 232/300	B.21	608381	FPAUL 225/500	B.18	609677	DPT100 B20/030	B.17	624990		E.6
607503	DOCA 232/500	B.21	608382	FPAUL 240/030	B.18	609678	DPT100 B25/030	B.17	624991		E.4
607504	DOCA 232/1000	B.21	608383	FPAUL 240/100	B.18	609679	DPT100 B32/030	B.17	624992		E.8
607506	DOCA 263/030	B.21	608384	FPAUL 240/300	B.18	609680	DPT100 B40/030	B.17	624993	EV-G.1.2.80-90°	D.39
607507	DOCA 263/100	B.21	608385	FPAUL 240/500	B.18	609681	DP 100B06/100	B.11	624994		E.4
607508	DOCA 263/300	B.21	608386	FPAUL 263/030	B.18	609682	DP 100B10/100	B.11	624995		E.5
607509	DOCA 263/500	B.21	608387	FPAUL 263/100	B.18	609684	DP 100B16/100	B.11	624996		E.5
607510	DOCA 263/1000	B.21	608388	FPAUL 263/300	B.18	609685	DP 100B20/100	B.11	629867		E.8
607513	DOCS 232/100	B.21	608389	FPAUL 425/030	B.18	609686	DP 100B25/100	B.11	640000		
607514	DOCS 232/300	B.21	608390	FPAUL 425/100	B.18	609687	DP 100B32/100	B.11	644873		E.6
607515	DOCS 232/500	B.21	608391	FPAUL 425/300	B.18	609688	DP 100B40/100	B.11	644875		E.6
607516	DOCS 232/1000	B.21	608392	FPAUL 425/500	B.18	609690	DP 100B06/300	B.11	644876		E.6
607519	DOCS 263/100	B.21	608393	FPAUL 440/030	B.18	609691	DP 100B10/300	B.11	644877		E.6
607520	DOCS 263/300	B.21	608394	FPAUL 440/100	B.18	609693	DP 100B16/300	B.11	644879		E.6
607521	DOCS 263/500	B.21	608395	FPAUL 440/300	B.18	609695	DP 100B25/300	B.11	644880		E.6
607522	DOCS 263/1000	B.21	608396	FPAUL 440/500	B.18	609696	DP 100B32/300	B.11	644881		E.6
607536	DOC 232/030	B.21	608397	FPAUL 463/030	B.18	609697	DP 100B40/300	B.11	644882		E.6
607537	DOC 232/100	B.21	608398	FPAUL 463/100	B.18	609699	DP 100C06/010	B.11	644884		E.7
607538	DOC 232/300	B.21	608399	FPAUL 463/300	B.18	609700	DP 100C10/010	B.11	644885		E.7
607539	DOC 232/500	B.21	608400	FPAUL 463/500	B.18	609702	DP 100C16/010	B.11	644886		E.7
607540	DOC 232/1000	B.21	608401	FPAUL 263/500	B.18	609703	DP 100C20/010	B.11	644890		E.6
607542	DOC 263/030	B.21	608706	DPA100B10/010	B.19	609705	DP 100C06/030	B.11	644891		E.8
607543	DOC 263/100	B.21	608707	DPA100B13/010	B.19	609706	DP 100C10/030	B.11	644893	EV-G.1.3.80-90°	D.39
607544	DOC 263/300	B.21	608708	DPA100B16/010	B.19	609708	DP 100C16/030	B.11	644897	EV-G.1.8.80-90°	D.39
607545	DOC 263/500	B.21	608709	DPA100B20/010	B.19	609709	DP 100C20/030	B.11	646083		E.8
607546	DOC 263/1000	B.21	608712	DPA100B10/030	B.19	609710	DP 100C25/030	B.11	646084		E.8
607584	DOCA 332/030	B.21	608713	DPA100B13/030	B.19	609711	DP 100C32/030	B.11	646091		E.5
607585	DOCA 332/100	B.21	608714	DPA100B16/030	B.19	609712	DP 100C40/030	B.11	646092		E.5
