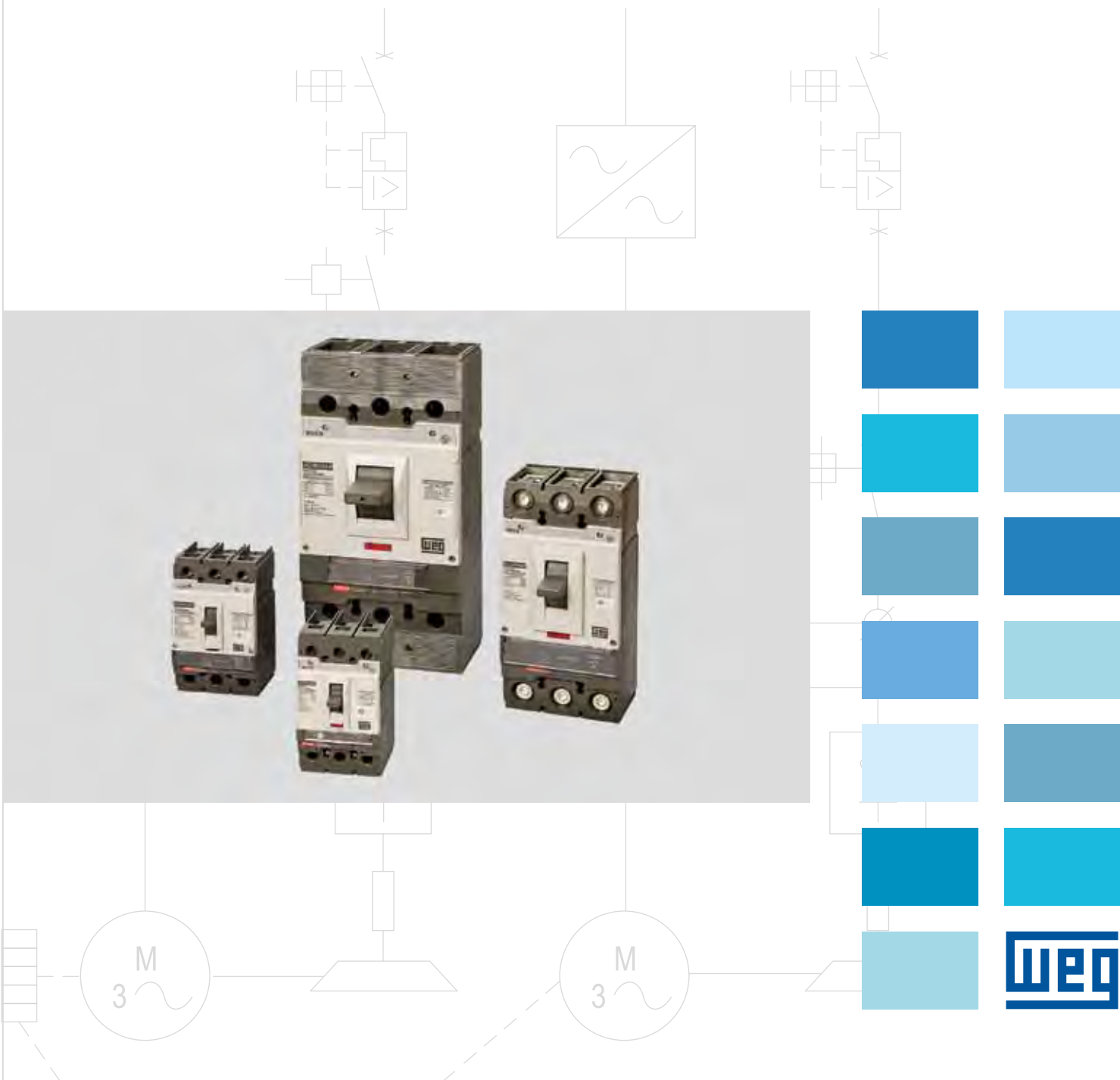


ACW

Molded-Case Circuit Breaker UL 489 Listed



Overview

Introducing the WEG **ACW Series** of Molded Case Circuit Breakers now available with UL489 certification. Available in four different compact frames, the New ACW Series will assure top performance for both thermal and short-circuit protection from 15 to 800Amps.

The ACW series is also available in two levels of short-circuit interrupting capacity – **“P”** for standard industrial and commercial standard applications and **“W”** for high-performance applications.

Common plug-in accessories simplify field installation and minimize inventory variations on distributors' shelves.



UL interrupting rating (kA)

MCCB	ACW125		ACW250		ACW400		ACW800	
Type	P	W	P	W	P	W	P	W
@ 120V	50	100	-	-	-	-	-	-
@ 240V	50	100	50	100	50	100	50	100
@ 480V	35	65	35	65	35	65	35	65
@ 600V	10	14	10	18	14	20	18	25


Current ratings

Reference	Rated Current In (A)
ACW125	15, 20, 30, 40, 50, 60, 80, 100, 125
ACW250	128-160, 160-200, 200-250
ACW400	240-300, 320-400
ACW800	400-500, 480-600, 640-800



Trip units

FTU - Fixed thermal and fixed magnetic



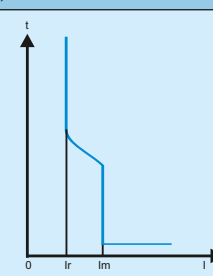
Trip type

Ratings (A) @ 40°C


Number of poles

Short-circuit trip current, I_m

Applicable to ACW125, 250, 400, and 800 frames

FTU Fixed thermal 15...800A rated current Fixed magnetic 400...8000A trip current	
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FMU - Adjustable thermal and fixed magnetic



Trip type

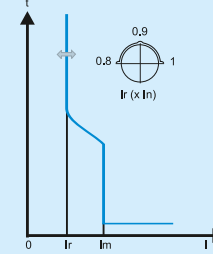
Ratings (A) @ 40°C

Number of poles


Short-circuit trip current, I_m

Overload current setpoint, I_r

Applicable to ACW125, 250, 400, and 800 frames

FMU Adjustable thermal 40...800A rated current Adjustable: 0.8, 0.9, 1xIn Fixed magnetic 400...8000A trip current	
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ATU - Adjustable thermal and adjustable magnetic



Trip type

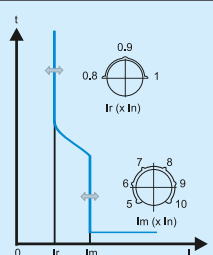
Ratings (A) @ 40°C

Number of poles

Short-circuit current setpoint, I_m

Overload current setpoint, I_r

Applicable to ACW125, 250, 400, and 800 frames

ATU Adjustable thermal 160...800A rated current Adjustable: 0.8, 0.9, 1xIn Adjustable magnetic 800...8000A trip current Adjustable: 5, 6, 7, 8, 9, 10xIn	
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Note: WEG is committed to maintain stock for immediate delivery of the following trip units:
 FTU – ACW125P and ACW125W
 FMU – ACW250P, ACW250W, ACW400P, ACW400W, ACW800P, ACW800W
 Please contact your WEG representative office for availability of other trip units.

Selection guide



Rated current In	Code
15A	15
20A	20
30A	30
40A	40
50A	50
60A	60
80A	80
100A	100
125A	125
160A	160
200A	200
250A	250
300A	300
400A	400
500A	500
600A	600
700A	700
800A	800

Trip unit	Code
Fixed thermal and fixed magnetic	FTU
Adjustable thermal and fixed magnetic	FMU
Adjustable thermal and adjustable magnetic	ATU

A C W 1 2 5 P - F T U 8 0 - 3

Frame	Code
125	ACW125
250	ACW250
400	ACW400
800	ACW800

kA rating @ 460VAC	Code
35	P
65	W

Number of poles	Code
3	3



MCCB for power distribution - standard interrupting capacity

ACW125P - FTU trip unit – Fixed thermal and fixed magnetic

Thermal Setting	Magnetic Setting	Short-Circuit interrupting capacity		Catalog Number	List Price	Multiplier Symbol
[A]	[A]	480VAC	600VAC			
15	400	35kA	10kA	ACW125P-FTU15-3	\$665.00	Z10
20	400			ACW125P-FTU20-3	\$665.00	Z10
30	400			ACW125P-FTU30-3	\$665.00	Z10
40	400			ACW125P-FTU40-3	\$665.00	Z10
50	500			ACW125P-FTU50-3	\$665.00	Z10
60	600			ACW125P-FTU60-3	\$665.00	Z10
80	800			ACW125P-FTU80-3	\$728.00	Z10
100	1000			ACW125P-FTU100-3	\$728.00	Z10
125	1250			ACW125P-FTU125-3	\$1,499.00	Z10

Note: Wiring terminal (lugs) not included. Lugs are available as accessory at page 12.

ACW250P - FMU trip unit – Adjustable thermal and fixed magnetic

Thermal Setting	Magnetic Setting	Short-Circuit interrupting capacity		Catalog Number	List Price	Multiplier Symbol
[A]	[A]	480VAC	600VAC			
128...160	1600	35kA	10kA	ACW250P-FMU160-3	\$1,550.00	Z10
160...200	2000			ACW250P-FMU200-3	\$1,550.00	Z10
200...250	2500			ACW250P-FMU250-3	\$1,550.00	Z10

Note: Wiring terminal (lugs) not included. Lugs are available as accessory at page 12.

ACW400P - FMU trip unit – Adjustable thermal and fixed magnetic

Thermal Setting	Magnetic Setting	Short-Circuit interrupting capacity		Catalog Number	List Price	Multiplier Symbol
[A]	[A]	480VAC	600VAC			
240...300	3000	35kA	14kA	ACW400P-FMU300-3	\$2,505.00	Z10
320...400	4000			ACW400P-FMU400-3	\$2,505.00	Z10

ACW800P - FMU trip unit – Adjustable thermal and fixed magnetic

Thermal Setting	Magnetic Setting	Short-Circuit interrupting capacity		Catalog Number	List Price	Multiplier Symbol
[A]	[A]	480VAC	600VAC			
400...500	5000	35kA	18kA	ACW800P-FMU500-3	\$4,757.00	Z10
480...600	6000			ACW800P-FMU600-3	\$4,757.00	Z10
640...800	8000			ACW800P-FMU800-3	\$5,393.00	Z10

Note: WEG is committed to maintain stock for immediate delivery of the following trip units:

FTU – ACW125P and ACW125W

FMU – ACW250P, ACW250W, ACW400P, ACW400W, ACW800P, ACW800W

Please contact your WEG representative office for availability of other trip units.

