

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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Circuit Protection

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protected



Selection table of MCB's

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
				yes	D	0.5 - 63	6 10
		 	1, 2, 3, 4	yes	K	0.5 - 63	6 10 ⁽¹⁾ 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 ⁽²⁾ 30 ⁽²⁾
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 ⁽¹⁾
				yes	C	0.5 - 63	6 6 10 ⁽¹⁾
				yes	D	0.5 - 63	6 6 10 ⁽¹⁾
A.30	EP100 UL	 	1, 2, 3, 4	yes	B	6 - 63	10 10 15 ⁽¹⁾
				yes	C	0.5 - 63	10 10 15 ⁽¹⁾
				yes	D	0.5 - 63	10 10 15 ⁽¹⁾
A.32	EP100 ULH		1, 2, 3	yes	B	5 - 32	10 15 ⁽²⁾
				yes	C	0.5 - 32	10 15 ⁽²⁾
				yes	D	0.5 - 32	10 15 ⁽²⁾

 domestic
 commercial
 industrial
 motors
 photovoltaic

B: 3-5 In
 C: 5-10 In
 D: 10-20 In
 K: 8-12 In

EN/IEC 60898-1
 EN/IEC 60947-2

NEMA AB1
 UL 489
 UL 1077

(1) Ics = 75% Icu
 (2) Ics = 50% Icu

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 ⁽³⁾
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 ⁽¹⁾ → 10
A.66	EPP100		1, 2, 3, 3+N, 4	yes	B-C	2 - 40	10 ⁽¹⁾ → 15 ⁽²⁾

 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

A

B

C

D

E

F

X



Technical data of MCB's

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 ⁽²⁾	B, C, D, K ⁽²⁾
Nominal current			6-50	B(6-63), C/D/K(0.5-63)	B(6-63), C/D/K(0.5-63)
Calibration temperature			30	30	30
Number of poles (# mod)			1	1/1+N/2/3/4 ⁽²⁾	1/1+N/2/3/4 ⁽²⁾
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) ⁽¹⁾	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 _{bmax} between two wires		V	250/440	250/440; 53/120Vdc	250/440; 53/120Vdc
Minimum service voltage U _{bmin}		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 ²	1/25	1/35	1/35
	Flexible cable min*/max (top)	mm ²	0.75/16	0.75/25	0.75/25
	Rigid cable min/max (bottom)	mm ²	1/25	1/35	1/35
	Flexible cable min*/max (bottom)	mm ²	0.75/16	0.75/25	0.75/25
	(* Flexible cable 0.75/1/1.5 mm ² 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 ⁽³⁾
3-5In(B)/5-10In(C)	M	B, C	3-5In/5-10In/10-20In	Z, B, C, D, K ⁽⁵⁾	Z, B, C, K ⁽⁴⁾
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 ⁽⁶⁾	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



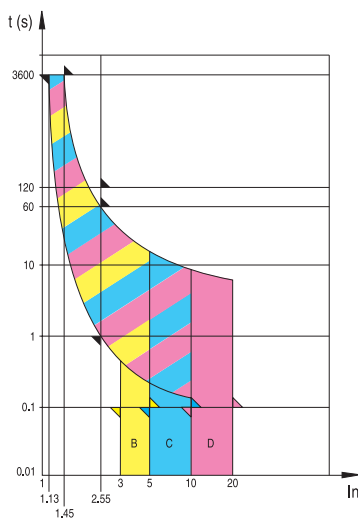
Short-circuit capacity of MCB's

Series				DG61	EP60	
Short-circuit capacity AC (kA)						
EN/IEC 60898-1	Icn	1P	230/400V	6	6	
		1P+N	230V	-	6	
		2P	230/400V	-	6	
		3P/3P+N/4P	230/400V	-	6	
	Ics (service)			100% Icu	100% Icn	
EN/IEC 60947-2	Icu (ultimate)	1P	127V	-	20	
			240V	-	10	
			415V	-	3	
		1P+N/2P	127V	-	30	
			240V	-	20	
			415V	-	10	
		2P	415V	-	10	
			240V	-	20	
			3P, 4P	415V	-	10
				440V	-	6
Ics (service)			-	75% Icu		
NEMA AB1 (120/240V)			-	20		
Short-circuit capacity DC (kA)						
EN/IEC 60947-2	Icu (ultimate)	1P	≤60Vdc	-	20	
			≤220Vdc	-	-	
		2P	≤125Vdc	-	25	
			≤440Vdc	-	-	
		Ics (service)			-	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.

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 three different types, following the current for instantaneous release: type B,C,D.

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

(1) if I_n ≤ 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 × I _n	t ≥ 1h (I _n ≤ 63A) t ≥ 2h (I _n > 63A)
1.45 × I _n	t < 1h (I _n ≤ 63A) t < 2h (I _n > 63A)
2.55 × I _n	1s < t < 60s (I _n ≤ 32A) 1s < t < 120s (I _n > 32A)

EP100 EP100R / EP100T	EP250	EP250 M	EP100 UC / EP100 UCR	Hti
10	-	-	6 (220Vdc) ⁽²⁾	-
10	-	-	-	-
10	-	-	6 (440Vdc) ⁽³⁾	-
10	-	-	-	-
75% I _{cn}	-	-	100% I _{cn}	-
30	50	-	-	-
15	50/25/20/15 ⁽¹⁾	-	6 ⁽⁵⁾	B/C 10; D 7.5
4	-	-	-	4.5
40	-	-	-	-
30	50/50/40/30 ⁽¹⁾	50/40/30 ⁽⁶⁾	-	B/C 15
15	50/25/20/15 ⁽¹⁾	25/20/15 ⁽⁶⁾	6 ⁽⁵⁾	B/C 10; D 7.5
30	50/50/40/30 ⁽¹⁾	50/40/30 ⁽⁶⁾	-	B/C 15
15	50/25/20/15 ⁽¹⁾	25/20/15 ⁽⁶⁾	-	B/C 10; D 7.5
10	50/20/15/10 ⁽¹⁾	20/15/10 ⁽⁶⁾	-	-
50% I _{cu}	50% I _{cu}	50% I _{cu}	-	100% I _{cu}
30	-	-	-	-
25	25	-	-	10
-	-	-	10 ⁽⁴⁾	-
30	30	30	20 ⁽⁴⁾	15
-	-	-	10 ⁽⁴⁾	-
100% I _{cu}	100% I _{cu}	100% I _{cu}	-	100% I _{cu}
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 I_n
- C: 8.5 I_n (7.5 I_n for 63A)
- D and M: 14 I_n
- K: 10 I_n (6 I_n ≥ 2 s.)

Thermal release

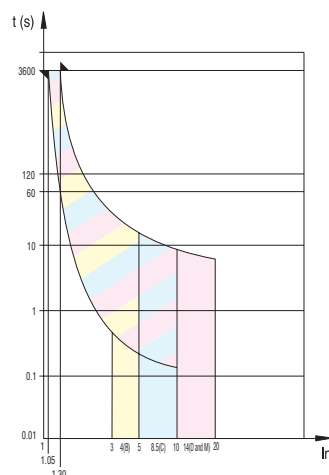
The release is initiated by a bimetal strip in case of overload. The standard defines the range of releases for two special overload values.

Reference ambient temperature is:

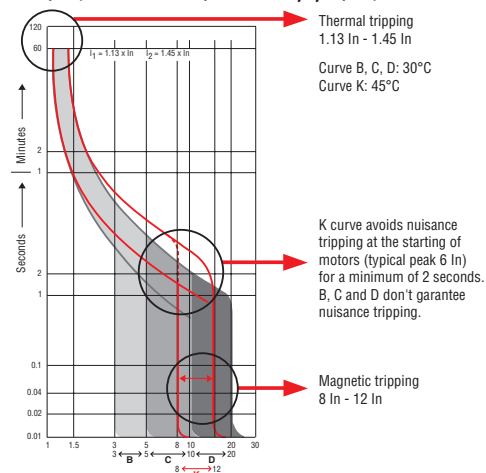
- 50°C for EP60 and EP100, except for K: 45°C

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

Tripping characteristic curves (EN/IEC 60947-2)



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



MCB's

A

B

C

D

E

F

X

Technical data of MCB's

Series			EP60 UL	EP100 UL	EP100 ULH
Standards UL 1077 (recognized) & CSA C22.2			yes	yes	-
Standards UL 489 (listed)			-	-	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
Standards EN/IEC 60947-2			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
DC	3P+N/4P	V	400	400	400
	1P ⁽¹⁾	Vdc	48	48	48
	2P (in series) ⁽¹⁾	Vdc	110	110	110
Frequency	Hz		50/60	50/60	50/60
Maximum service voltage U _{bmax} between two wires	V		250/440; 53/120Vdc	250/440; 53/120Vdc	250/440; 53/120Vdc
Minimum service voltage U _{bmin}	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 Un, In		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 ²	1/35	1/35	1/35
	Flexible cable min*/max (top)	mm ²	0.75/25	0.75/25	0.75/25
	Rigid cable min/max (bottom)	mm ²	1/35	1/35	1/35
	Flexible cable min*/max (bottom)	mm ²	0.75/25	0.75/25	0.75/25
	(* Flexible cable 0.75/1/1.5 mm ² with cable lug)				
	Torque	Nm	max 4.5	max 4.5	max 4.5
Add-on devices (side add-on)	Auxiliary contacts		yes	yes	yes
	Tele L		yes	yes	yes
	Tele MP		yes	yes	yes
Dimensions (HxDxW) 86x68xW ⁽²⁾	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
Interrupting capacity acc. to			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
Short-circuit capacity AC					
EN/IEC 60947-2	Icu (ultimate)	kA			
	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
	Ics (service)		75% Icu	50% Icu	50% Icu
Short-circuit capacity DC					
EN/IEC 60947-2	Icu (ultimate)	kA			
	1 P	≤ 60Vdc	20	25	25
		≤ 220Vdc	-	-	-
	2 P	≤ 125Vdc	25	30	30
		≤ 440Vdc	-	-	-
	Ics (service)		100% Icu	100% Icu	10% Icu
Page			A.28	A.30	A.32

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_n
- C: 8.5 I_n (7.5 I_n for 63A)
- D: 14 I_n

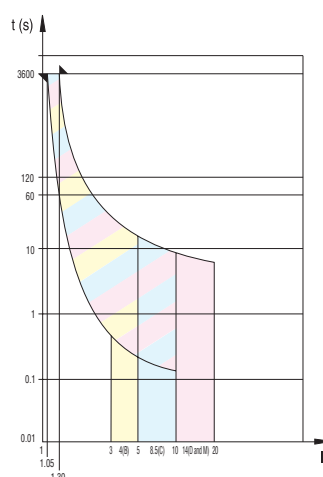
Thermal release

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 B - C - D	Tripping time
1.05 × I _n	t ≥ 1h (I _n ≤ 63A) t ≥ 2h (I _n > 63A)
1.30 × I _n	t < 1h (I _n ≤ 63A) t < 2h (I _n > 63A)

Tripping characteristic curves (EN/IEC 60947-2)



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
EP60	0.5-63	0.5-63	0.5-63	< 32	32-40	50-63	80-125
EP100	0.5-63	-	20	22	22	22	-
EPC 61N - EPC60	2-40	25	30	50	35	30	-
DM60	4-40	15	15	30	30	30	-
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	Icu In (kA)	MCCB's Record Plus™																											
				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	
		Downstream	Icu of the combination (kA)																												
ElfaPlus																															
EPC 61N / EPC 60		10	16	20	23	23	23	23	20	20	20	16	16	16	16																
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																
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		≤25A	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Series Hti			15	22	36	42	50	100	100	50	100	100	36	42	80	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Surion																															
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Record Plus™																															
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	100	
FD160/160H		100	-	-	-	-	-	200	-	-	200	-	-	-	200	-	-	200	-	-	200	-	100	150	-	100	150	-	100	100	
FE160N		85	-	-	-	-	-	-	-	100	200	-	-	100	200	-	100	200	-	100	200	80	100	150	80	100	150	80	100	100	
FE160H		100	-	-	-	-	-	-	-	-	200	-	-	-	200	-	-	200	-	-	200	-	100	150	-	100	150	-	100	100	
FE250N		85	-	-	-	-	-	-	-	-	-	-	-	-	100	200	-	100	200	-	100	200	80	100	150	80	100	150	80	100	
FE250H		100	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	200	-	-	200	-	100	150	-	100	150	-	100	100	
FG400N		85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	200	-	100	200	80	100	150	80	100	150	80	100	100	
FG400H		100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	200	-	100	150	-	100	150	-	100	100	
FG630N		85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	200	80	100	150	80	100	150	80	100	
FG630H		100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	100	150	-	100	150	-	100	100	
FK800N		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	150	80	100	150	80	100	100	
FK800H		100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	170	-	100	170	-	100	100	
FK1250N		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	170	80	100	170	80	100	100	
FK1250H		100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	170	-	100	170	-	100	100	

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)																														
ElfaPlus																														
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Series Hti																														
Surion		10	15	18	25	30	36	42	30	36	42	18	30	36	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Record Plus™																														
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	-
FD160/160H		80	-	-	-	-	-	150	-	-	150	-	-	-	150	-	-	150	-	-	150	-	-	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	-	-	-
FE250N		50	-	-	-	-	-	-	-	-	-	-	-	80	150	-	80	150	-	80	150	-	80	100	-	80	100	-	80	-
FE250H		80	-	-	-	-	-	-	-	-	-	-	-	-	150	-	-	150	-	-	150	-	-	100	-	-	100	-	-	-
FG400N		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	150	-	80	150	-	80	100	-	80	100	-	80	-
FG400H		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150	-	-	150	-	-	100	-	-	100	-	-	-
FG630N		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	150	-	80	100	-	80	100	-	80	-
FG630H		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150	-	-	100	-	-	100	-	-	-
FK800N		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	-	80	100	-	80	-
FK800H		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	100	-	-	-
FK1250N		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	-	80	100	-	80	-
FK1250H		80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	100	-	-

MCB's

A

B

C

D

E

F

X



Selectivity

Record Plus™ MCCB's

Upstream		MCCB's Record Plus™																	
		FDC & FDE 63/160 LTM						FDS 63/160 LTMD						FDN, H & L 63/160 LTMD					
Downstream	In (A)	40	50	63	80	100	125	40	50	63	80	100	125	40	50	63	80	100	125
		Selectivity limit (kA) ⁽¹⁾																	
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
	20	0.6	2.5	3	6	T	T	3.5	T	T	T	T	T	3.5	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
	32	-	-	1.2	3	6	T	-	-	T	T	T	T	-	-	T	T	T	T
	40	-	-	-	3	4	6	-	-	-	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
	20	0.6	2.5	3	6	8	T	3.5	T	T	T	T	T	3.5	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
	32	-	-	1.2	3	6	8	-	-	10	T	T	T	-	-	10	T	T	T
	40	-	-	-	3	4	6	-	-	-	T	T	T	-	-	-	T	T	T
ElfaPlus EP60 DM100 B/C curve	50	-	-	-	1.2	1.5	6	-	-	-	3.5	T	T	-	-	-	3.5	T	T
	63	-	-	-	-	1.5	2	-	-	-	-	8	T	-	-	-	-	8	T
	≤16	0.6	2.5	6	6	10	T	10	10	T	T	T	T	10	10	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
	25	-	0.8	1.2	6	6	T	1.6	3.5	T	T	T	T	1.6	3.5	T	T	T	T
ElfaPlus EP100 EP250 B/C curve	32	-	-	1.2	3	6	8	-	-	10	10	T	T	-	-	10	10	T	T
	40	-	-	-	3	4	6	-	-	-	10	T	T	-	-	-	10	T	T
	50	-	-	-	1.2	1.5	6	-	-	-	3.5	10	T	-	-	-	3.5	10	T
	63	-	-	-	-	1.5	2	-	-	-	-	8	T	-	-	-	-	8	T
	≤16	0.6	2.5	6	6	10	T	10	10	T	T	T	T	10	10	T	T	T	T
Hti C curve	20	0.6	2.5	3	6	8	T	3.5	10	T	T	T	T	3.5	10	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
	32	-	-	1.2	3	6	8	-	-	6	10	T	T	-	-	6	10	T	T
	40	-	-	-	3	4	6	-	-	-	10	15	T	-	-	-	10	15	T
	50	-	-	-	1.2	1.5	6	-	-	-	3.5	10	T	-	-	-	3.5	10	T
Surion GPS1BS & GPS1MS GPS2BS & GPS2MS	63	-	-	-	-	1.5	2	-	-	-	-	8	T	-	-	-	-	8	T
	≤20	0.6	2.5	6	6	10	T	10	10	T	T	T	T	10	10	T	T	T	T
	25	-	1	1.2	6	6	T	-	3.5	15	15	T	T	-	3.5	15	15	T	T
	32	-	-	1.2	3	6	10	-	-	6	6	T	T	-	-	6	6	T	T
	40	-	-	-	3	4	6	-	-	-	6	T	T	-	-	-	6	T	T
Surion GPS1BH & GPS1MH GPS2BH & GPS2MH	50	-	-	-	1.2	1.6	6	-	-	-	3.5	T	T	-	-	-	3.5	T	T
	63	-	-	-	-	1.6	2	-	-	-	-	8	T	-	-	-	-	8	T
	≤20	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
	32	-	-	6	6	8	T	-	-	T	T	T	T	-	-	T	T	T	T
Record Plus™ FD160/160E LTM	40	-	-	-	6	8	T	-	-	T	T	T	T	-	-	T	T	T	T
	50	-	-	-	6	8	T	-	-	-	3.5	T	T	-	-	-	3.5	T	T
	63	-	-	-	-	6	T	-	-	-	3.5	T	T	-	-	-	3.5	T	T
	80	-	-	-	-	-	T	-	-	-	-	8	T	-	-	-	-	8	T
	≤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
	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
	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

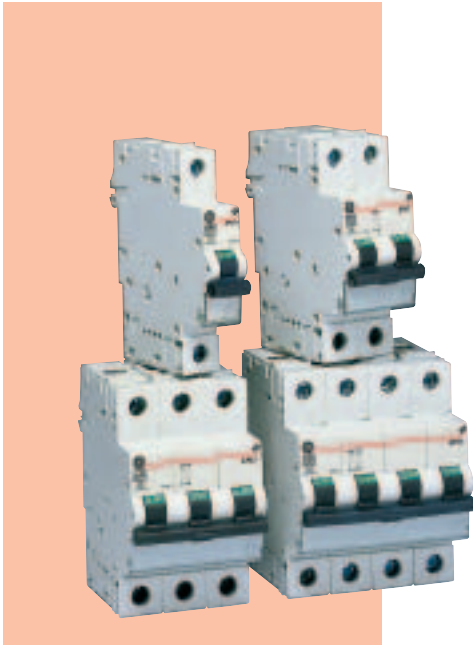
Current rating	(A) 6-50
Voltage	240V 50Hz
Minimum operating voltage $U_{B \min}$	(V) 12
Tripping characteristics	B-C
Selectivity class	3
Mechanical/electrical endurance	20000/10000
Tropicalisation acc.to EN/IEC 60068-2	95%RH at 55°C
Terminal capacity flexible/rigid cable (mm ²)	25
Poles	1
Weight	(g/pole)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



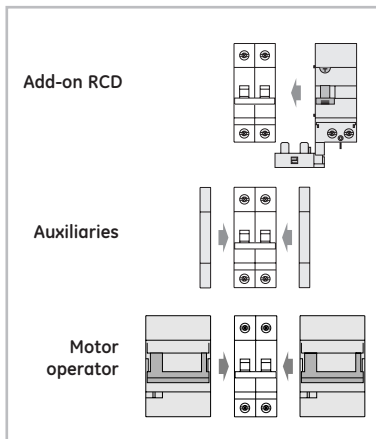
Applications



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

Miniature Circuit Breakers

EP60

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

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 ²)	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) ⁽¹⁾
1	240	10
1+N, 2	127	30
	240	20
2	415	10
3, 4	240	20
	415	10

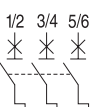
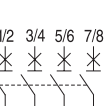
DC acc. to EN/IEC 60947-2

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.	
 1P 1 mod. 1/2  2/1	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 ⁽¹⁾	EP61 C06	672041	EP61 D06	566531	EP61K06	681606	1/12
	8	-	-	-	-	-	-	EP61K08	681607	1/12
	10	EP61 B10	674266 ⁽¹⁾	EP61 C10	672043	EP61 D10	566532	EP61K10	681608	1/12
	16	EP61 B16	674267 ⁽¹⁾	EP61 C16	672045	EP61 D16	566534	EP61K16	681609	1/12
	20	EP61 B20	674268 ⁽¹⁾	EP61 C20	672046	EP61 D20	566535	EP61K20	681610	1/12
	25	EP61 B25	674269 ⁽¹⁾	EP61 C25	672047	EP61 D25	566536	EP61K25	681611	1/12
	32	EP61 B32	674270 ⁽¹⁾	EP61 C32	672048	EP61 D32	566537	EP61K32	681612	1/12
	40	EP61 B40	674271 ⁽¹⁾	EP61 C40	672049	EP61 D40	566538	EP61K40	681613	1/12
	50	EP61 B50	674272 ⁽¹⁾	EP61 C50	672050	EP61 D50	566539	EP61K50	681614	1/12
	63	EP61 B63	674273 ⁽¹⁾	EP61 C63	672051	EP61 D63	566540	EP61K63	681615	1/12
 1P+N 2 mod. 1/2 N  2/1 N	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
 2P 2 mod. 1/2 3/4  2/1 4/3	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
 3P 3 mod. 1/2 3/4 5/6  2/1 4/3 6/5	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 ⁽²⁾	EP63 C06	672089	EP63 D06	566611	EP63K06	681638	1/4
	8	-	-	-	-	-	-	EP63K08	681639	1/4
	10	EP63 B10	674275 ⁽²⁾	EP63 C10	672091	EP63 D10	566612	EP63K10	681640	1/4
	16	EP63 B16	674276 ⁽²⁾	EP63 C16	672093	EP63 D16	566614	EP63K16	681641	1/4
	20	EP63 B20	674277 ⁽²⁾	EP63 C20	672094	EP63 D20	566615	EP63K20	681642	1/4
	25	EP63 B25	674278 ⁽²⁾	EP63 C25	672095	EP63 D25	566616	EP63K25	681643	1/4
	32	EP63 B32	674279 ⁽²⁾	EP63 C32	672096	EP63 D32	566617	EP63K32	681644	1/4
	40	EP63 B40	674280 ⁽²⁾	EP63 C40	672097	EP63 D40	566618	EP63K40	681645	1/4
	50	EP63 B50	674281 ⁽²⁾	EP63 C50	672098	EP63 D50	566619	EP63K50	681646	1/4
	63	EP63 B63	674282 ⁽²⁾	EP63 C63	672099	EP63 D63	566620	EP63K63	681647	1/4
 4P 4 mod. 1/2 3/4 5/6 7/8  2/1 4/3 6/5 8/7	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

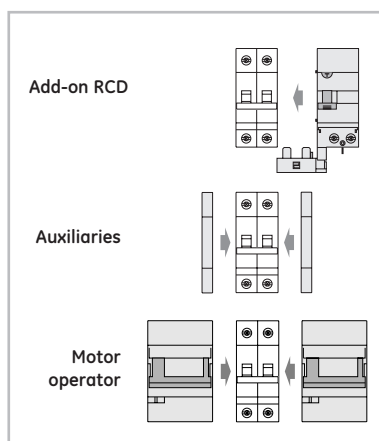
Applications



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 ≤ 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 ²) 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) ⁽¹⁾
1-4	240/415	10

AC acc. to EN/IEC 60947-2

Poles	V	I_{cu} (kA) ⁽²⁾
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

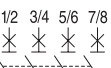
Poles	Vdc	I_{cu}/I_{cs} (kA)
1	60	25
2	125	30

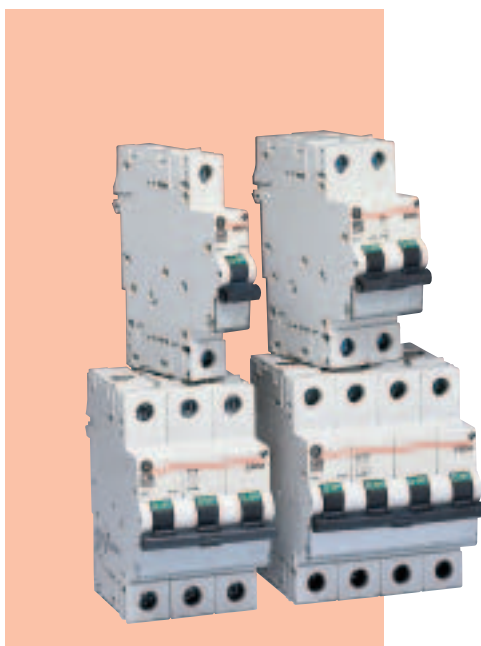
(1) $I_{cs} = 75\% I_{cu}$

(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.	
 1P 1 mod. 1/2  2/1	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
 1P+N 1/2 N  2/1 N	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
 2P 2 mod. 1/2 3/4  2/1 4/3	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
 3P 3 mod. 1/2 3/4 5/6  2/1 4/3 6/5	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
 4P 4 mod. 1/2 3/4 5/6 7/8  2/1 4/3 6/5 8/7	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



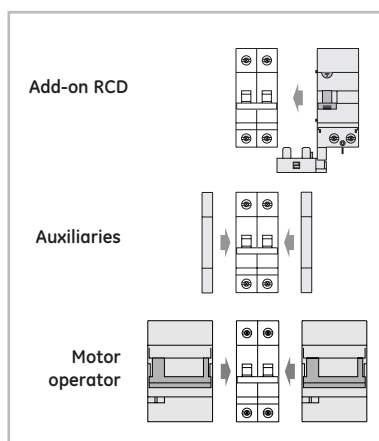
Applications



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

Miniature Circuit Breakers

EP250

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

Performances

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

Short-circuit capacity

AC according to EN/IEC 60947-2

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

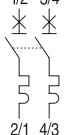
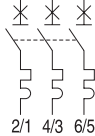
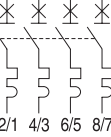
DC according to EN/IEC 60947-2

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

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

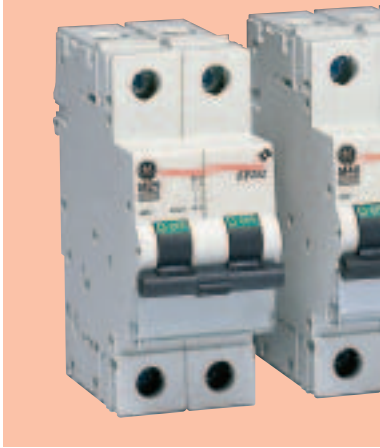
(2) Nominal and maximum Vdc on page A.4-A.5

Series EP250 - 25kA - characteristics B-C

	In (A)	B		C		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 1P 1 mod. 1/2  2/1	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
 2P 2 mod. 1/2 3/4  2/1 4/3	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
 3P 3 mod. 1/2 3/4 5/6  2/1 4/3 6/5	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
 4P 4 mod. 1/2 3/4 5/6 7/8  2/1 4/3 6/5 8/7	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

Miniature Circuit Breakers

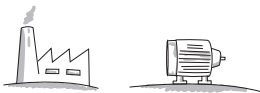
EP250 M



EN/IEC 60947-2

50kA
25kA
20kA
15kA

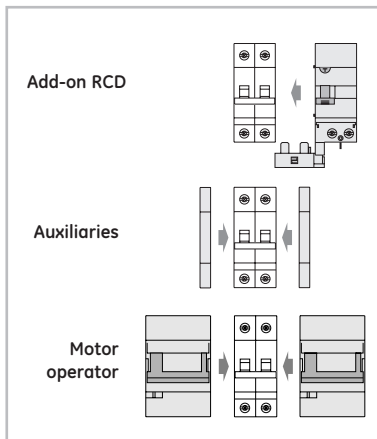
Applications



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 $U_{8 min}$	(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 ²)	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) ⁽¹⁾
≤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	V_{dc} ⁽²⁾	I_{cu}/I_{cs} (kA)
2	125	30

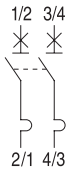
(1) $I_{cs} = 50\% I_{cu}$

(2) Nominal and maximum V_{dc} on page A.4-A.5

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



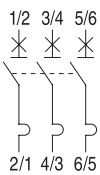
2P
2 mod.



In (A)			M		Pack.
	Cat. No.	Ref. No.	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





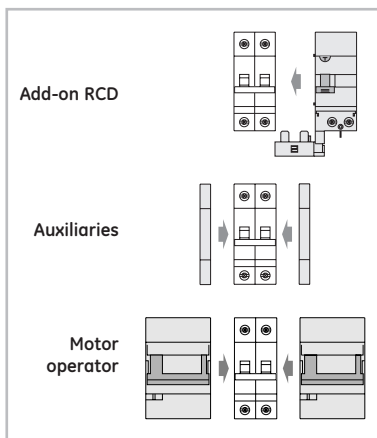
Applications



Standards / Marking

EN/IEC 60898-2, DIN VDE 0641

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

Miniature Circuit Breakers

EP100 UC

EN/IEC 60898-2

6000	T15
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DIN VDE 0641

EN/IEC 60947-2 10kA

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 ²)	25-35
Poles ⁽¹⁾	1, 2, 4 ⁽²⁾
Weight	(g/pole) 120

Short-circuit capacity

AC/DC acc. to EN/IEC 60898-2⁽⁵⁾

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 ⁽³⁾
2	440Vdc	10 ⁽³⁾
1	230Vac	6 ⁽⁴⁾
2	400Vac	6 ⁽⁴⁾

(1) Polarity labeling to be respected due to the permanent magnet in the MCB

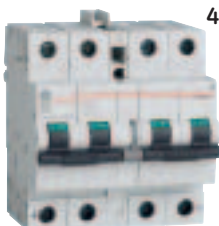
(2) For 4P execution open circuit voltage $U_{CO} = 1000Vdc$

(3) $T = 4ms$

(4) 4.5kA for 50A & 63A

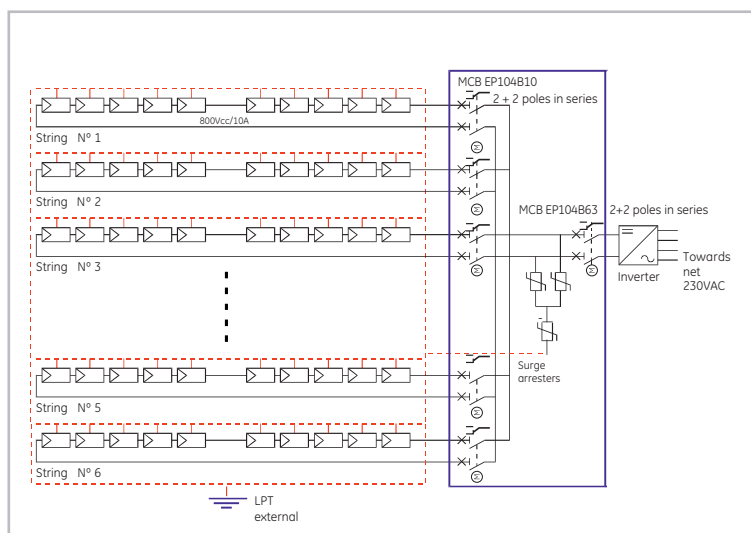
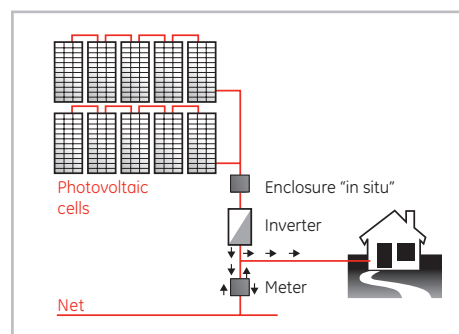
(5) After a switching of the net with more than 6kA in AC it should not be used in DC

Series EP100 UC - 10kA - characteristic B-C

	In (A)	B		C		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 1P 1 mod. 2 1 +	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. 2 4 1 3 + -	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. (1) 2 4 6 8 1 3 5 7 + -	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"



Miniature Circuit Breakers

Series Hti

EN/IEC 60947-2 10kA

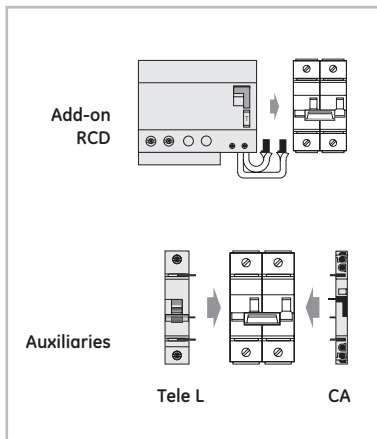
Applications



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

Short-circuit capacity

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

Poles	V	I_{cu} (kA) ⁽¹⁾
1	230/400	10 ⁽²⁾
2	230	15 ⁽³⁾
3, 4	230	15 ⁽³⁾
3, 4	400	10 ⁽²⁾

Add-on RCD - technical performances

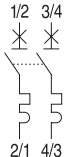
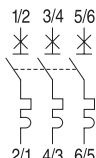
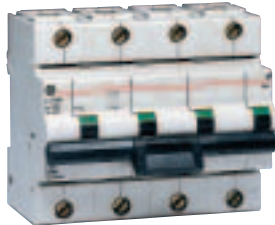
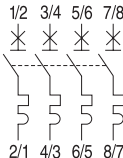
Standard	EN/IEC 60947-2
Nominal current I_n	(A) 80-125
Residual current $I_{\Delta n}$	(mA) 30, 300
Rated voltage AC U_n	(V) 2P: 230/400
	3P-4P: 400
Resistance against unwanted tripping	Type A, AC: 250A 8/20 μ s
	Type S: 3000A 8/20 μ s
Terminal capacity flexible/rigid cable	(mm ²) 70
Poles	2, 3, 4

(1) Only for 3-5 I_n (B) and 5-10 I_n (C)

(2) 7.5kA for 10-20 I_n (D)

(3) 10kA for 10-20 I_n (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.	
 1P 1.5 mod. 	80	Hti 101 B080	671504	Hti 101 C080	671528	Hti 101 D080	671552	8
	100	Hti 101 B100	671505	Hti 101 C100	671529	Hti 101 D100	671553	1
	125	Hti 101 B125	671506	Hti 101 C125	671530	Hti 101 D125	671554	1
 2P 3 mod. 	80	Hti 102 B080	671510	Hti 102 C080	671534	Hti 102 D080	671558	4
	100	Hti 102 B100	671511	Hti 102 C100	671535	Hti 102 D100	671559	1
	125	Hti 102 B125	671512	Hti 102 C125	671536	Hti 102 D125	671560	1
 3P 4.5 mod. 	80	Hti 103 B080	671516	Hti 103 C080	671540	Hti 103 D080	671564	1
	100	Hti 103 B100	671517	Hti 103 C100	671541	Hti 103 D100	671565	1
	125	Hti 103 B125	671518	Hti 103 C125	671542	Hti 103 D125	671566	1
 4P 6 mod. 	80	Hti 104 B80	671522	Hti 104 C080	671546	Hti 104 D080	671570	1
	100	Hti 104 B100	671523	Hti 104 C100	671547	Hti 104 D100	671571	1
	125	Hti 104 B125	671524	Hti 104 C125	671548	Hti 104 D125	671572	1

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

Series Hti

A

B

C

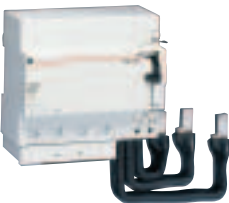
D

E

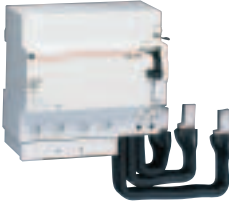
F

X

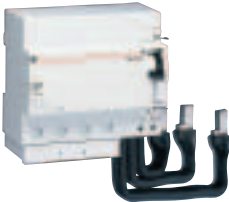
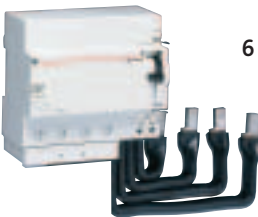
Series Hti - Add-on RCD - Type AC

	In (A)	30 mA		300 mA		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 2P 6 mod.	80-125	DOC 2125/030	671574	DOC 2125/300	671576	1
 3P 6 mod.	80-125	DOC 3125/030	671582	DOC 3125/300	671584	1
 4P 6 mod.	80-125	DOC 4125/030	671590	DOC 4125/300	671592	1

Series Hti - Add-on RCD - Type A

	In (A)	30 mA		300 mA		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 3P 6 mod.	80-125	DOCA 3125/030	671581	DOCA 3125/300	671583	1
 4P 6 mod.	80-125	DOCA 4125/030	671589	DOCA 4125/300	671591	1

Series Hti - Add-on RCD - Type S

	In (A)	30 mA		300 mA		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 3P 6 mod.	80-125	-	-	DOCS 3125/300	671585	1
 4P 6 mod.	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



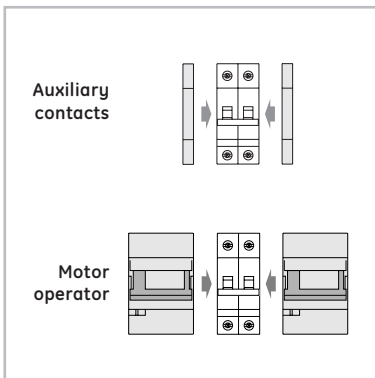
Applications



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 In	(A) 0.5-63
Rated voltage AC Un	(V) 277/480; 110Vdc
Minimum operating voltage U _{8min}	(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 ²)	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) ⁽¹⁾
1	127	20
	240	10
	415	3
2	127	30
	240	20
	415	10
2, 3, 4	415	10
	440	6

DC according to EN/IEC 60947-2

Poles	Un (Vdc)	I _{cu} (kA)/I _{cs} (kA)
1	60	25
2	125	30

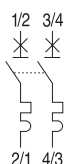
(1) I_{cs} = 75% I_{cu}

with UL 1077 approval

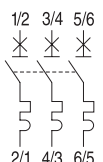
Series EP60 UL - 6kA - characteristics B-C-D

1P
1 mod.