607586	DOCA 332/300	B.21	608715	DPA100B20/030	B.19	609714	DPT100 C06/030	B.17	650000		
607587	DOCA 332/500	B.21	608716	DPA100B25/030	B.19	609715	DPT100 C10/030	B.17	650152		E.6
607588	DOCA 332/1000	B.21	608717	DPA100B32/030	B.19	609717	DPT100 C16/030	B.17	650153		E.7
607590	DOCA 363/030	B.21	608757	DPA100C10/010	B.19	609718	DPT100 C20/030	B.17	650154		E.7
607591	DOCA 363/100	B.21	608758	DPA100C13/010	B.19	609719	DPT100 C25/030	B.17	650156		E.4
607592	DOCA 363/300	B.21	608759	DPA100C16/010	B.19	609720	DPT100 C32/030	B.17	650164		E.6
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607594	DOCA 363/1000	B.21	608763	DPA100C10/030	B.19	609723	DP 100C06/100	B.11	666100	SMS 1	D.21
607597	DOCS 332/100	B.21	608764	DPA100C13/030	B.19	609724	DP 100C10/100	B.11	666101	SMS 3	D.21
607598	DOCS 332/300	B.21	608765	DPA100C16/030	B.19	609726	DP 100C16/100	B.11	666102	SMS 6	D.21
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607606	DOCS 363/1000	B.21	609583	DPA 100B16/010	B.11	609733	DP 100C10/300	B.11	666109	CLS Q 31 W	D.21
607620	DOC 332/030	B.21	609584	DPA 100B20/010	B.11	609735	DP 100C16/300	B.11	666110	CLS Q 31 W	D.21
607621	DOC 332/100	B.21	609585	DPA 100B06/030	B.11	609736	DP 100C20/300	B.11	666111	CLS S 11 D	D.21
607622	DOC 332/300	B.21	609586	DPA 100B10/030	B.11	609737	DP 100C25/300	B.11	666112	CLS S 31 D	D.21
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607624	DOC 332/1000	B.21	609589	DPA 100B20/030	B.11	609739	DP 100C40/300	B.11	666114	CLS S 31 W	D.21
607626	DOC 363/030	B.21	609590	DPA 100B25/030	B.11	610000			666115	CLS S 31 W M	D.21
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607684	DOCA 463/1000	B.21	609622	DPA 100C16/010	B.11	624958		E.7	666144	CTX 24 04 024 U	D.7
607687	DOCS 532/100	B.21	609623	DPA 100C20/010	B.11	624959		E.4	666145	CTX 24 04 048 U	D.7
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678232	EPP62C06	A.65	678332	EPP103NC06	A.67	681477	EP101UCRB16	A.37	681654	EP64K08	A.15
678233	EPP62C10	A.65	678333	EPP103NC10	A.67	681478	EP101UCRB20	A.37	681655	EP64K16	A.15
678234	EPP62C13	A.65	678334	EPP103NC13	A.67	681479	EP101UCRB25	A.37	681656	EP64K10	A.15
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678237	EPP62C25	A.65	678337	EPP103NC25	A.67	681482	EP101UCRB50	A.37	681659	EP64K25	A.15
678238	EPP62C32	A.65	678338	EPP103NC32	A.67	681483	EP101UCRB63	A.37	681660	EP64K32	A.15
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678246	EPP63C20	A.65	678363	FPPA440/030	B.8	681491	EP102UCRB50	A.37	686000	CTX + R 16 1 008 A	D.11