MCCB for power distribution - high interrupting capacity

ACW125W - FTU trip unit – Fixed thermal and fixed magnetic

Thermal Setting [A]	Magnetic Setting [A]	Short-Circuit interrupting capacity		Catalog Number	List Price	Multiplier Symbol
		480VAC	600VAC			
15	400	65kA	14kA	ACW125W-FTU15-3	\$965,00	Z10
20	400			ACW125W-FTU20-3	\$965,00	Z10
30	400			ACW125W-FTU30-3	\$965,00	Z10
40	400			ACW125W-FTU40-3	\$965,00	Z10
50	500			ACW125W-FTU50-3	\$965,00	Z10
60	600			ACW125W-FTU60-3	\$965,00	Z10
80	800			ACW125W-FTU80-3	\$1.055,00	Z10
100	1000			ACW125W-FTU100-3	\$1.055,00	Z10
125	1250			ACW125W-FTU125-3	\$2.101,00	Z10

Note: Wiring terminal (lugs) not included. Lugs are available as accessory at page 12.

ACW250W - FMU trip unit – Adjustable thermal and fixed magnetic

Thermal Setting [A]	Magnetic Setting [A]	Short-Circuit interrupting capacity		Catalog Number	List Price	Multiplier Symbol
		480VAC	600VAC			
128...160	1600	65kA	18kA	ACW250W-FMU160-3	\$2.826,00	Z10
160...200	2000			ACW250W-FMU200-3	\$2.826,00	Z10
200...250	2500			ACW250W-FMU250-3	\$2.826,00	Z10

Note: Wiring terminal (lugs) not included. Lugs are available as accessory at page 12.

ACW400W - FMU trip unit – Adjustable thermal and fixed magnetic

Thermal Setting [A]	Magnetic Setting [A]	Short-Circuit interrupting capacity		Catalog Number	List Price	Multiplier Symbol
		480VAC	600VAC			
240...300	3000	65kA	20kA	ACW400W-FMU300-3	\$4.312,00	Z10
320...400	4000			ACW400W-FMU400-3	\$4.312,00	Z10

ACW800W - FMU trip unit – Adjustable thermal and fixed magnetic

Thermal Setting [A]	Magnetic Setting [A]	Short-Circuit interrupting capacity		Catalog Number	List Price	Multiplier Symbol
		480VAC	600VAC			
400...500	5000	65kA	25kA	ACW800W-FMU500-3	\$6.392,00	Z10
480...600	6000			ACW800W-FMU600-3	\$6.392,00	Z10
640...800	8000			ACW800W-FMU800-3	\$7.358,00	Z10

Note: WEG is committed to maintain stock for immediate delivery of the following trip units:

FTU – ACW125P and ACW125W

FMU – ACW250P, ACW250W, ACW400P, ACW400W, ACW800P, ACW800W

Please contact your WEG representative office for availability of other trip units.

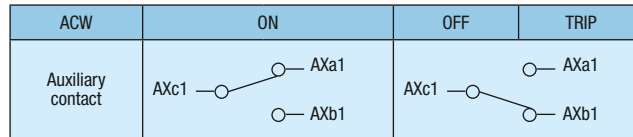


Internal accessories

Auxiliary contact



The auxiliary contact block contains one set of form 'C' contacts. This contact indicates remote circuit-breaker status "ON" and "OFF".

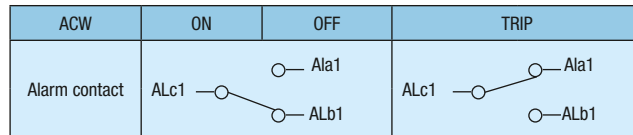


Suitable to	Catalog Number	List Price	Multiplier Symbol
ACW125...800	AX ACW 125-800	\$103.00	Z10

Alarm contact



Alarm contact offers provisions for audio and visual indication of a tripped breaker due to overload, short-circuit, shunt trip or under voltage release conditions. The contact opens when the circuit breaker is reset.



Suitable to	Catalog Number	List Price	Multiplier Symbol
ACW125...800	AL ACW 125-800	\$103.00	Z10

Shunt release



The shunt release opens the breaker in response to an externally voltage signal.

Range of operational voltage: 0.7...1.1xUn
Frequency: 45...65Hz

Suitable to	Rated voltage	Catalog Number	List Price	Multiplier Symbol
ACW125...800	12VDC	SHT C02 ACW 125-800	\$235.00	Z10
	24VAC/DC	SHT E26 ACW 125-800	\$235.00	Z10
	48VAC/DC	SHT E27 ACW 125-800	\$235.00	Z10
	110-130VAC/DC	SHT E10 ACW 125-800	\$235.00	Z10
	220-240VAC/250VDC	SHT E44 ACW125-800	\$235.00	Z10
	380-500VAC	SHT D83 ACW125-800	\$235.00	Z10

Internal accessories

Under voltage release



The under voltage release automatically opens a circuit breaker when voltage drops to a value ranging between 35% to 70% of the line voltage. The operation is instantaneous, and after tripping, the circuit breaker cannot be reset until the voltage returns to 85% of line voltage.

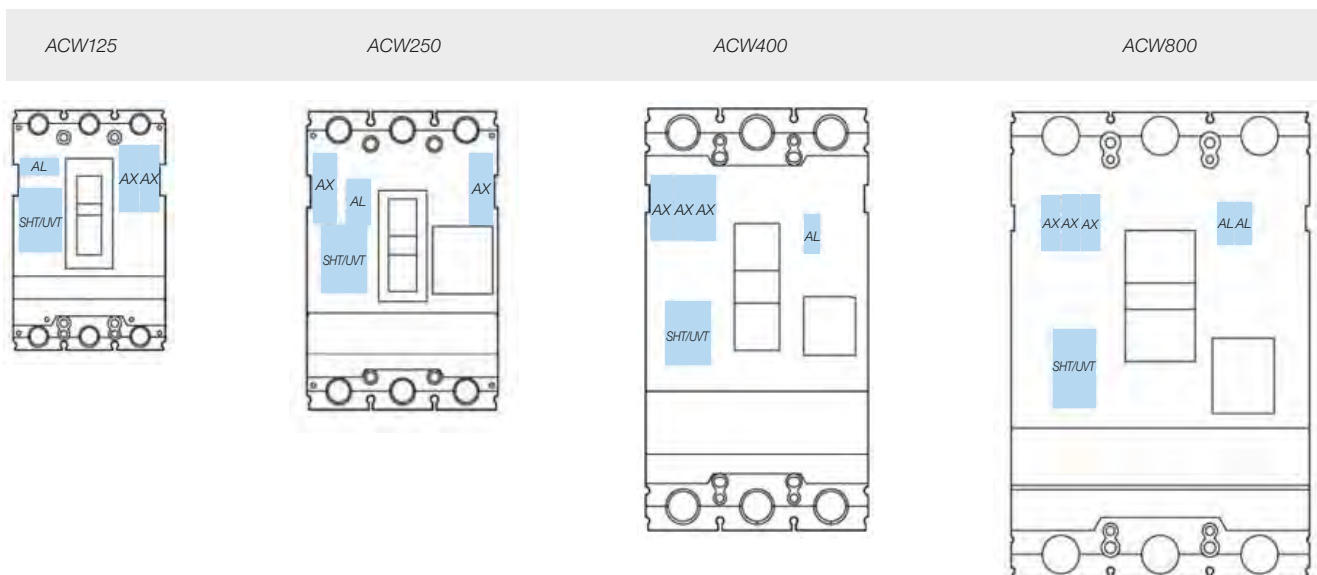
Range of voltage trip: $0.35...0.7 \times U_n$
 MCCB reset voltage: $0.85 \times U_n$ (exceed)
 Frequency: 45...65Hz

Suitable to	Rated voltage	Catalog Number	List Price	Multiplier Symbol
ACW125...800	24VAC/DC	UVT E26 ACW 125-800	\$235.00	Z10
	48VAC/DC	UVT E27 ACW 125-800	\$235.00	Z10
	110-130VAC/DC	UVT E10 ACW 125-800	\$235.00	Z10
	220-240VAC/250VDC	UVT E44 ACW 125-800	\$235.00	Z10
	380-440VAC	UVT D71 ACW 125-800	\$235.00	Z10
	440-480VAC	UVT D74 ACW 125-800	\$235.00	Z10

Configuration of internal accessories

Phase (side)	Accessory	ACW125	ACW250	ACW400	ACW800
R (left)	AX	0	1	3	3
	AL	1	1	0	0
	SHT or UVT	1	1	1	1
T (right)	AX	2	1	0	0
	AL	0	0	1	2

Possible configuration of internal accessories



External accessories

Rotary handle



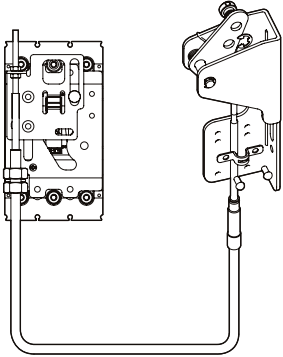
The through-the-door rotary handle operating mechanism is available in NEMA 3(R), 12 and 4X versions. Units are offered either complete (rotary handle + operating mechanism + shaft 12") or as separate components (different shaft sizes sold separately).

Suitable to	Catalog Number	List Price	Multiplier Symbol
Rotary handle + mechanism + shaft 12" (UL Type 1, 3(R), 12)			
ACW125	EHU 12 ACW 125	\$254,00	Z10
ACW250	EHU 12 ACW 250	\$275,00	Z10
ACW400	EHU 12 ACW 400	\$336,00	Z10
ACW800	EHU 12 ACW 800	\$449,00	Z10
Rotary handle + mechanism + shaft 12" (UL Type 4X)			
ACW125	EHX 12 ACW 125	\$331,00	Z10
ACW250	EHX 12 ACW 250	\$352,00	Z10
ACW400	EHX 12 ACW 400	\$422,00	Z10
ACW800	EHX 12 ACW 800	\$586,00	Z10

Suitable to	Catalog Number	List Price	Multiplier Symbol
Rotary handle + mechanism (without shaft) (UL Type 1, 3(R), 12)			
ACW125	EHU ACW 125	\$221,00	Z10
ACW250	EHU ACW 250	\$239,00	Z10
ACW400	EHU ACW 400	\$305,00	Z10
ACW800	EHU ACW 800	\$427,00	Z10
Rotary handle + mechanism (without shaft) (UL Type 4X)			
ACW125	EHX ACW 125	\$305,00	Z10
ACW250	EHX ACW 250	\$322,00	Z10
ACW400	EHX ACW 400	\$398,00	Z10
ACW800	EHX ACW 800	\$575,00	Z10
16" shaft for rotary handle			
ACW125...800	ES 16 ACW 125-800	\$53,00	Z10
24" shaft for rotary handle			
ACW125...800	ES 24 ACW 125-800	\$71,00	Z10

External accessories

Flange handle



The flange disconnect handle is available in NEMA 3(R), 12 and 4X versions. Flexible cables are available in four different sizes (36", 42", 60", 72") and are ordered separately.