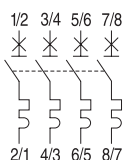
In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0.5	-	-	EP61ULC0.5	686656	EP61ULD0.5	686732	12
1	-	-	EP61ULC01	686657	EP61ULD01	686733	12
2	-	-	EP61ULC02	686658	EP61ULD02	686734	12
4	-	-	EP61ULC04	686660	EP61ULD04	686736	12
6	EP61ULB06	686601	EP61ULC06	686662	EP61ULD06	686738	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.

In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
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.

In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
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.

In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
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

F

X





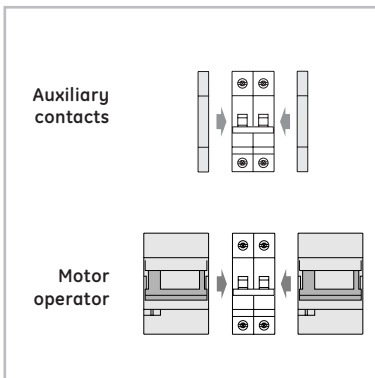
Applications



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

EP100 UL (Supplementary protection)

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

Performances

Thermal setting In	(A) 0.5-63
Rated voltage AC Un	(V) 277/480; 110Vdc
Minimum operating voltage U _{8min}	(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 ²)	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) ⁽¹⁾
1	127	30
	240	15
	415	4
2	127	40
	240	30
	415	15
2, 3, 4	240	30
	440	10

DC according to EN/IEC 60947-2

Poles	Un (Vdc)	I _{cu} (kA)/I _{cs} (kA)
1	60	25
2	125	30

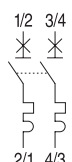
(1) I_{cs} = 50% I_{cu}

with UL 1077 approval

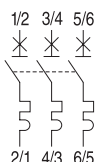
Series EP100 UL - 10kA - characteristics B-C-D

1P
1 mod.

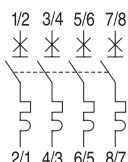
In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0.5	-	-	EP101ULC0.5	686864	EP101ULD0.5	686940	12
1	-	-	EP101ULC01	686865	EP101ULD01	686941	12
2	-	-	EP101ULC02	686866	EP101ULD02	686942	12
4	-	-	EP101ULC04	686868	EP101ULD04	686944	12
6	EP101ULB06	686809	EP101ULC06	686870	EP101ULD06	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.

In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
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.

In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
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.

In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
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**

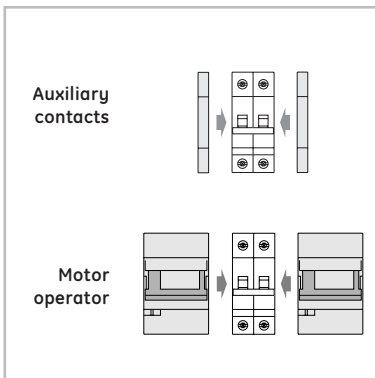
Applications



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_{8min}	(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 ²)	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) ⁽¹⁾
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)1/2
 2/1

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.1/2 3/4
 2/1 4/3

In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Pack.
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.1/2 3/4 5/6
 2/1 4/3 6/5

In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Pack.
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

Walls



Walls for terminals IP

Cat. No.

WUL

Ref. No.

690244

Pack.

10

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.

Padlocking bracket



Allows padlocking in ON and OFF position

KS

624929

2

Series EP100 ULH

A

B

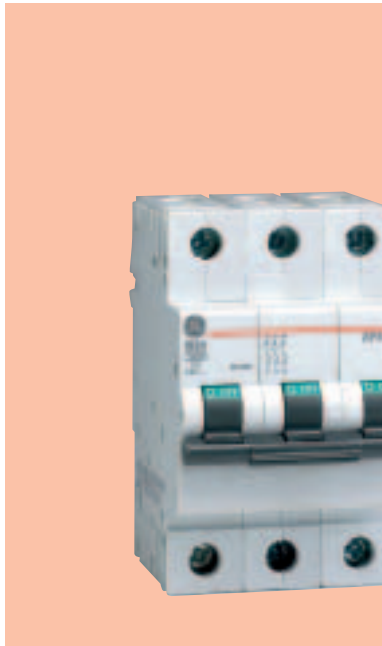
C

D

E

F

X



Applications

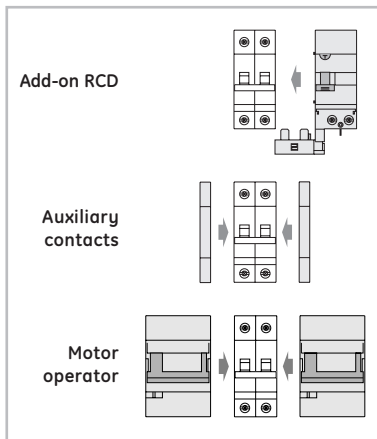


Approval / Marking

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

Miniature circuit breakers for railway applications

EP100 R

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



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 ²)	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 ⁽¹⁾

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

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

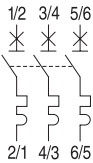
Railway applications



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

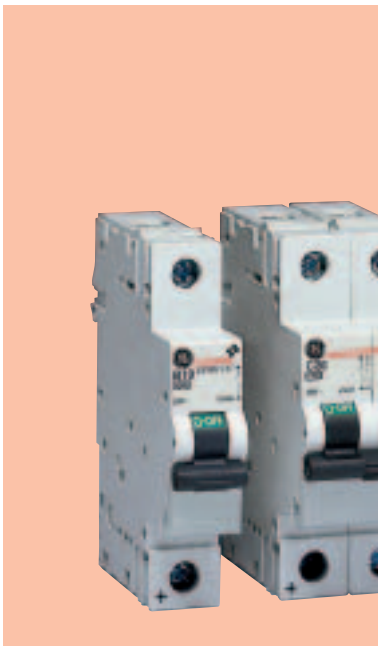
D

E

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Applications

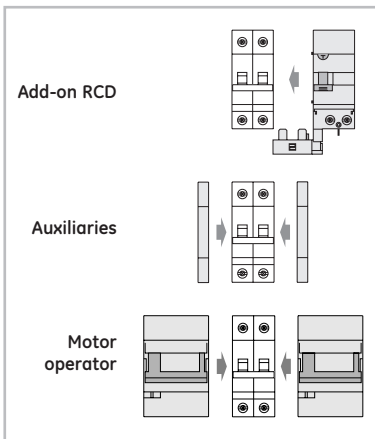


Standards / Marking

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

Miniature circuit breakers for railway applications

EP100 UCR

EN/IEC 60898-2 6000 T15

DIN VDE 0641

EN/IEC 60947-2 10kA



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 ²)	25-35
Poles ⁽¹⁾	1, 2
Weight	(g/pole) 125

Short-circuit capacity

AC/DC acc. to EN/IEC 60898-2⁽⁴⁾

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 ⁽²⁾
2	440Vdc	10 ⁽²⁾
1	230Vac	6 ⁽³⁾
2	400Vac	6 ⁽³⁾

(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

Railway
applications

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

1P
1 mod.

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

2P
1 mod.

In (A)	B		C		K		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
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

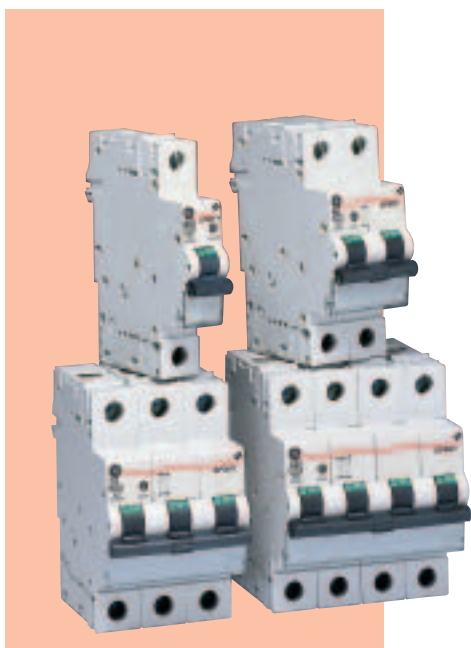
C

D

E

F

X



Applications



Standards

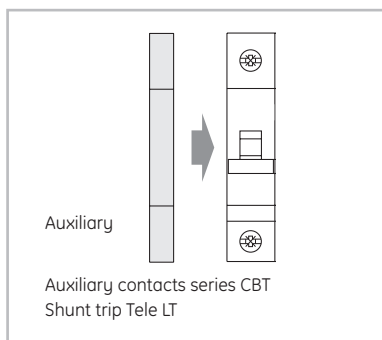
Certified acc. new CEI UNI 11170
(higher protection against fires)
Certified acc. to NF 16-101, smoke
index F
Shock and vibrations tests acc. to
IEC 61373

Approval / Marking

Trenitalia n° 371441.01



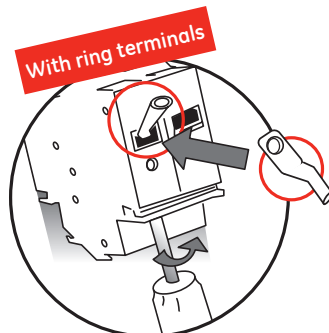
Add-on devices



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

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

Performances

Thermal setting I_n	(A) 0.5 to 63 at 45°C
Rated voltage AC U_n	(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 ²) 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_{cn} (kA)
1-4	230/400	10

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

Poles	V	I_{cu} (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 _{dc}	I_{cu} (kA)/ I_{cs} (kA)
1	60	25/15 ms
2	110	30/15 ms

New



Railway applications
with ring terminals

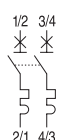
Series EP100T - 10kA - characteristics Z-B-C-K

1P
1 mod.



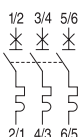
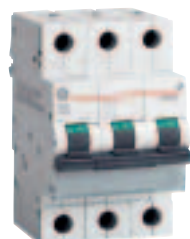
In (A)	2-3 In (Z)		3-5 In (B)		8-12 In (C)		8-12 In (K)		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	EP101TZ0.5	691277	-	-	EP101TC0.5	691245	EP101TK0.5	691261	12
1	EP101TZ01	691278	-	-	EP101TC01	691246	EP101TK1	691267	12
1,6	EP101TZ1.6	691284	-	-	EP101TC1.6	691252	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.



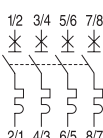
In (A)	2-3 In (Z)		3-5 In (B)		8-12 In (C)		8-12 In (K)		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	EP102TZ0.5	691337	-	-	EP102TC0.5	691304	EP102TK0.5	691321	6
1	EP102TZ01	691338	-	-	EP102TC01	691305	EP102TK01	691322	6
1,6	EP102TZ1.6	691344	-	-	EP102TC1.6	691311	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.



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	-	-	-	-	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.



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	-	-	-	-	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



Applications



Standards

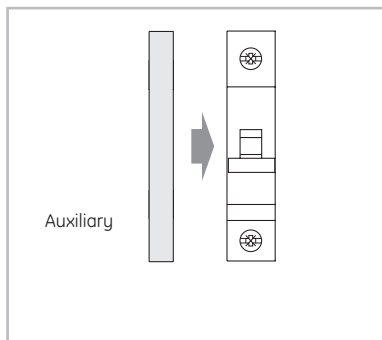
Certified acc. new CEI UNI 11170
(higher protection against fires)
Certified acc. to NF 16-101, smoke
index F
Shock and vibrations tests acc. to
IEC 61373

Approval / Marking

Trenitalia n° 371441.01



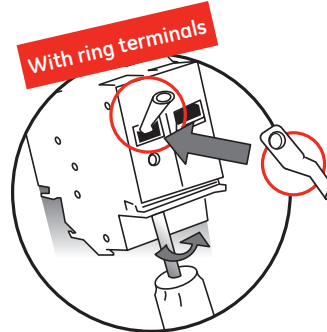
Add-on devices



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

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

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 ²) 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	V _{dc}	I _{cu} (kA)/I _{cs} (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.

2
1
+

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.

2 4
1 3
+

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	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

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

11/11/2011

D

E

2 circuits in 1 mo

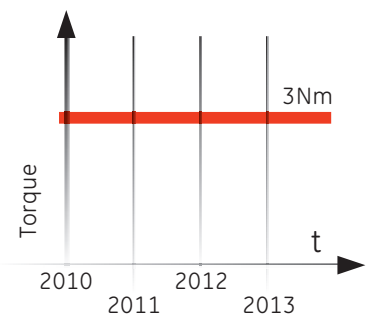
ElfaPlus Unibis™: the solution

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**.



Safety terminals

Up to 6mm² + 4mm² 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⁽¹⁾**,
2–40 Amps, B and C curves
- ✓ 100% compatible with all ElfaPlus
auxiliaries and accessories
- ✓ 100% quality and reliability
acc. to EN 60898
- ✓ CEBEC, 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

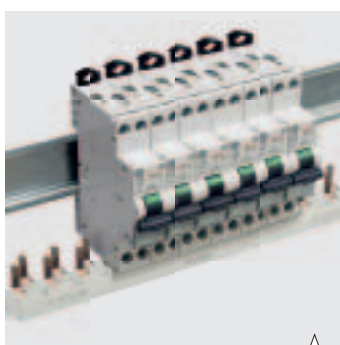
C

D

E

F

X



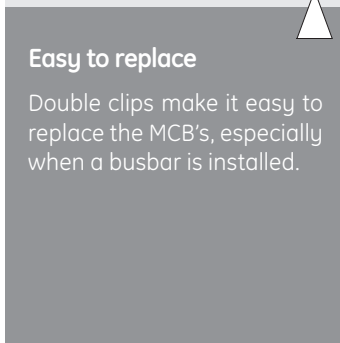
High performance clips

To fix the MCB to the DIN-rail.



High performance torque

Up to 3Nm.



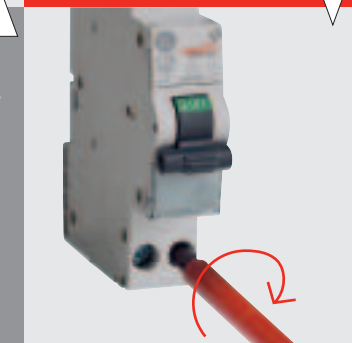
Easy to replace

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.



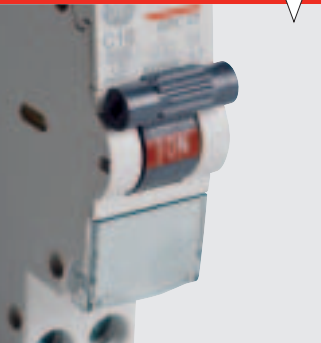
Part of the family

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



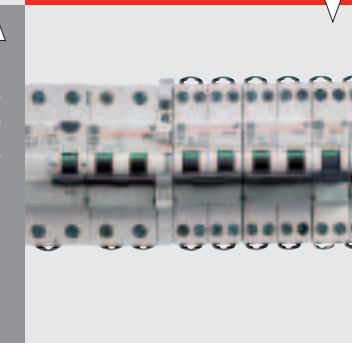
Safety terminals IP20

The capacity of Unibis™ terminals has been doubled. Connection possibilities: (2 x 4mm²) or (1 x 4mm²) + (1 x 6mm²).



Full functionality

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



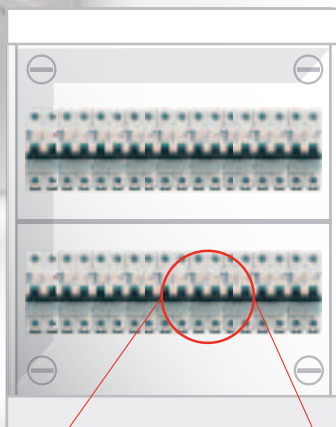
New

renovations

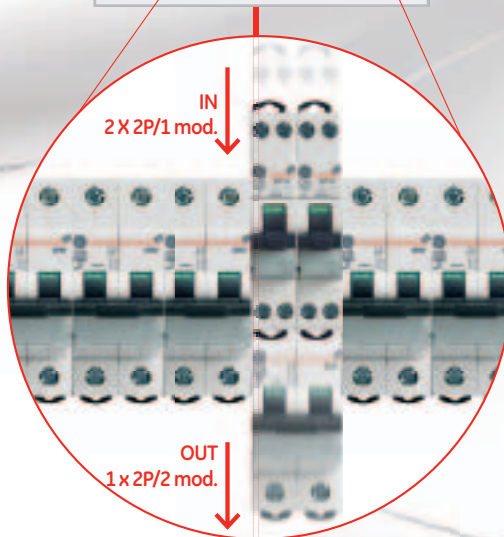
Saving up to 50% space
in distribution boards!

Before

18 x 2P MCB's
36 MODULES

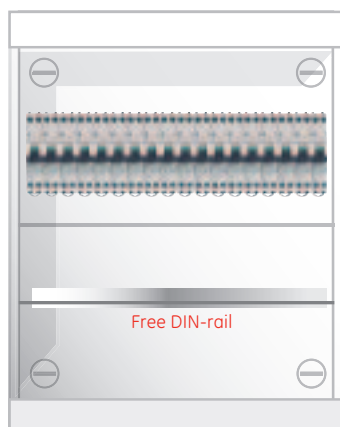


Replacing standard
MCB's by compact
Unibis™ MCB's

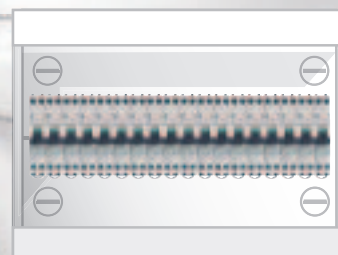


OR

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	1P+N	(V)	240
	1P+1P	(V)	-
	2P	(V)	-
	3P	(V)	-
	4P	(V)	-
Nominal voltage Un DC	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 ⁽¹⁾
	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 ²)	1/16 ⁽²⁾
	Flexible cable min/max (top)	(mm ²)	1/10 ⁽²⁾
	Rigid cable min/max (bottom)	(mm ²)	1/16 ⁽²⁾
	Flexible cable min/max (bottom)	(mm ²)	1/10 ⁽²⁾
	Torque	(Nm)	3
Add-on devices	Auxiliary contacts		yes
	Tele U		yes ⁽³⁾
	Tele L		yes ⁽³⁾
	PBS		yes ⁽³⁾
	Tele MP		yes
Busbar systems	Pin (top/bottom)		yes/yes
	Fork (top/bottom)		no/no
Accessories			yes
Width per mod. (mm)			18
Weight per mod. (g)			125
Package			12
Approvals			VDE, KEMA, IMQ
CE- marking			yes
Page			A.52

Short-circuit capacity of compact MCB's

Series			EPC 61N
Short-circuit capacity AC			(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	-
Short-circuit capacity DC	4P	415V	-
	2P	96Vdc	-

(1) 8000 for 32 and 40 A

(2) Also accepting (2x4mm²) or (1x4mm²)+(1x6mm²)

(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 ⁽⁵⁾
30	30
1P+1P (1 mod)	2 (1 mod), 3&4 (2 mod)
-	-
-	-
240 ⁽⁴⁾	-
-	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 ⁽¹⁾	10000 ⁽¹⁾
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 ⁽²⁾	1/16 ⁽²⁾
1/10 ⁽²⁾	1/10 ⁽²⁾
1/16 ⁽²⁾	1/16 ⁽²⁾
1/10 ⁽²⁾	1/10 ⁽²⁾
3	3
yes	yes
yes ⁽³⁾	yes ⁽³⁾
yes ⁽³⁾	yes ⁽³⁾
yes ⁽³⁾	yes ⁽³⁾
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 (2x4mm²) or (1x4mm²)+(1x6mm²)

(3) Requires CA UN auxiliary contact as interface

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

(5) 32A, 3P & 4P in progress

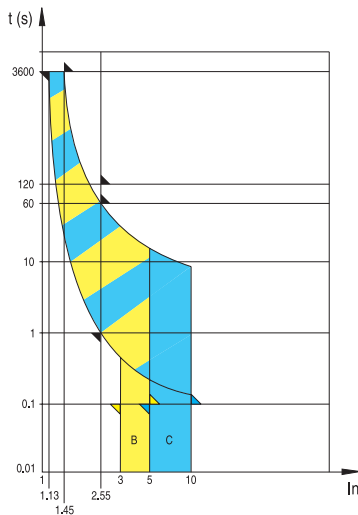


New

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.

I _{cn}	Test current	Tripping time	Applications
B	3 × I _n	0.1 < t < 45s (I _n ≤ 32A) 0.1 < t < 90s (I _n > 32A)	Only for resistive loads such as: - electrical heating - water heater - stoves
	5 × I _n	t < 0.1s	
C	5 × I _n	0.1 < t < 15s (I _n ≤ 32A) 0.1 < t < 30s (I _n > 32A)	Usual loads such as: - lighting - socket-outlets - small motors
	10 × I _n	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 × I _n	t ≥ 1h (I _n ≤ 63A) t ≥ 2h (I _n > 63A)
1.45 × I _n	t < 1h (I _n ≤ 63A) t < 2h (I _n > 63A)
2.55 × I _n	1s < t < 60s (I _n ≤ 32A) 1s < t < 120s (I _n > 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.

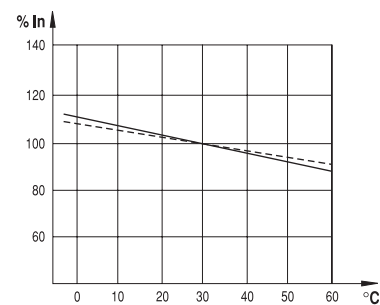
Calculation

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

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

I_n at 45°C = I_n at 30°C × 0.9 = 11.2A × 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.

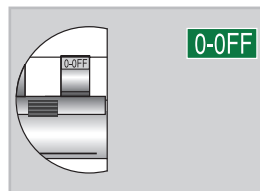
Power losses per pole

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

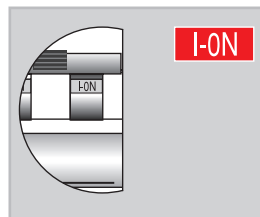
The toggle permits to switch the MCB ON or OFF

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

A

B

C

D

E

F

X



Compact MCB's

Series EPC 61N

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

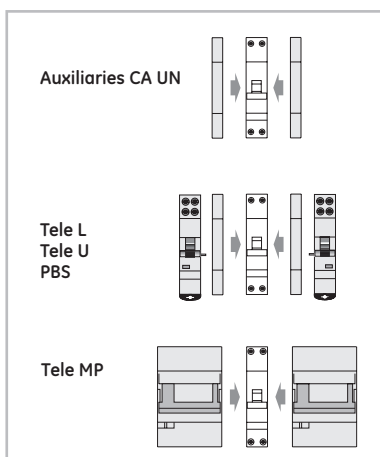
Applications



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 ⁽¹⁾
Tropicalisation acc. to EN/IEC 60068-2	55°C at 95% RH
Terminal capacity flexible/rigid cable	(mm ²) 10-16 ⁽²⁾
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 1 mod.	2	EPC 61N B02	692819	EPC 61N C02	692791	12
	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
1/2 N	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
2/1 N						

(1) 8000 for 32 and 40A

(2) Also accepting (2x4mm²) or (1x4mm²)+(1x6mm²)

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 ⁽¹⁾
Minimum operating voltage U _{Bmin}	(V) 12
Tripping characteristics	B-C
Selectivity class	3
Mechanical/electrical endurance	20000/10000 ⁽²⁾
Tropicalisation acc. to EN/IEC 60068-2	55°C at 95% RH
Terminal capacity flexible/rigid cable	(mm ²) 10-16 ⁽³⁾
Poles	1P+1P (1 mod)
Weight	(g) 125

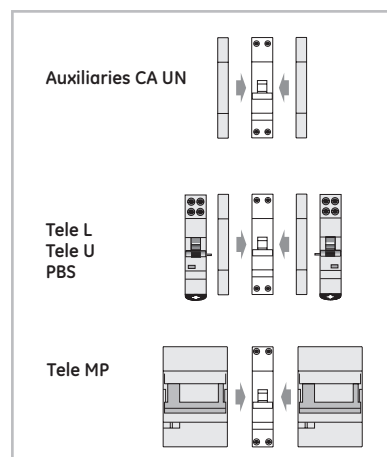
Applications



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.

Short-circuit capacity

Acc. to EN/IEC 60898-1

Poles	V	I _{cn} /I _{cs} (kA)
1 + 1	230	6

Acc. to EN/IEC 60947-2

Poles	V	I _{cu} (kA)
1 + 1	230	6

Attention: do not use on IT net configuration

Series EPC 611 - 6kA - characteristics B-C

		B		C		
In (A)		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Pack.
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
	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 (2x4mm²) or (1x4mm²)+(1x6mm²)

Auxiliary contacts ● pg C.6

Busbars ● chap. E
Dimensions ● pg A.68



New



Compact MCB's

Series EPC 60

EN/IEC 60898-1

6000

3

EN/IEC 60947-2

10kA⁽¹⁾

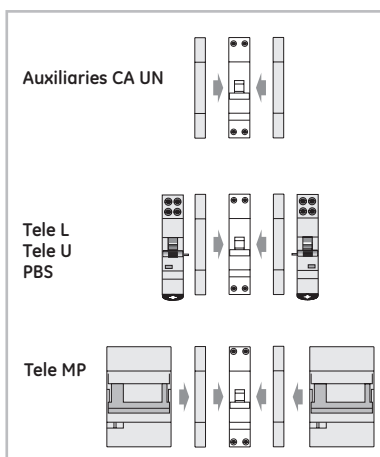
Applications



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.

Performances

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

Short-circuit capacity

Acc. to EN/IEC 60898-1

Poles	V	I _{cn} /I _{cs} (kA)
2P	240/415	6
3P	240/415	6
4P	240/415	6

Acc. to EN/IEC 60947-2

Poles	V	I _{cu} (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 (2x4mm²) or (1x4mm²)+(1x6mm²)

Auxiliary contacts ● pg C.6

Busbars ● chap. E
Dimensions ● pg A.68

New



Series EPC 60 - 6kA - characteristics B-C

	In (A)	B		C		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 2P 1 mod. 1/2 3/4 2/1 4/3	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
 3P⁽¹⁾ 2 mod. 1/2 3/4 5/6 2/1 4/3 6/5	2	EPC 63 B02	692644 ⁽¹⁾	EPC 63 C02	692563 ⁽¹⁾	6
	4	EPC 63 B04	692645 ⁽¹⁾	EPC 63 C04	692564 ⁽¹⁾	6
	6	EPC 63 B06	692646 ⁽¹⁾	EPC 63 C06	692565 ⁽¹⁾	6
	10	EPC 63 B10	692647 ⁽¹⁾	EPC 63 C10	692566 ⁽¹⁾	6
	16	EPC 63 B16	692648 ⁽¹⁾	EPC 63 C16	692567 ⁽¹⁾	6
	20	EPC 63 B20	692649 ⁽¹⁾	EPC 63 C20	692568 ⁽¹⁾	6
	25	EPC 63 B25	692650 ⁽¹⁾	EPC 63 C25	692569 ⁽¹⁾	6
	32 ⁽²⁾	EPC 63 B32	692651 ⁽¹⁾	EPC 63 C32	692570 ⁽¹⁾	6
 4P 2 mod. 1/2 3/4 5/6 7/8 2/1 4/3 6/5 8/7	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 ⁽²⁾	EPC 64 C32	692579 ⁽²⁾	6

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

(2) In progress

Series EPC 60

A

B

C

D

E

F

X

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 4mm².

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

Terminal contact stability guaranteed

No tightening needed later on.

Standard pin busbars
as used for all ElfaPlus
products

Plug-in connection

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



New

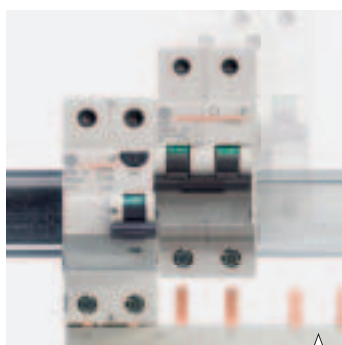
Easy, Fast and

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



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 unclic with a simple operation. Time consuming tightening is no longer needed.

Easy DIN-rail extraction



Up to
63A

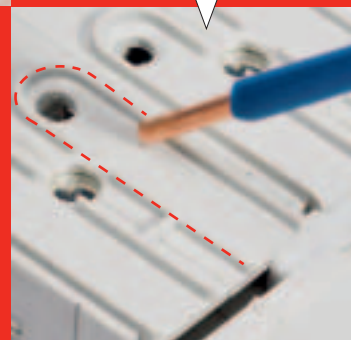


Integrated guide

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

User-friendly

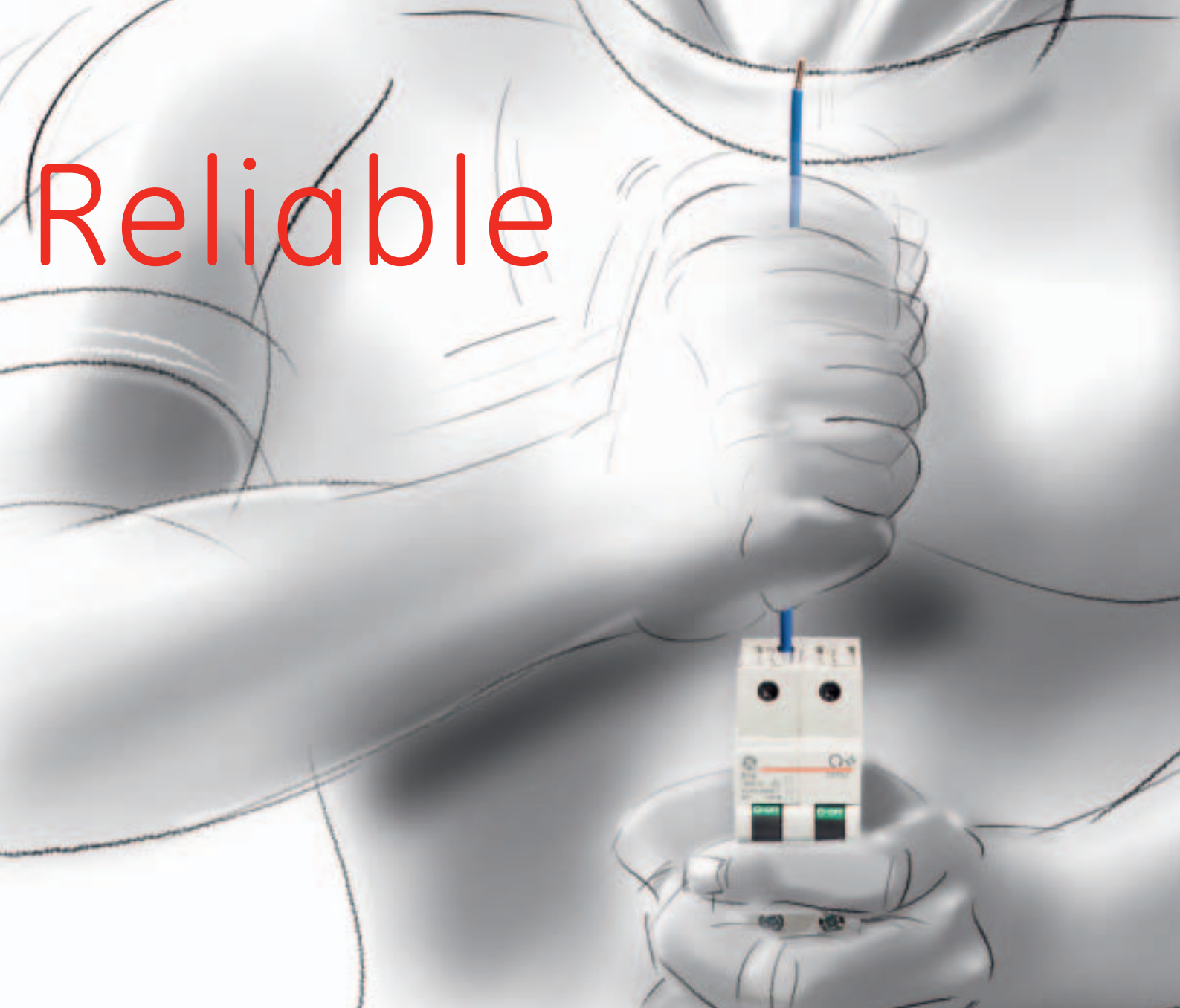
Determine the perfect length (14mm) of the bare cable using the integrated measurement tool.



New



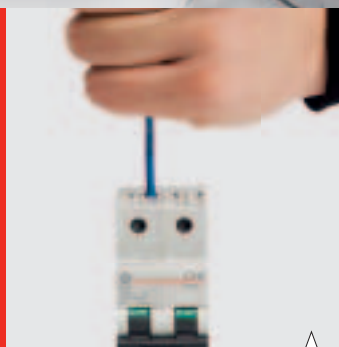
Reliable



Up to
20A

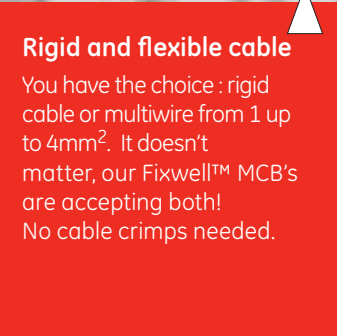
Sure and secure from the first moment

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

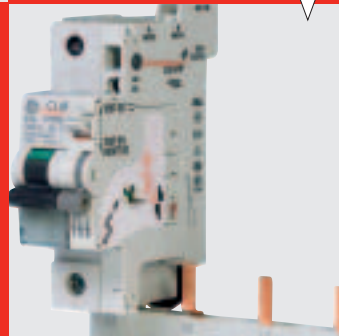
You have the choice : rigid cable or multiwire from 1 up to 4mm². It doesn't matter, our Fixwell™ MCB's are accepting both! No cable crimps needed.



'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 ⁽¹⁾				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 ⁽²⁾	(Vdc)	48	48
						2P (in series) ⁽²⁾	(Vdc)	110	110
Frequency				(Hz)	50 to 60	50 to 60			
Use in D.C.				(Hz)	DC:	DC:			
					magn. trip. +40%	magn. trip. +40%			
				(Hz)	400Hz:	400Hz:			
					magn. trip. +50%	magn. trip.+ 50%			
Maximum service voltage (Ubmax) between two wires				(V)	250/440; 53/120Vdc	250/440; 53/120Vdc			
Minimum service voltage (Ubmin)				(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 ⁽³⁾				(°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 ⁽⁴⁾	yes	yes			
				Tele L ⁽⁴⁾	yes	yes			
				Tele MP ⁽⁴⁾	yes	yes			
				PBS ⁽⁴⁾	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		
Approvals ⁽⁵⁾					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.

Terminal capacity

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

Bottom terminals		Ratings 6A to 63A: Bottom cage terminals ⁽²⁾	Ratings 6A to 63A: Bottom flat plug-in terminals ⁽³⁾	Pin busbar specifications
Rigid cable (min/max)	mm ²	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 ²	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

1. Mount first 2, 3 or 4 poles devices on the DIN-rail at the extreme **left** side of the row.
2. Mount one device at the extreme **right** side on the DIN-rail.
3. Fit the pin busbar on both devices.
4. 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.
5. Finally, remove 14mm of plastic from every wire and insert them vertically one by one inside the top screwless terminals.
6. For disconnecting the outgoing wires.

Easy to dismount from DIN rail

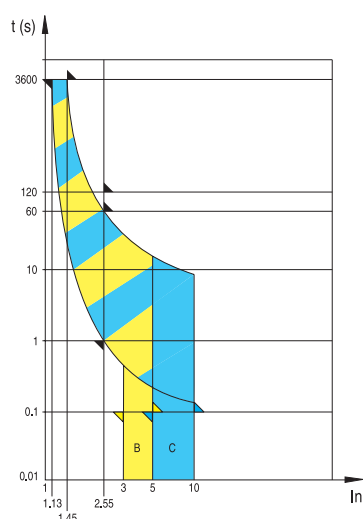
Short-circuit capacity of screwless MCB's

Series				EPP60	EPP100
Short-circuit capacity AC (kA)					
IEC/EN 60898-1	Icn	1P	230/400V	6	10
		1P+N	230V	6	10
		2P	230/400V	6	10
		3P/3P+N/4P	230/400V	6	10
		Ics (service)		100% Icu	75% Icu
IEC/EN 60947-2	Icu (max.)	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	30
			415V	10	15
			440V	6	10
		Ics (service)		75% Icu	50% Icu
Short-circuit capacity DC (kA)					
IEC/EN 60947-2	Icu (max.)	1P	≤60V	20	25
			≤125V	-	-
			≤220V	-	-
		2P	≤125V	25	30
			≤440V	-	-
		Ics (service)		100% Icu	100% Icu
Page				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 (A)	Test current	Tripping time	Applications
B	3 x I _n	0.1 < t < 45s (I _n ≤ 32A) 0.1 < t < 90s (I _n > 32A) t < 0.1s	Only for resistive loads such as: - electrical heating - water heater - stoves
	5 x I _n		
C	5 x I _n	0.1 < t < 15s (I _n ≤ 32A) 0.1 < t < 30s (I _n > 32A) t < 0.1s	Usual loads such as: - lighting - socket-outlets - small motors
	10 x I _n		

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 I _n	t ≥ 1h (I _n ≤ 63A) t ≥ 2h (I _n > 63A)
1.45 x I _n	t < 1h (I _n ≤ 63A) t < 2h (I _n > 63A)
2.55 x I _n	1s < t < 60s (I _n ≤ 32A) 1s < t < 120s (I _n > 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.