678247	EPP63C25	A.65	678364	FPPA463/030	B.8	681492	EP102UCRB63	A.37	686001	CTX + R 16 1 012 A	D.11
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678253	EPP63NC10	A.65	678370	FPPA463/100	B.8	681498	EP101UCRC10	A.37	686007	CTX + R 16 10 008 A	D.11
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678258	EPP63NC32	A.65	678375	FPPA440/300	B.8	681503	EP101UCRC40	A.37	686012	CTX + R 16 10 23060	D.11
678259	EPP63NC40	A.65	678376	FPPA463/300	B.8	681504	EP101UCRC50	A.37	686013	CTX + R 16 10 230 A	D.11
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686935	EP104ULC32	A.31	690278	EP101ULHC25	A.33	691245	EP101TC0.5	A.39	691345	EP102TZ10	A.39
686936	EP104ULC40	A.31	690279	EP101ULHC30	A.33	691246	EP101TC01	A.39	691346	EP102TZ16	A.39
686937	EP104ULC50	A.31	690280	EP101ULHC32	A.33	691247	EP101TC02	A.39	691347	EP102TZ20	A.39
686939	EP104ULC63	A.31	690281	EP102ULHC0.5	A.33	691248	EP101TC03	A.39	691348	EP102TZ25	A.39
686940	EP101ULD0.5	A.31	690282	EP102ULHC01	A.33	691249	EP101TC04	A.39	691349	EP102TZ32	A.39
686941	EP101ULD01	A.31	690283	EP102ULHC02	A.33	691250	EP101TC06	A.39	691350	EP102TZ40	A.39
686942	EP101ULD02	A.31	690285	EP102ULHC04	A.33	691251	EP101TC08	A.39	691351	EP102TZ50	A.39
686944	EP101ULD04	A.31	690286	EP102ULHC05	A.33	691252	EP101TC1.6	A.39	691352	EP102TZ63	A.39
686946	EP101ULD06	A.31	690287	EP102ULHC06	A.33	691253	EP101TC10	A.39	691353	EP103TB06	A.39
686947	EP101ULD10	A.31	690289	EP102ULHC10	A.33	691254	EP101TC13	A.39	691354	EP103TB08	A.39
686950	EP101ULD16	A.31	690290	EP102ULHC13	A.33	691255	EP101TC16	A.39	691355	EP103TB10	A.39
686951	EP101ULD20	A.31	690291	EP102ULHC15	A.33	691256	EP101TC20	A.39	691356	EP103TB13	A.39
686952	EP101ULD25	A.31	690292	EP102ULHC16	A.33	691257	EP101TC32	A.39	691357	EP103TB16	A.39
686954	EP101ULD32	A.31	690293	EP102ULHC20	A.33	691258	EP101TC40	A.39	691358	EP103TB20	A.39
686955	EP101ULD40	A.31	690294	EP102ULHC25	A.33	691259	EP101TC50	A.39	691359	EP103TB25	A.39
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686958	EP101ULD63	A.31	690296	EP102ULHC32	A.33	691261	EP101TK0.5	A.39	691361	EP103TB40	A.39
686959	EP102ULD0.5	A.31	690297	EP103ULHC0.5	A.33	691262	EP101TK02	A.39	691362	EP103TB50	A.39
686960	EP102ULD01	A.31	690298	EP103ULHC01	A.33	691263	EP101TK03	A.39	691363	EP103TB63	A.39
686961	EP102ULD02	A.31	690299	EP103ULHC02	A.33	691264	EP101TK04	A.39	691364	EP103TC0.5	A.39
686963	EP102ULD04	A.31	690301	EP103ULHC04	A.33	691265	EP101TK06	A.39	691365	EP103TC01	A.39
686965	EP102ULD06	A.31	690302	EP103ULHC05	A.33	691266	EP101TK08	A.39	691366	EP103TC02	A.39