Suitable to	Catalog Number	List Price	Multiplier Symbol
Flange handle + mechanism (without flexible cable) (UL Type 1, 3(R), 12)			
ACW125	FHU ACW 125	\$365,00	Z10
ACW250	FHU ACW 250	\$410,00	Z10
ACW400	FHU ACW 400	\$480,00	Z10
ACW800	FHU ACW 800	\$551,00	Z10
Flange handle + mechanism (without flexible cable) (UL Type 4X)			
ACW125	FHX ACW 125	\$458,00	Z10
ACW250	FHX ACW 250	\$526,00	Z10
ACW400	FHX ACW 400	\$594,00	Z10
ACW800	FHX ACW 800	\$656,00	Z10

Suitable to	Catalog Number	List Price	Multiplier Symbol
Flexible cable			
Cable 36"			
ACW125...250	FC 36 ACW 125-250	\$146,00	Z10
ACW400...800	FC 36 ACW 400-800	\$155,00	Z10
Cable 48"			
ACW125...250	FC 48 ACW 125-250	\$169,00	Z10
ACW400...800	FC 48 ACW 400-800	\$179,00	Z10
Cable 60"			
ACW125...250	FC 60 ACW 125-250	\$188,00	Z10
ACW400...800	FC 60 ACW 400-800	\$198,00	Z10
Cable 72"			
ACW125...250	FC 72 ACW 125-250	\$208,00	Z10
ACW400...800	FC 72 ACW 400-800	\$227,00	Z10

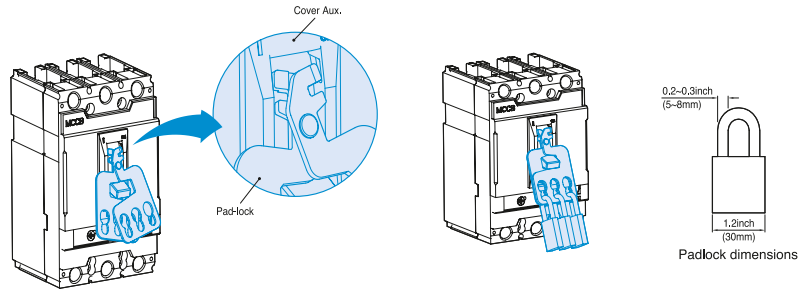


External accessories

Pad lock



The pad lock allows the handle to be locked in the “OFF” position. Maximum three padlocks with shackle diameters ranging from 0.2 to 0.3in (5 to 8mm) may be used. (Padlocks are not supplied)
Locking in the “OFF” position guarantee isolation required per UL 489.



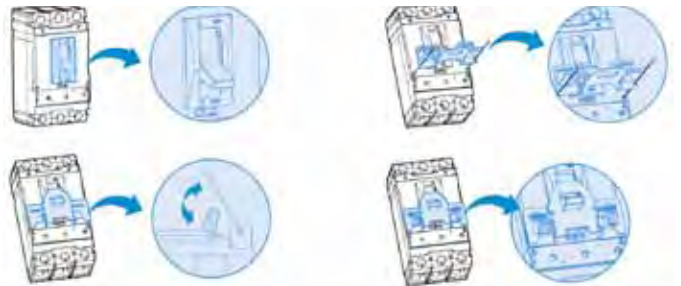
Suitable to	Catalog Number	List Price	Multiplier Symbol
ACW125	PL ACW 125	\$59,00	Z10
ACW250	PL ACW 250	\$65,00	Z10
ACW400	PL ACW 400	\$78,00	Z10
ACW800	PL ACW 800	\$90,00	Z10

Handle lock



The handle lock allows the handle to be locked in the “ON” and “OFF” positions. Maximum three padlocks with shackle diameters ranging from 0.2 to 0.3inch (5 to 8mm) may be used. (Padlocks are not supplied)
Locking in the “OFF” position guarantee isolation required per UL 489.

Suitable to	Catalog Number	List Price	Multiplier Symbol
ACW125	HL ACW 125	\$95,00	Z10
ACW250	HL ACW 250	\$101,00	Z10
ACW400	HL ACW 400	\$158,00	Z10
ACW800	HL ACW 800	\$165,00	Z10



External accessories

Mechanical interlock

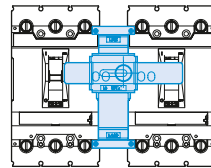


The mechanical interlock can be applied on the front of two breakers mounted side by side and prevents simultaneous closing of the two breakers. Interlock is assembled directly to the front cover of the breakers.

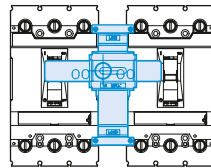
The interlocking plate allows installation of a padlock to maintain the position. The operator can lock out either one or both breakers in the "OFF" position. (Padlocks are not supplied)

Suitable to	Catalog Number	List Price	Multiplier Symbol
ACW125	MIT ACW 125	\$338,00	Z10
ACW250	MIT ACW 250	\$377,00	Z10
ACW400	MIT ACW 400	\$413,00	Z10
ACW800	MIT ACW 800	\$440,00	Z10

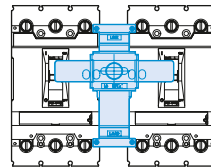
Operation



Left MCCB: ON/OFF is possible
Right MCCB: Locked in OFF position



Left MCCB: Locked in OFF position
Right MCCB: ON/OFF is possible



Both MCCBs are of locked

Wiring terminal (Lugs)



Line and Load terminals provide the means for connecting the circuit breaker to the power source and the load. Each breaker accepts up to 6 lugs (a set of 3 units for the line terminals and another set of 3 units for the load terminals); Each lug is suitable for either line or load terminals.




Suitable to	Catalog Number	List Price	Multiplier Symbol
Set with 3 pieces			
ACW125	LW1 3P ACW 125	\$48,00	Z10
ACW250	LW2 3P ACW 250	\$81,00	Z10
Set with 15 pieces			
ACW125	LW1 15P ACW 125	\$168,00	Z10
ACW250	LW2 15P ACW 250	\$283,00	Z10



Technical Data



Models		ACW125	
Frame size		125	
Rated current – In @ 40°C	A	15, 20, 30, 40, 50, 60, 80, 100, 125	
No. of poles		3	
Rated operational voltage - Ue	VAC	600	
UL interrupting rating - Icu	kA	P	W
120VAC		50	100
240VAC		50	100
480VAC		35	65
600VAC		10	14
Reference standard		UL 489	
Trip unit (Thermal-magnetic)			
Fixed thermal, fixed magnetic	FTU	Yes	
Adjustable thermal, fixed magnetic	FMU	Yes	
Adjustable thermal, adjustable magnetic	ATU	No	
Accessories			
Auxiliary contact (AX)		Yes	
Alarm contact (AL)		Yes	
Shunt release (SHT)		Yes	
Under voltage (UVT)		Yes	
Rotary handle		Yes	
Flange handle		Yes	
Locking devices (pad and handle lock)		Yes	
Mechanical interlock block		Yes	
Wiring terminals		Yes	
Mechanical life	operations	4,000	
Electrical life @ 600VAC	operations	4,000	
Weight	Lbs/kg	2.65/1.2	
Dimensions (width x height x depth)	in/mm	3.54x6.46x3.39/90x164x86	

					
ACW250		ACW400		ACW800	
250		400		800	
150, 160, 175, 200, 225, 250		300, 350, 400		500, 600, 700, 800	
3		3		3	
600		600		600	
P	W	P	W	P	W
-	-	-	-	-	-
50	100	50	100	50	100
35	65	35	65	35	65
10	18	14	20	18	25
UL 489		UL 489		UL 489	
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		Standard		Standard	
5,000		5,000		3,000	
1,000		1,000		500	
4.1/1.9		12.57/5.7		29.98/13.6	
4.13x7.01x3.39/105x178x86		5.51x11.50x4.33/140x292x110		8.27x16.85x5.31/210x428x135	



Temperature derating

A derating of the rated operational current for ACW series is necessary if the ambient temperature is greater than 40°C (+104°F), because the overload-protection characteristics are slightly modified.

MCCB	Rating (A)	Fixed MCCB (thermal-magnetic trip unit)							
		50°F	68°F	86°F	104°F	122°F	140°F	158°F	176°F
		10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C
ACW125	15	15	15	15	15	15	14	13	12
	20	20	20	20	20	19	19	18	16
	30	30	30	30	30	29	28	26	24
	40	40	40	40	40	39	38	35	33
	50	50	50	50	50	48	47	44	41
	60	60	60	60	60	58	56	53	49
	80	80	80	80	80	78	75	71	66
	100	100	100	100	100	97	94	88	82
ACW250	150	150	150	150	150	145	140	131	121
	160	160	160	160	160	155	150	141	131
	175	175	175	175	175	170	165	156	145
	200	200	200	200	200	194	188	176	164
	225	225	225	225	225	219	213	201	189
	250	250	250	250	250	242	234	220	205
ACW400	300	300	300	300	300	291	281	264	246
	350	350	350	350	350	341	331	314	296
	400	400	400	400	400	388	375	353	328
ACW800	500	500	500	500	500	484	469	441	410
	600	600	600	600	600	580	571	525	487
	700	700	700	700	700	680	661	625	587
	800	800	800	800	800	775	750	705	656

Cascading protection (back-up protection)

This is an economical approach to the use of circuit protective devices, whereby only the main (upstream) breaker has adequate interrupting capacity for the maximum available fault current. Downstream circuit breakers cannot handle this maximum fault current and rely on the opening of the upstream breaker for protection.

The advantage of this approach is that it facilitates the use of downstream low cost, low fault level breakers, thereby offering savings in both the cost and size of equipment. However, in order to comply with local standards & codes such as cascading protection must be tested and listed by UL.

Power supply 240V

Branch breaker	Main breaker	ACW125P	ACW125W	ACW250P	ACW250W
	Rated breaking capacity (kArms)	50	100	50	100
ACW125P	50	-	75	-	75
ACW125W	100	-	-	-	-
ACW250P	50	-	-	-	75
ACW250W	100	-	-	-	-
ACW400P	50	-	-	-	-
ACW400W	100	-	-	-	-
ACW800P	50	-	-	-	-
ACW800W	100	-	-	-	-

Branch breaker	Main breaker	ACW400P	ACW400W	ACW800P	ACW800W
	Rated breaking capacity (kArms)	50	100	50	100
ACW125P	50	-	75	-	75
ACW125W	100	-	-	-	-
ACW250P	50	-	75	-	75
ACW250W	100	-	-	-	-
ACW400P	50	-	75	-	75
ACW400W	100	-	-	-	-
ACW800P	50	-	-	-	75
ACW800W	100	-	-	-	-

Power supply 480V

Branch breaker	Main breaker	ACW125P	ACW125W	ACW250P	ACW250W
	Rated breaking capacity (kArms)	35	65	35	65
ACW125P	35	-	50	-	50
ACW125W	65	-	-	-	-
ACW250P	35	-	-	-	50
ACW250W	65	-	-	-	-
ACW400P	35	-	-	-	-
ACW400W	65	-	-	-	-
ACW800P	35	-	-	-	-
ACW800W	65	-	-	-	-

Branch breaker	Main breaker	ACW400P	ACW400W	ACW800P	ACW800W
	Rated breaking capacity (kArms)	35	65	35	65
ACW125P	35	-	50	-	50
ACW125W	65	-	-	-	-
ACW250P	35	-	50	-	50
ACW250W	65	-	-	-	-
ACW400P	35	-	50	-	50
ACW400W	65	-	-	-	-
ACW800P	35	-	-	-	50
ACW800W	65	-	-	-	-



Cascading protection (back-up protection)

This is an economical approach to the use of circuit protective devices, whereby only the main (upstream) breaker has adequate interrupting capacity for the maximum available fault current. Downstream circuit breakers cannot handle this maximum fault current and rely on the opening of the upstream breaker for protection.