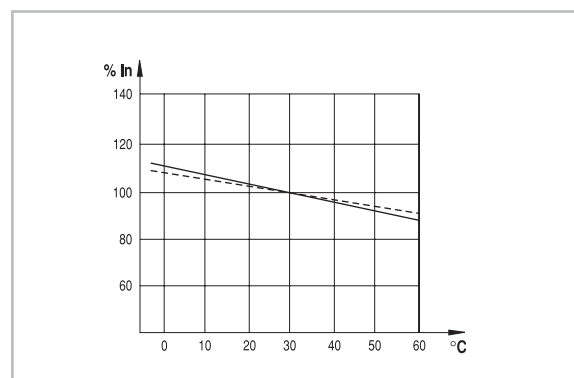
Calculation

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



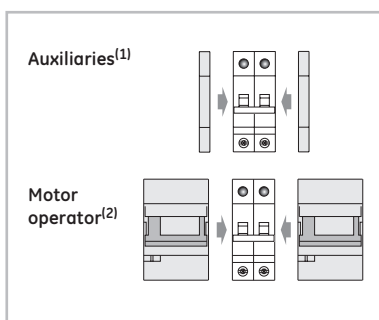
Approvals / Marking



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 _{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 ²)	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 _{cn} /I _{cs} (kA) ⁽¹⁾
1	230/400	6

AC acc. IEC/EN 60947-2

Poles	V	I _{cu} (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 _{cu} /I _{cs} (kA)
1	≤ 60	20
2	≤ 125	25

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

Screwless & Plug-in

Series EPP60 - characteristic B and C



1P

1/2

1/2

1/2

1/2

2/1

2/1

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



1P+N

1/2 N

1/2 N

1/2 N

1/2 N

2/1 N

2/1 N

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



2P

1/2 3/4

1/2 3/4

1/2 3/4

1/2 3/4

2/1 4/3

2/1 4/3

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



3P

1/2 3/4 5/6

1/2 3/4 5/6

1/2 3/4 5/6

1/2 3/4 5/6

2/1 4/3 6/5

2/1 4/3 6/5

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



3P+N

1/2 3/4 5/6 N

1/2 3/4 5/6 N

1/2 3/4 5/6 N

1/2 3/4 5/6 N

2/1 4/3 6/5 N

2/1 4/3 6/5 N

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


4P⁽¹⁾

1/2 3/4 5/6 7/8

1/2 3/4 5/6 7/8

1/2 3/4 5/6 7/8

1/2 3/4 5/6 7/8

2/1 4/3 6/5 8/7

2/1 4/3 6/5 8/7

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

Series EPP60

A

B

C

D

E

F

X



Applications



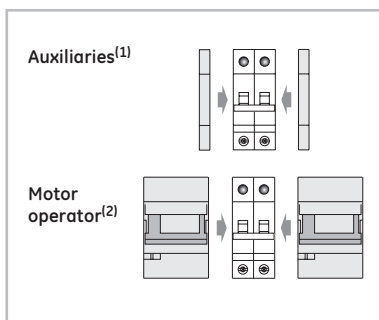
Approvals / Marking



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

Screwless MCB's

Series EPP100

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

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 ²)	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) ⁽¹⁾
1-4	230/400	10

AC acc. IEC/EN 60947-2

Poles	V	I_{cu} (kA) ⁽²⁾
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



1P

1/2

1/2

1/2

1/2

1/2

2/1

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



2P

1/2 3/4

1/2 3/4

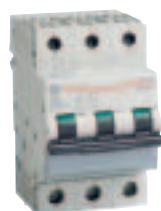
1/2 3/4

1/2 3/4

1/2 3/4

2/1 4/3

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



3P

1/2 3/4 5/6

1/2 3/4 5/6

1/2 3/4 5/6

1/2 3/4 5/6

1/2 3/4 5/6

2/1 4/3 6/5

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



3P+N

1/2 3/4 5/6 N

1/2 3/4 5/6 N

1/2 3/4 5/6 N

1/2 3/4 5/6 N

1/2 3/4 5/6 N

2/1 4/3 6/5 N

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


4P⁽¹⁾

1/2 3/4 5/6 7/8

1/2 3/4 5/6 7/8

1/2 3/4 5/6 7/8

1/2 3/4 5/6 7/8

1/2 3/4 5/6 7/8

2/1 4/3 6/5 8/7

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

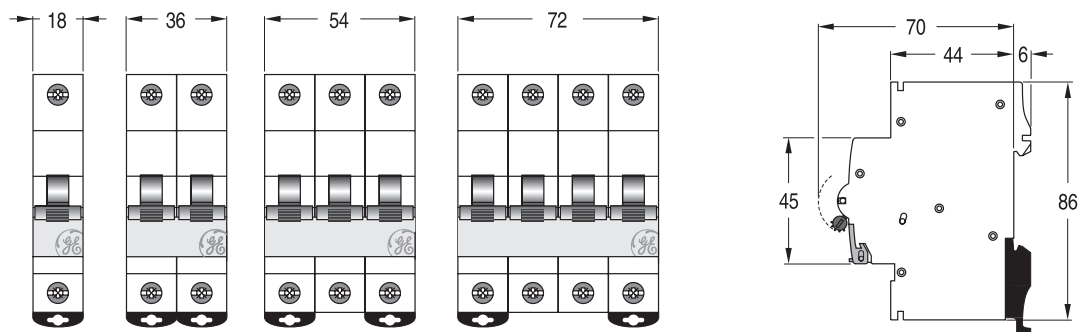
(1) Approval pending

SCREWLESS
top terminals
In=6 to 20A

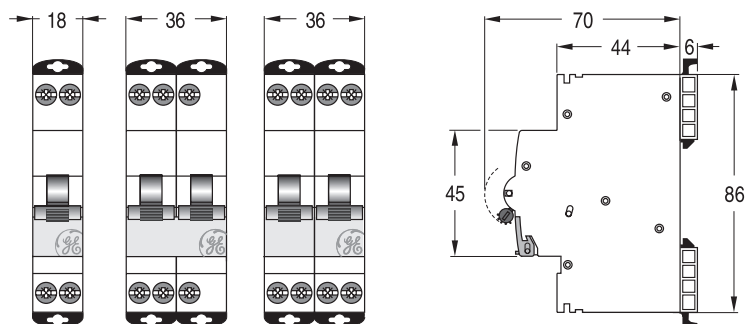

New

Dimensional drawings

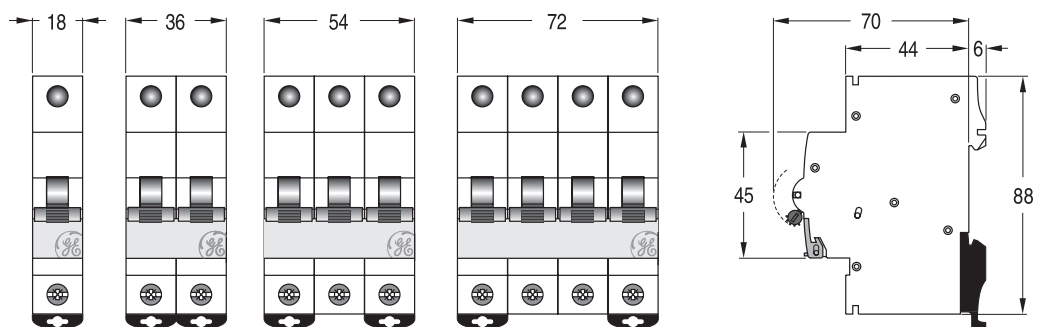
Miniature Circuit Breakers - Series EP, EP M, EP R, EP T, EP UCR, EP UCT



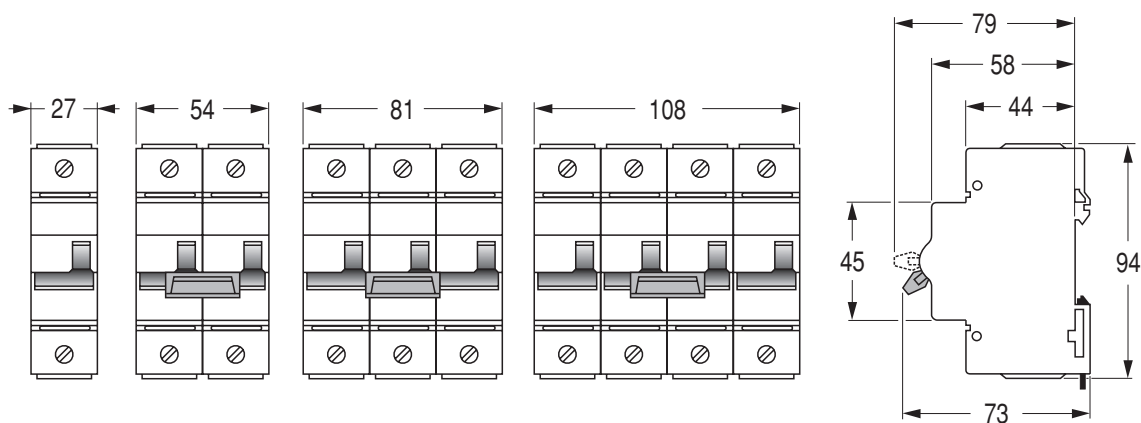
Compact MCB's - Series EPC - Unibis™



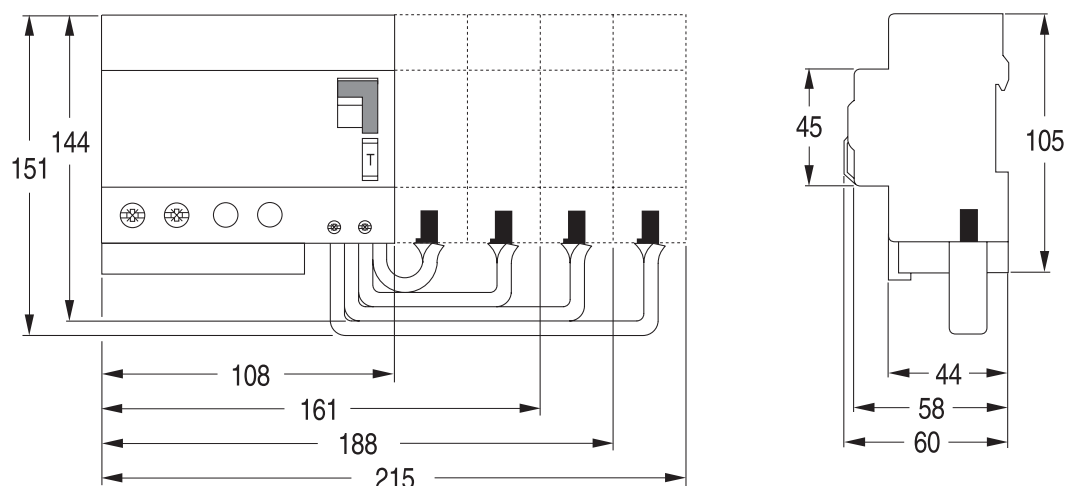
Screwless MCB's - Series EPP - Fixwell™



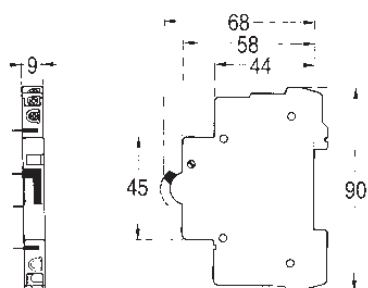
Miniature Circuit Breakers - Series Hti



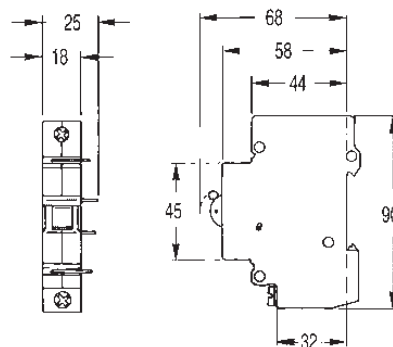
Add-on RCD's for Series Hti



Auxiliary contact - Series Hti

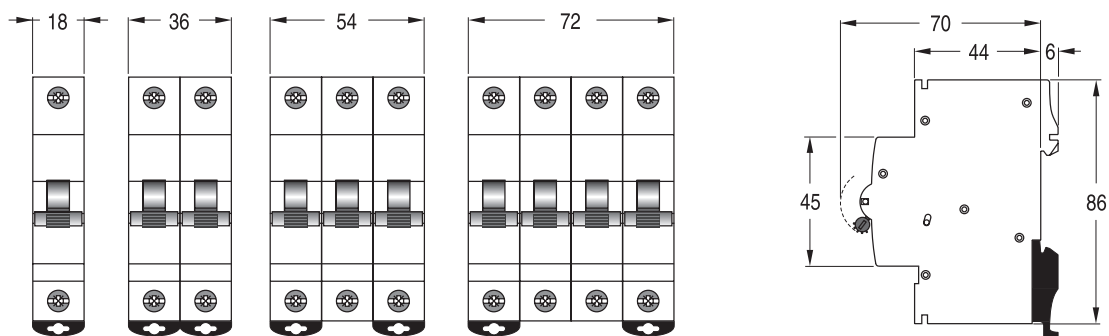


Shunt trip - Series Hti

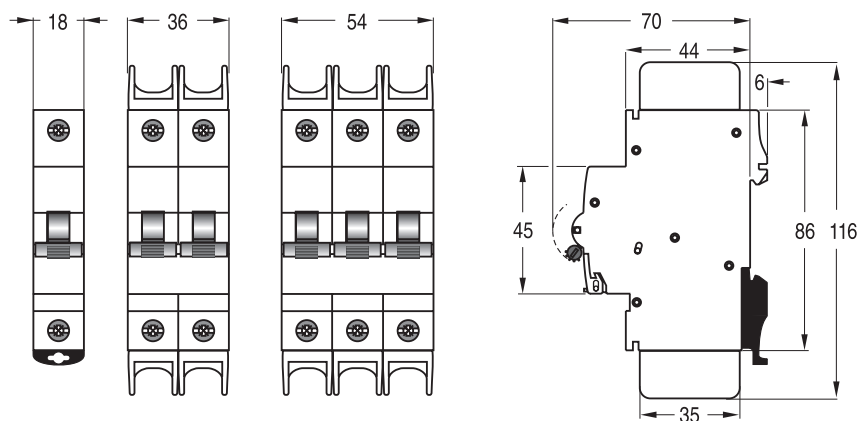


Dimensional drawings

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



MCB with UL 489 approval - Series EP100 ULH



B.3 Selection table RCCB's and RCBO's

B.4 Technical data

B.6 RCCB's - **Series FP**

New

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

People Protection

New

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

Comfort Functions

Busbars

Enclosures

Numerical Index

New

TeleREC - Reconnection relays

B.22 Advantages

B.25 **TeleREC BASIC**

B.26 **TeleREC PLUS**

B.28 **TeleREC SOLAR**

B.30 Dimensional drawings

Notes

People protection

A

B

C

D

E

F

X

Grid of dotted lines for notes.



Selection table of RCCB's

Page no.	Series	Sensitivity (mA)	Poles	Type	16	25	Nominal current (A)				80	100	Isolator appl.	Add-on devices	Rated voltage
B.6	FP														
		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	FPP														
		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.	4	6	Nominal current (A)							Isolator appl.	Add-on devices	Rated voltage
B.10	DP100																
		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	DPE100																
		10	1+N	AC	B-C										-	-	240
		30	1+N	AC	B-C										-	-	240
B.14	DMC/DICE																
		30	1+N	AC/A	B/C										x	x	240
B.16	DPT100																
		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
B.20	Diff-o-Click											
		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

Technical data of RCD's

Series			FP	FPP 	DP100
Standards			EN/IEC 61008-1	EN 61008-1	EN/IEC 61009-1
Magnetic tripping characteristics			-	-	B-C
Residual tripping characteristic			AC, A, S	A, S	AC
Tripping time at I Δ n	Instantaneous	ms	<40	<40	<40
	Selective	ms	>150	>150	-
Rated current			16,25,40,63, 80, 100	25, 40, 63 ⁽¹⁾	4,6,10,13,16,20,25,32,40
Rated residual current I Δ n			10,30,100,300,500,1000	30, 100, 300	10,30, 100, 300
Calibration temperature			30	30	30
Number of poles versus modules			1	1	1
Rated voltage Un	2P AC	V	240	240	240 (1P+N)
	3P AC	V	-	-	-
	4P AC	V	415	415	-
Frequency			50/60	50/60	50/60
Maximum service voltage U _{bmax}			2P=265 / 4P=455	2P=265 / 4P=455	255
Minimum service voltage U _{bmin}			2P=117 / 4P=190	2P=110 / 4P=190	100
Minimum voltage for leakage protection			Voltage independent	Voltage independent	Voltage independent
Power supply			Top/Bottom	Top/Bottom	Top/Bottom
Selectivity class			-	-	3
Rated making and breaking capacity (Im)			500 (or 10xIn)	500 (or 10xIn)	-
Residual making and breaking capacity (I Δ m)			500 (or 10xIn)	500 (or 10xIn)	7500
Conditional short-circuit capacity (Inc)			10000 fuse 100A	10000 fuse 100A	-
Conditional residual short-circuit capacity (I Δ c)			10000	10000	-
Rated short-circuit capacity (Icn)			-	-	10000
Grid distance (safety distance between two devices)			35	-	35
Isolator application			yes	yes	yes
Insulation degree	Insulation voltage	Vdc	500	500	500
	Shock voltage (1.2/50 μ s)	kV	8	8	6
	Insulation resistance	M Ω	1000	1000	1000
	Dielectric strength	V	2500	2500	2500
Shock resistance (in x, y, z direction) (EN/IEC 60077/16.3)			40g, 18 shocks 5 ms	40g, 18 shocks 5 ms	40g, 18 shocks 5 ms
Vibration resistance (in x, y, z direction) (EN/IEC 60068-2-6)			1.5g, 30 min, 0..80Hz	1.5g, 30 min, 0..80Hz	1.5g, 30 min, 0..80Hz
Endurance	electrical at Un, In		10000	10000	10000
	mechanical at Un, In		20000	20000	20000
Protection degree (outside/inside electrical 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)			+55/95%	+55/95%	+55/95%
Pollution degree (acc. EN/IEC 60947-1)			3	3	3
Operating temperature			AC (-5..+60); A (-25..+60)	-25..+60 ⁽²⁾	-5..+60
Storage temperature			-25..+70	-25..+70	-25..+70
Terminals capacity	Rigid cable min/max (top)	mm ²	1.5/50	see page B.20	1/25
	Flexible cable min ⁽⁴⁾ /max (top)	mm ²	1.5/35	-	1/16
	Rigid cable min/max (bottom)	mm ²	1.5/50	-	1/35
	Flexible cable min ⁽⁴⁾ /max (bottom)	mm ²	1.5/35	-	1/25
Torque			Top/Bottom	-	3/4
Add-on devices (side add-on)	Auxiliary contacts		yes	yes	yes
	Tele U		yes	yes ⁽³⁾	yes
	Tele L		yes	yes ⁽³⁾	yes
	Tele M		yes	yes ⁽³⁾	yes
	PBS		yes	yes ⁽³⁾	yes
Busbars systems	Pin		yes	yes	Bottom
	Fork		yes	yes	Bottom
	# Poles		2-4	2/4	1+N
Dimensions	(HxDxW) 86x68xW		36/72	88x68x36/73,2	36
	Weight	mm	2P=250 / 4P=368	2P=248 / 4P=364	250
	Package	g	2P=1/6 / 4P=1/3	2P=1/6 / 4P=1/3	1/6
Approvals			IMQ, VDE, CEBEC	VDE-KEMA-CEBEC-IMQ	CEBEC
CE-marking			yes	yes	yes
Page			B.6	B.8	B.10

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

(2) With plug-in busbar: -25/+50°C

(3) With plug-in busbar only at right extreme side of each row. No pin busbars let through allowed

(4) Flexible cable 0.75/1.5 mm² with cable lug

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
-	-	-	UL: 240; EN/IEC: 415	-	400
-	-	-	50/60	50/60	50/60
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 ⁽⁵⁾	6 ⁽⁵⁾	6	8	6	6
1000 ⁽⁵⁾	1000 ⁽⁵⁾	1000	1000	1000	1000
2500 ⁽⁵⁾	2500 ⁽⁵⁾	2500	2500	2500	2500
40g, 18 shocks 5 ms	40g, 18 shocks 5 ms	40g, 18 shocks 5 ms	40g, 18 shocks 5 ms	40g, 18 shocks 5 ms	40g, 18 shocks 5 ms
2g, 30 min, 0...80Hz	2g, 30 min, 0...80Hz	2g, 30 min, 0...80Hz	1.5g, 30 min, 0...80Hz	1.5g, 30 min, 0...80Hz	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 ⁽⁶⁾	yes ⁽⁶⁾	yes (coupled to MCB)
-	yes	yes	yes	yes	yes (coupled to MCB)
-	yes	yes	yes ⁽⁶⁾	yes ⁽⁶⁾	yes (coupled to MCB)
-	yes	yes	yes ⁽⁶⁾	yes ⁽⁶⁾	yes (coupled to MCB)
no	yes	Bottom	yes ⁽⁶⁾	yes ⁽⁶⁾	-
no	-	Bottom	yes ⁽⁶⁾	yes ⁽⁶⁾	-
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

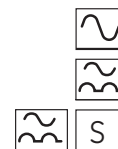


BS EN 61008

Type AC

Type A

Type S



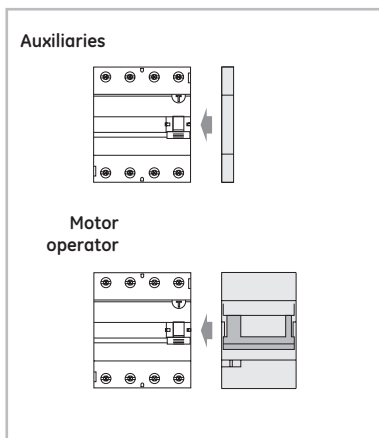
Applications



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

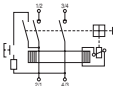
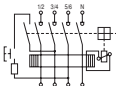
Thermal setting I_n	(A) 16, 25, 40, 63, 80, 100
Residual current $I_{\Delta n}$	(mA) 10, 30, 100, 300, 500, 1000
Rated voltage AC U_n	(V) 2P: 240 4P: 240/415
Minimum operating voltage $U_{B \min}$	(V) 2P: 117 4P: 205
Mechanical/electrical endurance	20000/10000
Tropicalisation acc.to	95%RH at 55°C
IEC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

Short-circuit capacity

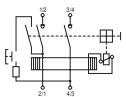
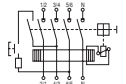
Acc. to EN/IEC 61008-1	
Making and breaking capacity	$I_m \geq 500A$ from 16 up to 40A $I_n = 10I_n$ from 63 up to 100A
Residual making and breaking capacity	$I_{\Delta m} \geq 500A$ from 16 up to 40A $I_{\Delta m} = 10I_n$ from 63 up to 100A
Short-circuit capacity	$I_{nc} = 10000A$ at 240/415V
Series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

Screwless RCCB's, see page B.8

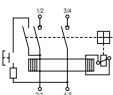
Series FP - Type AC

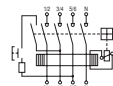
		10*/30mA		100mA		300mA		500mA			
	In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Pack.	
	2P	16	FP 216/010*	604048	-	-	-	-	-	1	
		25	FP 225/030	604275	FP 225/100	604050	FP 225/300	604051	FP 225/500	604052	1
		40	FP 240/030	604276	FP 240/100	604055	FP 240/300	604056	FP 240/500	604057	1
		63	FP 263/030	604277	FP 263/100	604060	FP 263/300	604061	FP 263/500	604062	1
		80	FP 280/030	604278	FP 280/100	604065	FP 280/300	604066	FP 280/500	604067	1
		100	FP 2100/030	604069	FP 2100/100	604070	FP 2100/300	604071	FP 2100/500	604072	1
		1000mA									
		25	-	-	-	-	-	-	FP 225/1000	604053	1
		40	-	-	-	-	-	-	FP 240/1000	604058	1
		63	-	-	-	-	-	-	FP 263/1000	604063	1
		80	-	-	-	-	-	FP 280/1000	604068	1	
		100	-	-	-	-	-	FP 2100/1000	604073	1	
	4P	25	FP 425/030	604279	FP 425/100	604144	FP 425/300	604080	FP 425/500	604146	1
		40	FP 440/030	604281	FP 440/100	604149	FP 440/300	604282	FP 440/500	604151	1
		63	FP 463/030	604283	FP 463/100	604154	FP 463/300	604284	FP 463/500	604156	1
		80	FP 480/030	604158	FP 480/100	604159	FP 480/300	604160	FP 480/500	604161	1
		100	FP 4100/030	604163	FP 4100/100	604164	FP 4100/300	604165	FP 4100/500	604166	1
		1000mA									
		25	-	-	-	-	-	-	FP 425/1000	604147	1
		40	-	-	-	-	-	-	FP 440/1000	604152	1
		63	-	-	-	-	-	-	FP 463/1000	604157	1
		80	-	-	-	-	-	-	FP 480/1000	604162	1
		100	-	-	-	-	-	-	FP 4100/1000	604167	1

Series FP - Type A

	2P		10*/30mA		100mA		300mA		500mA		
		16	FPA 216/010*	604000							
		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		30mA		100mA		300mA		500mA		
		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	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	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





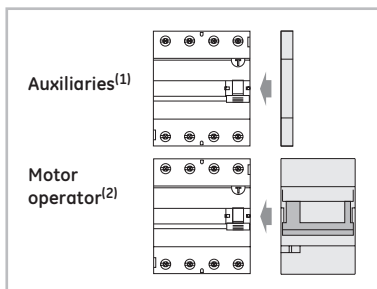
Applications



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 ²) 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



Plug-in
connection
at bottom

	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

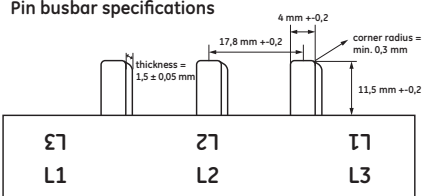
Series FPP - Type S



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

Terminal capacity

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

Bottom terminals				
		Ratings 25A, 40A and 63A:	Ratings 25A, 40A and 63A:	Pin busbar specifications
		Cage terminals ⁽¹⁾	Flat plug-in terminals ⁽²⁾	
Rigid cable (min/max)	mm ²	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 ²	0.75/16		
Recommended torque	Nm	2.5		
Maximum torque	Nm	4.5		

(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

1. Mount first 2, 3 or 4 poles devices on the DIN-rail at the extreme left side of the row.

2. Mount one device at the extreme right side on the DIN-rail.

3. Fit the pin busbar on both devices.

4. 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

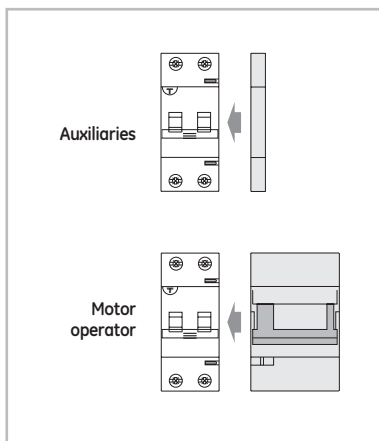
Applications



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_{8min}	(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 ²) 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

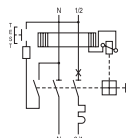
Short-circuit capacity

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

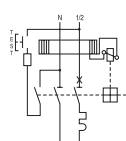
Acc. to EN/IEC 60947-2

Short-circuit capacity	$I_{cu} = 15000A$ at 240V
------------------------	---------------------------

DP100 - $\frac{10000}{3}$ Type AC - characteristic B


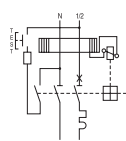
1P+N

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


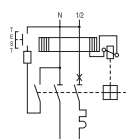
1P+N

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 - $\frac{10000}{3}$ 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 - $\frac{10000}{3}$ 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

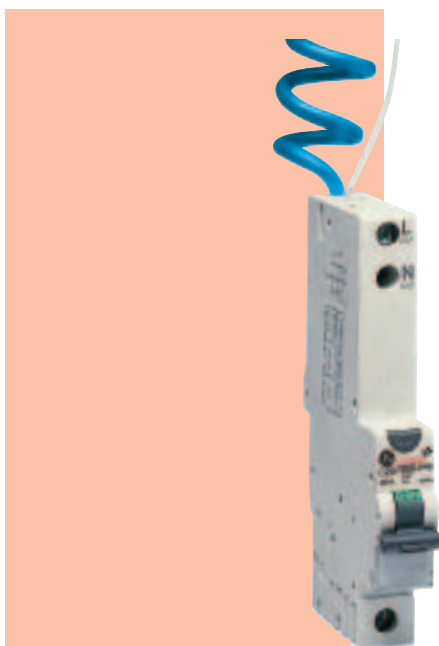
C

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E

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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.

Performances

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

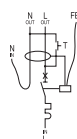
Residual making en breaking capacity	$I_{\Delta m} = 10000A$
Short-circuit capacity	$I_{cn} = 10000A$ at 230V
Selectivity class	3

- 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

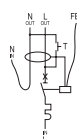
1P+N



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

1P+N



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

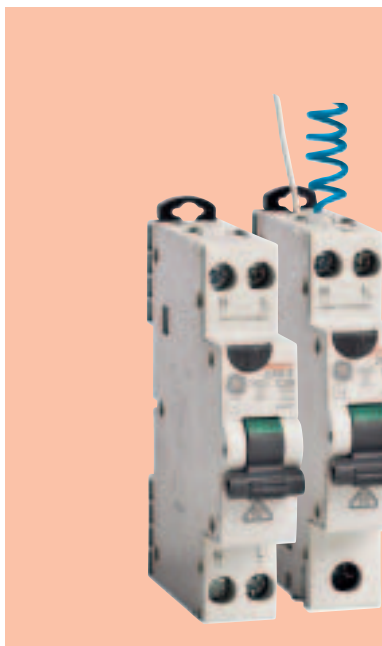
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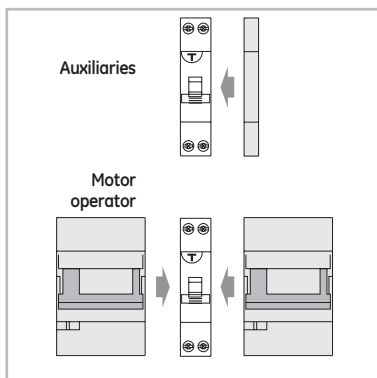
Applications



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

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

Performance

Thermal setting In	(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_{8min}	(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)	Top Phase out ⁽¹⁾ , Neutral out ⁽¹⁾ , Neutral in ⁽²⁾
	Bottom Phase in ⁽³⁾
DMCE (Domestic)	Top Phase out ⁽¹⁾ , Neutral out ⁽¹⁾
	Bottom Phase in ⁽¹⁾ , Neutral in ⁽¹⁾ , 1P+N (1 module) ⁽⁴⁾
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

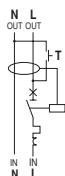
Residual making and breaking capacity	$I_{\Delta m} = 3000A$
Short-circuit capacity	$I_{cn} = 6000A$ at 240V
Selectivity class	3

Terminal capacity:

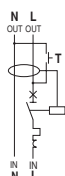
- (1) Rigid copper wires 1-25mm², flexible copper wires 1.5 - 16mm²
 (2) Flying lead entering the device from top side. Cross section of 4mm² up to 25A, 6mm² up to 40A, 1200mm length.
 (3) Rigid copper wires 1-35mm², Flexible copper wires 1.5 - 25mm²
 (4) Unswitched neutral on the left.

New

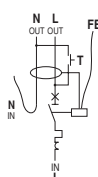


Series DMCE60 - Type AC - Domestic applicationsUnswitched neutral
1P+N

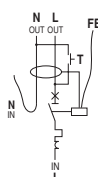
In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DMCE60B06/030	694014	DMCE60C06/030	694000	1
10	DMCE60B10/030	694015	DMCE60C10/030	694001	1
16	DMCE60B16/030	694016	DMCE60C16/030	694002	1
20	DMCE60B20/030	694017	DMCE60C20/030	694003	1
25	DMCE60B25/030	694018	DMCE60C25/030	694004	1
32	DMCE60B32/030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

Series DMCEA60 - Type A - Domestic applicationsUnswitched neutral
1P+N

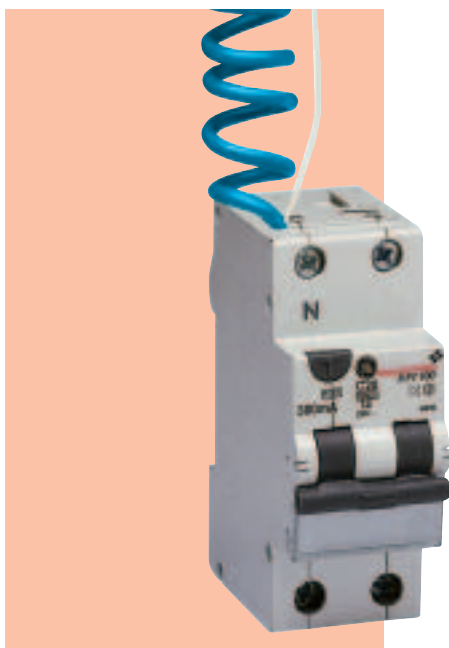
In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	DMCEA60B06/030	694021	DMCEA60C06/030	694007	1
10	DMCEA60B10/030	694022	DMCEA60C10/030	694008	1
16	DMCEA60B16/030	694023	DMCEA60C16/030	694009	1
20	DMCEA60B20/030	694024	DMCEA60C20/030	694010	1
25	DMCEA60B25/030	694025	DMCEA60C25/030	694011	1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

Series DICE61 - Type AC - Industrial applicationsUnswitched 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 applicationsUnswitched 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

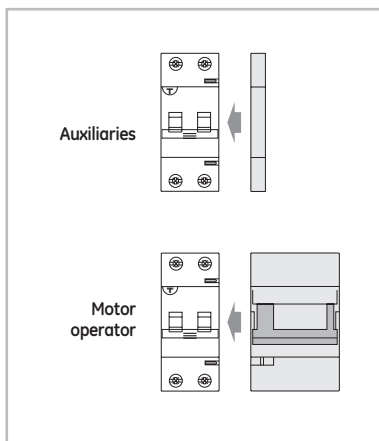


Applications



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

RCBO's - Residual Current Circuit Breakers With Overcurrent Protection

DPT100

BS EN 61009

10000

3

Type AC



Functionality independent on line voltage

Performance

Thermal setting I_n	(A) 4 to 40
Residual current $I_{\Delta n}$	(mA) 30
Tripping characteristic	B-C
Rated voltage AC U_n	(V) 240
Minimum operating voltage U_{8min}	(V) 100
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. to IEC 60068-2-28/2-30 and DIN 40046	95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm ²) 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) 300
Neutral flying lead	(mm) 580

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

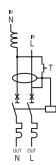
Acc. to EN/IEC 60947-2

Short-circuit capacity	$I_{cu} = 15000A$ at 240V
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DPT100 - ¹⁰⁰⁰⁰/₃ Type AC - characteristic B



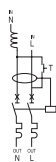
		30 mA		
	In (A)	Cat. No.	Ref. No.	Pack.
1P+N Switched neutral 1P+N	6	DPT100 B06/030	609673	1
	10	DPT100 B10/030	609674	1
	16	DPT100 B16/030	609676	1
	20	DPT100 B20/030	609677	1
	25	DPT100 B25/030	609678	1
	32	DPT100 B32/030	609679	1
	40	DPT100 B40/030	609680	1



DPT100 - ¹⁰⁰⁰⁰/₃ Type AC - characteristic C



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



Applications

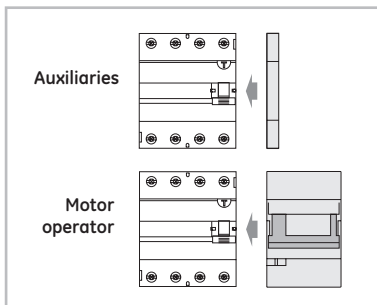


Approval



with UL approval

Add-on devices



Dimensions ● pg B.31

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 U_n	(V) 2P: 240 4P: 240/415
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 ²) 35-50
Poles	2, 4
Nuisance tripping resistance	Type A: 250A 8/20μs; 3000A 8/20μs
Ambient temperature	(°C) -25 up to 40
Weight	(g) 2P: 220 4P: 385

Short-circuit capacity

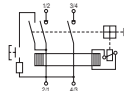
Acc. to EN/IEC 61008-1

Making and breaking capacity	$I_m = 500A$
Residual making and breaking capacity	$I_{\Delta m} \geq 500A$ from 16 up to 40A $I_{\Delta m} = 10I_n$ from 63 up to 100A
Short-circuit capacity	$I_{nc} = 10000A$ at 230/400V fuse 80A gG

Series FPAUL - Type A



2P

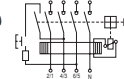


In (A)	10*/30mA		100mA		300mA		500mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
16	FPAUL 216/010*	608377	-	-	-	-	-	-	-
25	FPAUL 225/030	608378	FPAUL 225/100	608379	FPAUL 225/300	608380	FPAUL 225/500	608381	6
40	FPAUL 240/030	608382	FPAUL 240/100	608383	FPAUL 240/300	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

EN 61009-1

10000

3

Type A



Performances UL

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

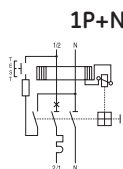
Performances EN/IEC

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 ²) 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

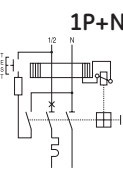
Acc. to EN/IEC 61009-1	
Residual making and breaking capacity	$I_{\Delta m} = 6000A$
Short-circuit capacity	$I_{cn} = 5000/10000A$ at 230V
Selectivity class	3
Acc. to EN/IEC 60947-2	
Short-circuit capacity	$I_{cu} = 15000A$ at 230V

DPA100 - ¹⁰⁰⁰⁰₃ 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 - ¹⁰⁰⁰⁰₃ 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

Dimensions ● pg B.32

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

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

Short-circuit capacity

Depends on the associated MCB

Residual making and

breaking capacity

$I_{\Delta m}$

Short-circuit capacity

I_{cn}

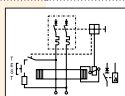
MCB	
EP60	EP100
6000	7500
6000	10000

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

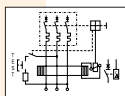
Add-on RCD - Series Diff-o-Click - Type AC

2P - 2 mod.