686966	EP102ULD10	A.31	690303	EP103ULHC06	A.33	691267	EP101TK1	A.39	691367	EP103TC03	A.39
686969	EP102ULD16	A.31	690305	EP103ULHC10	A.33	691268	EP101TK1.6	A.39	691368	EP103TC04	A.39
686970	EP102ULD20	A.31	690306	EP103ULHC13	A.33	691269	EP101TK10	A.39	691369	EP103TC06	A.39
686971	EP102ULD25	A.31	690307	EP103ULHC15	A.33	691270	EP101TK16	A.39	691370	EP103TC08	A.39
686973	EP102ULD32	A.31	690308	EP103ULHC16	A.33	691271	EP101TK20	A.39	691371	EP103TC1.6	A.39
686974	EP102ULD40	A.31	690309	EP103ULHC20	A.33	691272	EP101TK25	A.39	691372	EP103TC10	A.39
686975	EP102ULD50	A.31	690310	EP103ULHC25	A.33	691273	EP101TK32	A.39	691373	EP103TC13	A.39
686977	EP102ULD63	A.31	690311	EP103ULHC30	A.33	691274	EP101TK40	A.39	691374	EP103TC16	A.39
686978	EP103ULD0.5	A.31	690312	EP103ULHC32	A.33	691275	EP101TK50	A.39	691375	EP103TC20	A.39
686979	EP103ULD01	A.31	690313	EP101ULHD0.5	A.33	691276	EP101TK63	A.39	691376	EP103TC25	A.39
686980	EP103ULD02	A.31	690314	EP101ULHD01	A.33	691277	EP101TZ0.5	A.39	691377	EP103TC32	A.39
686982	EP103ULD04	A.31	690315	EP101ULHD02	A.33	691278	EP101TZ01	A.39	691378	EP103TC40	A.39
686984	EP103ULD06	A.31	690317	EP101ULHD04	A.33	691279	EP101TZ02	A.39	691379	EP103TC50	A.39
686985	EP103ULD10	A.31	690318	EP101ULHD05	A.33	691280	EP101TZ03	A.39	691380	EP103TC63	A.39
686988	EP103ULD16	A.31	690320	EP101ULHD06	A.33	691281	EP101TZ04	A.39	691381	EP103TK0.5	A.39
686989	EP103ULD20	A.31	690321	EP101ULHD10	A.33	691282	EP101TZ06	A.39	691382	EP103TK01	A.39
686990	EP103ULD25	A.31	690322	EP101ULHD13	A.33	691283	EP101TZ08	A.39	691383	EP103TK02	A.39
686992	EP103ULD32	A.31	690323	EP101ULHD15	A.33	691284	EP101TZ1.6	A.39	691384	EP103TK03	A.39
686993	EP103ULD40	A.31	690324	EP101ULHD16	A.33	691285	EP101TZ10	A.39	691385	EP103TK04	A.39
686994	EP103ULD50	A.31	690325	EP101ULHD20	A.33	691286	EP101TZ16	A.39	691386	EP103TK06	A.39
686996	EP103ULD63	A.31	690326	EP101ULHD25	A.33	691287	EP101TZ20	A.39	691387	EP103TK08	A.39
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686998	EP104ULD01	A.31	690328	EP101ULHD32	A.33	691289	EP101TZ32	A.39	691389	EP103TK10	A.39
686999	EP104ULD02	A.31	690329	EP102ULHD0.5	A.33	691290	EP101TZ40	A.39	691390	EP103TK16	A.39
687001	EP104ULD04	A.31	690330	EP102ULHD01	A.33	691291	EP101TZ50	A.39	691391	EP103TK20	A.39
687003	EP104ULD06	A.31	690331	EP102ULHD02	A.33	691292	EP101TZ63	A.39	691392	EP103TK25	A.39
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687009	EP104ULD25	A.31	690337	EP102ULHD10	A.33	691296	EP102TB13	A.39	691396	EP103TK63	A.39
687011	EP104ULD32	A.31	690338	EP102ULHD13	A.33	691297	EP102TB16	A.39	691397	EP104TB06	A.39