The advantage of this approach is that it facilitates the use of downstream low cost, low fault level breakers, thereby offering savings in both the cost and size of equipment. However, in order to comply with local standards & codes such cascading protection must be tested and listed by UL.

Power supply 600V

Branch breaker	Main breaker	ACW125P	ACW125W	ACW250P	ACW250W
	Rated breaking capacity (kArms)	10	14	10	18
ACW125P	10	-	12	-	14
ACW125W	14	-	-	-	16
ACW250P	10	-	-	-	14
ACW250W	18	-	-	-	-
ACW400P	14	-	-	-	-
ACW400W	20	-	-	-	-
ACW800P	18	-	-	-	-
ACW800W	25	-	-	-	-

Branch breaker	Main breaker	ACW400P	ACW400W	ACW800P	ACW800W
	Rated breaking capacity (kArms)	14	20	18	25
ACW125P	10	12	15	14	17
ACW125W	14	-	17	16	19
ACW250P	10	12	15	14	17
ACW250W	18	-	19	-	21
ACW400P	14	-	17	16	19
ACW400W	20	-	-	-	22
ACW800P	18	-	-	-	21
ACW800W	25	-	-	-	-

Selectivity (Coordination tables)

Definition of selectivity is given by the IEC 60947-1. "Trip selectivity is the coordination between the operating characteristics of two or more overcurrent protection devices, so that when an overcurrent within established limits occurs, the device intended to operate within those limits trips whereas the others do not trip".

The definitions of total selectivity and partial selectivity are, on the other hand, given in Part 2 of the same Standard IEC 60947-2 "Low voltage Equipment - Part 2: Circuit-breakers"

"Total selectivity

Overcurrent selectivity where, in the presence of two protection devices against overcurrent in series, the load-side protection device carries out the protection without making the other device trip."

"Partial selectivity

Overcurrent selectivity where, in the presence of two protection devices against overcurrent in series, the load-side protection device carries out the protection up to a given level of overcurrent, without making the other device trip."

Selection of proper protection system is fundamental to guarantee correct economical and functional service of the whole installation and to reduce the problems caused by abnormal service conditions or actual faults to a minimum.

Branch breaker		Main breaker		ACW125P/W								ACW250P/W					
				Trip units – Thermal magnetic								Trip units – Thermal magnetic					
		Rating (A)		15	20	30	40	50	60	80	100	125	150	160	175	200	225
ACW	P	Trip units – thermal magnetic	15				0.5kA	0.5kA	0.5kA	0.63kA	0.8kA	2kA	2kA	2kA	T	T	T
			20					0.5kA	0.5kA	0.63kA	0.8kA	2kA	2kA	2kA	T	T	T
			30						0.5kA	0.63kA	0.8kA	2kA	2kA	2kA	T	T	T
			40							0.63kA	0.8kA	2kA	2kA	2kA	T	T	T
			50							0.63kA	0.8kA	2kA	2kA	2kA	T	T	T
			60								0.8kA	2kA	2kA	2kA	T	T	T
			80									1.25kA	2kA	2kA	T	T	T
	100											1.6kA	1.6kA	T	T	T	
	125												1.25kA	1.25kA	4kA	4kA	
	W		15				0.5kA	0.5kA	0.5kA	0.63kA	0.8kA	2kA	T	T	T	T	T
			20					0.5kA	0.5kA	0.63kA	0.8kA	2kA	T	T	T	T	T
			30						0.5kA	0.63kA	0.8kA	2kA	50kA	50kA	50kA	50kA	50kA
			40							0.63kA	0.8kA	2kA	50kA	50kA	50kA	50kA	50kA
			50							0.63kA	0.8kA	2kA	50kA	50kA	50kA	50kA	50kA
60									0.8kA	2kA	50kA	50kA	50kA	50kA	50kA		
80											50kA	50kA	50kA	50kA	50kA		
ACW	P	150															
		160															
		175															
		200															
		225															
	W	250															1.25kA
		150															
		160															
		175															
		200															
225																	
250																	

Note: T means Total Selectivity.

Example

The following two circuit-breakers are considered:

- Main breaker ACW250W-175-3 (Icu = 65kA)
- Branch breaker ACW125W-20-3 (Icu = 65kA)

Extracting the data from the table above, it can be seen that there is total selectivity (T) between these circuit-breakers. In other words, there is selectivity up to 65kA (the lower of the two values).


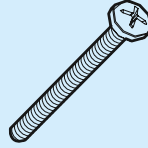
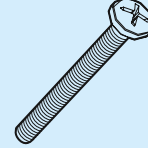
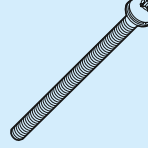
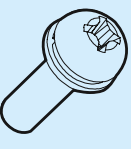
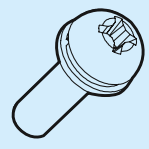
Now the following two circuit-breakers are considered:

- Main breaker ACW250W-175-3 (Icu = 65kA)
- Branch breaker ACW125W-30-3 (Icu = 65kA)

Extracting the data from the table above, it can be seen that the selectivity value is 50kA between the two circuit-breakers. This means that, if the maximum prospective short-circuit current on the load-side of the ACW125W-30-3 circuit-breaker is less than 50kA, there will be total selectivity, whereas if the short-circuit current has a higher value, there will be partial selectivity (non-tripping of the supply-side circuit-breaker is not guaranteed).

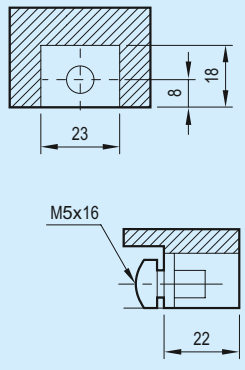
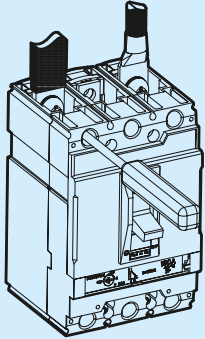
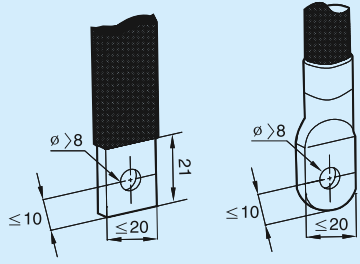
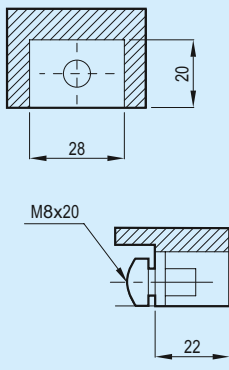
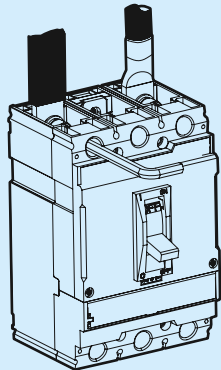
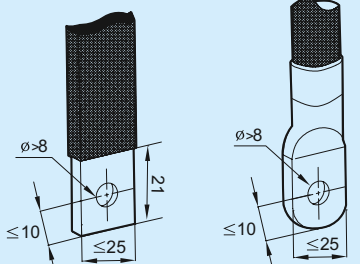
Screw and connection

Screw mounting

	ACW125	ACW250	ACW400	ACW800
Screw for mounting				
	4EA (NO.8-32 UNC-2A, L100)		4EA (NO.10-24 UNC-2A, L120)	4EA (1/4"-20 UNC2A, L140)
Screw for connection of terminals			N.A.	N.A.
	6EA(M5xL16) Torque: Max 78kgf-cm 67.7lbf-in	6EA(M8xL20) Torque: Max 197kgf-cm 170lbf-in	N.A.	N.A.

Note: ACW400 and ACW800 are supplied with lugs.

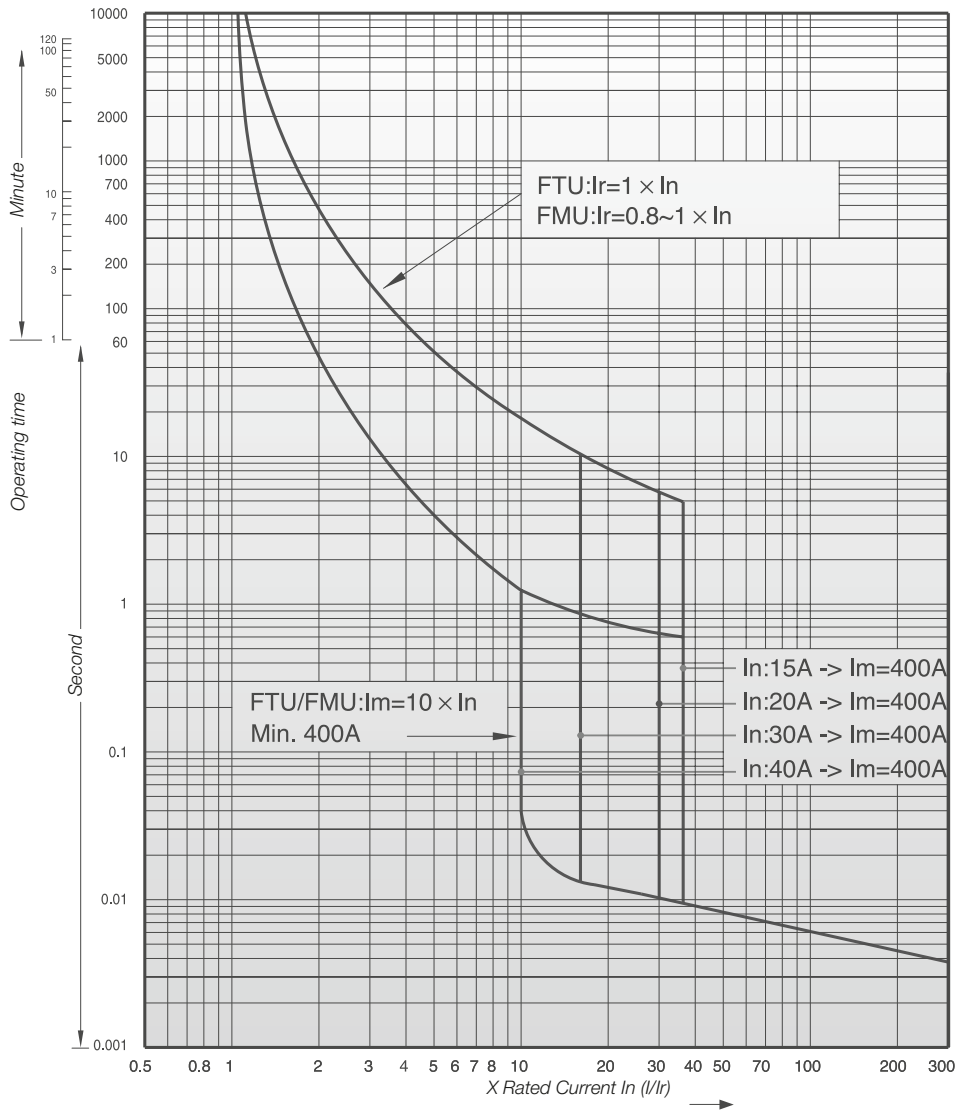
Connecting terminal and conductor

	Terminal (mm)		Conductor (mm)
ACW125		 Max 78kgf-cm	
ACW250		 Max 147kgf-cm	

Note: ACW400 and ACW800 are supplied with lugs.