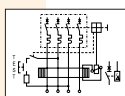
In (A)	30 mA		100 mA		300 mA		500 mA		1000 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
32	DOC 232/030	607536	DOC 232/100	607537	DOC 232/300	607538	DOC 232/500	607539	DOC 232/1000	607540	1
63	DOC 263/030	607542	DOC 263/100	607543	DOC 263/300	607544	DOC 263/500	607545	DOC 263/1000	607546	1

3P - 2 mod.
4 mod.

32	DOC 332/030	607620	DOC 332/100	607621	DOC 332/300	607622	DOC 332/500	607623	DOC 332/1000	607624	1
63	DOC 363/030	607626	DOC 363/100	607627	DOC 363/300	607628	DOC 363/500	607629	DOC 363/1000	607630	1

4P - 2 mod.
4 mod.

32	DOC 532/030	607722	DOC 532/100	607723	DOC 532/300	607724	DOC 532/500	607725	DOC 532/1000	607726	1
32	DOC 432/030	607728	DOC 432/100	607729	DOC 432/300	607730	DOC 432/500	607731	DOC 432/1000	607732	1
63	DOC 463/030	607734	DOC 463/100	607735	DOC 463/300	607736	DOC 463/500	607737	DOC 463/1000	607738	1

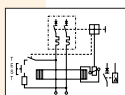


Note: 3P+N (unswitched) flying lead on request.

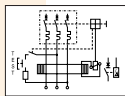
Add-on RCD - Series Diff-o-Click - Type A

2P - 2 mod.

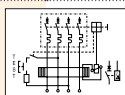
In (A)	30 mA		100 mA		300 mA		500 mA		1000 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
32	DOCA 232/030	607500	DOCA 232/100	607501	DOCA 232/300	607502	DOCA 232/500	607503	DOCA 232/1000	607504	1
63	DOCA 263/030	607506	DOCA 263/100	607507	DOCA 263/300	607508	DOCA 263/500	607509	DOCA 263/1000	607510	1

3P - 2 mod.
4 mod.

32	DOCA 332/030	607584	DOCA 332/100	607585	DOCA 332/300	607586	DOCA 332/500	607587	DOCA 332/1000	607588	1
63	DOCA 363/030	607590	DOCA 363/100	607591	DOCA 363/300	607592	DOCA 363/500	607593	DOCA 363/1000	607594	1

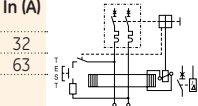
4P - 2 mod.
4 mod.

32	DOCA 532/030	607668	DOCA 532/100	607670	DOCA 532/300	607669	DOCA 532/500	607671	DOCA 532/1000	607672	1
32	DOCA 432/030	607674	DOCA 432/100	607675	DOCA 432/300	607676	DOCA 432/500	607677	DOCA 432/1000	607678	1
63	DOCA 463/030	607680	DOCA 463/100	607681	DOCA 463/300	607682	DOCA 463/500	607683	DOCA 463/1000	607684	1

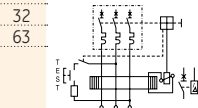
**Add-on RCD - Series Diff-o-Click - Type S**

2P - 2 mod.

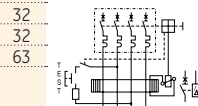
In (A)	100 mA		300 mA		500 mA		1000 mA		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
32	DOCS 232/100	607513	DOCS 232/300	607514	DOCS 232/500	607515	DOCS 232/1000	607516	1
63	DOCS 263/100	607519	DOCS 263/300	607520	DOCS 263/500	607521	DOCS 263/1000	607522	1

3P - 2 mod.
4 mod.

32	DOCS 332/100	607597	DOCS 332/300	607598	DOCS 332/500	607599	DOCS 332/1000	607600	1
63	DOCS 363/100	607603	DOCS 363/300	607604	DOCS 363/500	607605	DOCS 363/1000	607606	1

4P - 2 mod.
4 mod.

32	DOCS 532/100	607687	DOCS 532/300	607688	DOCS 532/500	607689	DOCS 532/1000	607690	1
32	DOCS 432/100	607693	DOCS 432/300	607694	DOCS 432/500	607695	DOCS 432/1000	607696	1
63	DOCS 463/100	607699	DOCS 463/300	607700	DOCS 463/500	607701	DOCS 463/1000	607702	1



Diff-o-Click

A

B

C

D

E

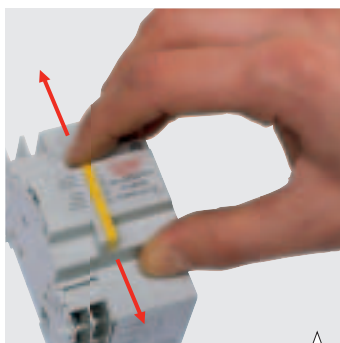
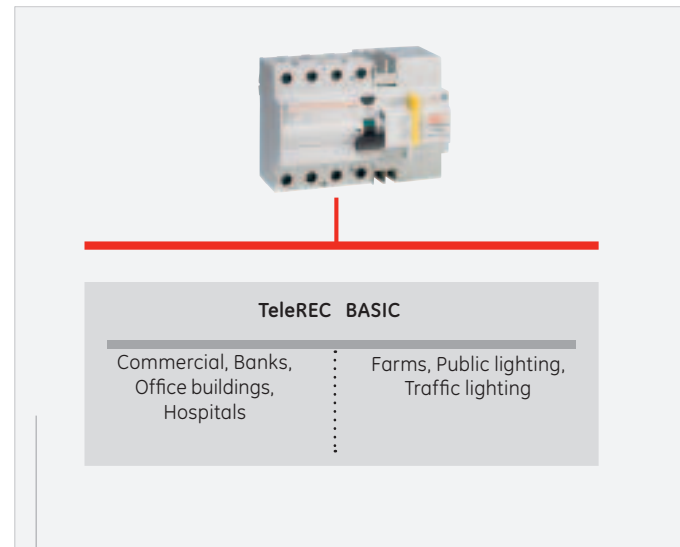
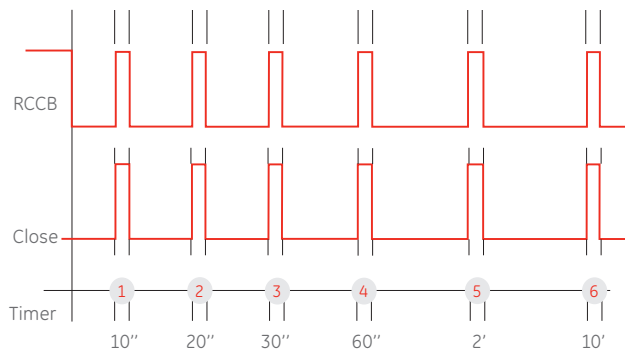
F

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.

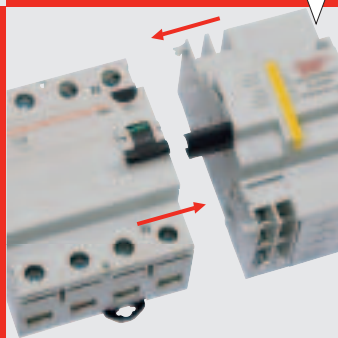


Easy connection

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*



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
		In (A)	300 mA		Pack.
			Cat. No.	Ref. No.	
	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

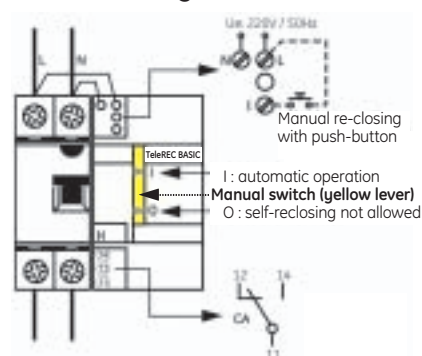
		In (A)	30 mA		Pack.
			Cat. No.	Ref. No.	
	2P Type A	40	Tele REC BASIC A 240/030	677122	1
		63	Tele REC BASIC A 263/030	677123	1
	4P Type A	40	Tele REC BASIC A 440/030	677124	1
		63	Tele REC BASIC A 463/030	677125	1
		In (A)	300 mA		Pack.
			Cat. No.	Ref. No.	
	2P Type A	40	Tele REC BASIC A 240/300	677126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



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

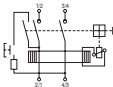


The reconnection relay TeleREC PLUS can be easily coupled to any RCCB:

Series FP - Type AC



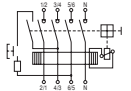
2P
Type AC



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

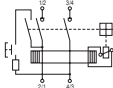


25	FP 425/030	604279	FP 425/100	604144	FP 425/300	604080	FP 425/500	604146	FP 425/1000	604147	3
40	FP 440/030	604281	FP 440/100	604149	FP 440/300	604282	FP 440/500	604151	FP 440/1000	604152	3
63	FP 463/030	604283	FP 463/100	604154	FP 463/300	604284	FP 463/500	604156	FP 463/1000	604157	3
80	FP 480/030	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

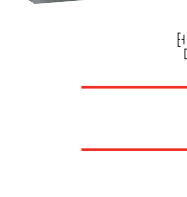
Series FP - Type A



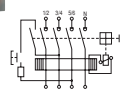
2P
Type A



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

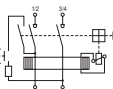


25	FPA 425/030	604096	FPA 425/100	604097	FPA 425/300	604098	FPA 425/500	604099	1
40	FPA 440/030	604101	FPA 440/100	604102	FPA 440/300	604103	FPA 440/500	604104	1
63	FPA 463/030	604106	FPA 463/100	604107	FPA 463/300	604108	FPA 463/500	604109	1
80	FPA 480/030	604111	FPA 480/100	604112	FPA 480/300	604113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



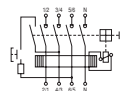
2P
Type S



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

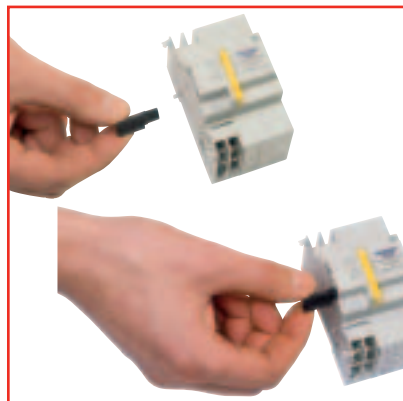
Mounting instructions TeleREC PLUS

1.



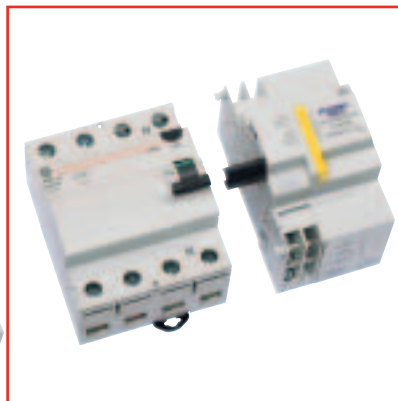
Place the reconnection relay on a flat surface and lock relay in OFF position using the yellow sliding lever.

2.



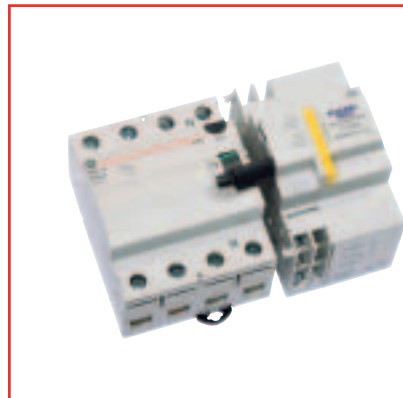
Install the toggle actuator in the relay.

3.



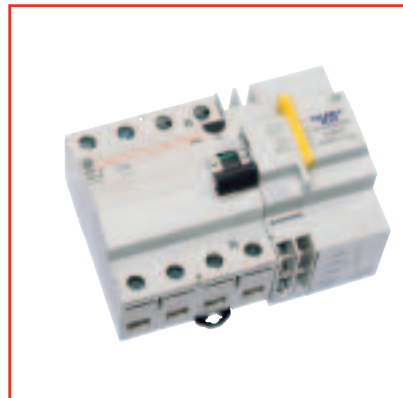
Ensure RCCB is OFF. Align relay and RCCB. Check the make and model of RCCB.
NOTE: The motorized reconnecting system is only adequate for use with RCCB's of the following series : Series BP, BD.
Do not use for reconnecting circuit breakers with overload and/or short-circuit protection. It may result in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

4.



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

5.



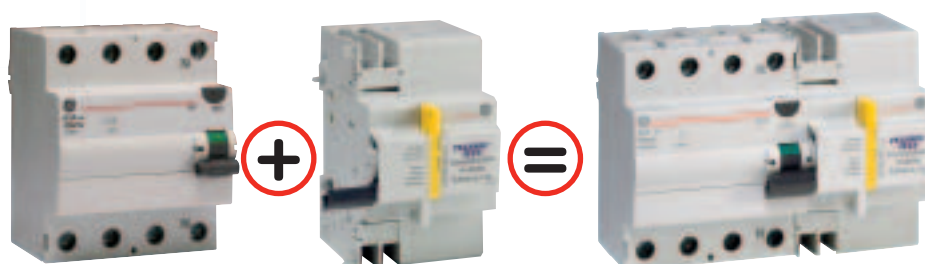
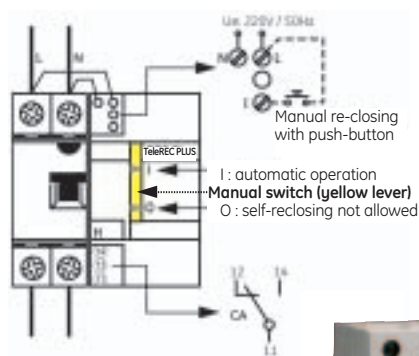
Press devices together until fixing clips "click" in place.

6.



Inspect both clips to ensure correct fixation.

Electrical diagram



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

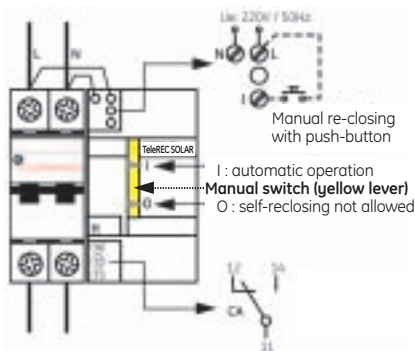


The reconnection relay TeleREC SOLAR can be easily coupled to MCB's series EP100 UC:

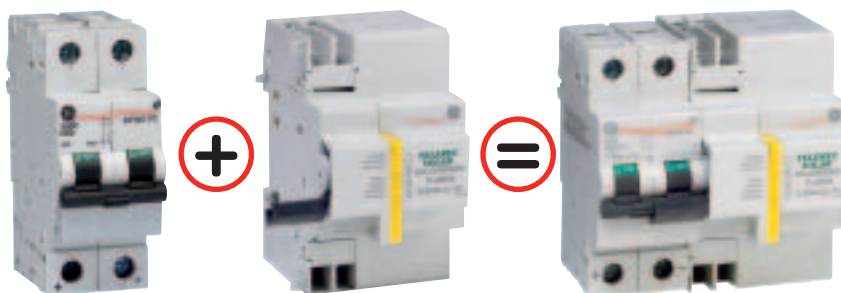
Series EP100 UC - 10kA - characteristic B-C

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 ($I_{cc} < 2I_n$).
The TeleREC SOLAR voltage is 230Vac.*

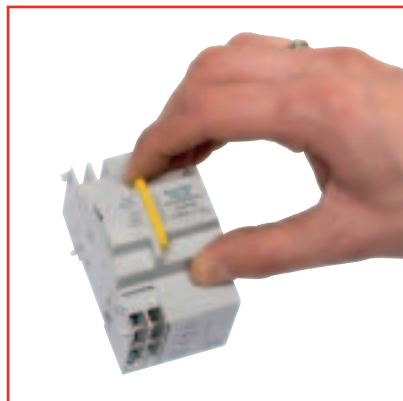


New



Mounting instructions TeleREC SOLAR

1.

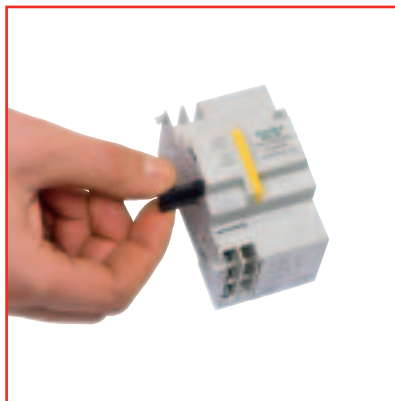


Place the reconnection relay on a flat surface and lock relay in OFF position using the yellow sliding lever.

2.



Install the toggle actuator in the relay.



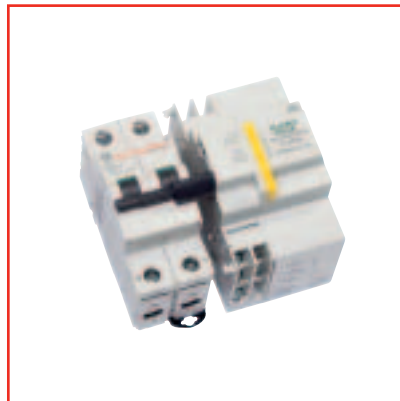
3.



Ensure 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!

4.



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

5.

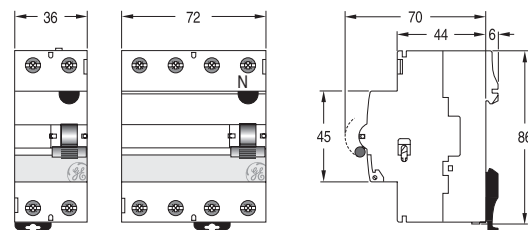
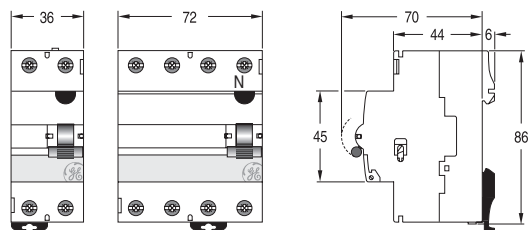


Press devices together until fixing clips "click" in place.

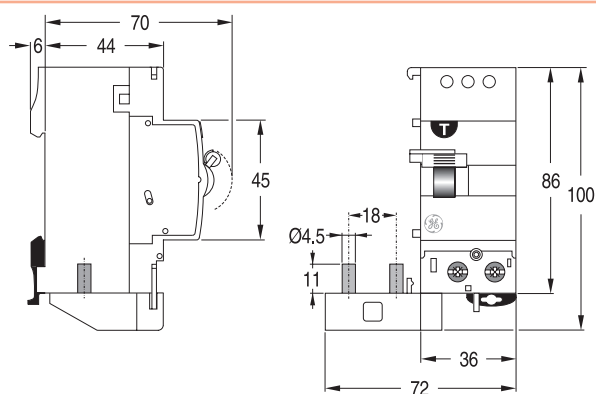
6.



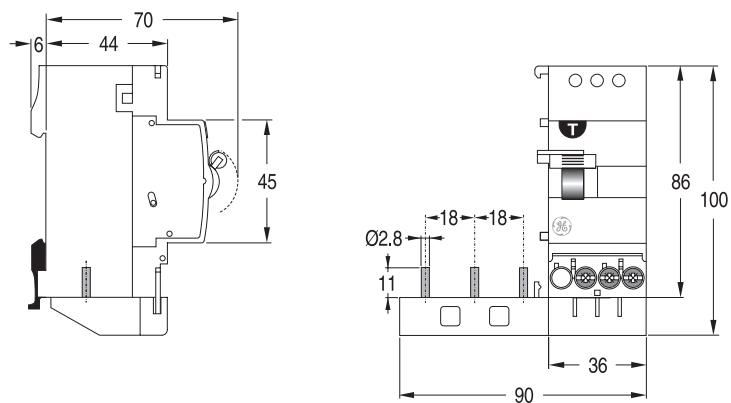
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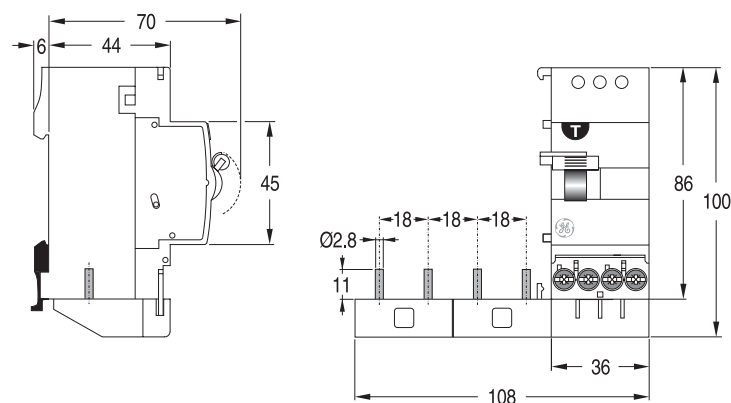
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F



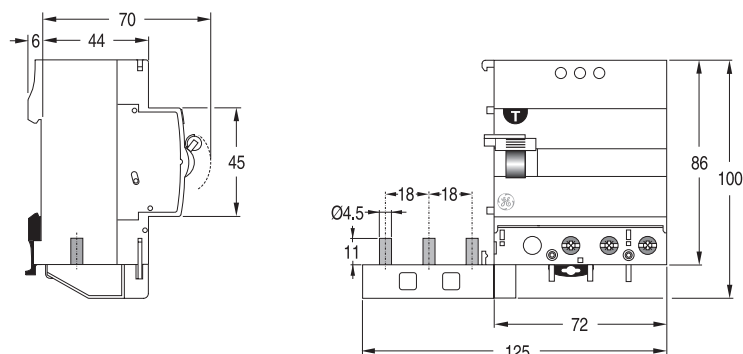
8



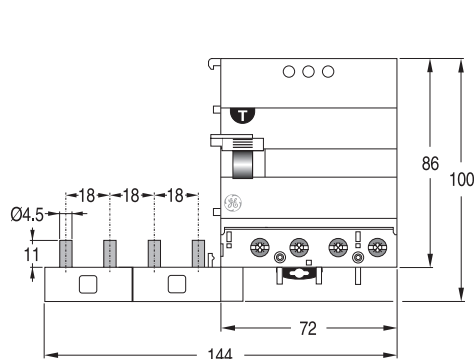
Dimensional drawings

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

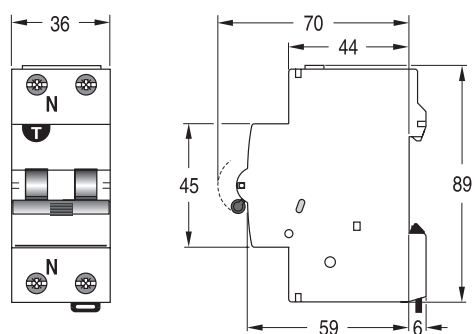
3P 63A



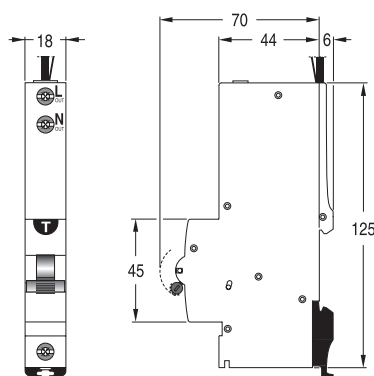
4P 63A



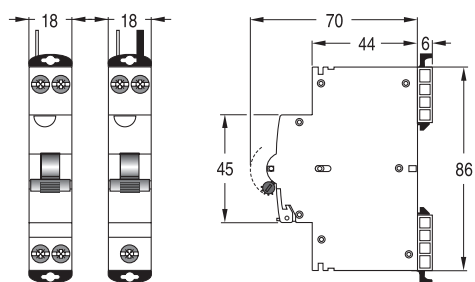
RCBO's - Series DP, DPT and DPA100



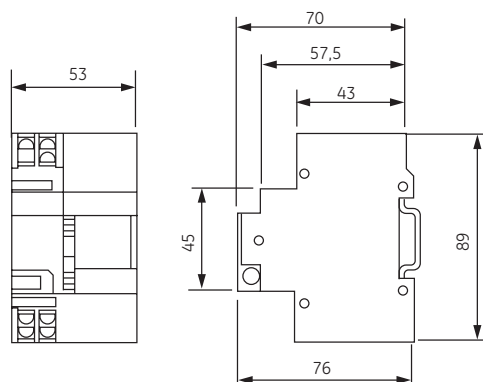
RCBO's - Series DME



Compact e-RCBO - Series DMCE & DICE



TeleREC - Reconnection relay



Just feel

CF

8

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



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

Function			Type
H		Auxiliary Contact H For monitoring the status of the protection device (Open/Closed) independently, if it has been actuated manually or automatically.	CA
S		Signal or Auxiliary Contact S/H 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		Signal or Auxiliary Contact S/H + Auxiliary Contact H Two change-over contacts that include both functions as described above (S/H+H)	CB
PBS		Panel Board Switch For opening the main device when the panel frame is removed	PBS
TL		Shunt Trip (Distance tripping by emission) For opening the device when it is fed locally or remotely	Tele L
TU		Undervoltage Release For opening the device when the voltage goes lower than a certain value	Tele U
TM		Motor Operator 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 ⁽²⁾	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 ⁽²⁾	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 ⁽²⁾	L-R	L-R	L-R	L-R	L-R	R	R	L	L-R
CA UN H	Auxiliary contact	H	L-R ⁽¹⁾	-	-	-	-	-	-	-	-	-
CA UN S/H	Signal or auxiliary contact	S/H	L-R ⁽¹⁾	-	-	-	-	-	-	-	-	-
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 ⁽²⁾	L-R	L-R	L-R	L-R	L-R	-	-	L-R	-
Tele L	Shunt trip	TL	L-R ⁽²⁾	L-R	L-R	L-R	L-R	L-R	R	R	L	-
Tele U	Undervoltage release	TU	L-R ⁽²⁾	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

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

L = Coupling on the left

R = Coupling on the right

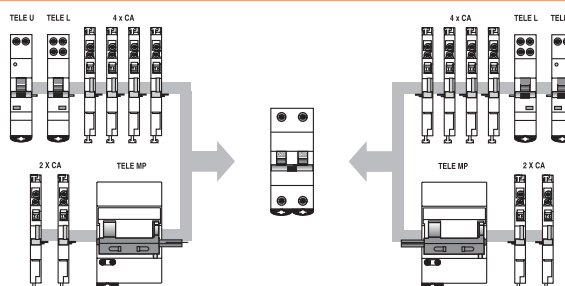
For detailed information, see website

Miniature Circuit Breakers

Series EP

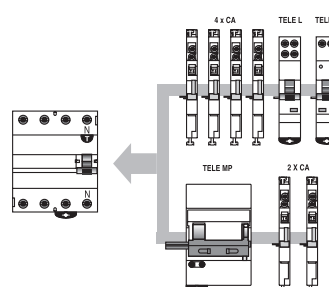
Series EPC Unibis⁽³⁾

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



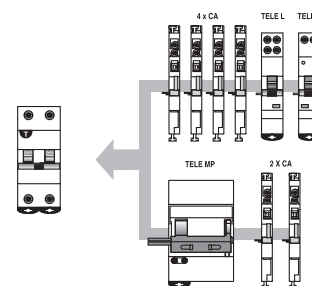
Residual Current Circuit Breakers (RCCB)

Series FP - FPP - FPAUL



Residual Current Circuit Breakers (RCBO) with Overcurrent Protection

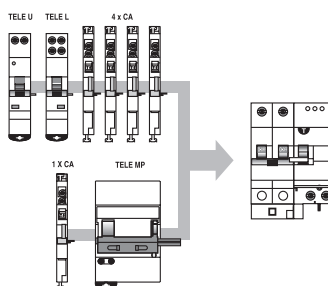
Series DP - DPT - DPA100 - DMCE - DICE



Miniature Circuit Breakers

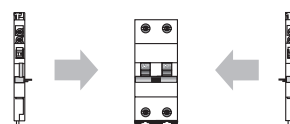
Series EP

+ Diff-o-Click



Modular switches

Aster

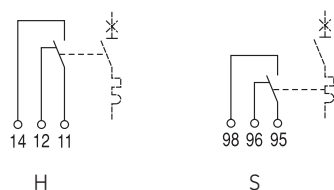
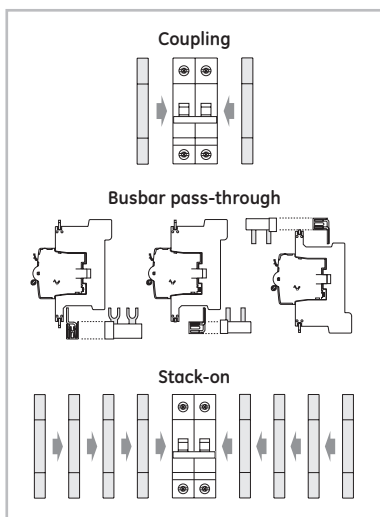




Applications



Approvals



1/2 mod.

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 In	(A) 5
Rated voltage AC Un	(V) 240
Electrical endurance	10000
Terminal capacity flexible/rigid cable	(mm ²) 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

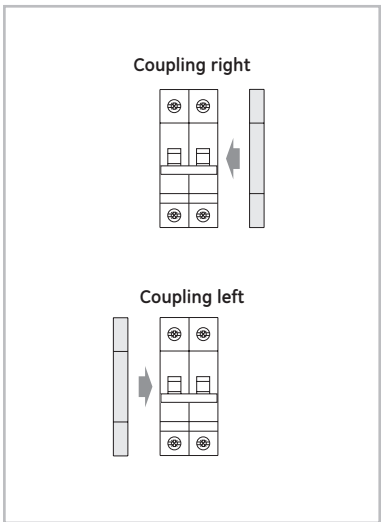
Function	Cat. No.	Ref. No.	Pack.	
H	CA H	672567	40	
S/H	CA S/H	672568	40	
S/H	CA S/H G	672569	40	golden contacts



Applications



Approvals



Auxiliary

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 In	(A) 5
Rated voltage AC Un	(V) 240
Electrical endurance	10000
Terminal capacity flexible/rigid cable	(mm ²) 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).

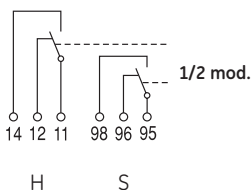
This auxiliary can act as an auxiliary contact (function H) or as a signal contact (function S)

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 ⁽¹⁾	672570	40
SH/HH	CB SH/HH-L ⁽²⁾	672571	40

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



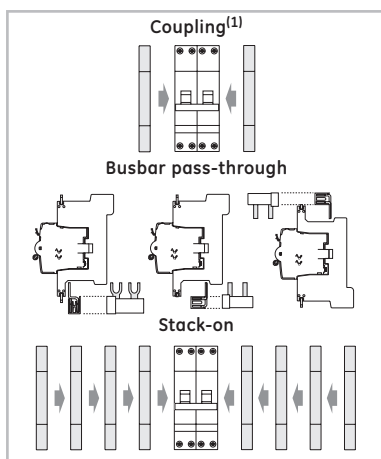
Applications



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, then 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⁽¹⁾ 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 I_n	(A) 5
Rated voltage AC Un	(V) 240
Electrical endurance	10000
Terminal capacity flexible/rigid cable	(mm ²) 2.5
Weight	(g) 70
Torque	(Nm) 0.8

Application

The auxiliary contact Unibis™ has a double function:

1. The standard function as auxiliary monitoring contact for which it has been developed.
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)

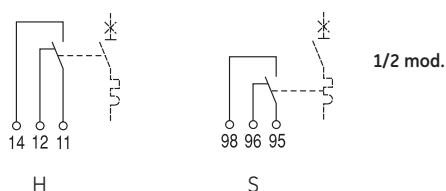
This auxiliary can act as an auxiliary contact (function H) or as a signal contact (function S).

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

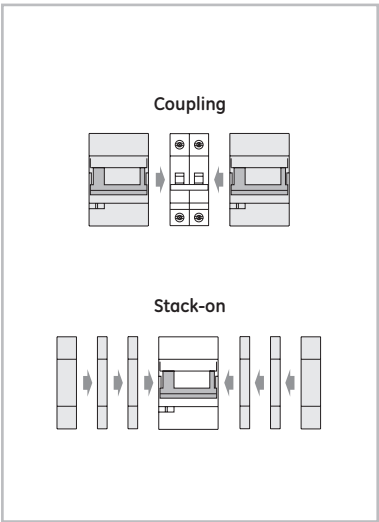


Standard

EN/IEC 60947-2

Performance

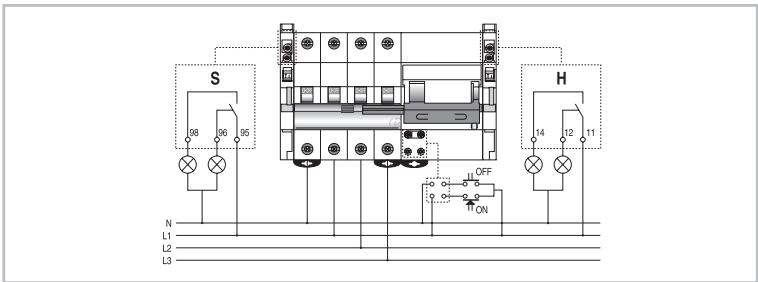
Rated voltage AC Un	(V)	240
Minimum voltage	(V)	200
Impulse to switch on	(ms)	50
Impulse to switch off	(ms)	50
Closing time	(s)	0.5
Opening time	(s)	0.2
Electrical endurance		10000
Terminal capacity flexible/rigid cable	(mm ²)	2.5
Weight	(g)	380



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





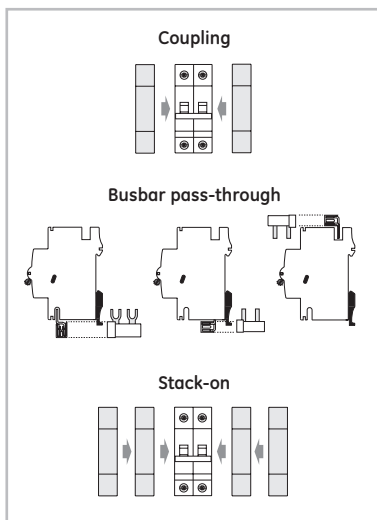
Applications



Approvals

EN/IEC 60947-2  (1)

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



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

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

Undervoltage Release Tele U

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

Performance

Rated voltage AC U_n	(V)	240
Rated voltage DC/AC U_n	(V)	12, 24, 48 DC/AC
Tripping voltage	(V)	$\leq 0.5 \times U_n \pm 10\%$
Resetting voltage	(V)	$> 0.5 \times U_n \pm 10\%$
Tripping time	(ms)	Adjustable 0...300
Electrical endurance		2000
Terminal capacity flexible/rigid cable	(mm ²)	2.5
Weight	(g)	125

Panel Board Switch PBS

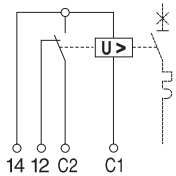
The panel board switch PBS is a mechanical switch. When the panel frame releases the PBS switch, it will trip the protection devices (MCB's or RCD's). Consequently the distribution board will become isolated.

More technical data  website
Dimensions  pg C.12

Tele L - Shunt trip



1P
1 mod.

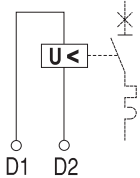


Voltage	Cat. No.	Ref. No.	Pack.	
AC 24-60V DC 24-48V	TELE L-1	672573	1	
AC 110-415V DC 110-125V	TELE L-2	672574	1	

Tele U - Undervoltage release



1P
1 mod.

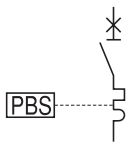


Voltage	Cat. No.	Ref. No.	Pack.	
AC 240V	TELE U-230	672575	1	
AC/DC 12V	TELE U-12	672576	1	
AC/DC 24V	TELE U-24	672577	1	
AC/DC 48V	TELE U-48	672578	1	

PBS - Panel board switch

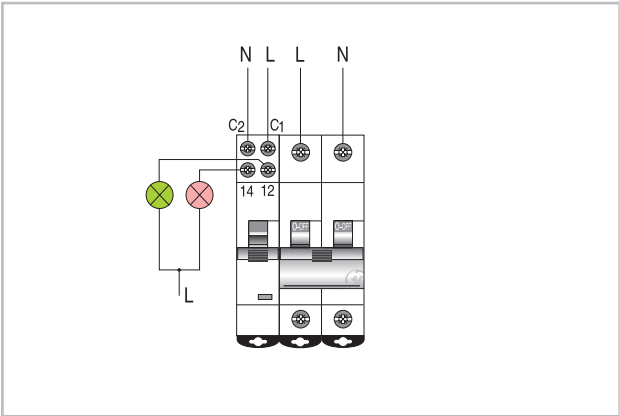


1P
1/2 mod.