687012	EP104ULD40	A.31	690339	EP102ULHD15	A.33	691298	EP102TB20	A.39	691398	EP104TB08	A.39
687013	EP104ULD50	A.31	690340	EP102ULHD16	A.33	691299	EP102TB25	A.39	691399	EP104TB10	A.39
687015	EP104ULD63	A.31	690341	EP102ULHD20	A.33	691300	EP102TB32	A.39	691400	EP104TB13	A.39
688026	EP104 UC B20	A.23	690342	EP102ULHD25	A.33	691301	EP102TB40	A.39	691401	EP104TB20	A.39
688027	EP104 UC B40	A.23	690343	EP102ULHD30	A.33	691302	EP102TB50	A.39	691402	EP104TB25	A.39
688028	EP104 UC B63	A.23	690344	EP102ULHD32	A.33	691303	EP102TB63	A.39	691403	EP104TB32	A.39
688029	EP104 UC B16	A.23	690345	EP103ULHD0.5	A.33	691304	EP102TC0.5	A.39	691404	EP104TB40	A.39
690000			690346	EP103ULHD01	A.33	691305	EP102TC01	A.39	691405	EP104TB50	A.39
690200	EP104 UC B10	A.23	690347	EP103ULHD02	A.33	691306	EP102TC02	A.39	691406	EP104TB63	A.39
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690216	EP101ULHB10	A.33	690351	EP103ULHD06	A.33	691309	EP102TC06	A.39	691409	EP104TC02	A.39
690217	EP101ULHB13	A.33	690353	EP103ULHD10	A.33	691310	EP102TC08	A.39	691410	EP104TC03	A.39
690218	EP101ULHB15	A.33	690354	EP103ULHD13	A.33	691311	EP102TC1.6	A.39	691411	EP104TC04	A.39
690219	EP101ULHB16	A.33	690355	EP103ULHD15	A.33	691312	EP102TC10	A.39	691412	EP104TC06	A.39
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690223	EP101ULHB32	A.33	690359	EP103ULHD30	A.33	691316	EP102TC25	A.39	691416	EP104TC13	A.39
690224	EP102ULHB05	A.33	690360	EP103ULHD32	A.33	691317	EP102TC32	A.39	691417	EP104TC16	A.39
690225	EP102ULHB06	A.33	690553	DG61C06	A.13	691318	EP102TC40	A.39	691418	EP104TC20	A.39
690226	EP102ULHB10	A.33	690554	DG61C10	A.13	691319	EP102TC50	A.39	691419	EP104TK25	A.39
690227	EP102ULHB13	A.33	690555	DG61C16	A.13	691320	EP102TC63	A.39	691420	EP104TC32	A.39
690228	EP102ULHB15	A.33	690556	DG61C20	A.13	691321	EP102TK0.5	A.39	691421	EP104TC40	A.39
690229	EP102ULHB16	A.33	690557	DG61C25	A.13	691322	EP102TK01	A.39	691422	EP104TC50	A.39
690230	EP102ULHB20	A.33	690558	DG61C32	A.13	691323	EP102TK02	A.39	691423	EP104TC63	A.39
690231	EP102ULHB25	A.33	690559	DG61C40	A.13	691324	EP102TK03	A.39	691424	EP104TK0.5	A.39
690232	EP102ULHB30	A.33	690560	DG61C50	A.13	691325	EP102TK04	A.39	691425	EP104TK01	A.39
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691436	EP104TK32	A.39	691536	EP102UCTK10	A.41	692796	EPC 61N C16	A.52	564533		F.38
691437	EP104TK40	A.39	691537	EP102UCTK16	A.41	692797	EPC 61N C20	A.52	564538		F.38
691438	EP104TK50	A.39	691538	EP102UCTK20	A.41	692798	EPC 61N C25	A.52	564539		F.38
691439	EP104TK63	A.39	691539	EP102UCTK25	A.41	692799	EPC 61N C32	A.52	564540		F.38