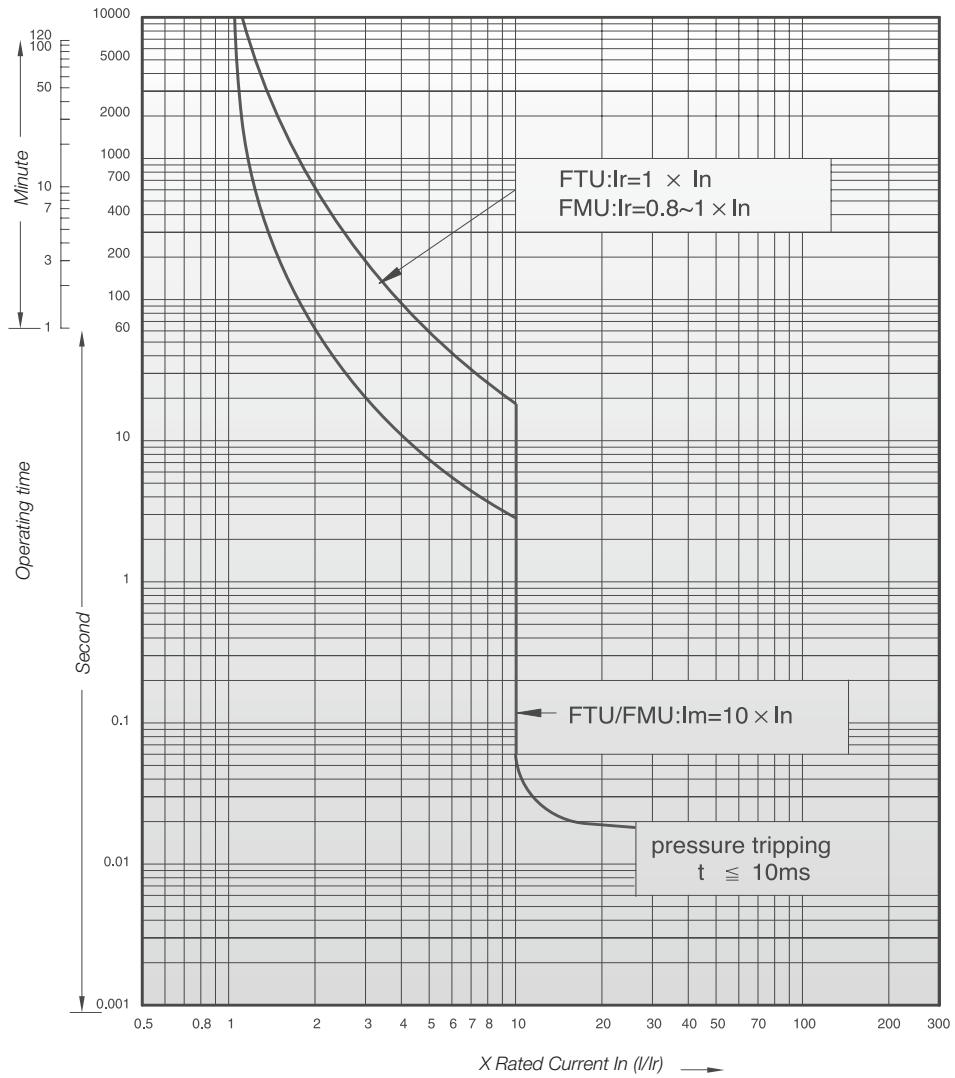
Trip curves

ACW125 – FTU & FMU (15...125A)



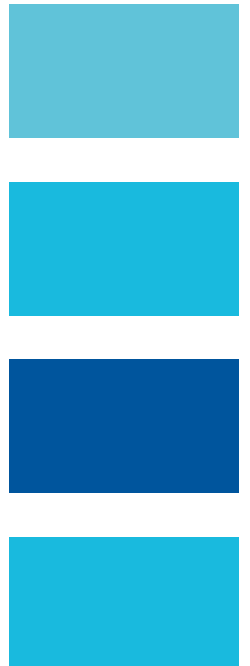
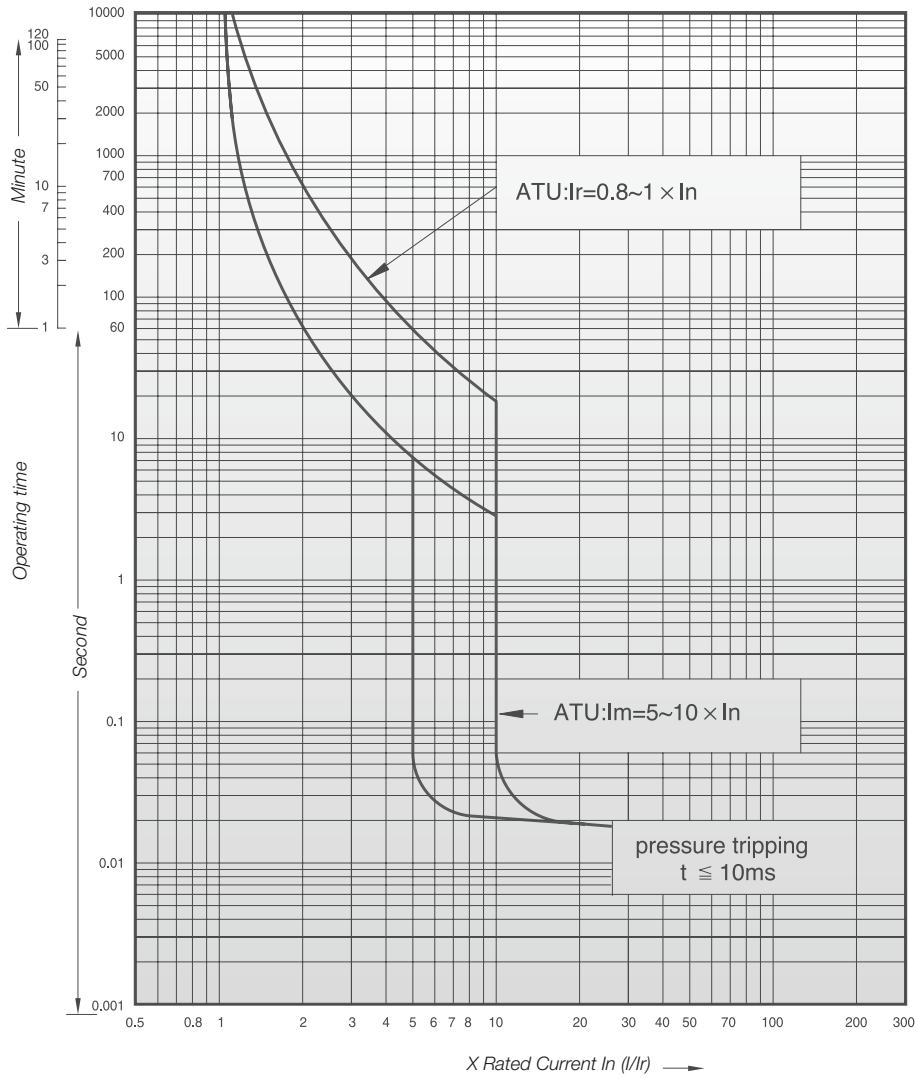
Trip curves

ACW250 – FTU & FMU (128...250A)



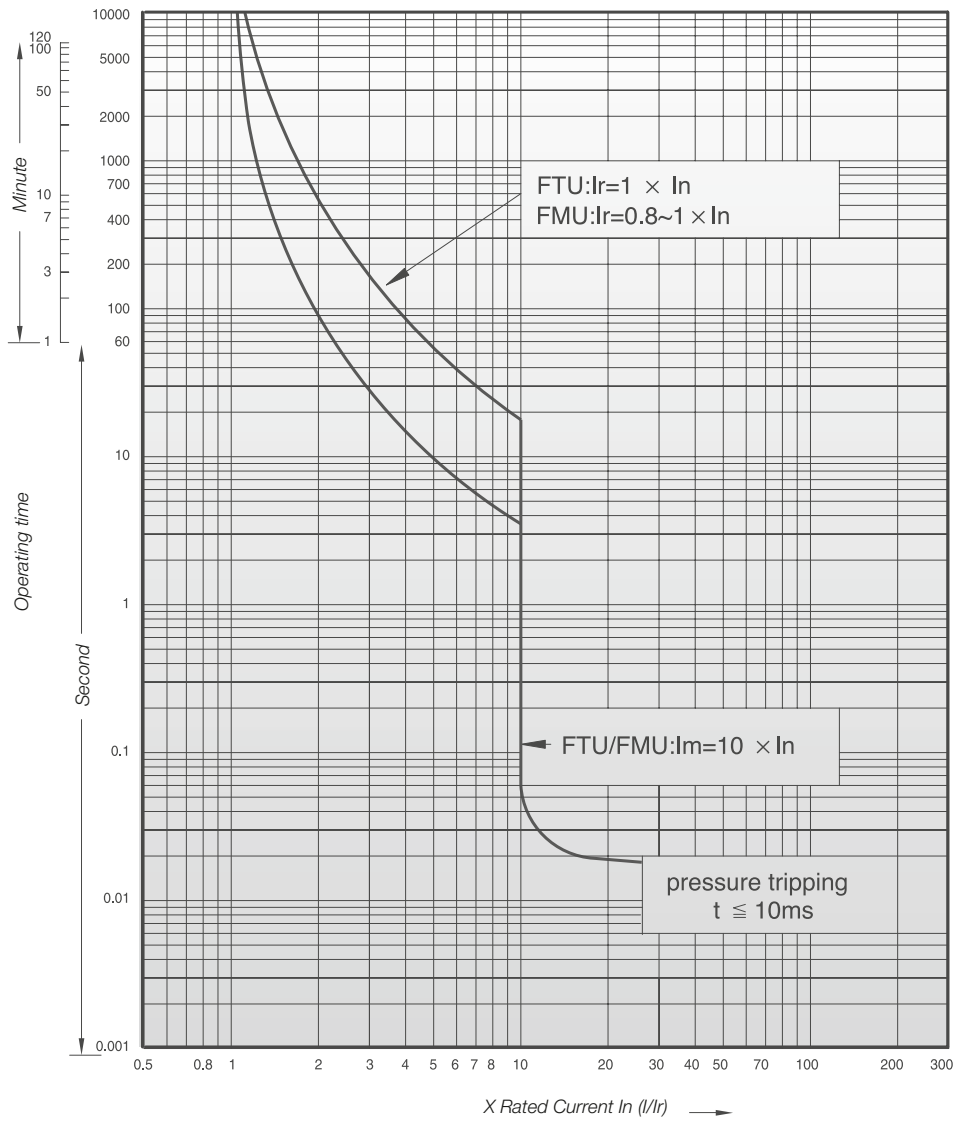
Trip curves

ACW250 – ATU (128...250A)