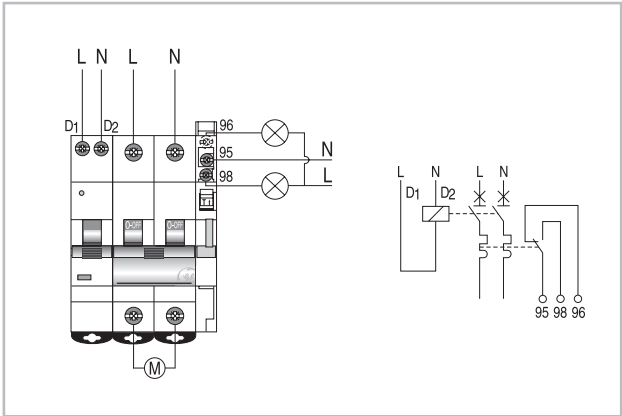


	Cat. No.	Ref. No.	Pack.	
	PBS	672572	1	

Tele L



Tele U



Tele L - Tele U - PBS

A

B

C

D

E

F

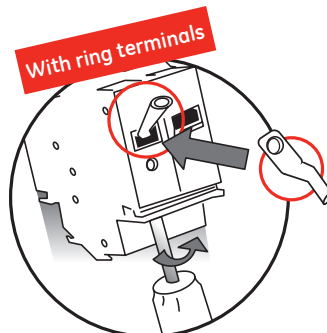
X





Auxiliary contacts

Series CBT



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

Features

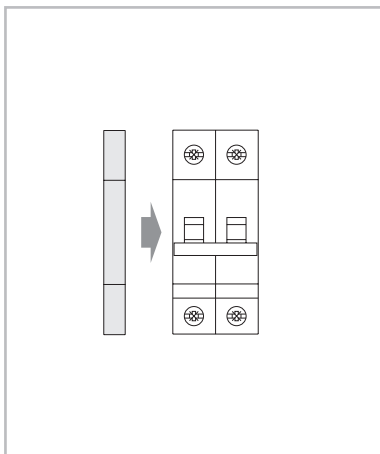
- Three versions: 1NO+1NC, 2NC, 2 NO
- CBT accepts ring terminals on wires
- Certified acc. new CEI UNI 11170 (higher protection against fires)
- Certified acc. to NF 16-101, smoke index F1
- Shock and vibration tests acc. to IEC 61373

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 ²
Unloosable screws	Pozidrive 2

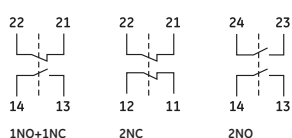
Bottom auxiliary contact (function H)

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

More technical data ● website

Dimensions ● pg C.12

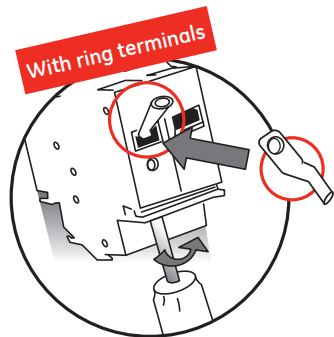
Series CBT



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

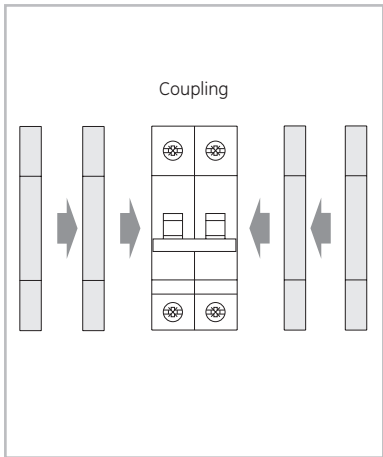
Rated voltage	(V) 110/415~110/128/150---
	(V) 24/60~24/48 ---
Tripping time	(ms) <10
Electrical endurance	10.000
Terminal capacity flexible/rigid cable	(mm ²) 2.5
Unloosable screws	Pozidrive 2
U _{min}	(V) 0.70 x Un
U _{max}	(V) 1.25 x Un

Standards / Marking

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

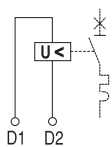
Approval

Trenitalia n° 371441.01



More technical data ● website
Dimensions ● pg C.12

Tele LT



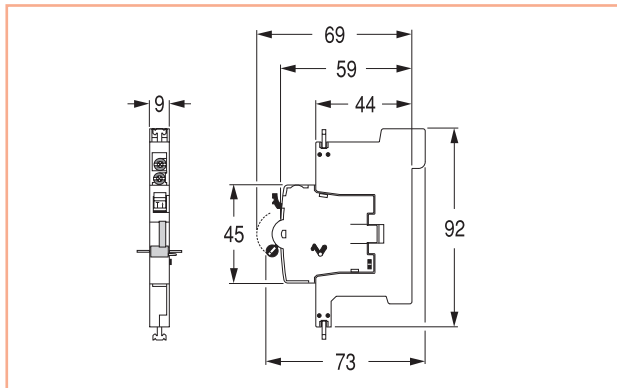
1/2 mod.

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

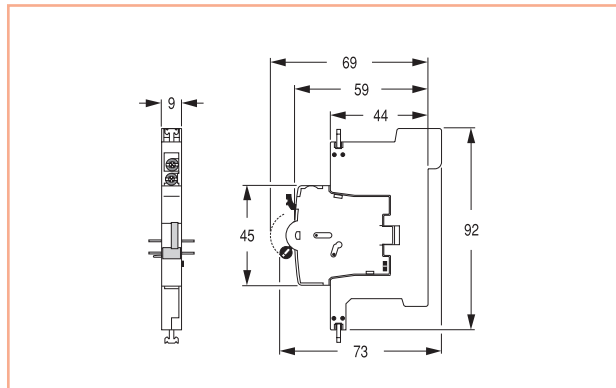


Dimensional drawings

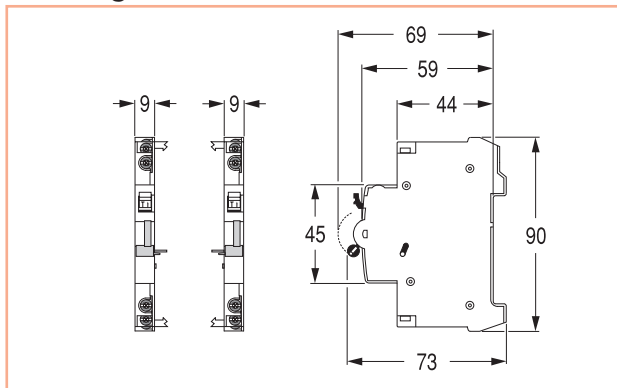
Auxiliary - Series CA



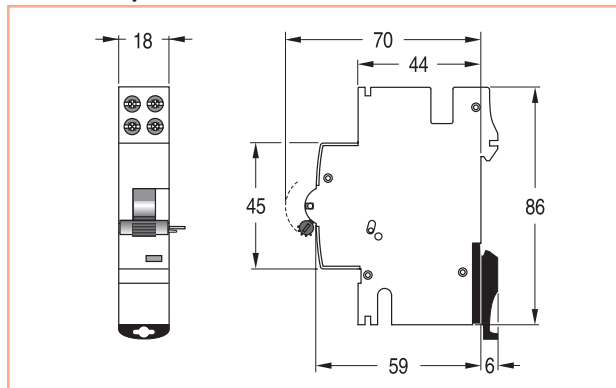
Auxiliary interface - Series CA UN - Unibis™



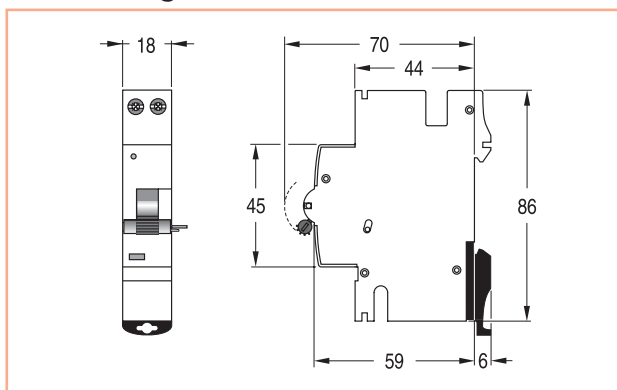
Auxiliary - Series CB / CBT



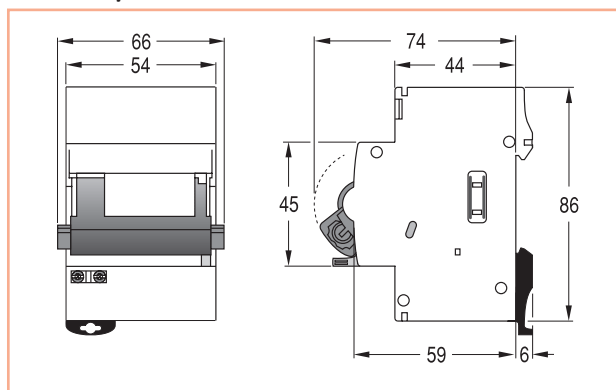
Shunt Trip - Tele L / Tele LT



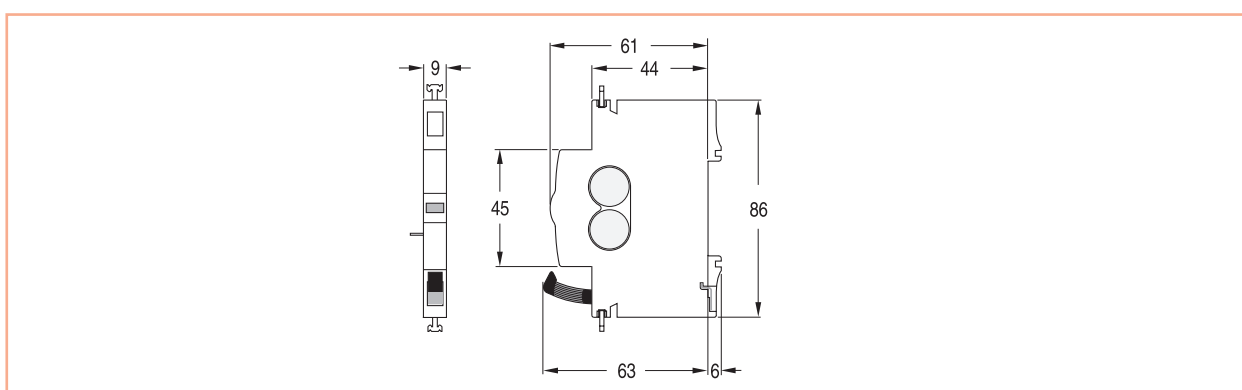
Undervoltage Release - Tele U



Motor operator - Tele MP



Panel board switch - PBS



- D.2 Switches & Push-buttons - **Aster**
- D.4 Indication Lamps - **Aster**
- D.6 Contactors - **Contax**
-  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

People Protection

Add-on Devices

Comfort Functions

Busbars

Enclosures

Numerical Index

A

B

C

D

E

F

X





Function

Manual control of all kinds of electrical devices.

Approvals⁽¹⁾



(1) Depending on type.

Performance

	Push-buttons	Switches		Rotary switches	Mains disconnect switches
	16A	16A	32A	32-40-63A	40-63-80-100A
Nominal rated current	16A	16A	32A	32-40-63A	40-63-80-100A
Usable as mains disconnect switch	no	no	no	yes	yes
Impulse withstand voltage	-	-	-	8kV	8kV
Utilization category	-	-	-	AC-23A	AC-22A
Nominal voltage single pole devices	240V	240V	240V	-	240/415V
Nominal voltage multipole devices	-	415V	415V	240/415V	240/415V
Maximum allowed current during less than 1 s.	-	-	-	-	2kA
Mechanical service life (complete on-off-cycle)	>20000	>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)	4.5kA (nominal)	15kA (nominal)	16kA (nominal)
Protection degree	IP20	IP20	IP20	IP20	IP20
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 2	Pozidriv 2
Terminal capacity: min	1x1.5mm ²	1x1.5mm ²	1x1.5mm ²	1x2.5mm ²	1x6mm ²
max	1x10mm ²	1x10mm ²	1x10mm ²	1x25mm ²	1x50mm ²

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

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.

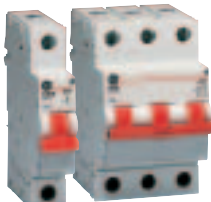
The terminals are equipped with captive Pozidriv screws and have IP20 protection degree.

Mains disconnect switches accepts auxiliary contacts CA.

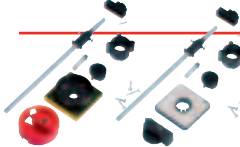
Standards

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

Aster - Switches & push-buttons

	Nominal current	Contact combination	Number of modules	Cat. No.	Ref. No.	Pack.
Mains disconnect switch     	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
Rotary switch                   	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
Changeover switches    	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
Switch with signal lamp 	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
Changeover switches with zero position 	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
Push-button 	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
Push-button with signal lamp 	16A/240V	1NO	1	AST PL 16 10	666573	12

Accessories for rotary switches

 Extension shaft	238 mm with emergency handle			AST R ES E	666555	1
	238 mm with standard handle			AST R ES S	666556	1
 Sealing piece			4	AST R TS	666557	1

Aster

A

B

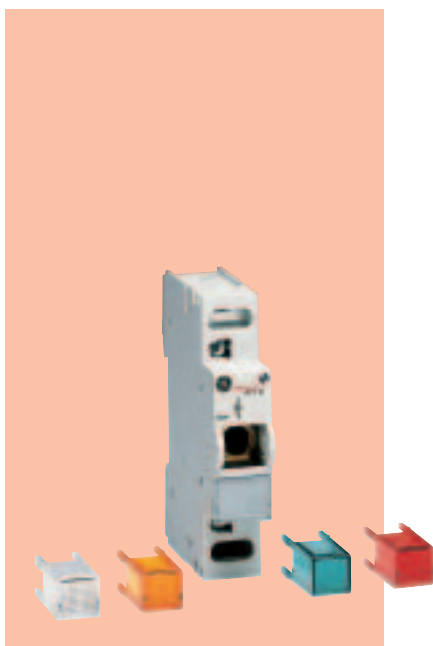
C

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 ²	1x1.5mm ²	1x1.5mm ²
max	1x10mm ² / 2x4mm ²	1x10mm ² / 2x4mm ²	1x10mm ² / 2x4mm ²



Socket-outlets

MSC

Standards

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

Approvals⁽¹⁾



(1) Depending on type.

Performance

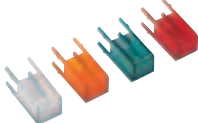
Nominal current	16A
Nominal voltage	250V
Operating temperature	-20 ... +55°C
Protection degree	IP20
Screws	Pozidriv 2
Terminal capacity: min	1x1 mm ²
max	1x6 mm ² or 2x2.5 mm ²

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
	Edged without child protection	16A	250V	2.5	MSC SE	666499	4
							
							
	Pin with child protection	16A	250V	2.5	MSC SPP	666502	4
							
							



Function

Contactors are electromechanically controlled switches used to control single or multi-phase (high) power loads while the control itself can be (very) low power.

Dimensions ● pg D.43

Contactors

Contax

Applications



Switching of lighting, heating-equipment, motors for pumps and fans, ... Day and night contactors are used mainly in combination with dual-tariff applications to allow high-energy-loads (i.e. electrical water heaters, accumulation heaters) only to consume energy during the low-tariff period. A forced-on, forced-off, auto-switch allows to overrule the normal operation of the DN-contactor at all times.

Features

Except for the 20A version, all contactors have DC coils, resulting in an absolutely noise-free, real silent operation: 50 or 60Hz noise generation by the contactor is impossible. As all DC coil contactors have an internal diode rectifier bridge, they all can be operated by both DC and AC power supplies. The built-in varistor protects the coil against an overvoltage of up to 5kV. The switch position of the contactor is visualised through an indicator flag. The loss-proof safety terminals are equipped with Pozidriv screws and have IP20 protection degree. Add-on auxiliary contacts as well as spacers and sealing pieces are available.

Standards/Approvals

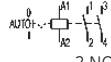
IEC 60947-4-1, BS EN 60947-4-1, IEC 61095, BS EN 61095. Approval VDE.

Performance

Rated switching capacity	20A	24A	40A	63A
Contacts				
Switching capacity for different loads				
Rated insulation voltage	400V	500V	500V	500V
Rated operational voltage	250V	440V	440V	440V
Switching-on capacity				
$\cos \varphi = 0.65$ at 380-400V 3phase	-	90A	220A	300A
$\cos \varphi = 0.95$ at 220-230V 1phase	100A	-	-	-
Switching-off capacity				
$\cos \varphi = 0.65$ at 380-400V 3phase	-	72A	176A	240A
$\cos \varphi = 0.95$ at 220-230V 1phase	80A	-	-	-
Fuse type GL for short-circuit protection	20A	35A	63A	80A
Ohmic loss per contact at In	1.0W	1.5W	3.0W	6.0W
Maximum switching frequency AC1 / AC7a	300/h	300/h	300/h	300/h
Maximum switching frequency AC3 / AC7b	600/h	600/h	600/h	600/h
Mechanical service life	10 ⁶	10 ⁶	10 ⁶	10 ⁶
Electrical service life AC1 / AC7a	150000	150000	150000	150000
Electrical service life AC3 / AC7b	150000	500000	170000	240000
Screws				
Terminal capacity: min	1x1 mm ²	1x1 mm ²	1x1.5 mm ²	1x1.5 mm ²
max	1x10mm ² or 2x4 mm ²	1x10mm ² or 2x4 mm ²	1x25mm ² or 2x10 mm ²	1x25mm ² or 2x10 mm ²
Magnetic control system				
Control voltage range	85 ... 110% $\times$ Un	85 ... 110% $\times$ Un	85 ... 110% $\times$ Un	85 ... 110% $\times$ Un
Rated operating frequency	50 or 60Hz	DC, 40 ... 450Hz	DC, 40 ... 450Hz	DC, 40 ... 450Hz
Operating temperature range	-25 ... +55°C ⁽¹⁾	-25 ... +55°C ⁽¹⁾	-25 ... +55°C ⁽¹⁾	-25 ... +55°C ⁽¹⁾
Maximum pull-in coil power loss	8.0VA / 5.0W	4VA / 4W	5VA / 5W	6.5VA / 6.5W
Maximum holding coil power loss	3.2VA / 1.2W	4VA / 4W	5VA / 5W	4.2VA / 4.2W
Switching-on delay	9 ... 12 ms	< 40 ms	< 40 ms	< 40 ms
Switching-off delay	10 ... 12 ms	< 40 ms	< 40 ms	< 40 ms
Screws				
Terminal capacity: min	1x1 mm ²	1x1 mm ²	1x1 mm ²	1x1 mm ²
max	1x4mm ² or 2x2.5 mm ²	1x4mm ² or 2x2.5 mm ²	1x4mm ² or 2x2.5 mm ²	1x4mm ² or 2x2.5 mm ²

(1) Remark: If several contactors are mounted next to each-other and the time of operation exceeds 1 hour and the ambient temperature rises above 40°C, a 1/2-module spacer must be added every second contactor (i.e. contactor contactor spacer contactor contactor spacer contactor contactor etc.).

Contax - Contactors

		Nominal current	Contact combination	Coil voltage	AC/DC	Number of modules	Cat. No.	Ref. No.	Pack.
	Contactor 	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							
	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							
	3 NO 	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
		40A	4NO	240V	AC/DC	3	CTX 40 40 240 U	666152	3
		4 NO							
	4 NO 	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
		63A	4NO	240V	AC/DC	3	CTX 63 40 240 U	666157	3
		4 NO							
	Contactor Day and Night 	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
		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
		2 NO							
		3 NO							
		4NO							
		4 NO							

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

	Left mounting	Nominal current	Contact combination			Number of modules	Cat. No.	Ref. No.	Pack.
		6A	1NO 1NC	-	-	0.5	CTX 06 11	666162	5
		6A	2NO	-	-	0.5	CTX 06 20	666163	5
		2 NO							

Accessories

					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



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
Rated current (according to EN 60947-4-1)			
250VAC (1 & 2 pole) / 400VAC (3 & 4 pole)	A		16
Nominal thermal current (I _{th})	A		16
Number of pole			1 → 4
Contacts	NO		1 → 4
	Changeover ("m" contacts)		1 → 4
	NO + NC		1+1 / 2+2
Width (in 17.8mm DIN modules)	1P & 2P	Mod.	1
	3P & 4P	Mod.	2
Coil specifications			
Supply voltage : DC/AC ratio ⁽¹⁾			0.5 / 1
Supply voltage range (in % of U _n)		%	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
Contact bounce time at closing	sec.		<0.010
Operate and release time (bounce time incl.)			
Pick-up time	NO contact	sec.	< 0.040
(from 0 to U _n)	NC contact	sec.	< 0.020
Drop-out time	NO contact	sec.	< 0.050
(from U _n to 0)	NC contact	sec.	< 0.050
Maximum peak current at closing			
Single phase 250VAC cos φ = 0.95	A		45
3-phase 400V~ cos φ = 0.65	A		60
Maximum peak current at opening			
Single phase 250VAC cos φ = 0.95	A		75
3-phase 400V~ cos φ = 0.65	A		60
Lifetime (in number of operations) ⁽²⁾			
Electrical (in AC-1 - At full load)			3 × 10 ⁵
Mechanical			2 × 10 ⁶
Load specifications per phase			
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
Maximum lamp load (10 ³ operations/h)			
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
General specifications			
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 ²	1.5 / 10
	Load	mm ²	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

A

B

C

D

E

F

X

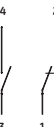
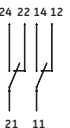
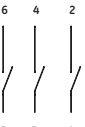
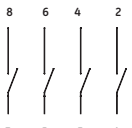
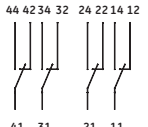
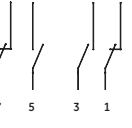


New

Impulse switches and relays: maximum lamp loads

Lamps type	Lamp Watts Power consumption	Pulsar S PLS + 16	Pulsar S PLS + 32	Contax R CTX + R16
Incandescent lamps				
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
Fluo lamp PF uncorrected				
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
Fluo twin lamps				
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
Fluo lamp parallel compensation				
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
Halogen 230V				
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
HP sodium vapour				
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	-
LP sodium vapour				
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
HP mercury vapour				
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	-
VLV halogen				
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
Electronic reactor				
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

Contax R - Relays

		Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of Modules	Cat. No.	Ref. No.	Pack.
		16A	1 NO	8	-	1	CTX + R 16 10 008 A	686007	12
		16A	1 NO	12	6	1	CTX + R 16 10 012 A	686008	12
		16A	1 NO	24	12	1	CTX + R 16 10 024 A	686009	12
		16A	1 NO	48	24	1	CTX + R 16 10 048 A	686010	12
		16A	1 NO	115	48	1	CTX + R 16 10 115 A	686011	12
		16A	1 NO	230	115	1	CTX + R 16 10 230 A	686013	12
		16A	1 NO	230/60Hz	-	1	CTX + R 16 10 23060	686012	12
		16A	1 NO	240	120	1	CTX + R 16 10 240 A	686014	12
		16A	1 CO	8	-	1	CTX + R 16 1 008 A	686000	12
		16A	1 CO	12	6	1	CTX + R 16 1 012 A	686001	12
		16A	1 CO	24	12	1	CTX + R 16 1 024 A	686002	12
		16A	1 CO	48	24	1	CTX + R 16 1 048 A	686003	12
		16A	1 CO	115	48	1	CTX + R 16 1 115 A	686004	12
		16A	1 CO	230	115	1	CTX + R 16 1 230 A	686005	12
		16A	1 CO	240	120	1	CTX + R 16 1 240 A	686006	12
		16A	2 NO	8	-	1	CTX + R 16 20 008 A	686036	12
		16A	2 NO	12	6	1	CTX + R 16 20 012 A	686037	12
		16A	2 NO	24	12	1	CTX + R 16 20 024 A	686038	12
		16A	2 NO	48	24	1	CTX + R 16 20 048 A	686039	12
		16A	2 NO	115	48	1	CTX + R 16 20 115 A	686040	12
		16A	2 NO	230	115	1	CTX + R 16 20 230 A	686042	12
		16A	2 NO	230/60Hz	-	1	CTX + R 16 20 23060	686041	12
		16A	2 NO	240	120	1	CTX + R 16 20 240 A	686043	12
		16A	1 NO 1 NC	8	-	1	CTX + R 16 11 008 A	686015	12
		16A	1 NO 1 NC	12	6	1	CTX + R 16 11 012 A	686016	12
		16A	1 NO 1 NC	24	12	1	CTX + R 16 11 024 A	686017	12
		16A	1 NO 1 NC	48	24	1	CTX + R 16 11 048 A	686018	12
		16A	1 NO 1 NC	115	48	1	CTX + R 16 11 115 A	686019	12
		16A	1 NO 1 NC	230	115	1	CTX + R 16 11 230 A	686021	12
		16A	1 NO 1 NC	230/60Hz	-	1	CTX + R 16 11 23060	686020	12
		16A	1 NO 1 NC	240	120	1	CTX + R 16 11 240 A	686022	12
		16A	2 CO	8	-	1	CTX + R 16 2 008 A	686023	12
		16A	2 CO	12	6	1	CTX + R 16 2 012 A	686024	12
		16A	2 CO	24	12	1	CTX + R 16 2 024 A	686026	12
		16A	2 CO	48	24	1	CTX + R 16 2 048 A	686028	12
		16A	2 CO	115	48	1	CTX + R 16 2 115 A	686030	12
		16A	2 CO	230	115	1	CTX + R 16 2 230 A	686032	12
		16A	2 CO	240	120	1	CTX + R 16 2 240 A	686034	12
		16A	3 NO	12	6	2	CTX + R 16 30 012 A	686050	6
		16A	3 NO	24	12	2	CTX + R 16 30 024 A	686051	6
		16A	3 NO	48	24	2	CTX + R 16 30 048 A	686052	6
		16A	3 NO	230	115	2	CTX + R 16 30 230 A	686053	6
		16A	4 NO	8	-	2	CTX + R 16 40 008 A	686025	6
		16A	4 NO	12	6	2	CTX + R 16 40 012 A	686060	6
		16A	4 NO	24	12	2	CTX + R 16 40 024 A	686061	6
		16A	4 NO	48	24	2	CTX + R 16 40 048 A	686062	6
		16A	4 NO	230	115	2	CTX + R 16 40 230 A	686064	6
		16A	4 NO	230/60Hz	-	2	CTX + R 16 40 23060	686063	6
		16A	4 NO	240	120	2	CTX + R 16 40 240 A	686065	6
		16A	4 CO	12	6	2	CTX + R 16 4 012 A	686054	6
		16A	4 CO	24	12	2	CTX + R 16 4 024 A	686055	6
		16A	4 CO	48	24	2	CTX + R 16 4 048 A	686056	6
		16A	4 CO	115	48	2	CTX + R 16 4 115 A	686057	6
		16A	4 CO	230	115	2	CTX + R 16 4 230 A	686058	6
		16A	4 CO	240	120	2	CTX + R 16 4 240 A	686059	6
		16A	2 NO 2 NC	8	-	2	CTX + R 16 22 008 A	686027	6
		16A	2 NO 2 NC	12	6	2	CTX + R 16 22 012 A	686044	6
		16A	2 NO 2 NC	24	12	2	CTX + R 16 22 024 A	686045	6
		16A	2 NO 2 NC	48	24	2	CTX + R 16 22 048 A	686046	6
		16A	2 NO 2 NC	230	115	2	CTX + R 16 22 230 A	686048	6
		16A	2 NO 2 NC	230/60Hz	-	2	CTX + R 16 22 23060	686047	6
		16A	2 NO 2 NC	240	120	2	CTX + R 16 22 240 A	686049	6

Terminal identification, see page D.41

Contax R

A

B

C

D

E

F

X



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 ⁽⁴⁾	
				PLS + 16	PLS + 32	PLS + SA & SB PLS + PU 16	PLS + C 16	PLS + C 32
Rated current (acc. to IEC 669-2-3)								
250VAC (1 & 2 pole) / 400VAC (3 & 4 pole)	A			16	32	16	16	32
Direct Current (at 30 VDC)	A			16	16	16	16	16
Number of poles				1 → 4	1 → 4	2	1 → 4	1 → 3
Contacts	NO			1 → 4	1 → 4	2	1 → 4	1 → 3
	Changeover ("m")			1 → 4	-	-	1 → 4	1 → 3
	NO + NC			1+1 / 2+2	-	-	1+1 / 2+2	-
Width (in 17.8mm DIN modules)								
	1 P	Mod.		1	1	-	1	1
	2 P	Mod.		1	1	1	1½	1½
	3 P	Mod.		2	2	-	2	2
	4 P	Mod.		2	2	-	2	-
Coil specifications								
Supply voltage : DC/AC ratio ⁽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
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				⁽²⁾	⁽²⁾	⁽²⁾	unlimited	⁽²⁾
Impulse times								
Minimum impulse time (under Un)	sec.			0.050	0.050	0.050	0.050	0.100
Minimum impulse time (90% Un)	sec.			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
Maximum number of impulses per mn				250	250	250	250	250
Lifetime (in number of operations)⁽³⁾								
Electrical (in AC-1 - At full load) ⁽⁴⁾				4 × 10 ⁵	3 × 10 ⁵	3 × 10 ⁵	2 × 10 ⁵	4 × 10 ⁵
Mechanical				2 × 10 ⁶	2 × 10 ⁶	2 × 10 ⁶	1 × 10 ⁶	2 × 10 ⁶
Load specifications								
Maximum load AC-1 per phase	A			20	32	20	20	32
Maximum load DC (30VDC)	A			16	16	16	16	16
Minimum load per phase (under 5V)	W			2	2	2	2	2
Short-circuit fuse protection	A			20	32	20	20	32
Maximum lamp load (10³ operations/h)								
Incandescence & halogen (40 to 200 W lamps)	W			3,000	4,000	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	2,200
Maximum number of push-buttons								
Non illuminated push-buttons				unlimited	unlimited	unlimited	unlimited	unlimited
Luminous push-buttons (0.6mA)								
4 terminals				unlimited	unlimited	unlimited	unlimited	unlimited
3 terminals	Without compensator			8	8	8	6	8
	1 compensator			18	18	18	15	27
	2 compensators			45	45	45	38	43
General specifications								
Power contact add-on				yes	yes	no	no	no
Auxiliary contact add-on (PLS / CTX R)				yes	yes	no	yes	yes
Need for spacer ⁽²⁾				yes	yes	yes	no	yes
DIN rail mounting				yes	yes	yes	yes	yes
2-position DIN rail lock				yes	yes	yes	yes	yes
2-position handle				yes	yes	no	yes	yes
Indicator of contact position				yes	yes	yes	yes	yes
Clamping terminals				yes	yes	yes	yes	yes
Unlosable screws				yes	yes	yes	yes	yes
Sealable terminals (coil and load)				yes	yes	yes	yes	yes
Cable cross section (Ø min/max)	Coil	mm ²		1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
	Load 1P-3P & 4P	mm ²		1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
	Load 2P	mm ²		1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
Maximum torque on terminals	Nm			1	1	1	1	1
Ambient temperature at installation point (min./max.)	°C			-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

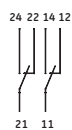
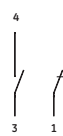
D

E

F

X

Impulse switches



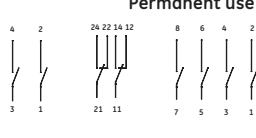
Add-on power contact



Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.
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	2 CO	8	-	1	PLS + 16 2 008 A	686093	12
16A	2 CO	12	6	1	PLS + 16 2 012 A	686094	12
16A	2 CO	24	12	1	PLS + 16 2 024 A	686095	12
16A	2 CO	48	24	1	PLS + 16 2 048 A	686096	12
16A	2 CO	115	48	1	PLS + 16 2 115 A	686097	12
16A	2 CO	230	115	1	PLS + 16 2 230 A	686098	12
16A	2 CO	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
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
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
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

SA= 0-A-0-B-0
SB=0-A-AB-B-0

Permanent use

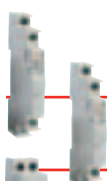


32A other version available on request.
Terminal identification, see page D.40



New

Pulsar S - Impulse switches

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.
 All-in central command 2 1 14 12 11 4 2 3 1 24 22 14 12 21 11 34 32 24 22 14 12 31 21 11 2 1 4 2 3 1 6 4 2 5 3 1	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
 Add-on auxiliary contact	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
 Add-on central control	-	-	-	-	0.5	PLS + C	686125	16
 Multilevel central command module	-	-	-	-	1	PLS + M	686175	12
 SurgeGuard safety module	-	-	230/240	-	1	PLS + SG	686192	12
 Capacity module	-	-	230/240	-	1	PLS + CAP	686174	12
Spacer	-	-	-	-	0.5	PLS + / CTX + SP	686069	50
Sealing cap	-	-	-	-	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

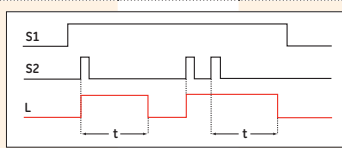
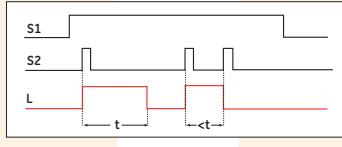
- Designed for a real 3.500W switching capacity.
- User adjustable time.
- Electromechanical contact and electronic timer with manual override off or on possible at all time for PLTS + M.
- 3 or 4 wire wiring possible.
- Device for pre-extinction warning adjustable from 20 to 40 sec only for incandescence 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



Pulsar TS - Staircase switches

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

Terminal identification, see page D.41

More technical data ● website

Dimensions ● pg D.45

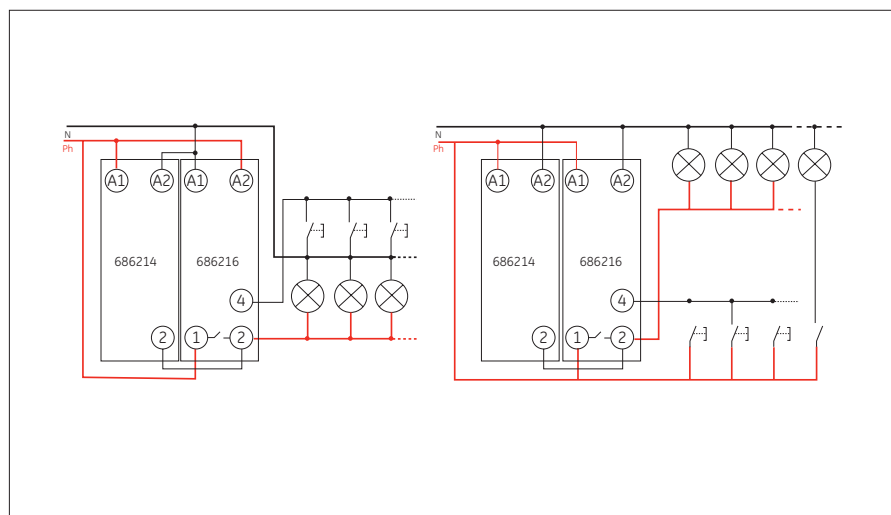
Performance

				PLTS + TD	PLTS + M	PLTS + D
Rated current (acc. IEC 669-2-3)				16	16	16
Width (in number of DIN-modules)				1	1	1
Contacts				1	1	1
Time range				1mn / 20mn	30s / 15mn	20s / 40s
Supply voltage				yes	yes	yes
230V - 50/60 Hz				on request	on request	on request
24VAC/24VDC				90-110	90-110	90-110
Supply voltage range (in % of Un)				%		
Rated power consumption						
Closed circuit current				4.0	4.0	4.0
Working current (ignition & running)				4.0	4.0	4.0
Light types						
Incandescent lamps				yes	yes	yes
Fluorescent lamps				yes	yes	no
Switching capacity						
AC-5b Incandescent lamps (40 to 200 W lamps)				W	3,500	3,500
Fluorescence compensated (cos $\Phi = 0.9$)						
Serial compensation				W	3,500	n/a
Parallel compensation				VA	2,500	n/a
Lifetime (in number of operations) ⁽¹⁾						
Electrical (AC-1)						
at 1,200 W				2×10^6	2×10^6	2×10^6
at full load				1×10^6	3×10^5	3×10^5
Mechanical				1×10^7	1×10^7	1×10^7
Max. number of push-buttons						
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 μ F) ⁽²⁾				45	300	300
2 compensators (2 x 2 μ F)				59	600	600
General specifications						
DIN rail mounting				yes	yes	yes
Silent operations				yes	yes	yes
Setting accuracy - Full range				%	+/- 15	+/- 15
3-wire and 4-wire installation				yes	yes	yes
Resistent 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 (Ø min/max)						
Coil				mm ²	1.5 / 10	1.5 / 10
Load				mm ²	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





Standards / Marking

IEC 60669-2-3



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.