691440	EP101UCTB06	A.41	691540	EP102UCTK32	A.41	692800	EPC 61N C40	A.52	564541		F.38
691441	EP101UCTB08	A.41	691541	EP102UCTK40	A.41	692819	EPC 61N B02	A.52	564546		F.38
691442	EP101UCTB10	A.41	691542	EP102UCTK50	A.41	692820	EPC 61N B04	A.52	564547		F.38
691443	EP101UCTB13	A.41	691543	EP102UCTK63	A.41	692821	EPC 61N B06	A.52	564548		F.38
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691445	EP101UCTB20	A.41	691545	EP102UCTZ01	A.41	692823	EPC 61N B16	A.52	594009	NLINK1	F.28
691446	EP101UCTB25	A.41	691546	EP102UCTZ02	A.41	692824	EPC 61N B20	A.52	600000		
691447	EP101UCTB32	A.41	691547	EP102UCTZ03	A.41	692825	EPC 61N B25	A.52	600310		F.45
691448	EP101UCTB40	A.41	691548	EP102UCTZ04	A.41	692826	EPC 61N B32	A.52	600314		F.45
691449	EP101UCTB50	A.41	691549	EP102UCTZ06	A.41	692827	EPC 61N B40	A.52	600501		F.48
691450	EP101UCTB63	A.41	691550	EP102UCTZ08	A.41	694000	DMCE60C06/030	B.15	600502		F.48
691451	EP101UCTC0.5	A.41	691551	EP102UCTZ1.6	A.41	694001	DMCE60C10/030	B.15	600504		F.48
691452	EP101UCTC01	A.41	691552	EP102UCTZ10	A.41	694002	DMCE60C16/030	B.15	600505		F.48
691453	EP101UCTC02	A.41	691553	EP102UCTZ16	A.41	694003	DMCE60C20/030	B.15	600506		F.48
691454	EP101UCTC03	A.41	691554	EP102UCTZ20	A.41	694004	DMCE60C25/030	B.15	600507		F.48
691455	EP101UCTC04	A.41	691555	EP102UCTZ25	A.41	694005	DMCE60C32/030	B.15	600509		F.48
691456	EP101UCTC06	A.41	691556	EP102UCTZ32	A.41	694006	DMCE60C40/030	B.15	600514		F.47
691457	EP101UCTC08	A.41	691557	EP102UCTZ40	A.41	694007	DMCEA60C06/030	B.15	600515		F.47
691458	EP101UCTC1.6	A.41	691558	EP102UCTZ50	A.41	694008	DMCEA60C10/030	B.15	600516		F.48
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691460	EP101UCTC13	A.41	691580	EP104 UC B25	A.23	694010	DMCEA60C20/030	B.15	600523		F.47
691461	EP101UCTC16	A.41	691581	EP104 UC B32	A.23	694011	DMCEA60C25/030	B.15	600524		F.47
691462	EP101UCTC20	A.41	692554	EPC 62 C02	A.55	694012	DMCEA60C32/030	B.15	600525		F.48
691463	EP101UCTC25	A.41	692555	EPC 62 C04	A.55	694013	DMCEA60C40/030	B.15	600526		F.48
691464	EP101UCTC32	A.41	692556	EPC 62 C06	A.55	694014	DMCE60B06/030	B.15	600532		F.47
691465	EP101UCTC40	A.41	692557	EPC 62 C10	A.55	694015	DMCE60B10/030	B.15	600539		F.47
691466	EP101UCTC50	A.41	692558	EPC 62 C16	A.55	694016	DMCE60B16/030	B.15	600543		F.47
691467	EP101UCTC63	A.41	692559	EPC 62 C20	A.55	694017	DMCE60B20/030	B.15	600544		F.48
691468	EP101UCTK0.5	A.41	692560	EPC 62 C25	A.55	694018	DMCE60B25/030	B.15	600545		F.48
691469	EP101UCTK01	A.41	692561	EPC 62 C32	A.55	694019	DMCE60B32/030	B.15	600573		F.37