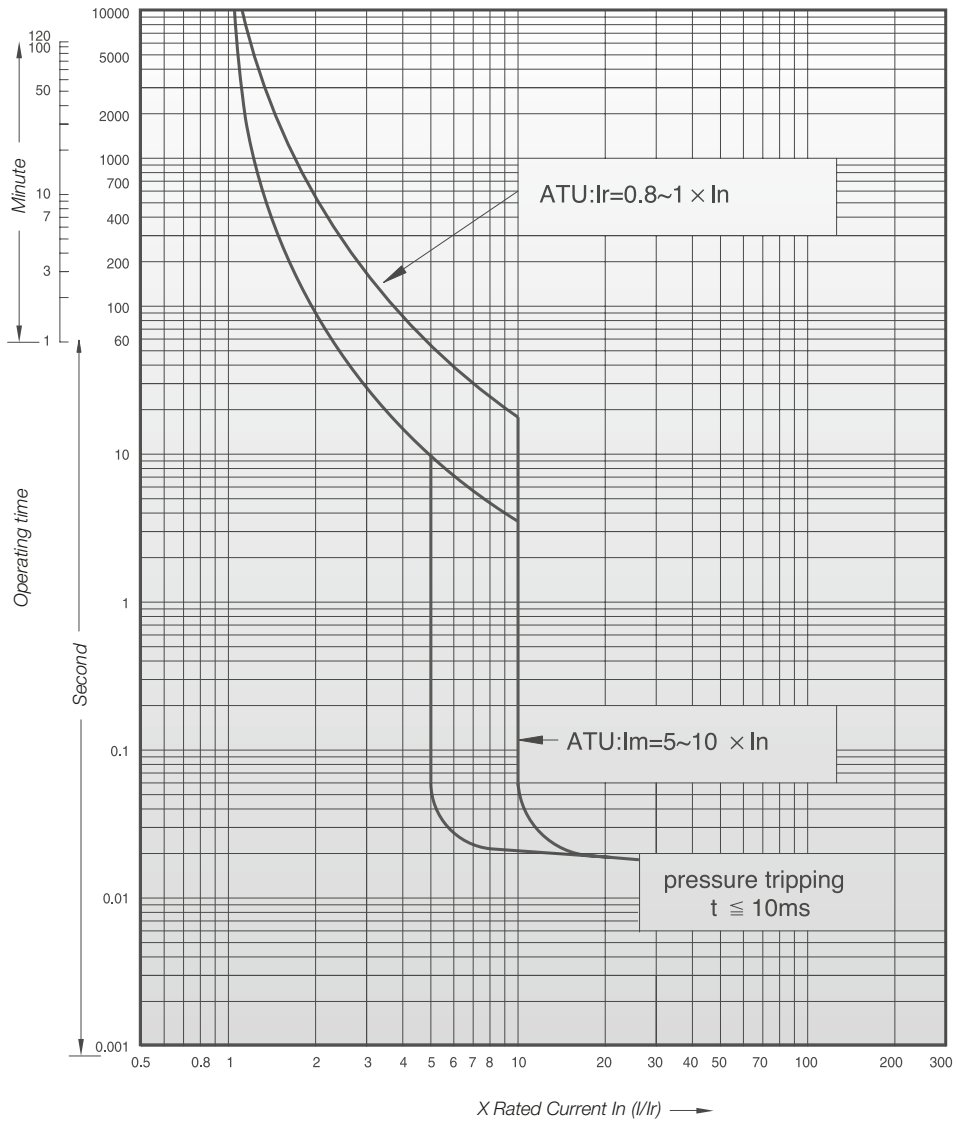
Trip curves

ACW400 – FTU & FMU (240...400A)



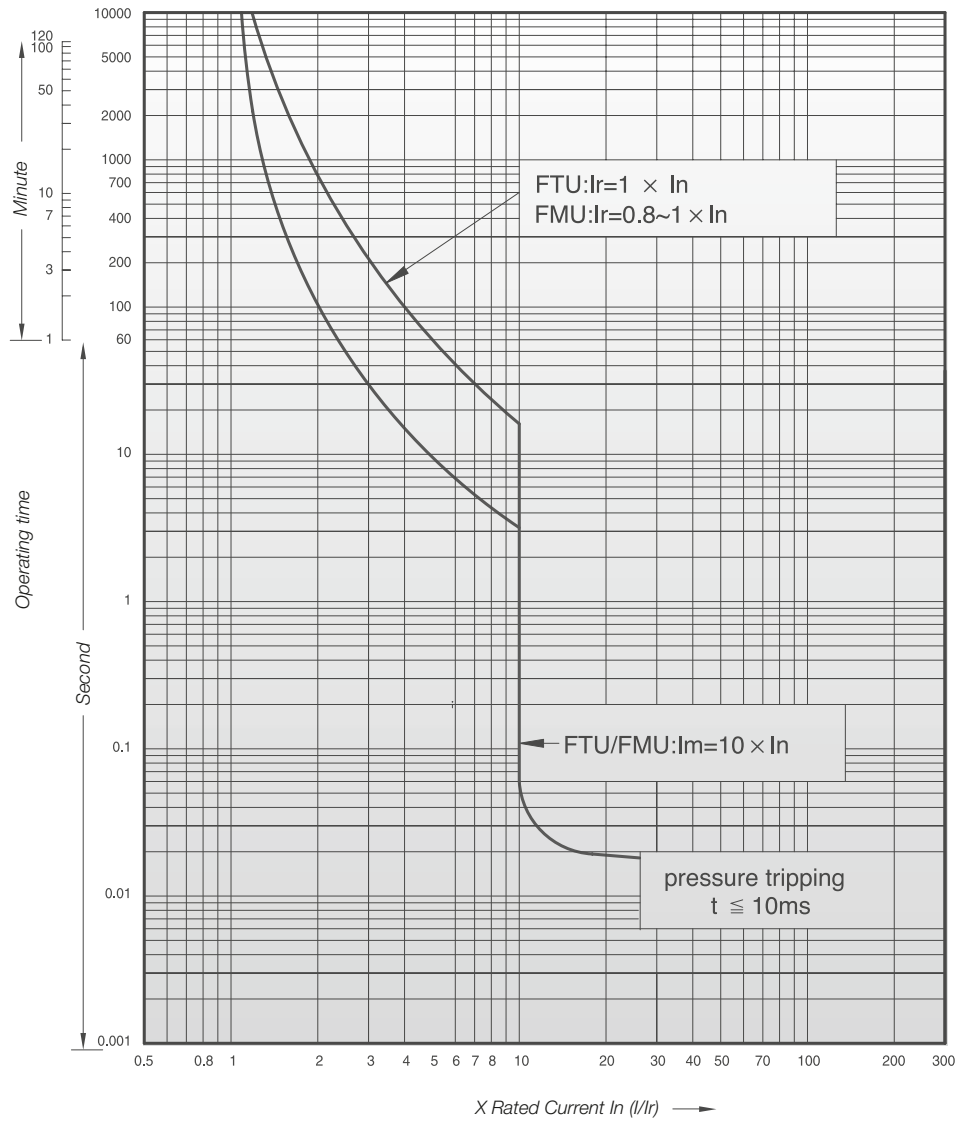
Trip curves

ACW400 – ATU (240...400A)



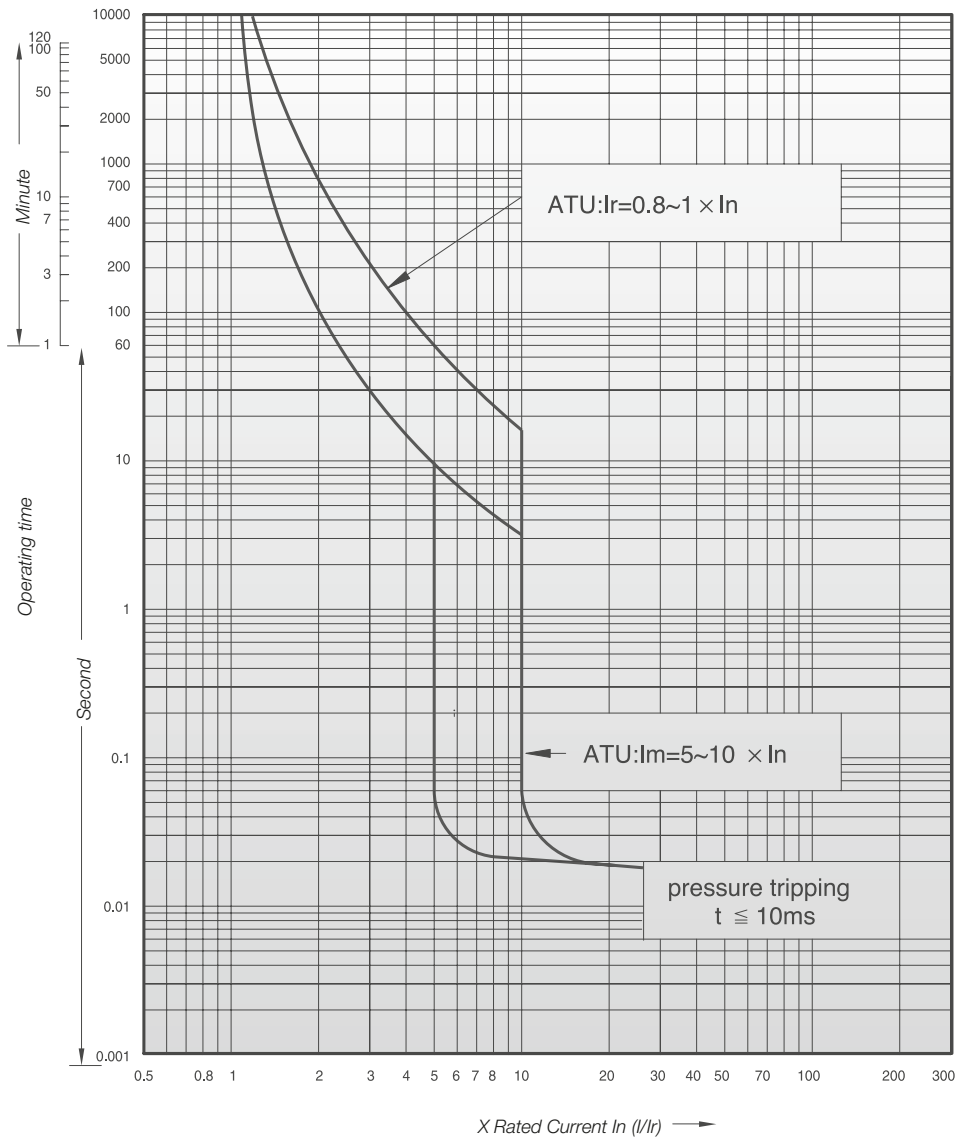
Trip curves

ACW800 – FTU & FMU 400...800A)