Performance

			PLT + AS	Other PLT +
Rated current (acc. IEC 669-2-3)	A		1 (static)	16
Width (number of DIN-modules)			1	1
Contacts	Changeover		-	1
	Static input		1	-
Time range	1 function		0.1s / 60s.	1s / 60mn
	Multifunction		no	0.1s. / 20h.
Supply voltage	230/240V - 50/60 Hz		yes	yes
	24VAC/24VDC		yes	yes
	Supply voltage range (in % of Un)	%	90-110	90-110
Rated power consumption				
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
Light types				
Incandescent lamps			yes	yes
Fluorescent lamps			yes	yes
Switching capacity				
AC-5b Incandescent lamps (40 to 200 W lamps)			W	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
Lifetime (in number of operations)⁽¹⁾				
Electrical (AC-1)	at 1,200 W		2 x 10 ⁶	2 x 10 ⁶
	at full load		1 x 10 ⁶	3 x 10 ⁵
Mechanical			1 x 10 ⁷	1 x 10 ⁷
General specifications				
DIN rail mounting			yes	yes
Silent operations			yes	yes
Setting accuracy - Full range			%	+/- 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 ²	1.5 / 10	1.5 / 10
	Load	mm ²	1.5 / 10	1.5 / 10
Maximum torque on terminals			N x m	1
Ambient temperature at installation point (min./max.)			°C	-20 / +45

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

More technical data ● website

Dimensions ● pg D.45

Pulsar T - Time Relays



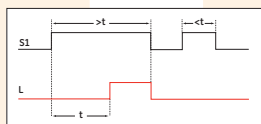
Delay on



Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.
Operating scale from 1 sec. up to 60 seconds							
16 A	1 CO	24	24	1	PLT + ON 024U 1-60S	686207	12
16 A	1 CO	230	-	1	PLT + ON 230A 1-60S	686209	12

Operating scale from 1 min. up to 60 minutes

16 A	1 CO	24	24	1	PLT + ON 024U 1-60M	686206	12
16 A	1 CO	230	-	1	PLT + ON 230A 1-60M	686208	12



Positive edge single shot

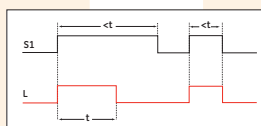


Operating scale from 1 sec. up to 60 seconds

16 A	1 CO	24	24	1	PLT + PS 024U 1-60S	686211	12
16 A	1 CO	230	-	1	PLT + PS 230A 1-60S	686213	12

Operating scale from 1 min. up to 60 minutes

16 A	1 CO	24	24	1	PLT + PS 024U 1-60M	686210	12
16 A	1 CO	230	-	1	PLT + PS 230A 1-60M	686212	12



Delay off

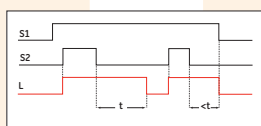


Operating scale from 1 sec. up to 60 seconds

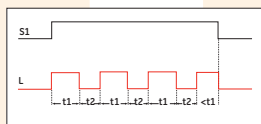
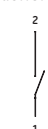
16 A	1 CO	24	24	1	PLT + OF 024U 1-60S	686203	12
16 A	1 CO	230	-	1	PLT + OF 230A 1-60S	686205	12

Operating scale from 1 min. up to 60 minutes

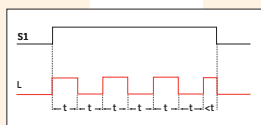
16 A	1 CO	24	24	1	PLT + OF 024U 1-60M	686202	12
16 A	1 CO	230	-	1	PLT + OF 230A 1-60M	686204	12



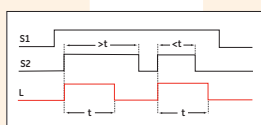
Asymmetrical flasher



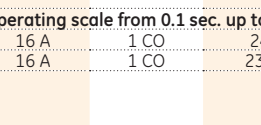
Symmetrical flasher



Impulse generator



Multifunction



Operating scale from 0.1 sec. up to 60 minutes

16 A	1 CO	24	24	1	PLT + MF 024U 0.1S-60M ⁽¹⁾	686198*	1/6
16 A	1 CO	230	-	1	PLT + MF 230A 0.1S-60M ⁽¹⁾	686200*	1/6

Operating scale from 30 sec. up to 20 hours

16 A	1 CO	24	24	1	PLT + MF 024U 30S-20H ⁽¹⁾	686199*	1/6
16 A	1 CO	230	-	1	PLT + MF 230A 30S-20H ⁽¹⁾	686201*	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.

Standards

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

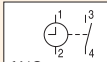
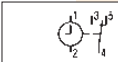
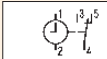
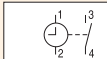
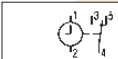
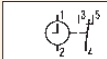
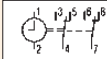
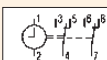
Performance

	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
Contacts						
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
Screws						
	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x0.5mm ²	1x0.5mm ²	1x0.5mm ²	1x0.5mm ²	1x0.5mm ²	1x0.5mm ²
max	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²
Clockwork						
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 ²	1x0.5mm ²	1x0.5mm ²	1x0.5mm ²	1x0.5mm ²	1x0.5mm ²
max	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²	1x6 or 2x2.5mm ²

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.

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 preceice automatic determination of the times for sunrise and sunset.

Function

Pre-programmed switching of all kinds of electrical devices.

Standards

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

Performance

	Galax 1, 2, 4 CO
Contacts	
Contact	Voltage-free changeover
Rated switching capacity	
- Resistive load	16A/250V
- Inductive load ($\cos \phi = 0.6$)	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 ²
max.	1mod-2.5mm ² ; 2mod-4mm ² ; 6mod-6mm ²
Clockwork	
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 ²
max.	1mod-2.5mm ² ; 2mod-4mm ² ; 6mod-6mm ²

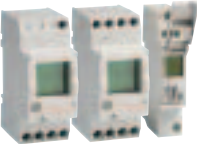
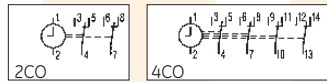
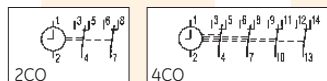
More technical data ● website

Dimensions ● pg D.46

New



Galax - Digital time switches

QUARTZ SYNCHRONISED												
	Program	No. of channels	Switching capacity	Operating voltage	Running reserve	Shortest switch time	No. of prog. steps	No. of mod.	Cat. No	Ref. No.	Pack.	
	Day programmable	1x24h	1CO	16A/250V	220...240V	3yr	1min.	50	2	GLX Q 21 D 50 LS1	686531	1
	Day/Week programmable	7x24h	1CO	16A/250V	220...240V	3yr	1min.	50	1	GLX Q 11 W 50 LS1	686530	1
	7x24h	1CO	16A/250V	220...240V	3yr	1min.	50	2	GLX Q 21 W 50 LS1 ⁽²⁾	686532	1	
	7x24h	2CO	16A/250V	220...240V	3yr	1min.	50	2	GLX Q 22 W 50 LS1 ⁽²⁾	686533	1	
	7x24h	1CO	16A/250V	220...240V	3yr	1min.	50	2	GLX Q 21 W 50C LS1 ⁽²⁾	686534	1	
	7x24h	1CO+1NO	16A/250V	220...240V	3yr	1min.	50	2	GLX Q 22 W 50C LS1 ⁽²⁾	686535	1	
- Automatic summer time / winter time changeover - Manual switch: FIX ON / FIX OFF - Free weekday block formation			- Non-volatile memory (EEPROM) - Pulse and cycle function (only for 686534 and 686535) - Random switching (only for 686534 and 686535)									
	ASTRO/Week programmable (1)	-	1CO	16A/250V	220...240V	3yr	-	-	2	GLX Q 21 ASTRO LS1 ⁽²⁾	680070	1
		7x24h	2CO	16A/250V	220...240V	3yr	1min.	50 ⁽¹⁾	2	GLX Q 22 ASTRO LS1 ⁽²⁾	680073	1
- ASTRO function (GLX Q 22 ASTRO also with weekly program) - Automatic summer time / winter time changeover - Manual switch: FIX ON / FIX OFF			- Free weekday block formation - Non-volatile memory (EEPROM)									
	Day/Week programmable	7x24x3600	2CO	16A/250V	220...240V	6yr	1s.	400	6	GLX Q 62 W 400	666192	1
		7x24x3600	4CO	16A/250V	220...240V	6yr	1s.	400	6	GLX Q 64 W 400	666193	1
- Daily, weekly programmes 400 memory spaces - Automatic summer time / winter time changeover - Manual switch: FIX ON / FIX OFF			- Free weekday block formation - Non-volatile memory (EEPROM) - Pulse and cycle function - PC-supported program creation									
	Day/Week/Year programmable	365x24x3600	2CO	16A/250V	220...240V	6yr	1s.	400	6	GLX Q 62 Y 400	666194	1
		365x24x3600	4CO	16A/250V	220...240V	6yr	1s.	400	6	GLX Q 64 Y 400	666195	1
- Daily, weekly and annual programmes 400 memory spaces - Automatic summer time / winter time changeover - Manual switch: FIX ON / FIX OFF - Free weekday block formation			- Non-volatile memory (EEPROM) - Pulse and cycle function - PC-supported program creation - Date-dependent switching programs - DCF-77 antenna (to be ordered separately)									

Accessories

Accessories					
 Battery 	For 6 module devices	-	GLX BAT	666180	1
 DCF-77 antenna	For year programmable time switches (6 module)	-	GLX DCF	666181	1
 Programming tools	For 6 module devices	-	GLX PRG	666182	1
 Surface mounting set		1 3 6	SMS 1 SMS 3 SMS 6	666100 666101 666102	1 1 1

(1) For second channel

(2) Language set (codes LS1) valable for: German, English, French, Spanish, Italian, Portuguese, Czech, Dutch

Language set (codes LS2) valable for: English, Swedish, Norwegian, Danish, Polish, Hungarian

On request



New



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



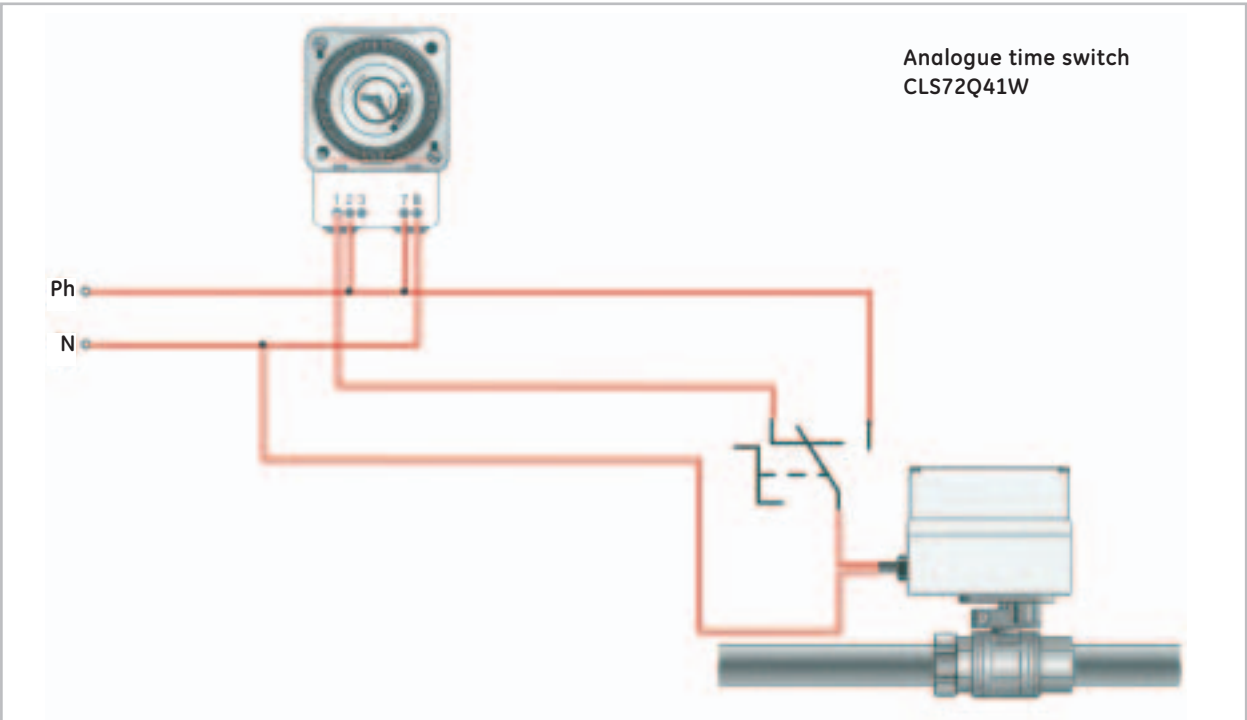
72 X 72 Galax - Digital time switches

	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.

Performance

	1 channel	2 channel	1 channel wall mounting
Contacts			
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 ($\cos \varphi = 0.6$)	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 ²	1x0.5 mm ²	1x0.5 mm ²
max	1x6 mm ² or 2x2.5 mm ²	1x6 mm ² or 2x2.5 mm ²	1x6 mm ² or 2x2.5 mm ²
Light sensitive operating part			
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 ²	1x0.5 mm ²	1x0.5 mm ²
max	1x6 mm ² or 2x2.5 mm ²	1x6 mm ² or 2x2.5 mm ²	1x6 mm ² or 2x2.5 mm ²

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.
 	DIN-rail mounting, separate photoeye included 	2 ... 500 lux	1NO	16A/250V	230V	1	LSS 11	666361	1
		2 ... 500 lux	2CO	16A/250V	230V	3	LSS 32	666362	1
	Wall mounting, photoeye incorporated 	2 ... 2000 lux	1NO	16A/250V	230V	-	LSS W	666364	1

Accessories

					No. of modules	Cat. No.	Ref. No.	Pack.
	Photoeye (spare part) 				-	LSS LDR	666358	1
	Surface mounting set				1	SMS 1	666100	1
					3	SMS 3	666101	1



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⁽¹⁾ / 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

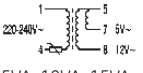
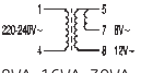
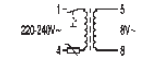
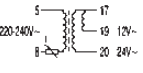
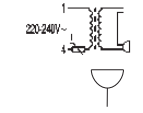
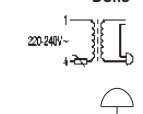
IEC 61558-1-2-8: Bell transformer

	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 ²	1x1mm ²
max	1x16mm ² or 2x6mm ²	1x16mm ² or 2x6mm ²

More technical data ● website

Dimensions ● pg D.47

Series T - Transformers

	Bell transformer 	Output power	Secondary voltages	Primary voltage	Number of modules	Cat. No.	Ref. No.	Pack.
		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
	Bell transformer 							
		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
	Bell transformer Integrated on-off switch 	8VA	8/12V	220..240V	2	TR B 8S	666640	1
	Safety transformer 	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
	Buzzers 			220..240V	1	BU 230	666629	12
				12V	1	BU 12	666630	12
	Bells 			220..240V	1	BE 230	666632	12
				12V	1	BE 12	666633	12

Series T

A

B

C

D

E

F

X



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



Performance

	Analogue instruments	Digital instruments	Net analyser
Readout	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		
Shock resistance	50g	50g	50g
Protection degree	IP40	IP40	IP40
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x1 mm ²	1x1 mm ²	1x1 mm ²
max	1x16 mm ² or 2x6 mm ²	1x16 mm ² or 2x6 mm ²	1x16 mm ² or 2x6 mm ²

More technical data ● website

Dimensions ● pg D.48

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.

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.

Series MT - Analogue measurement instruments

		Scale	Accuracy	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.
		300V 500V	1.5 1.5	1 1	3 3	MT AV 300 MT AV 500	666417 666418	1 1
	Voltmeter							
								
	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

A

B

C

D

E

F

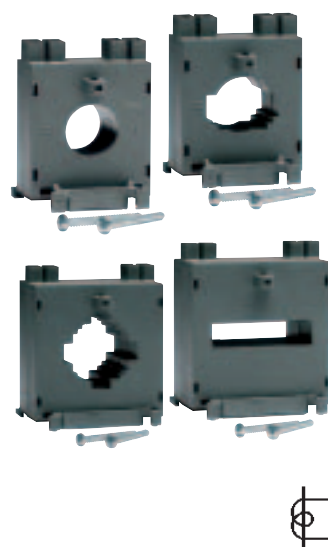
X

Series MT - Digital measurement instruments

		Scale	Accuracy	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.
	Volt meter 	500V	0.5% ± 2 dig	1	2	MT DV 500 2M	666670	1
	Ammeter 	5A	0.5% ± 2 dig	1	2	MT DA 5 2M	666671	1
		5A	0.5% ± 2 dig	1	2	MT DA DV 52M	666674	1
	Ammeter and Voltmeter 							
	Frequency meter 	40 ... 80Hz	0.3% ± 1 dig	1	2	MT DF 2M	666673	1
	Watt meter 	9,99 W	1% ± 2 dig	1	2	MT DW 110	667214	1
		999 W	1% ± 2 dig	3	2	MT DW 11000	667215	1
	Multifunction relays	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
	Energy meter 	5(30)A	2	1	1	MT DE 1 1M	666675	1
		5(32)A	2	1	2	MT DE 1I 32A	666434	1
		5A	2	3+N	4	MT DE 3NI5A	666452	1
		5A	2	3	4	MT DE 3I O	666676 ⁽¹⁾	1
		63A	2	1	2	MT DE 1I 63A	666450	1
		63A	2	3+N	4	MT DE 3NI 63A	666631	1
	Net analyser	5A	1	3(+N)	6	MT DN 3L	666451	1 ⁽²⁾
								
	Digital-multimeter	5A (x/5A)	1.5	3+N	4	MT DN 3R 4M	666453	1
								

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

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

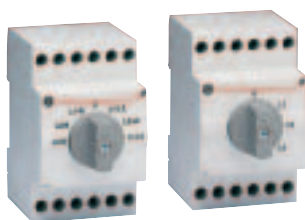


RS485 to RS232 signal converter

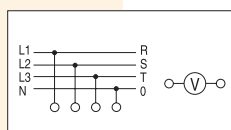
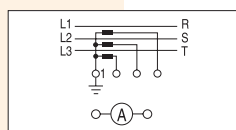


	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.
	-	2	MT RSC	666404	1

Selector switch



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





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 example, 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.

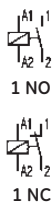
Standard/Marking

IEC 61095 

Performance

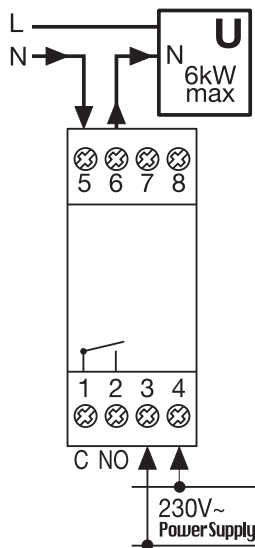
Priority Relay Series PR	
Nominal Voltage Un	230V
Maximum nominal current	32A direct, 5A with current transformer
Nominal current	2...32A
Compact capacity	Pozidriv 1/2x2.5mm ² or 1x6mm ²
Contact type	NC or NO
Work temperature	-20...+55°C
Work area	0 to 7 kW
Fixed delay time	0.5sc
Isolation tension (contact-coil)	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

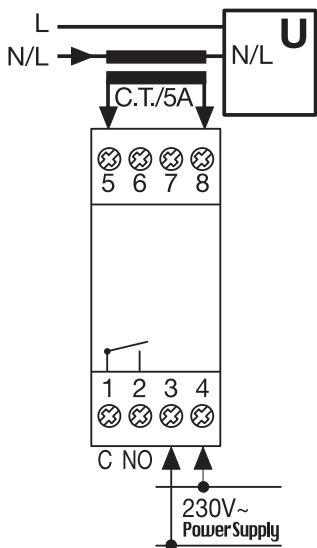


Output number	Module number	Contact	Cat. No.	Ref. No.	Pack.
1	2	1NO	PRI 10	666445	1
1	2	1NC	PRI 01	666446	1

Direct insertion



C-T / 5A insertion



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

E

F

X





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 as 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 (I_{imp})

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

Maximum discharge current (I_{max})

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 μ s. Used in Class II SPD.

Nominal discharge current (I_n)

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

Level of protection (U_p)

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.

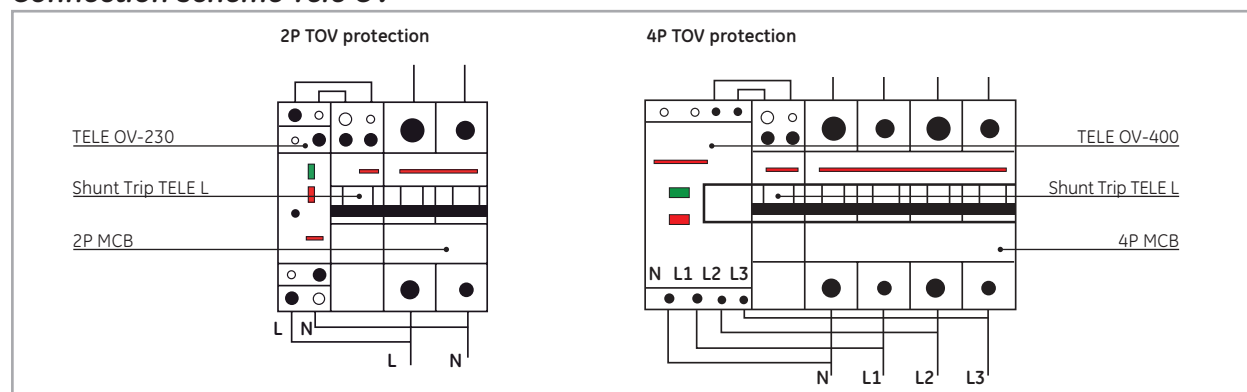
Maximum continuous operating voltage U_{max} (U_c)

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 μ s	10/350 μ s and 8/20 μ s	8/20 μ s	8/20 μ s	8/20 μ s	8/20 μ 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 ²	6mm ²	6mm ²	6mm ²	6mm ²	6mm ²
max (flexible/rigid)	35/50mm ²	25/35mm ²	25/50mm ²	25/50mm ²	25/35mm ²	25/35mm ²

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	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	Class I/Class II	Class II										
		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
		60kA	30kA	1500V	-	-	255V	1P	-	1	SA PLUGIN II 60 NGND	667511	1
Multi-phase plug-in (base+module)													
	TT TN-S	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													
	TT, TN-S TN-C, IT	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													
	TT, TN-S	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

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 _{max}	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
	20kA	10kA	600V	-	-	230V	3GHz	BNC	-	SA TV	667510	1

For coax cables (radio frequency signals, TV, cameras, receivers, satellite, ...)

Accessories

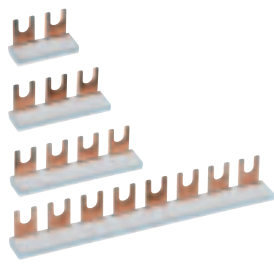
Class II - Replacement mod. for plug-in versions	I _{max}	In		Up (L-PE)		U _{max}	No. of poles	Auxiliary contact	No. modules	Cat. No.	Ref. No.	Pack
	15kA	5kA		1200V		280V	1P	-	1	SA MODULE 15/230	667512	1
	15kA	5kA		1300V		440V	1P	-	1	SA MODULE 15/400	667513	1
	40kA	20kA		1200V		280V	1P	-	1	SA MODULE 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 _{max}	In		Up (L-PE)		U _{max}	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

	Decoupling coil												
	I _{max}	In			Up (L-PE)		U _{max}	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)⁽¹⁾

Temporally overvoltage protection	In	U _a L-N	Tripping time (U _a) (400V)	U _n	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 ²	80	2x1P - 90°	EV-G.1.2.80-90°	624993	20
	10mm ²	80	3x1P - 90°	EV-G.1.3.80-90°	644893	20
	10mm ²	80	4x1P - 90°	EV-G.1.4.80-90°	568106	20
	10mm ²	80	8x1P - 90°	EV-G.1.8.80-90°	644897	20