691470	EP101UCTK02	A.41	692562	EPC 62 C40	A.55	694020	DMCE60B40/030	B.15	600574		F.37
691471	EP101UCTK03	A.41	692563	EPC 63 C02	A.55	694021	DMCEA60B06/030	B.15	600575		F.37
691472	EP101UCTK04	A.41	692564	EPC 63 C04	A.55	694022	DMCEA60B10/030	B.15	600579		F.17
691473	EP101UCTK06	A.41	692565	EPC 63 C06	A.55	694023	DMCEA60B16/030	B.15	600580		F.17
691474	EP101UCTK08	A.41	692566	EPC 63 C10	A.55	694024	DMCEA60B20/030	B.15	600581		F.17
691475	EP101UCTK1.6	A.41	692567	EPC 63 C16	A.55	694025	DMCEA60B25/030	B.15	600582		F.17
691476	EP101UCTK10	A.41	692568	EPC 63 C20	A.55	694026	DMCEA60B32/030	B.15	600650		F.45
691477	EP101UCTK16	A.41	692569	EPC 63 C25	A.55	694027	DMCEA60B40/030	B.15	600651		F.45
691478	EP101UCTK20	A.41	692570	EPC 63 C32	A.55	694197	DICE61C06/030	B.15	600652		F.45
691479	EP101UCTK25	A.41	692571	EPC 63 C40	A.55	694198	DICE61C10/030	B.15	600656		F.45
691480	EP101UCTK32	A.41	692572	EPC 64 C02	A.55	694199	DICE61C16/030	B.15	600933		F.45
691481	EP101UCTK40	A.41	692573	EPC 64 C04	A.55	694200	DICE61C20/030	B.15	600934		F.45
691482	EP101UCTK50	A.41	692574	EPC 64 C06	A.55	694201	DICE61C25/030	B.15	600945		F.45
691483	EP101UCTK63	A.41	692575	EPC 64 C10	A.55	694202	DICE61C32/030	B.15	600950		F.45
691484	EP101UCTZ0.5	A.41	692576	EPC 64 C16	A.55	694203	DICEA61C06/030	B.15	610000		
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691486	EP101UCTZ02	A.41	692578	EPC 64 C25	A.55	694205	DICEA61C16/030	B.15	610021		F.11
691487	EP101UCTZ03	A.41	692579	EPC 64 C32	A.55	694206	DICEA61C20/030	B.15	610022		F.11
691488	EP101UCTZ04	A.41	692580	EPC 64 C40	A.55	694207	DICEA61C25/030	B.15	610090		F.17
691489	EP101UCTZ06	A.41	692604	EPC 61N B13	A.52	694208	DICEA61C32/030	B.15	610091		F.17
691490	EP101UCTZ08	A.41	692635	EPC 62 B02	A.55	694209	DICE61B06/030	B.15	610130		F.23
691491	EP101UCTZ1.6	A.41	692636	EPC 62 B04	A.55	694210	DICE61B10/030	B.15	610132		F.23
691492	EP101UCTZ10	A.41	692637	EPC 62 B06	A.55	694211	DICE61B16/030	B.15	610133		F.23
691493	EP101UCTZ16	A.41	692638	EPC 62 B10	A.55	694212	DICE61B20/030	B.15	610140		F.23
691494	EP101UCTZ20	A.41	692639	EPC 62 B16	A.55	694213	DICE61B25/030	B.15	610141		F.23
691495	EP101UCTZ25	A.41	692640	EPC 62 B20	A.55	694214	DICE61B32/030	B.15	610142		F.15
691496	EP101UCTZ32	A.41	692641	EPC 62 B25	A.55	694215	DICEA61B06/030	B.15	610170		F.34
691497	EP101UCTZ40	A.41	692642	EPC 62 B32	A.55	694216	DICEA61B10/030	B.15	610185		F.20
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Blackmills  
Northampton  
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