Trip curves

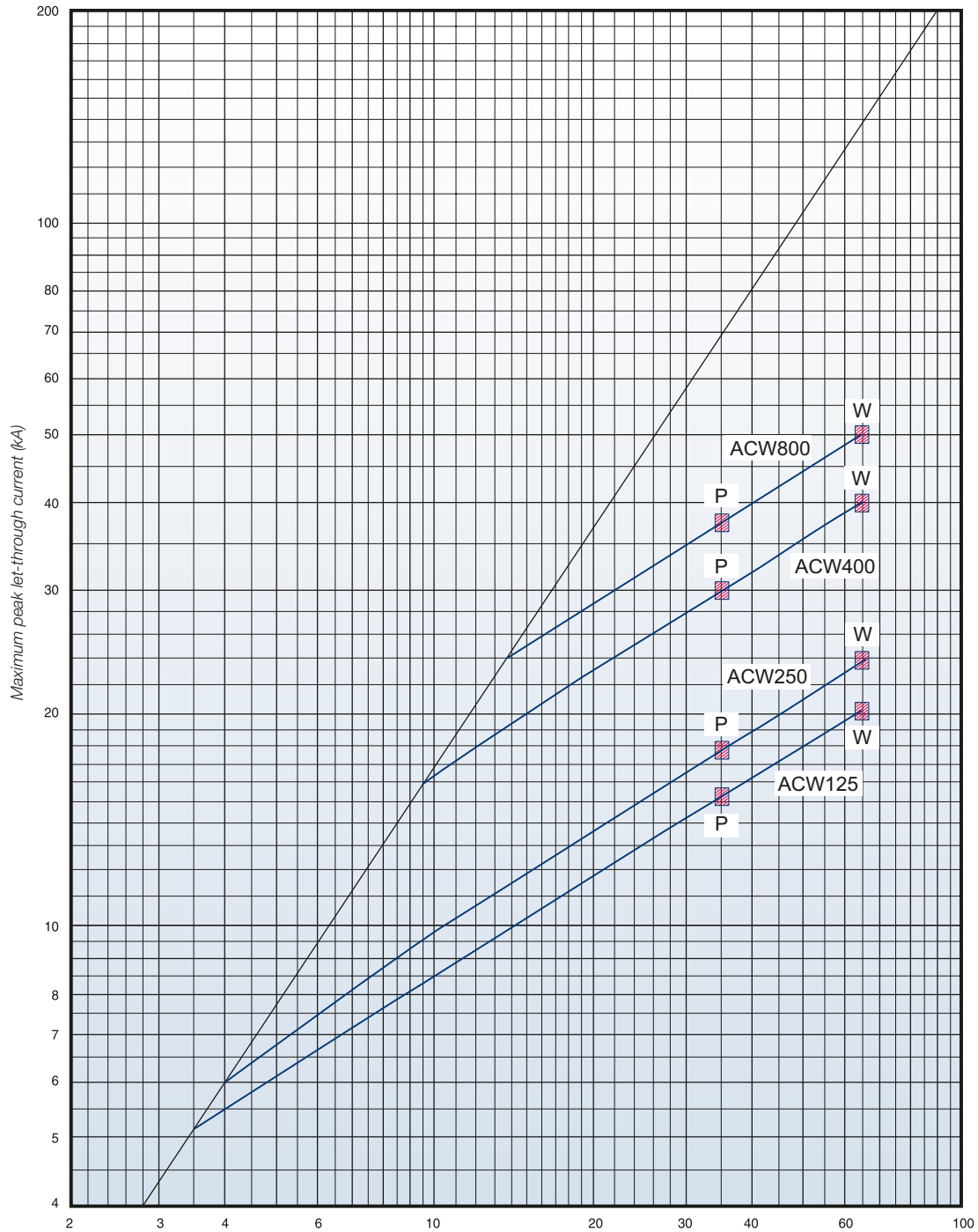
ACW800 – ATU (400...800A)



Characteristics curves - Current limiting

The following curves show circuit breaker current-limiting characteristics. The rms of the prospective symmetrical short-circuit current is indicated on the abscissa of the diagram, whereas the peak short-circuit current value is indicated on the ordinates. The current-limiting effect can be visualized by comparing, at the same symmetrical short-circuit current value, the corresponding peak value at the prospective short-circuit current with the limited peak value. In correspondence to a short-circuit of 40kA@480V, the ACW125W circuit breaker would limit the peak value to approximately 16kA@480V.