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

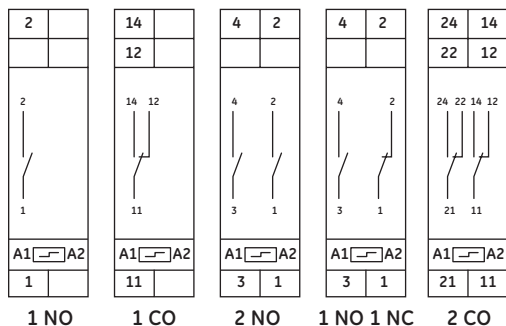


New

Terminal capacity

Impulse switches - Pulsar S

Impulse switches



1 NO

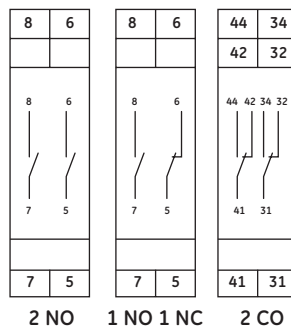
1 CO

2 NO

1 NO 1 NC

2 CO

Add-on power contact

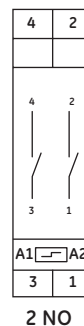


2 NO

1 NO 1 NC

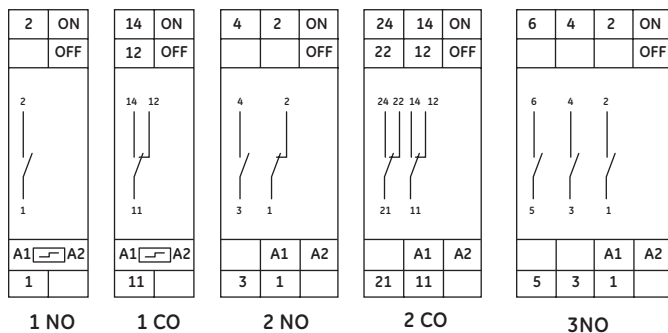
2 CO

Step by step multi circuit



2 NO

All-in central command



1 NO

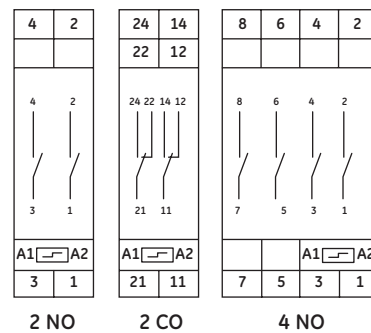
1 CO

2 NO

2 CO

3 NO

Permanent use

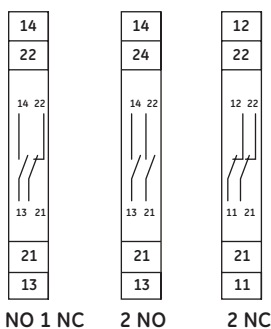


2 NO

2 CO

4 NO

Add-on auxiliary contact

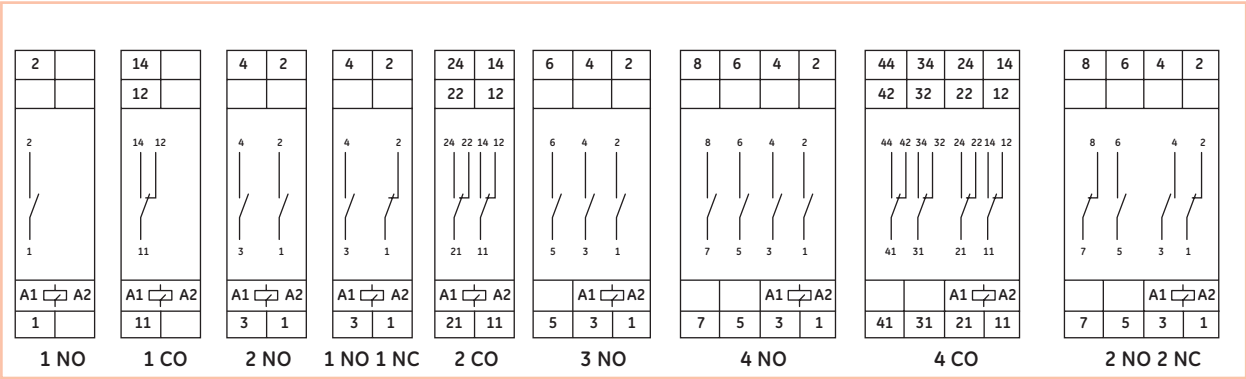


1 NO 1 NC

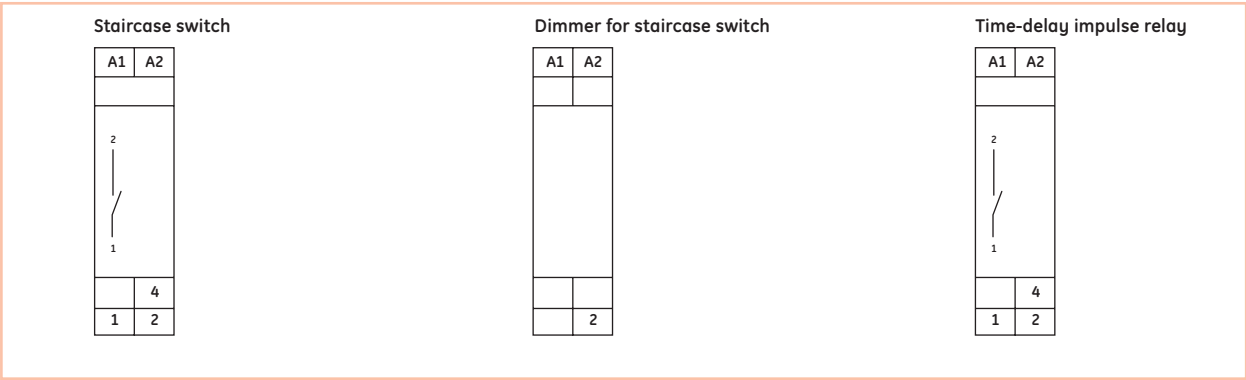
2 NO

2 NC

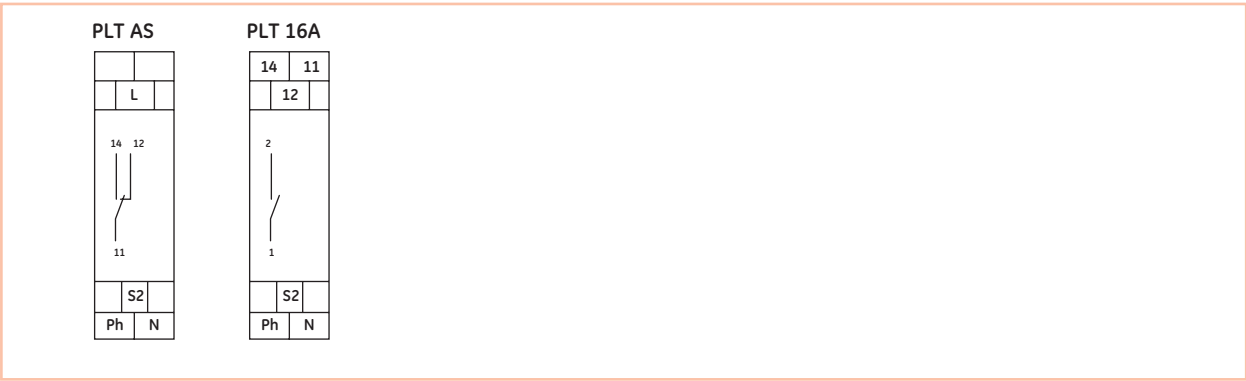
Relays - Contax R



Staircase switches - Pulsar TS

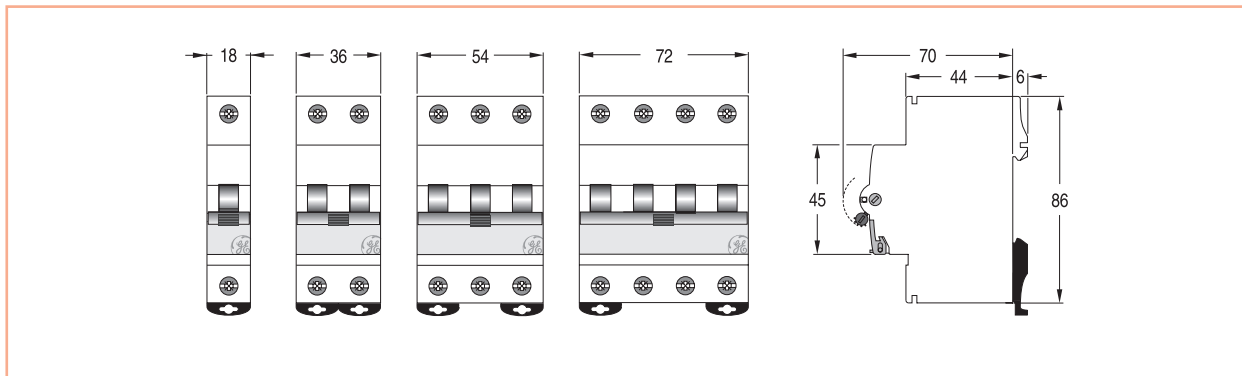


Time relays - Pulsar T

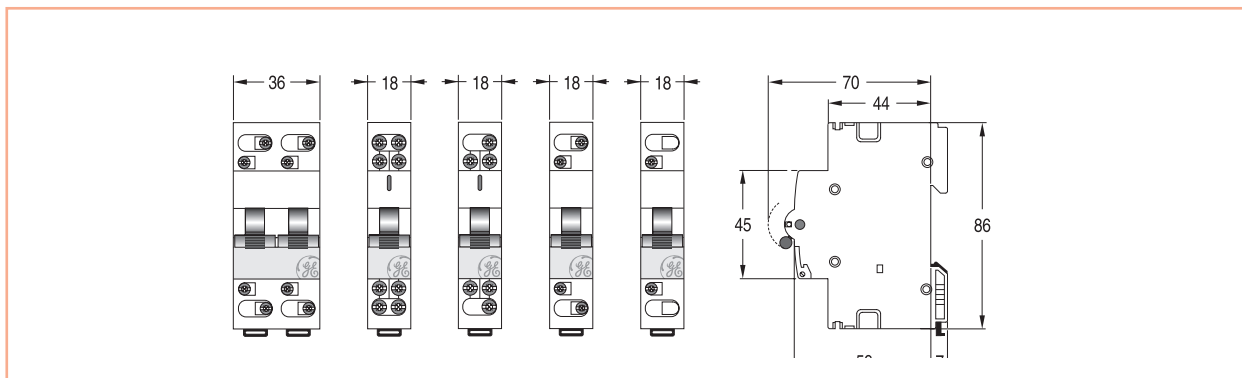


Dimensional drawings

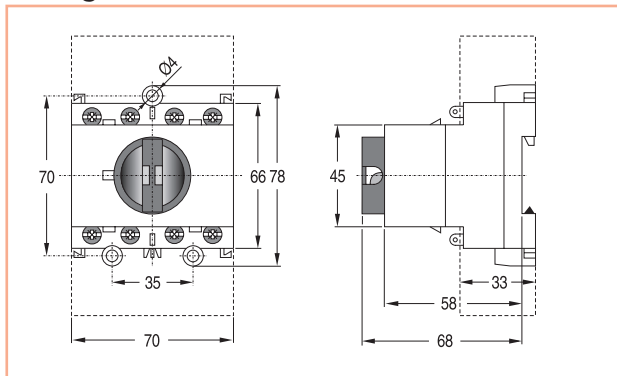
Mains disconnect switches - Aster



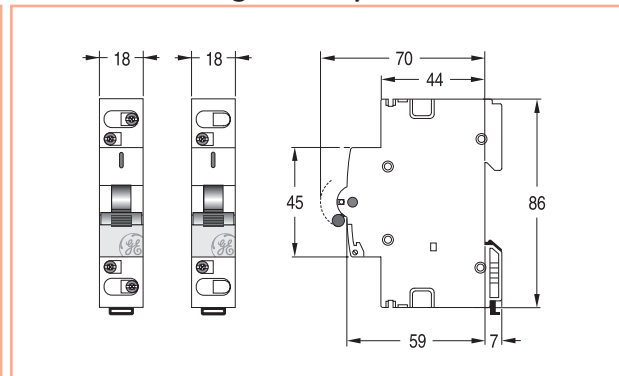
Switches - Aster



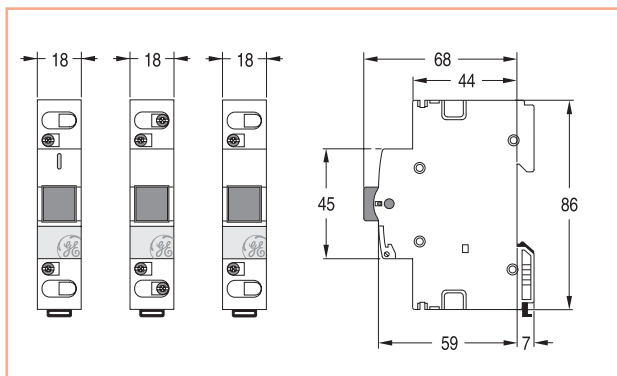
Rotary switches - Aster



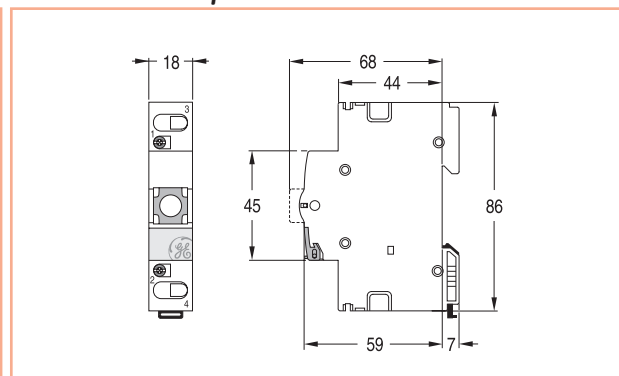
Switches with signal lamp - Aster



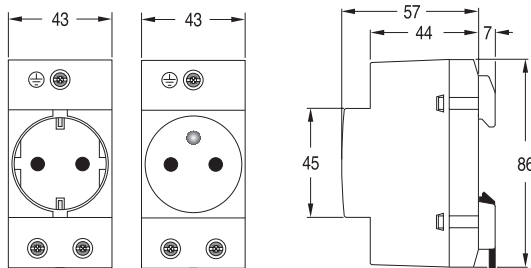
Push-buttons - Aster



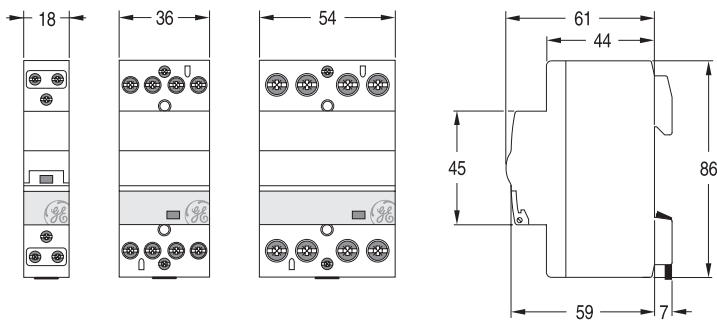
Indication lamp - Aster



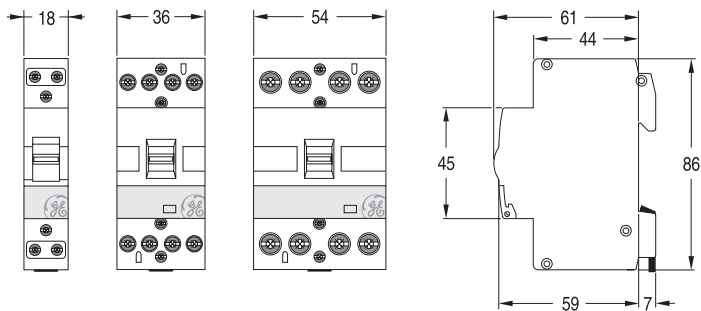
Socket-outlet - Series MSC



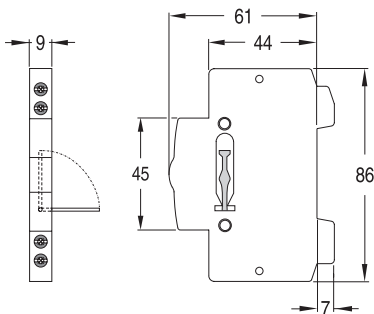
Contactors - Contax



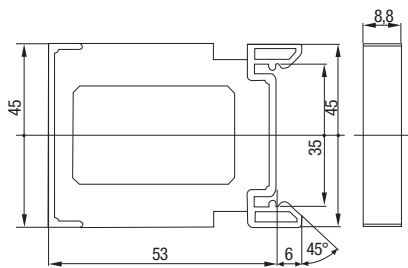
Contactors Day and Night - Contax



Contactors - Auxiliary contact

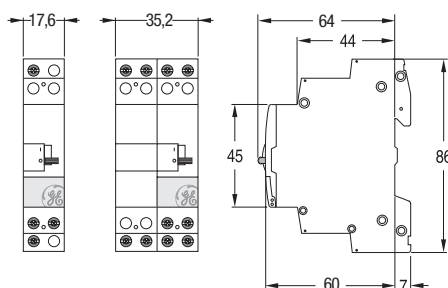


Contactors - Spacer

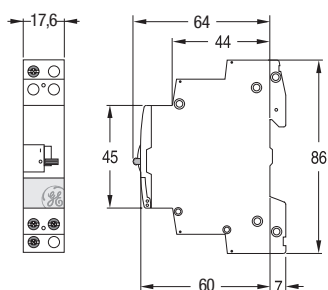


Dimensional drawings

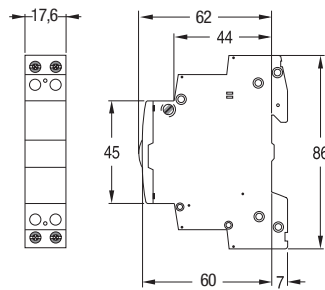
Relays - Contax R



Impulse switches - Pulsar S

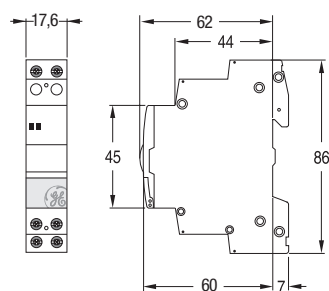


Impulse switches - Pulsar S

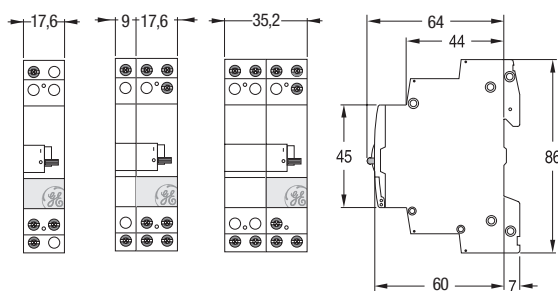


Impulse switches - Pulsar S

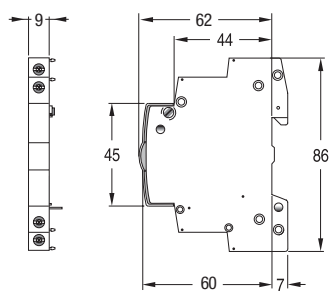
Step by step multi circuit



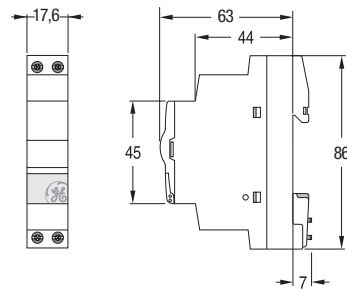
All-in central command - Pulsar S



Add-on auxiliary contact - Pulsar S

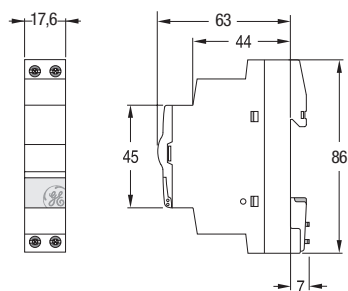


Capacity module - Pulsar S

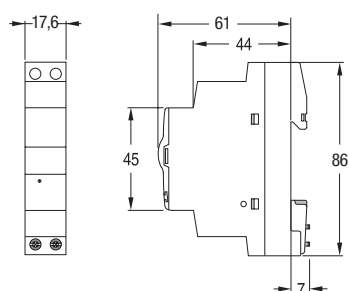


Central command - Pulsar S

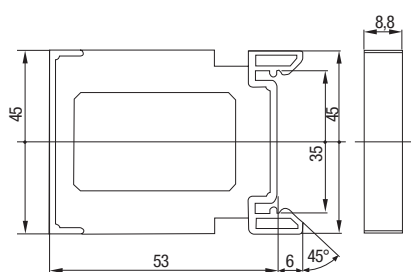
Multilevel central control module



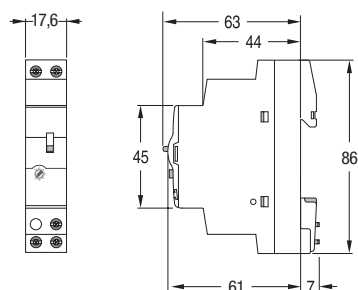
SurgeGuard safety module



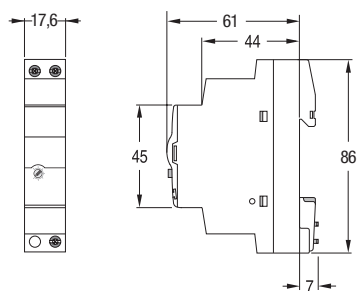
Spacer - Pulsar S



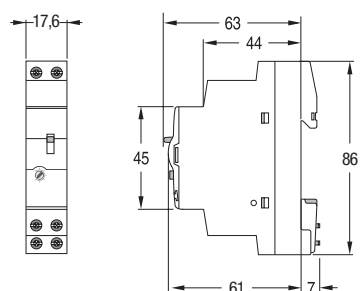
Staircase switches - Pulsar TS



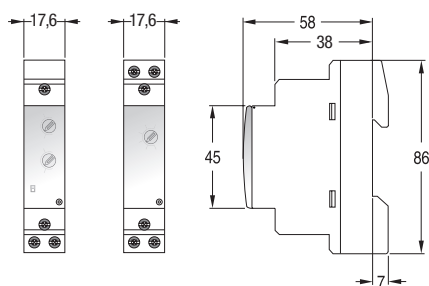
Dimmer - Pulsar TS



Time-delay impulse relay - Pulsar TS

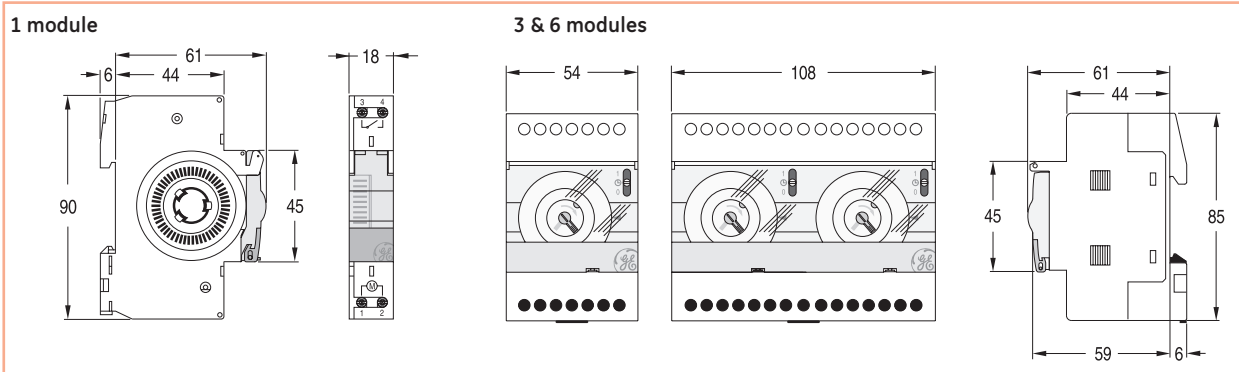


Time relays - Pulsar T

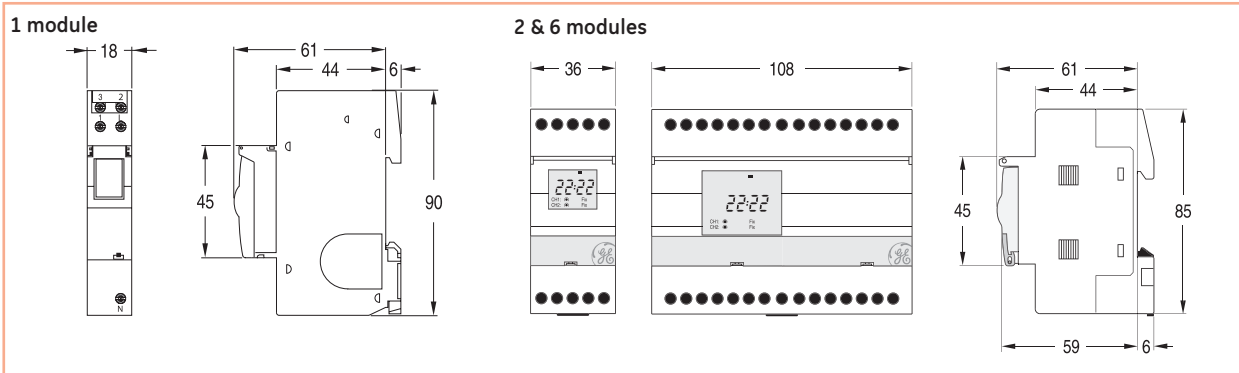


Dimensional drawings

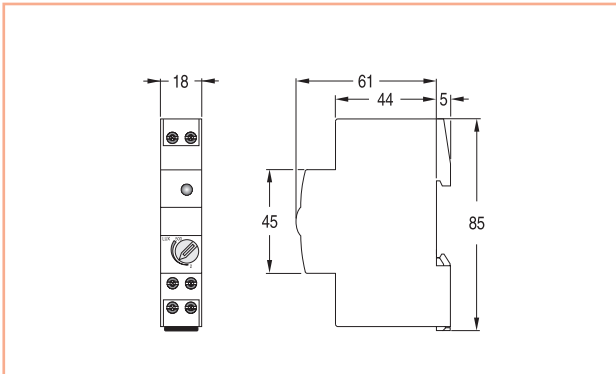
Analogue time switches - Classic



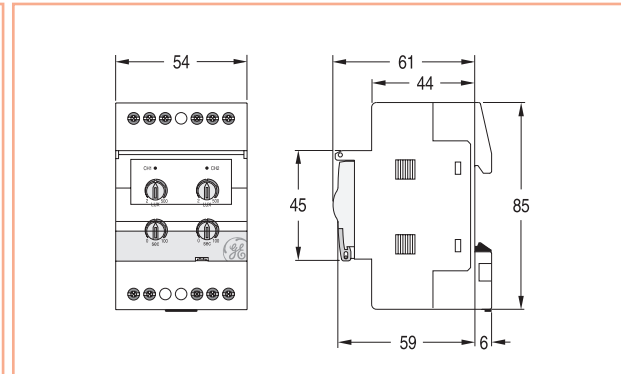
Digital time switches - Galax



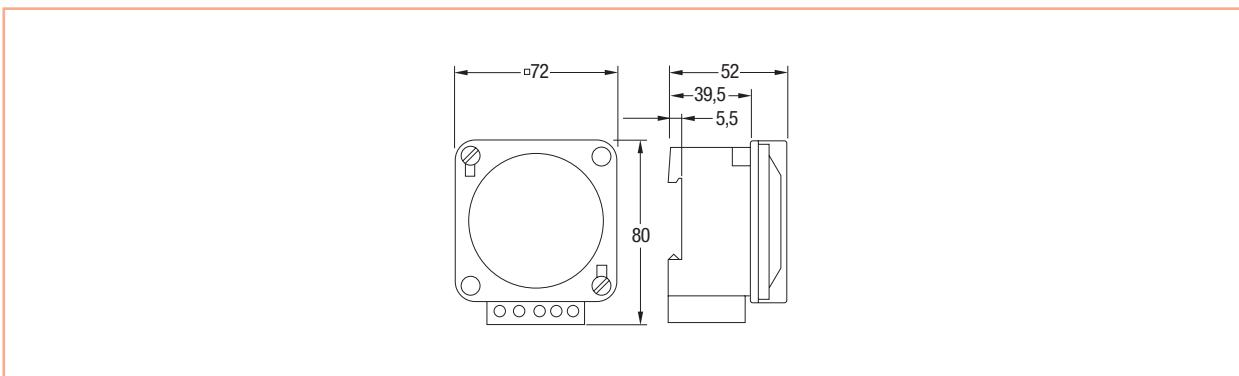
Light sensitive switch 1 module - Galax LSS



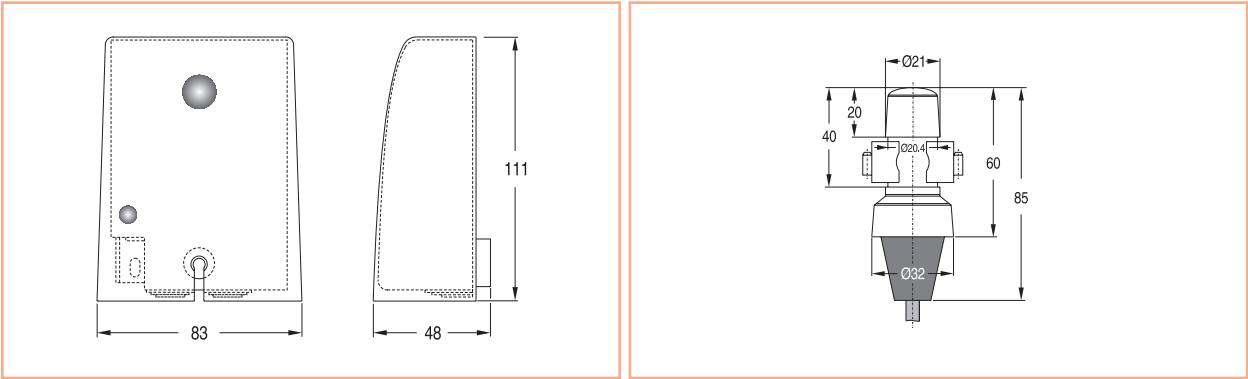
Light sensitive switches 3 mod. - Galax LSS



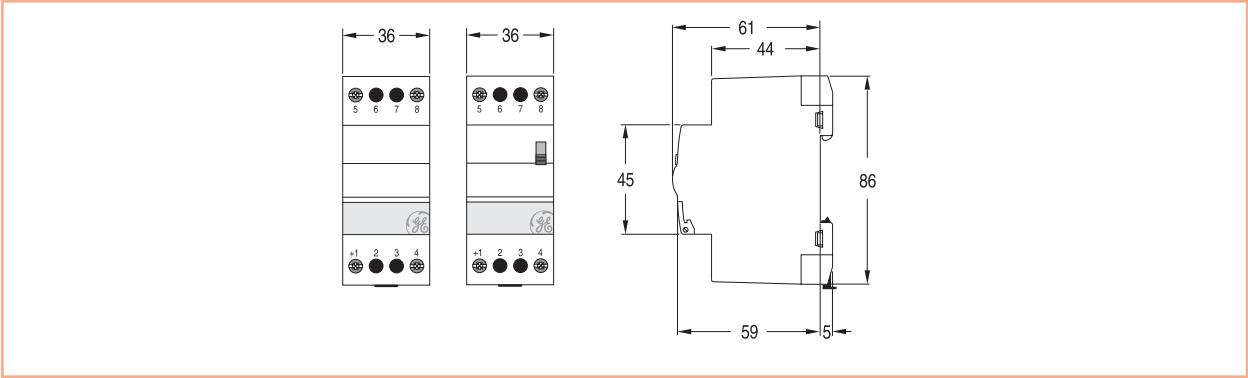
Time Switches - 72x72 Classic and Galax



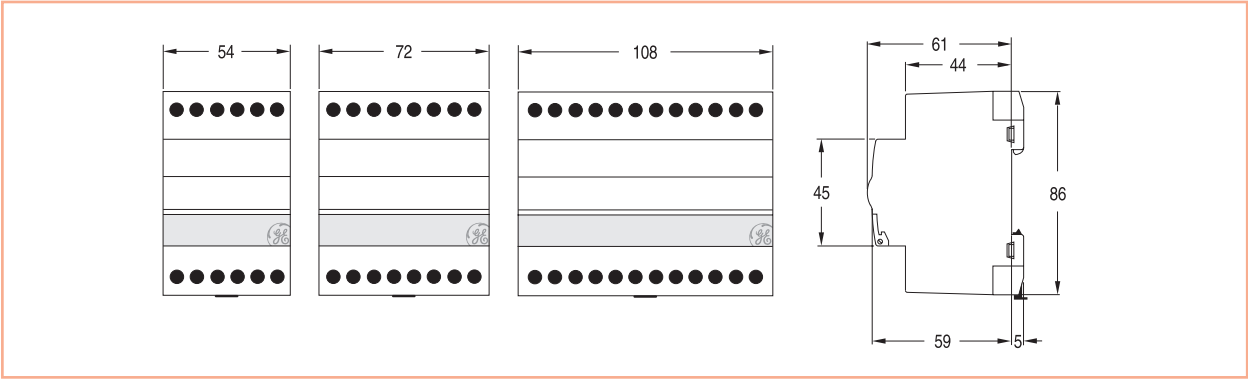
Light sensitive switch photocell incorporated Light sensitive switches - Photocell



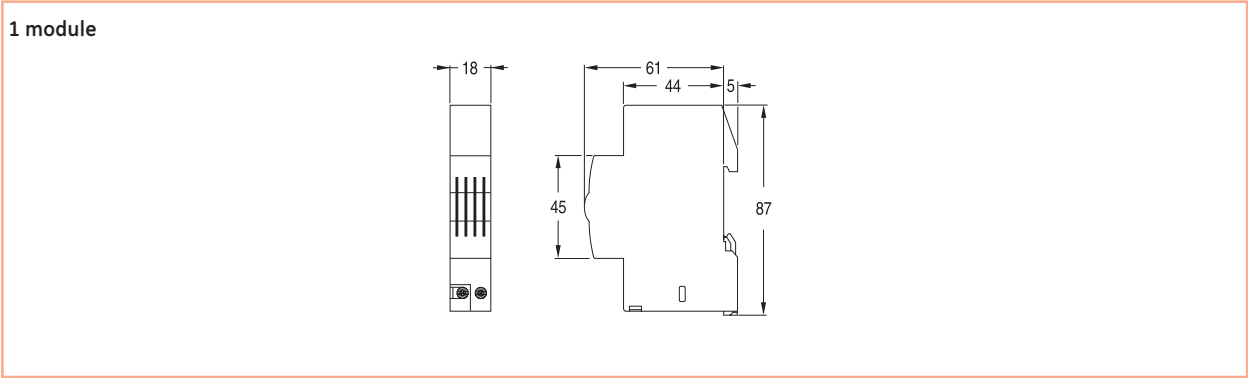
Bell transformers - Series T



Safety transformers - Series T

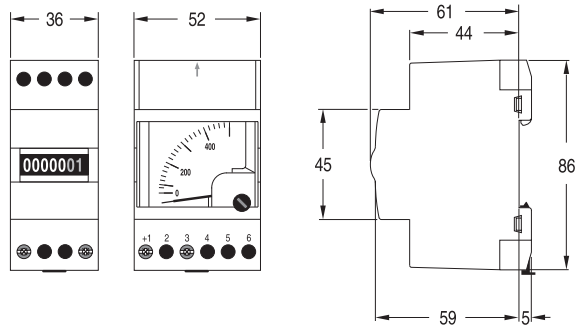


Buzzers and bells - Series T

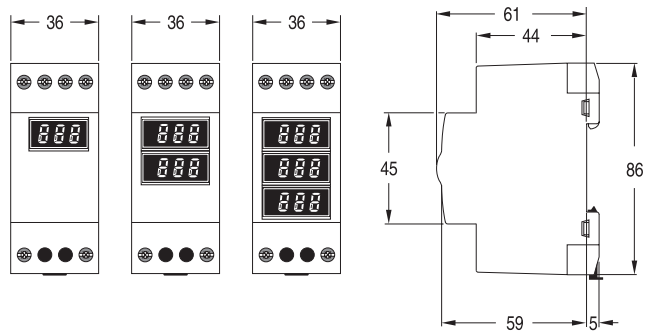


Dimensional drawings

Analogue measurement instruments - Series MT

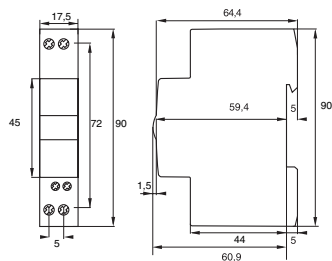


Digital measurement instruments - Series MT

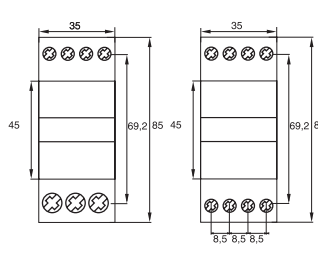


Energy meter - Series MT

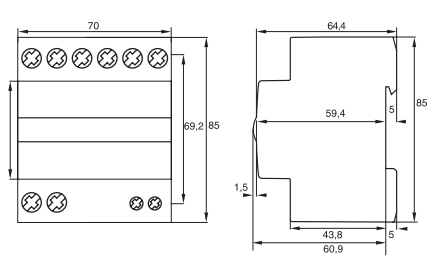
1 module



2 modules

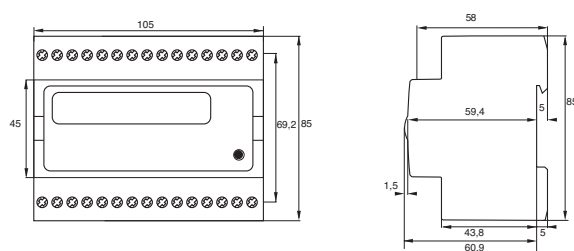


4 modules



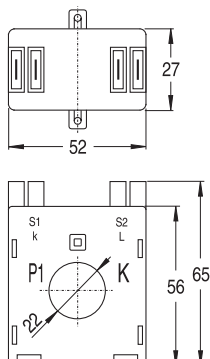
Network analyser - Series MT

6 modules

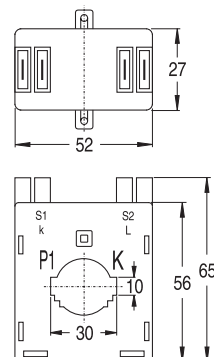


Current transformer - Series MT

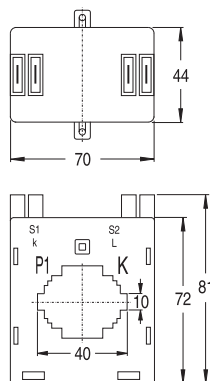
40 up to 80A



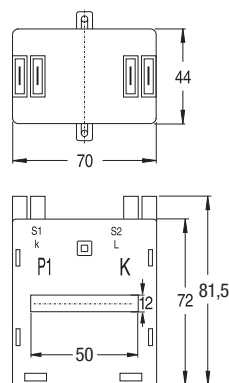
100 up to 400A



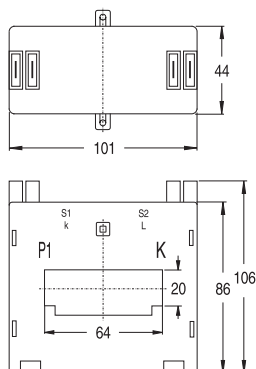
500 and 600A



800A



1000 and 2000A



Dimensional drawings

A

B

C

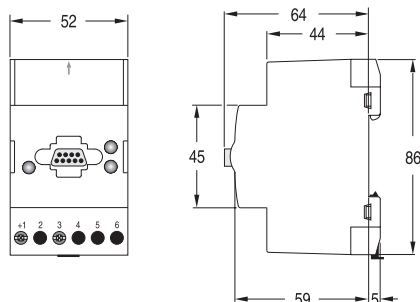
D

E

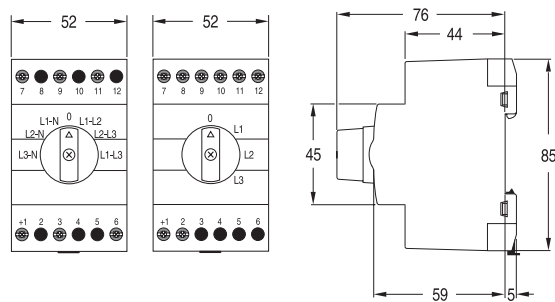
F

X

Signal converter - Series MT



Selector switch - Series MT



Dimensional drawings

Surge arresters - SurgeGuard

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	

Comfort functions

A

B

C

D

E

F

X



- 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

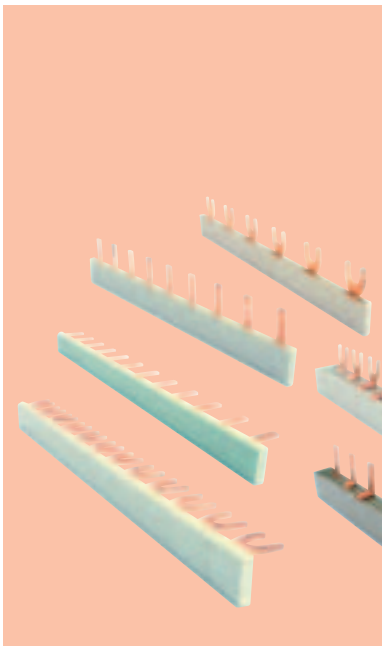
X

Grid area for notes, consisting of a large rectangular area with a light gray background and a grid of small orange dots.

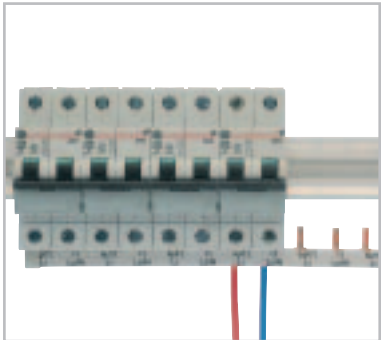


Busbar system

Rails

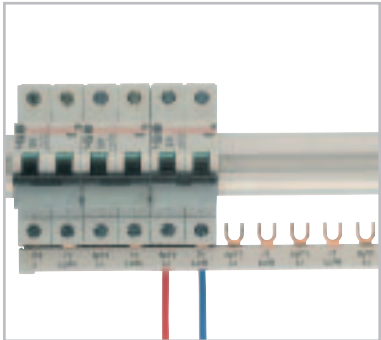


Technical data

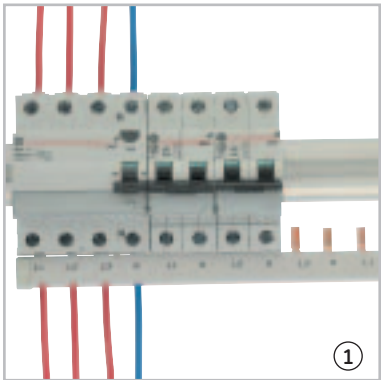


Rail	copper (oxygen free)
Insulation strip	plastic
	heat resistant > 96 °C
	self extinguishing V0
Dielectric strength	36kV/mm (acc. to DIN 53481/1.2)
Short-circuit resistance	25kA (100A fuse)
Climate proofing	according to IEC 60068-2-30
Creepage resistance/tracking index	400V (acc. to IEC 60112)
Insulation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

Load values in A (Ith)



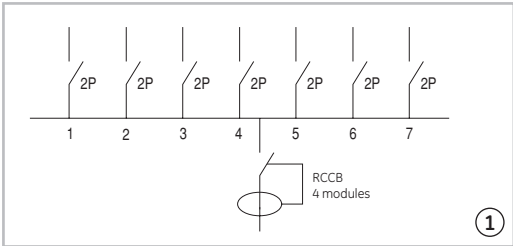
Polarity		1 pole			
Connection		side		middle	
Section (mm ²)		Ith (A)	K (mm ²)	Ith (A)	K (mm ²)
10 isolated		80	10	100	25
12 non isolated		90	16	110	35
16 non isolated		110	25	130	35
24 non isolated		160	25	180	2x25
36 non isolated		200	35	220	2x35



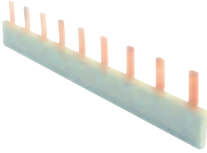
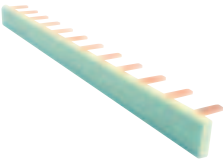
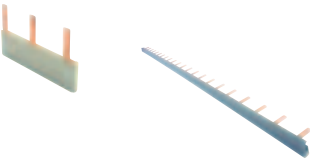
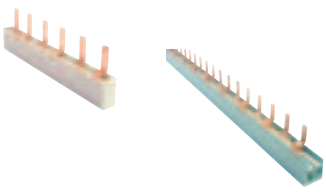
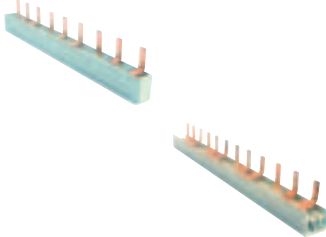
Polarity		n poles			
Connection		side		middle	
Section (mm ²)		Ith (A)	K (mm ²)	Ith (A)	K (mm ²)
10 isolated		80	16	100	25
16 isolated		120	25	130	35

K = section of the connection wire

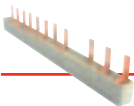
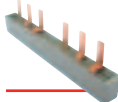
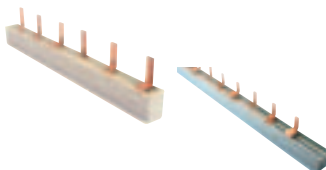
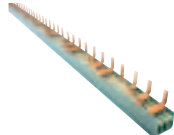
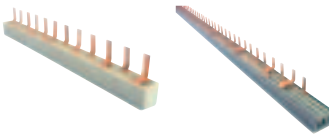
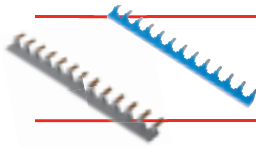
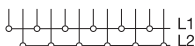
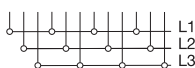
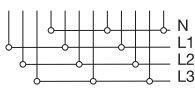
n = 2P, 1P + N, 3P, 3P + N, 4P



Insulated PIN type busbars

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

Insulated PIN type busbars (continued)

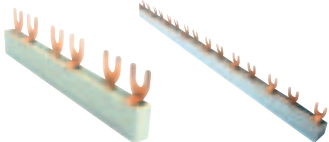
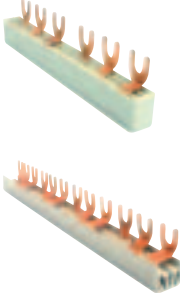
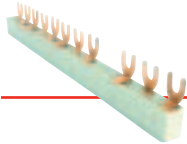
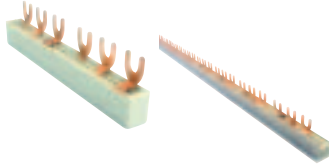
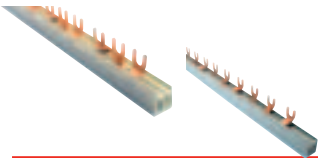
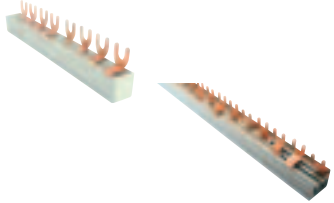
	Section	Description	Ref. No.	Pack.
3-phase for screwless MCB's Fixwell™				
	10mm ²	1xRCD + 6x1P or 3x2P	544183	10
	10mm ²	1xRCD + 8x1P or 4x2P	544184	10
3-phase with 2P + auxiliary				
	10mm ²	2 x (3P + auxiliary)	555434	10
	10mm ²	4 x (3P + auxiliary)	555435	10
	10mm ²	15 x (3P + auxiliary) - length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

A

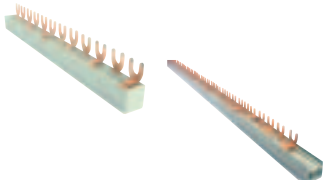
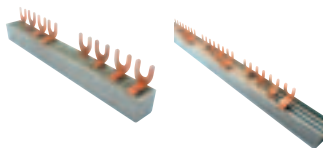
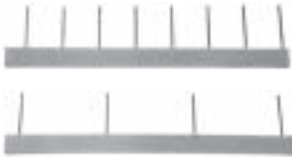
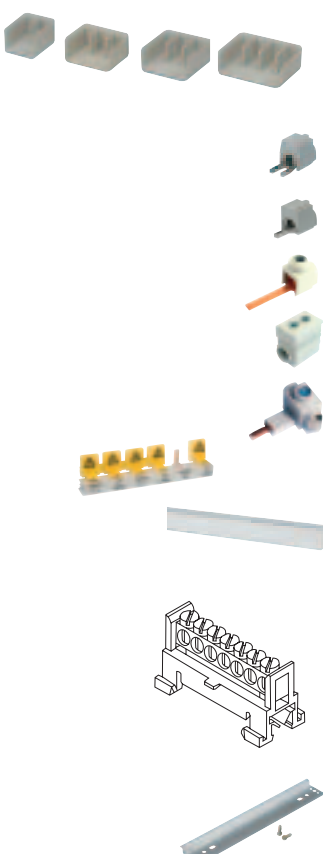
B

E

Insulated FORK type busbars (continued)

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

Insulated FORK type busbars (continued)

	Section	Description	Ref. No.	Pack.
4-phase 1P+N or 2P				
	10mm ²	6x1P+N or 6x2P	546398	5
	10mm ²	9x1P+N or 9x2P	546281	5
	10mm ²	2xAdd on 32A +4P	546228	5
	10mm ²	27x1P+N or 27x2P - length 1m	624799	1/15
	16mm ²	27x1P+N or 27x2P - length 1m	544192	1/15
4-phase with 4P + auxiliary				
	10mm ²	2 x (4P + auxiliary) or 2 x (3P+N + auxiliary)	646084	5
	16mm ²	12 x (4P + auxiliary) or 12 x (3P+N + auxiliary) - length 1m	646083	1/15
Busbars for connection of auxiliaries				
	For auxiliary function added on 1P MCB			
		27mm / 8P	546244	10
		27mm / 4P	544346	10
	For auxiliary function added on 2P MCB			
		45mm / 5P	546245	10
		45mm / 4P	544347	10
	For auxiliary function added on 3P MCB			
		63mm / 4P	546246	10
Accessories				
	End caps			
	10mm ² /16mm ²	for 1P busbars	644891	50
	10 mm ²	for 2P busbars	546181	10
	10 mm ²	for 3P busbars	546200	10
	16 mm ²	for 2P and 3P busbars	546184	10
	10 and 16 mm ²	for 4P busbars	629867	10
	Connection clamps			
	25mm ²	fork	546287	30
	25mm ²	pin	546288	30
	25mm ²	pin long	546289	50
	35mm ²	for fork and pin direct on busbar	546290	10
	25mm ²	4P compact MCB's Unibis™	624795	30
	Insulation cap			
		Pin/fork - Yellow (RAL 1004)	546291	10
	Insulation strip			
		For fork and pin - length 1m	624992	10
	Clamps for neutral conductor			
	16mm ²	7 poles	546297	10
	16mm ²	12 poles	546298	10
	16mm ²	12 poles, insulated	568083	10
	16mm ²	15 poles	546299	10
	Clamps for phase conductors			
	16mm ²	7 poles	546300	10
	16mm ²	12 poles	546301	10
	16mm ²	12 poles, insulated	568084	10
	16mm ²	15 poles	546302	10
	DIN-rail (EN 50022)			
		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

Circuit Protection

A

People Protection

B

Add-on Devices

C

Comfort Functions

D

Busbars

E

Enclosures

F

Numerical Index

X





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 mm² 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

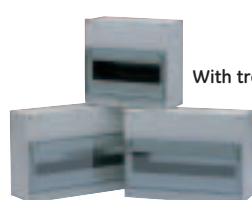


Marking



Fix-o-Rail Metal Design

IP40

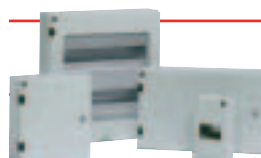


With transparent door

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 ² Neutral bar: connection 8 x 16 mm ²		10	618442	1
208 x 292 x 108	Earth bar: connection 12 x 16 mm ² Neutral bar: connection 12 x 16 mm ²		14	618443	1
208 x 370 x 108	Earth bar: connection 16 x 16 mm ² Neutral bar: connection 16 x 16 mm ²		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		



4 modules without door with plain grey door

Fix-o-Rail Metal Standard

IP30

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 ²		4	618910	1
208 x 112 x 110	Earth bar: connection 3 x 16 mm ²		4	618911	1

8 modules with plain grey door

208 x 112 x 110	Earth bar: connection 8 x 16 mm ² Neutral bar: connection 8 x 16 mm ²		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 ² Neutral bar: connection 12 x 16 mm ²		12	618929	1
270 x 322 x 110	Earth bar: connection 12 x 16 mm ² Neutral bar: connection 12 x 16 mm ²		12	618930	1

24 modules with plain grey door with transparent door

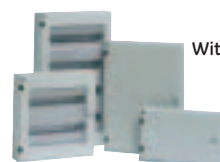
450 x 322 x 110	Earth bar: connection 16 x 16 mm ² Neutral bar: connection 2(12 x 16 mm ²)		24	618969	1
450 x 322 x 110	Earth bar: connection 16 x 16 mm ² Neutral bar: connection 2(12 x 16 mm ²)		24	618970	1

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 ² Neutral bar: connection 16 x 16 mm ²		18	618938	1
450 x 430 x 110	Earth bar: connection 2(16 x 16 mm ²) Neutral bar: connection 2(16 x 16 mm ²)		36	618941	1
600 x 430 x 110	Earth bar: connection 3(16 x 16 mm ²) Neutral bar: connection 3(16 x 16 mm ²)		54	618944	1
750 x 430 x 110	Earth bar: connection 4(16 x 16 mm ²) Neutral bar: connection 4(16 x 16 mm ²)		72	618947	1

With transparent door

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





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

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

Features

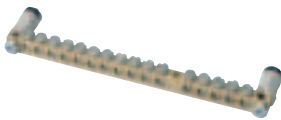
- In accordance with BS5486 and BS EN 60439-3
- Sturdy folded sheet steel construction
- Durable structured powder coated finish
- Matching light grey used throughout range
- Phase busbar rating 120A
- Incoming device cable terminal capacity 50mm²
- Terminal bar cable capacity 25mm²
- Shrouded neutral 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"



Modular 200 - Type A - MCB Distribution Board

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

Accessories

	Clean earth kit	
	617960	1

Modular 200 - Type A

A

B

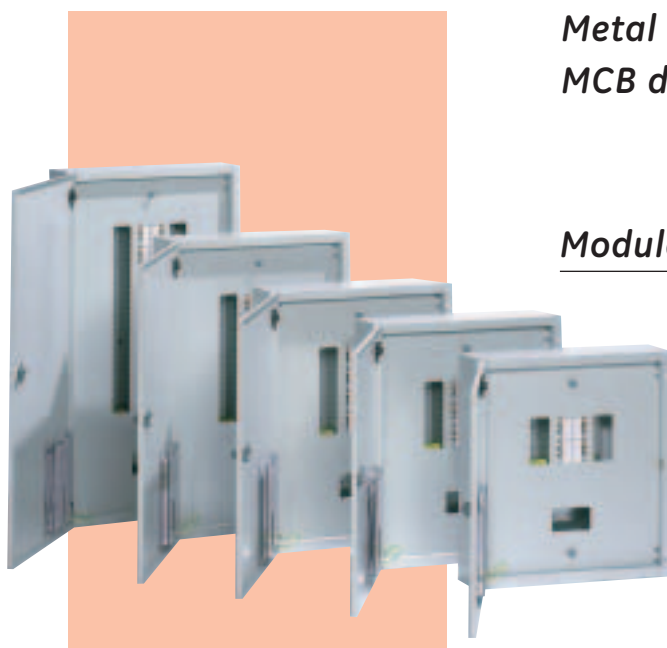
C

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 ²)	25
Earth+Neutral incoming cable capacity	(mm ²)	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

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.