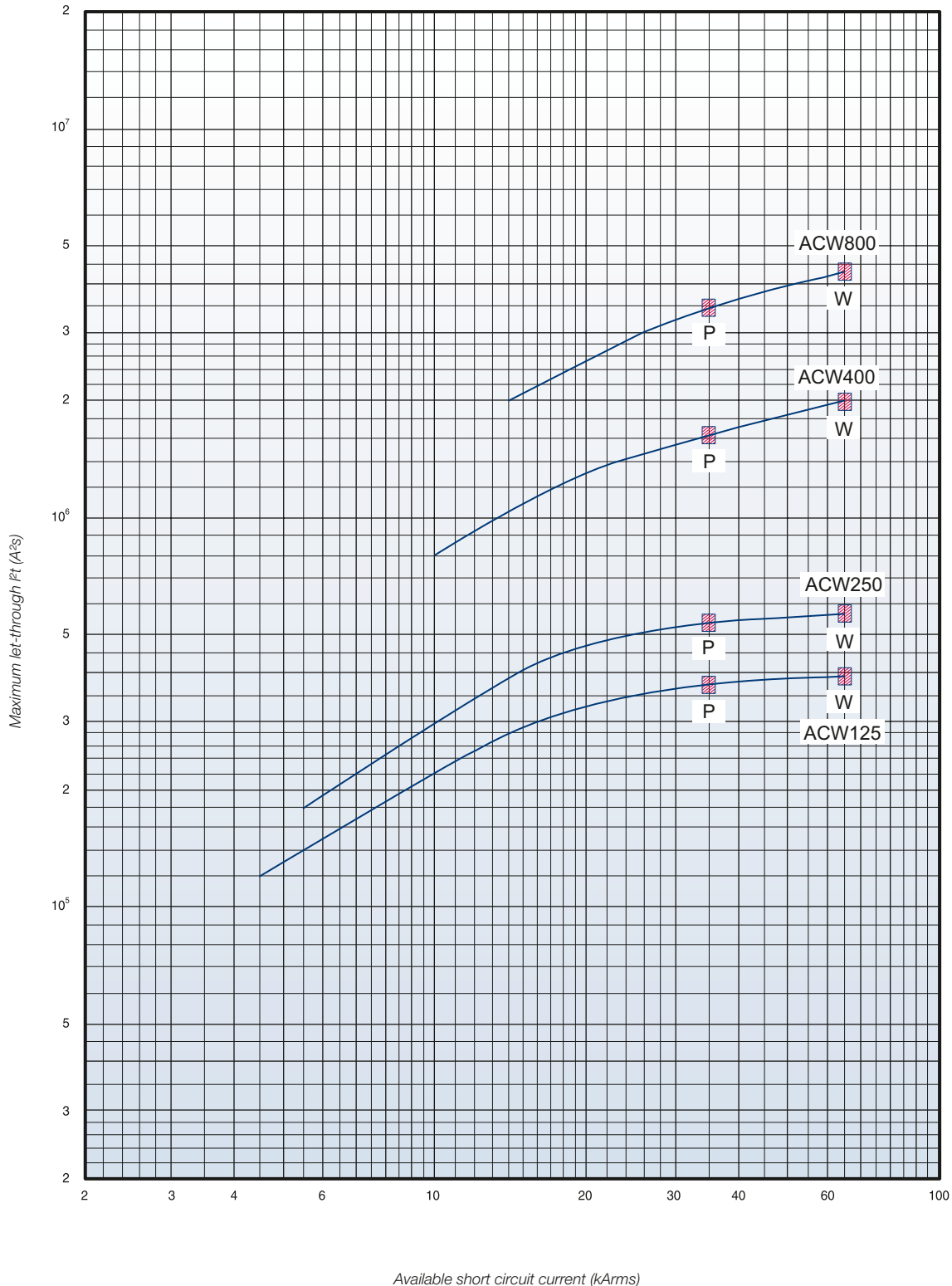
Current-limiting curves @ 480V



Characteristics curves - Let-through energy

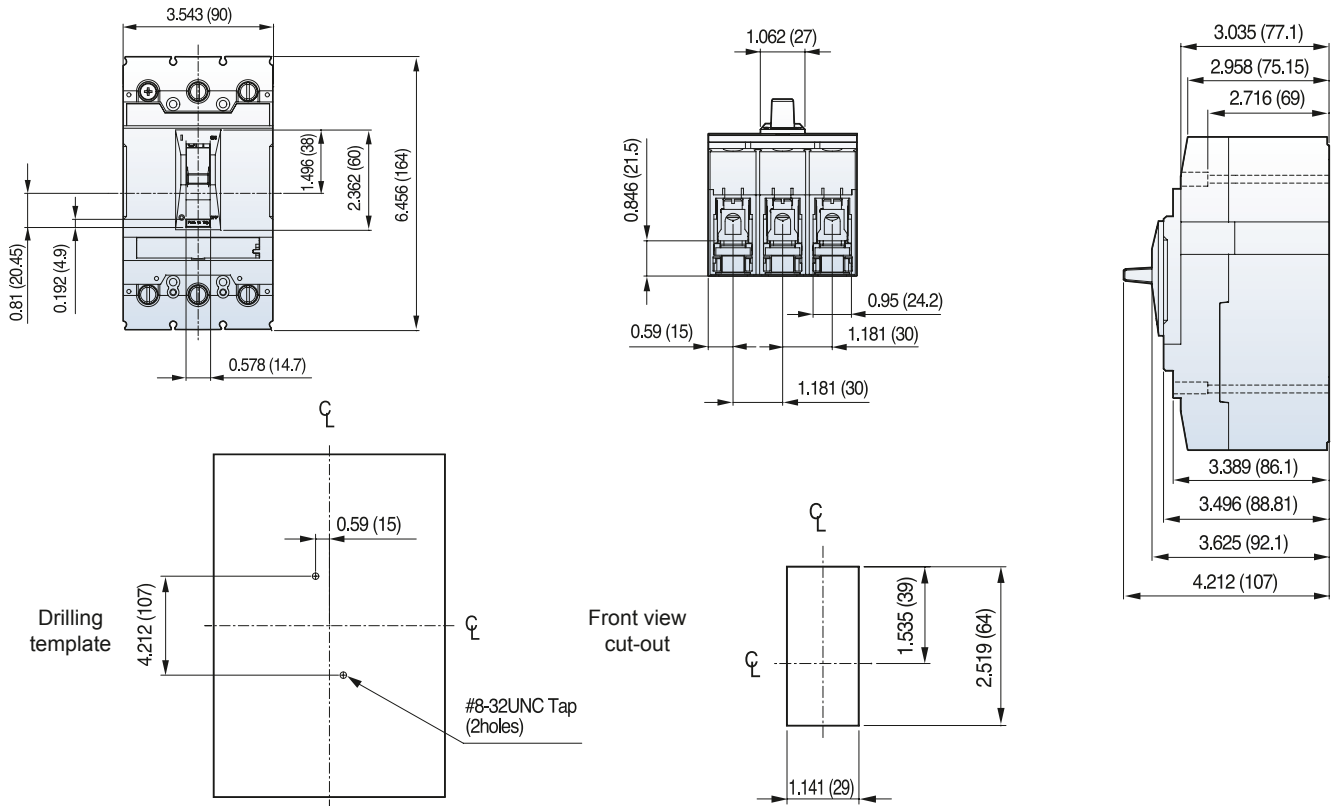
The prospective symmetrical short-circuit current is indicated on the abscissa of the diagram, whereas the ordinates show the specific let through energy values expressed in A²s. In correspondence to a short-circuit of 65kA@480V, the ACW125W circuit breaker lets through a value of I²t approximately to 400kA²s.

Let-through energy curves @ 480V

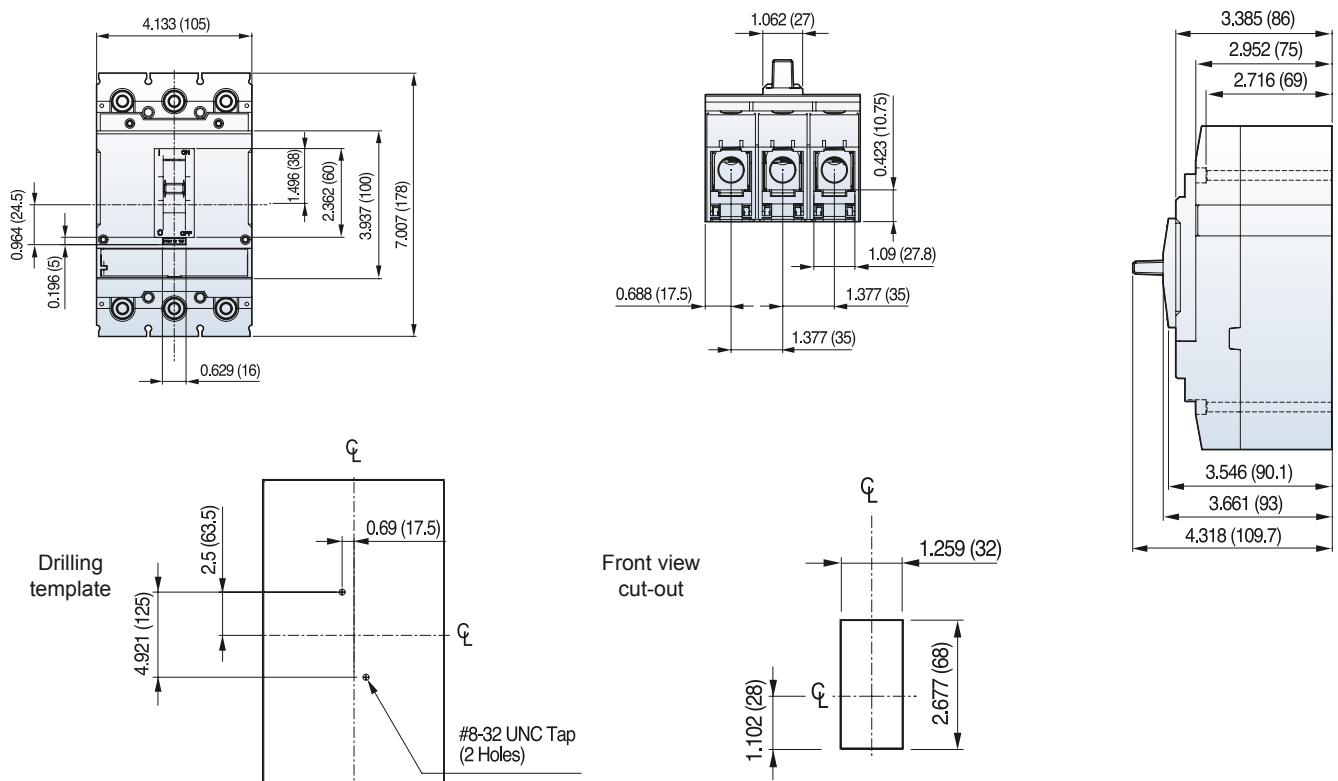


Dimensions - inch (mm)

ACW125

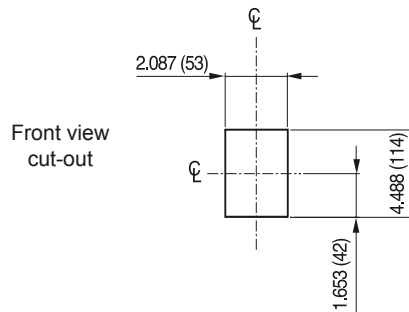
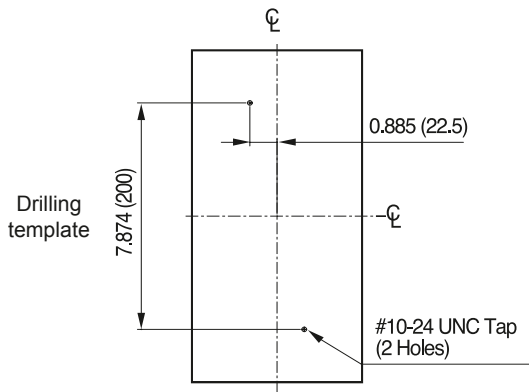
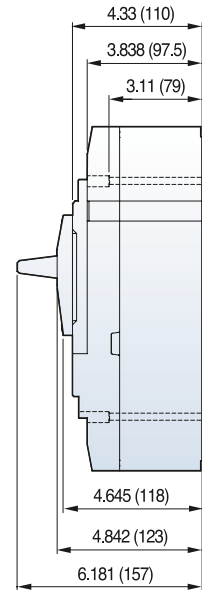
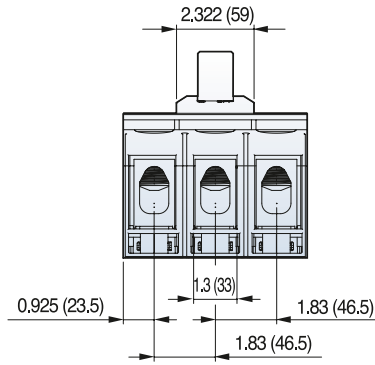
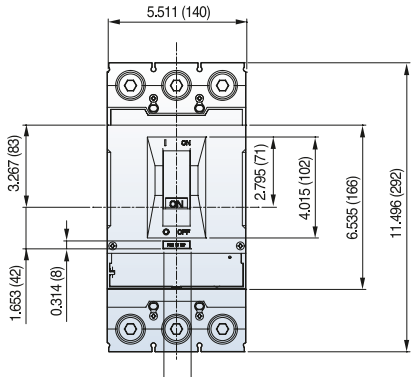


ACW250

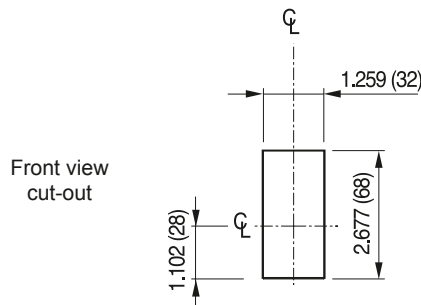
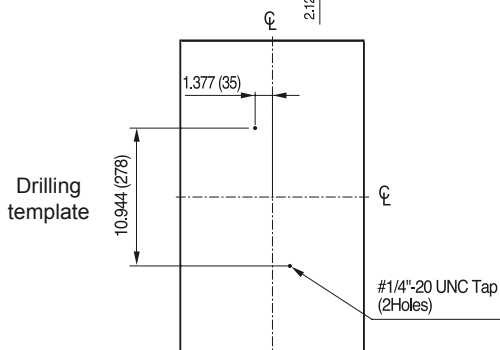
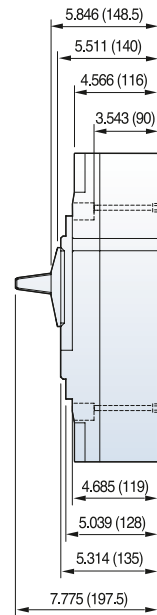
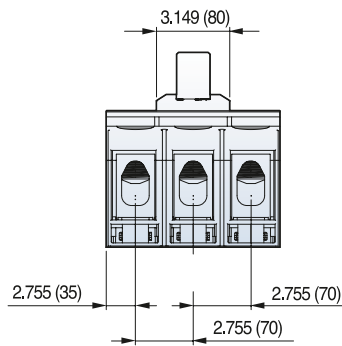
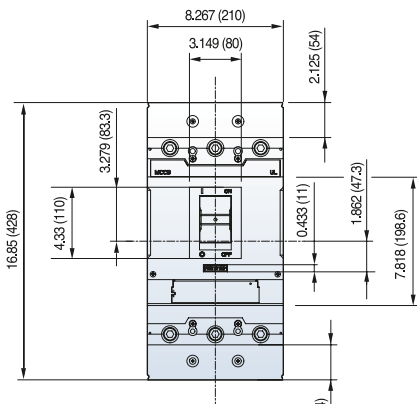


Dimensions - inch (mm)

ACW400



ACW800





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CONTROLS

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