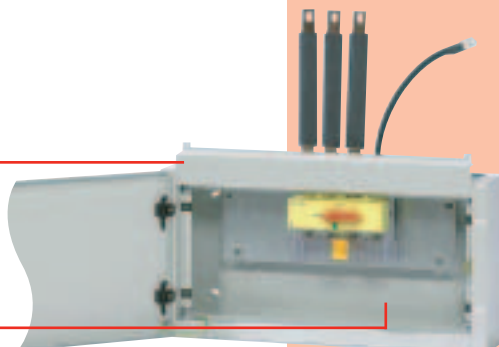
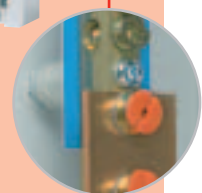
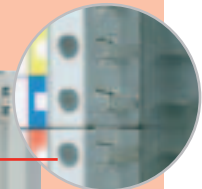
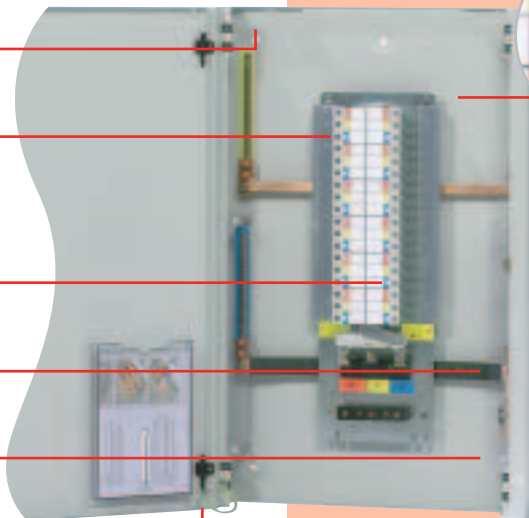
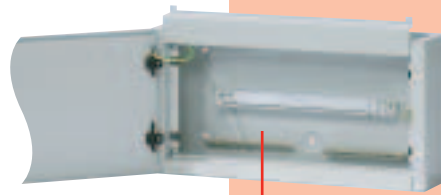
Shrouded neutral bar(s) for increased safety.

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.



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



No of 3P ways	Busbar rating	Terminals included 25mm ²		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 ²	
125A - 3P	619114 1
Terminal capacity: 50mm ²	
125A - 4P	619124 1
Terminal capacity: 50mm ²	



RCD Main switch	
100A - 4P - 30mA RCD	619119 1
Terminal capacity: 50mm ²	
100A - 4P - 100mA RCD	619112 1
Terminal capacity: 50mm ²	
100A - 4P - 300mA RCD	619113 1
Terminal capacity: 50mm ²	
100A - 4P - 100mA time delayed RCD	619120 1
Terminal capacity: 50mm ²	



MCB Main switch	
63A - 3P	619605 1
Terminal capacity: 35mm ²	
100A - 3P	619606 1
Terminal capacity: 70mm ²	



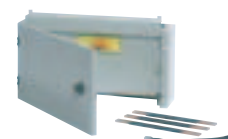
Direct connection kit	
200A - 3P	619115 1
Terminal capacity: 95mm ²	

Single phase conversion kit	
100A - 1P+N	618300 1
Terminal capacity: 50mm ²	



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 ²	
- narrow palm: 150 mm ²	

Switch disconnector Dilos	
200A - 4P - 250x135x500 mm (G)	619110 1
MCCB non auto Record Plus	
200A - 3P - 500x135x500 mm (H)	619107 1
TP automatic MCCB Record Plus	
200A - 3P - 500x135x500 mm (H)	619109 1
TP MCCB with RCD Record Plus	
200A - 3P - 500x135x500 mm (H)	619108 1



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.	

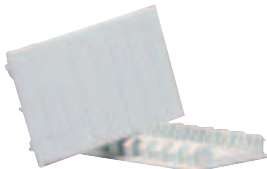
18 module modular devices	
Dimension code G	619105 1
Modular spreader box	
Dimension code G	619106 1
Heavy duty gland plate 2mm thick	
	619116 1

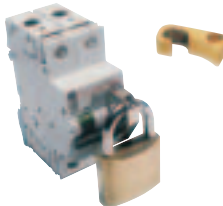


Accessories Modular 200 (continued)

	Busbar shroud	
	619018	10
	3 module busbar shroud for unused ways preformed in 1 module widths.	

	Security lock	
	674164	1
	Ronis security door lock supplied with two keys	

	Blank plate	
	610142	4
	610484	500
	length: 72 mm cut out width : 45 mm can be cut into 9 mm lenght RAL 7035	

	Safety	
	624929	2
	MCB padlocking bracket (padlocks not supplied)	

	Clean earth facility	
	619118	1
	can be fitted for increased flexibility	

Modular 200 - Type B

A

B

C

D

E

F

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.
	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
	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
	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



4 pole terminals

610022 18

63A

Connection range 4 x (10 x 16 mm²)

Cu section 6,5 x 9 mm



617992 5

160 A

with cover

4 x (1 x 10 to 50 mm² incoming
+ 3 x 6 to 35 mm² + 8 x 2.5 to 16 mm²
outgoing)

Cu section 12 x 10 mm



610020 1

160A

connection range 4 x (10 x 10mm²)

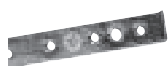
Cu section 12 x 5 mm



Protective shroud

610021 1

For 160A terminal (ref. 610020)



Earth bar

828152 1

For enclosure width 300 mm - length 190mm

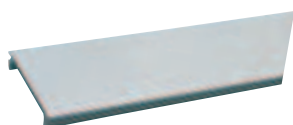


828153 1

For enclosure width 550 mm - length 437mm

828149 1

For enclosure width 800 mm - length 684mm

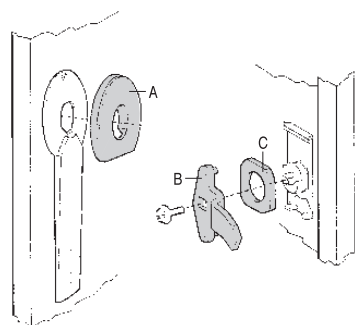


Cover strip

828056 1

For cut out of 45 mm

Adaptor kit = A + B + C



Standard plates

815094 1



Pre-drilled plates

815093 5

17 x PG13.5

815092 5

1 x PG21 - PG48 / 2 x PG13.5

2 x PG29 / 4 x PG13.5



Label for circuit indication

610232 10

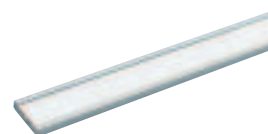
For enclosure width 300 mm

610233 10

For enclosure width 550 mm

610238 10

For enclosure width 800 mm

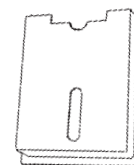


Pocket for drawings

832000 1

Self adhesive

To be fitted on the inside of the door
W x H = 155 x 225



Non standard lock

487/089000-016 815105 1

Adaptor kit



451/070152-061 811327 1

Insert 3 mm double bit key

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

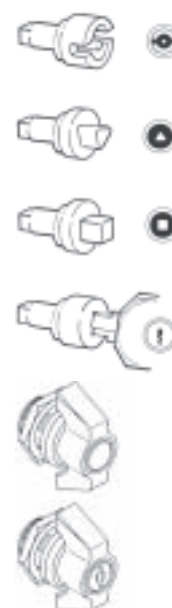
485/087000-014 813146 1

Neutral handle

485/087000-023 813156 1

Handle with key V2432-E

The standard handle can be replaced by
adaptor kit + insert or handle



Fix-o-Rail Senior

A

B

C

D

E

F

X



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

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

- Rodged 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



Fix-o-Rail 144-F - Flush mounting enclosures without door ⁽¹⁾

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 ⁽¹⁾ 560 x 610 x 105 ⁽²⁾	72	3	140	83	617934	1



800 x 740 x 140 ⁽¹⁾ 710 x 610 x 105 ⁽²⁾	96	4	152	95	617935	1
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950 x 740 x 140 ⁽¹⁾ 860 x 610 x 105 ⁽²⁾	120	5	164	110	617936	1
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1100 x 740 x 140 ⁽¹⁾ 1010 x 610 x 105 ⁽²⁾	144	6	176	116	617937	1
--	-----	---	-----	-----	--------	---



Equipped with function for Record Plus 160A D-frame

1100 x 740 x 140 ⁽¹⁾ 1010 x 610 x 105 ⁽²⁾	120	5	176	116	617938	1
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Transparent and plain doors

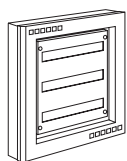


For enclosure	Number of modules	Number of rows	Transparent door Ref. No.	Plain door Ref. No.	Pack.
617934	72	3	617939	617943	1
617935	96	4	617940	617944	1
617936	120	5	617941	617945	1
617937	144	6	617942	617946	1
617938	120	5	617942	617946	1

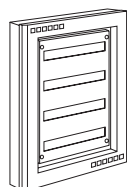
(1) External dimensions
(2) Internal dimensions

Fix-o-Rail 144-S - Surface mounting enclosures without door

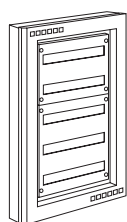
Included ref. 617965 = an earth terminal: copper bar 12 x 5 mm, 18 threaded holes M 5, connectors and screws



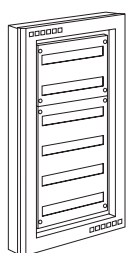
Dimensions H x W x D (mm)	Number of modules	Number of rows	Power dissipation (W)		Ref. No.	Pack.
			Without door	With door		
650 x 740 x 140	72	3	160	88	617966	1



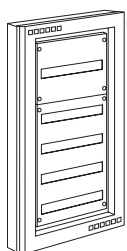
800 x 740 x 140	96	4	175	100	617967	1
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950 x 740 x 140	120	5	187	115	617968	1
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1100 x 740 x 140	144	6	195	125	617969	1
------------------	-----	---	-----	-----	--------	---



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



4 pole terminals

617992 5

160 A
with cover
4x (1 x 10 to 50 mm² incoming
+ 3 x 6 to 35 mm²
+ 8 x 2.5 to 16 mm² outgoing)
Cu section 12 x 10 mm



610020 1

160A
connection range 4 x (10 x 10mm²)
Cu section 12 x 5 mm



Protective shroud

610021 1

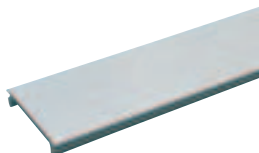
For 160A terminal (ref. 610020)



Earth terminal kit

617965 1

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



Cover strip

828056 1

For cut out of 45 mm



Blank plate

610142 4

610484 500

Length: 72 mm
Cut-out width: 45 mm
Can be cut into 9 mm lengths
RAL 7035



Pocket for drawings

832000 1

Self adhesive - format A4
To be fitted on the inside of the door
W x H = 155 x 225

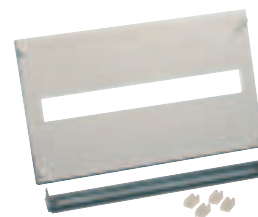
Function for Record Plus 125A

D-frame

Fix-o-Rail 144 F/S 617018 1

VP-System 617964 1

height = 300 mm



Depth adapter & support

617947 1

PVC profile : length 355 mm
used with the function 617964



Security lock

617948 1

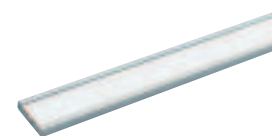
With two keys



Label for circuit indication

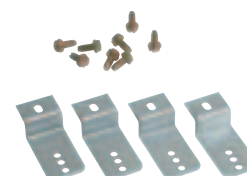
610233 10

For enclosure width 550 mm



Support for wiring-trunking

617949 1



Wiring supports

828145 1

Cable-tray support (20 pieces)

828146 1

Cable-tray (10 pieces)



Fix-o-Rail 144

A

B

C

D

E

F

X

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



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 (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

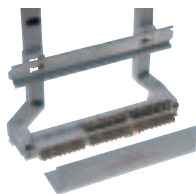
- Two DIN-rail positions: 47 and 55 mm
- Generous wiring room 30 mm behind the mounting frame
- 13 modules on each row
- 125 mm distance between two DIN-rails
- Self positioning protective cover, fixation with four captive quarter-turn screws
- Door can be opened to the left or the right and hinges over 180°
- The Classic range can be coupled

A

B

F

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

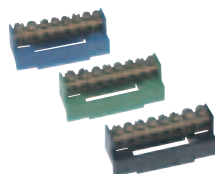
610382	4
--------	---

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 mm² + 2 x 16 mm²

610186	4
--------	---

Earth terminal 6 x 10 mm² + 2 x 16 mm²

610187	4
--------	---

Neutral terminal 6 x 10 mm² + 2 x 16 mm²

Coupling

618528	2
--------	---



Sealing bracket

618527	2
--------	---





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 ² Neutral terminal: connection 5 x 16 mm ²	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 ² Neutral terminal: connection 6 x 10 + 2 x 16 mm ²	8	610345	1/8

Accessories

Earth/neutral terminals

For Junior 4 modules

610141	2
--------	---

Connection range 5 x 16 mm²

Sealing bracket

610140	2
--------	---

Earth/neutral terminals

For Junior 8 modules

610186	4
--------	---

Earth

connection range

6 x 10 mm² + 2 x 16 mm²

610187	4
--------	---

Neutral

connection range

6 x 10 mm² + 2 x 16 mm²

Blank plate 4 modules

610142	4
--------	---

610484	500
--------	-----

length: 72 mm

cut out width : 45 mm

can be cut into 9 mm length

RAL 7035

Grommets

610130	25
--------	----

PG16

610132	25
--------	----

PG21

610133	25
--------	----

PG29



Insulated enclosures Surface mounting

Consumer Unit - BS EN60439-3

IP40

Applications



Standard

BS EN 60439-3

Marking



Performance

Voltage	240V 50Hz
Rating main switch	100A/63A
Rating RCCB	63A, 80A & 100A
IP rating	IP40
Poles	1P+N
Terminal capacity	25mm ² + 16mm ²

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 ⁽¹⁾	63A	A	MS1	662100	1
2 ⁽¹⁾	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 ⁽²⁾	63A	30mA	A	RM1	662108	1
2 ⁽²⁾	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				
Pre-configured						
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
Flexible busbar						
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				
Pre-configured							
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
Flexible busbar							
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				
Pre-configured						
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
Flexible busbar						
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 ⁽¹⁾	63A	A	VCM2	618401	1
4	100A	B	VCM4	618402	1
6	100A	B	VCM6	618403	1
9	100A	C	VCM9	618404	1
13	100A	D	VCM13	618405	1

Metal RCCB main switch up to 80A

MCB ways	Rating (A)	Sensitivity (mA)	HxWxD code	Cat. No.	Ref. No.	Pack.
2 ⁽²⁾	63A	30mA	A	VCMA2	618406	1
4	80A	30mA	B	VCMA4	618407	1
6	80A	30mA	B	VCMA6	618409	1
9	80A	30mA	C	VCMA9	618411	1
13	80A	30mA	D	VCMA13	618413	1

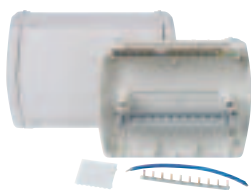
Metal split load 100A main switch & 80A 30mA RCCB

MCB ways	Split		HxWxD code	Cat. No.	Ref. No.	Pack.
	Iso	RCCB				
Pre-configured						
6	3	3	C	VCM3A3	618416	1
8	4	4	D	VCM4A4	618419	1
10	5	5	D	VCM5A5	618423	1
14	7	7	D	VCM7A7	618489	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

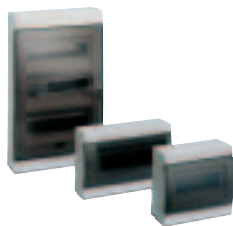


The Abaco surface enclosures are used for power distribution in house building and commercial buildings as offices, banks, etc.

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

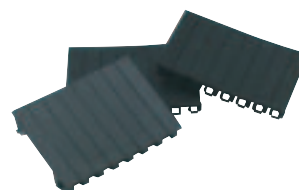
Accessories

Insulated support for earth and neutral

619319	120
for enclosure 6/10 modules connection range 2 x 16 mm ² + 8 x 10 mm ²	
619320	120
for enclosure 10/14 modules connection range 2 x 16 mm ² + 12 x 10 mm ²	
619321	60
for enclosure 24/36 modules connection range 2 x 16 mm ² + 12 x 10 mm ²	

Blank plate

619323	150
Grey, 5 modules	
619338	150
White, 5 modules	
619339	1
Metallised black, 5 modules	



Security lock

619350	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.

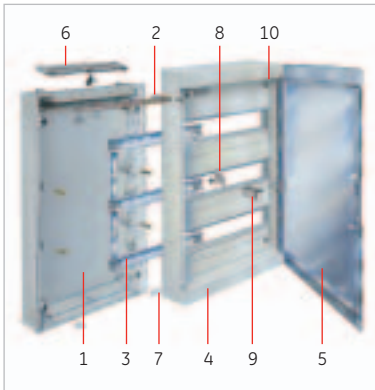
For applications in new homes, for replacing old units or adding add-on devices.

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



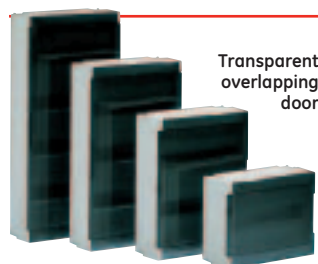
Components

A Fix-o-Rail 150 enclosure also includes:

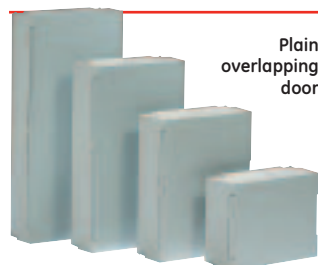
- screwless earth bar
- entry plate
- blank plate
- four insulating caps = □
- labels
- adhesive pictograms
- installation guidelines

- | | | |
|-----------------------------|---------------------|------------------------|
| 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 ² and 21x4 mm ² In 80A	18	1	610275	1
450 x 355 x 150	Earth bar screwless: connection 6x16 mm ² and 21x4 mm ² In 80A	36	2	610285	1
600 x 355 x 150	Earth bar screwless: connection 6x16 mm ² and 21x4 mm ² In 100A	54	3	610295	1
750 x 355 x 150	Earth bar screwless: connection 6x16 mm ² and 21x4 mm ² In 100A	72	4	610303	1
270 x 355 x 150	Earth bar screwless: connection 6x16 mm ² and 21x4 mm ² In 80A	18	1	610276	1
450 x 355 x 150	Earth bar screwless: connection 6x16 mm ² and 21x4 mm ² In 80A	36	2	610286	1
600 x 355 x 150	Earth bar screwless: connection 6x16 mm ² and 21x4 mm ² In 100A	54	3	610296	1
750 x 355 x 150	Earth bar screwless: connection 6x16 mm ² and 21x4 mm ² 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



4 pole terminals		
	610022	18

63A
Connection range
4 x (10 x 16 mm²)
Cu section 6,5 x 9 mm



	617992	5
--	--------	---

160A
with cover 4x (1 x 10 to 50 mm²
incoming + 3 x 6 to 35 mm²
+ 8 x 2.5 to 16 mm² outgoing)
Cu section 12 x 10 mm



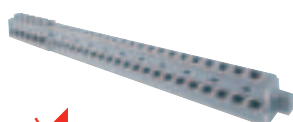
	610020	1
--	--------	---

160A
Connection range 4 x (10 x 10mm²)
Cu section 12 x 5 mm



Protective shroud		
	610021	1

For 160A terminal (ref. 610020)



Support with screwless earth bar		
	610396	1

Connection: 6x16 mm² and 21x4 mm²
Included with all enclosures

Support with earth or neutral terminals

	610386	4
--	--------	---

Cable section: 14 x 16 mm²

	610385	4
--	--------	---

Cable section: 18 x 16 mm²



Support with terminal bars

	610532	4
--	--------	---

Cable section: 2 (17 x 16 mm²)

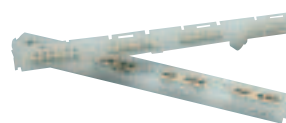


Support with terminal bars

L1-L2-L3-N

	610387	4
--	--------	---

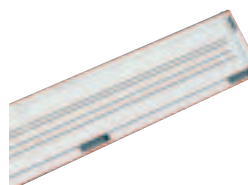
Cable section: 4 (5 x 16 mm²)



Universal entry plate

	610264	2
--	--------	---

For a sound and safe quality of finish.
Increases the dust protection. With
moulded-in marks for conduits.



Universal entry cap

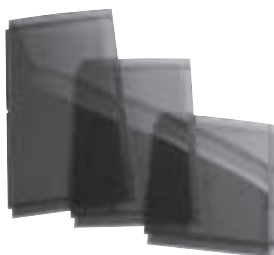
	610272	1
--	--------	---

Width: 355 mm

Can be mounted at the bottom or at the
top of the enclosure. Easy to fix.
Usefull for the installation of cable glands
or universal cable entries



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

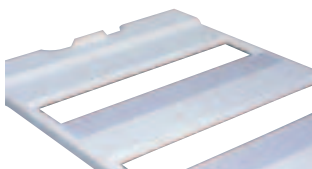


Adhesive pictograms

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

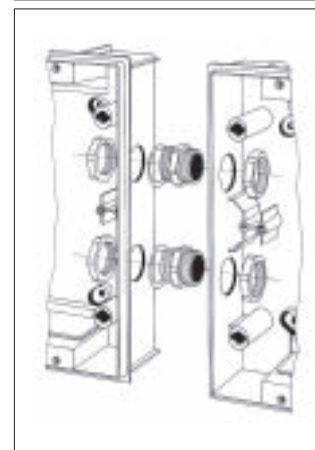
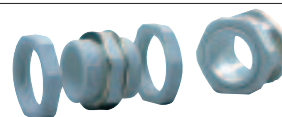
To be fixed at the bottom or at the top of the protective cover



Coupling - 2 x PG21

Allows the facility to couple several Fix-o-Rail enclosures laterally, top and bottom

610327 1





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

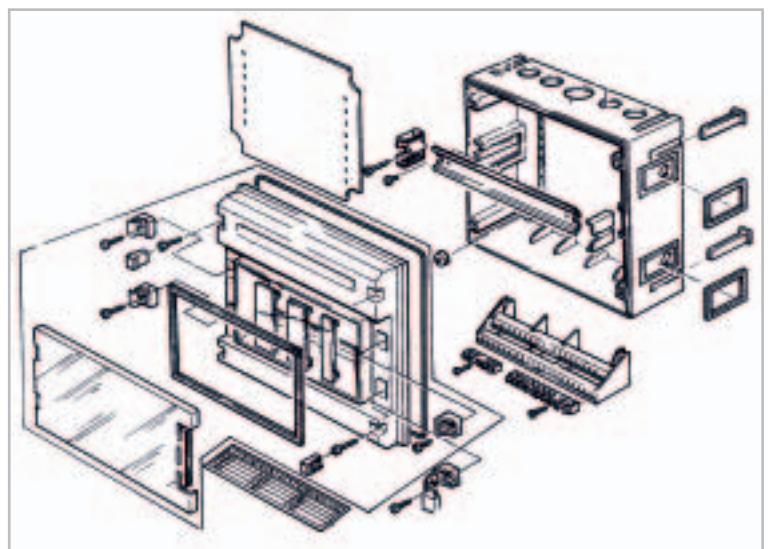
EN 60439-3

Components

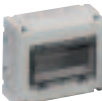
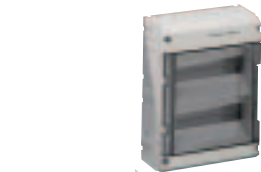
- Rigid base and protection cover, colour RAL 7035
- Transparent door
- DIN-rails, the centre distance between two DIN-rail is 125 mm
- Labeling facilities
- With earth bar for the 12, 24 & 36 modules

Features

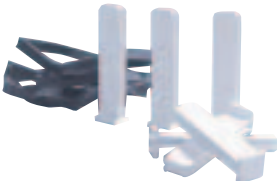
- Total insulation ☐
- Protection degree IP55-IK07
- Can be coupled
- Transparent door
- Adjustable DIN-rails, according the height of the DIN equipment
- For equipment up to 92.5 mm
- Padlocking option
- The transparent door can be opened to the left and the right
- Base:
 - ABS for the 3 up to 8 modules
 - Polystyreen for the 12 up to 36 modules
- Flame resistance: self extinguishing material, resist the 650°C
- Polycarbonate for the transparent door
- Halogene free



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 ² and 6x10 mm ²	12	1	610316	1
	375 x 285 x 136	Earth bar, connection range: 2x16 mm ² and 8x16 mm ²	24	2	610317	1
	500 x 285 x 136	Earth bar, connection range: 2x16 mm ² and 12x16 mm ²	36	3	610318	1

Accessories

	Terminal Additional busbar for earth and neutral connections	Locking device Allows the enclosure to be fitted with a padlocking device	
	610314 1 Cable section: 2 x 16 mm ² and 6 x 6 mm ²	610313 1	
	Coupling set To couple two enclosures in a simple way		
	610315 1		



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

Distribution boards



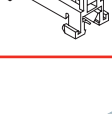
Description	Dimensions H x W (mm)	Ref. No.	Pack
1 row, 12 mod.	245 x 300	564538	1
2 rows, 24 mod.	370 x 300	564539	1
3 rows, 36 mod.	495 x 300	564540	1
4 rows, 48 mod.	620 x 300	564541	1
Versions with screwless earth (PE/N) bar			
1 row, 12 mod.	245 x 300	619413	1
2 rows, 24 mod.	370 x 300	619414	1
3 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	619300	12
	Metallised black	120 x 200 x 73	2/4	1	619362	12
	Grey	180 x 200 x 73	4/7	1	619301	24
	White	180 x 200 x 73	4/7	1	619325	24
	Metallised black	180 x 200 x 73	4/7	1	619331	24
	Grey	230 x 200 x 73	6/10	1	619302	14
	White	230 x 200 x 73	6/10	1	619326	14
	Metallised black	230 x 200 x 73	6/10	1	619332	14
	Grey	300 x 200 x 73	10/14	1	619303	12
	White	300 x 200 x 73	10/14	1	619327	12
	Metallised black	300 x 200 x 73	10/14	1	619333	12
	Grey	315 x 400 x 80	24/26	2	619304	1
	White	315 x 400 x 80	24/26	2	619328	1
	Metallised black	315 x 400 x 80	24/26	2	619334	1
	Grey	315 x 525 x 80	36/39	3	619305	1
	White	315 x 525 x 80	36/39	3	619329	1
	Metallised black	315 x 525 x 80	36/39	3	619335	1

Accessories

	Coupling	
	619322	10/100/600
	2/4 and 10/14 modules	
	Blank plate	
	619323	150/450
	Grey, 5 modules	
	619338	150/450
	White, 5 modules	
	619339	1/450
	Metallised black, 5 modules	
	Transparent lid	
	619340	1
	2/4 modules	
	619341	1
	4/7 modules	
	619342	1
	6/10 modules	
	619343	1
	10/14 modules	
	619344	1
	24/26 modules	
	619345	1
	36/39 modules	
	Insulated support for earth or neutral	
	619337	1/30/180
	for enclosure 4/7 modules connection range 7 x 10 mm ²	
	619319	1/20/120
	for enclosure 6/10 modules connection range 2 x 16 mm ² + 8 x 10 mm ²	
	619320	1/20/210
	for enclosure 10/14 modules connection range 2 x 16 mm ² + 12 x 10 mm ²	
	619321	1/10/60
	for enclosure 24/36 modules connection range 2 x 16 mm ² + 12 x 10 mm ²	
	Security lock	
	619323	1
	24 and 36 modules	

Abaco F

A

B

C

D

E

F

X



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
- neutral bar
- adhesive pictograms
- labels for circuit identification
- protective plate on the base (against dust and plaster)
- label holders
- installation guidelines
- a blank plate

Fix-o-Rail 150-F4 - Base and door included

Transparent door	H x W x D (mm)			No. of modules	No. of rows	Ref. No.	Pack.
	350 x 375 x 108	E & N: 14 x 16 mm ²	In 50A	14	1	610368	1
	525 x 375 x 108	E & N: 17 x 16 mm ²	In 63A	28	2	610369	1
	675 x 375 x 108	E & N: 2 (14 x 16 mm ²)	In 80A	42	3	610370	1
	825 x 375 x 108	E & N: 2 (14 x 16 mm ²)	In 100A	56	4	610371	1
Plain door	H x W x D (mm)			No. of modules	No. of rows	Ref. No.	Pack.
	350 x 375 x 108	E & N: 14 x 16 mm ²	In 50A	14	1	610372	1
	525 x 375 x 108	E & N: 17 x 16 mm ²	In 563A	28	2	610373	1
	675 x 375 x 108	E & N: 2 (14 x 16 mm ²)	In 80A	42	3	610374	1
	825 x 375 x 108	E & N: 2 (14 x 16 mm ²)	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						
	Blank plate						
		610382	500				
	Length = 72 mm						
	Cut-out width = 45 mm						
	Section of 9 mm						
	Colour RAL 9010						
	Labels and label holders						
		610383	1				
	Set of 50 pieces						
	Adhesive pictograms						
		610380	1				
	For clear and permanent identification of circuits						
	Set of 50 pieces						
	Grips						
	For building into studded walls						
		610381	1				

New





Approvals / Marking



Junction boxes

Flex-o-Box

IP65



Features

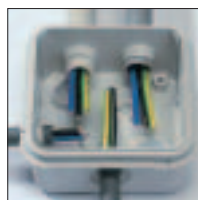
Flex-o-Box Junior

Technical data

- Suitable for surface mounting
- 2.5 mm² - 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"



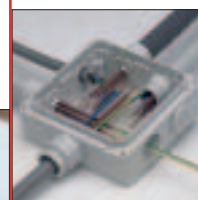
Flex-o-Box JB⁶

Technical data

- Suitable for surface mounting
- 6 mm² - 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 ²	600656	10/100
		Junction box 2.5 mm ² (34 pieces in a red polybox basket)	600314	1
				
	JB ⁶	Junction box 6 mm ²	600651	10/100
		Junction box 6 mm ² (24 pieces in a grey polybox basket)	600310	1
				

Accessories



for Junior and JB ⁶	
Terminal block	
600950	30
6 mm ² - 500V - pin-type	
5-terminal blocks	
Possible connections per terminal:	
6 × 1.5 mm ²	2 × 6 mm ²
4 × 2.5 mm ²	2 × 10 mm ²
3 × 4 mm ²	



Terminal strip	
600650	20/200
6 mm ² - 500V - hole-type	
5-terminal strips	
Possible connections per terminal:	
6 × 1.5 mm ²	3 × 4 mm ²
4 × 2.5 mm ²	2 × 6 mm ²



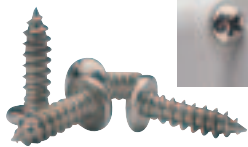
only for JB ⁶	
Cable seal	
851046	50
PG16 grey	



Entry socket for tube	
600933	25/300
PG16 for tube 5/8" grey	
600934	25/300
PG16 for tube 3/4" grey	
for tube ø 16 mm	
for tube ø 20 mm	



Insulated cap	
600945	25
PG16 grey	



Screws	
For cover fastening	
600652	40
Stainless steel	

Flex-o-Box

A

B

C

D

E

F

X



Junction boxes

Series 55

IP66

Approval



Applications

- As an empty box
- As a junction box (10/16/25 mm²)
- 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

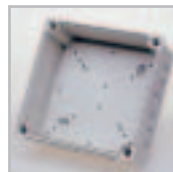
55200 - 175 x 175 x 95 mm

55300 - 225 x 175 x 95 mm

Benefits



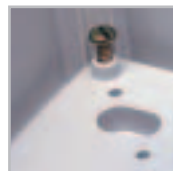
The cable entries are selective knockouts placed as close as possible to the wall.



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 mm²

IP66 - IK07

	Cover	Entries	Description	Ref. No.	Pack.
	grey	5 x PG 16/21	Empty. Can be equipped with terminal blocks 600516	600514	16
	grey	5 x PG 16/21	Equipped with terminal blocks 600516: 5 clamps with maximum capacity: 5 x 4 mm ² / 4 x 6 mm ² / 3 x 10 mm ²	600515	16

Series 55200 - 16 mm²

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	600517	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 ² / 4 x 10 mm ² / 3 x 16 mm ²	600524	9
	transparent	6 x PG 16/21 5 x PG 21/29	Empty	600523	9

Series 55300 - 25 mm²

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)	600532	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 ² / 3 x 25 mm ² / 2 x 35 mm ²	600543	9
	transparent	8 x PG 21 6 x PG 21/29	Empty	600539	9

Series 55

A

B

C

D

E

F

X

A

B

C

D

E

F

X

Accessories Series 55



Terminal blocks 500V 10 mm²

600516 6

Set terminal blocks with two fixation screws. With five clamps suitable for Al or Cu connection.

Maximum cable section per clamp:
5 x 4 mm² / 5 x 4 mm² / 5 x 4 mm².
Can be fitted in types 55100 and 55200.

Couplings

600509 1

Set of two pieces
PG21
It is possible to combine types
55200 and 55300



Terminal blocks 500V 16 mm²

600525 6

With five clamps, suitable for Al or Cu connection.

Maximum cable section per clamp:
5 x 6 mm² / 4 x 10 mm² / 3 x 16 mm².
Can be fitted in types 55200 and 55300.

Compression glands

600504 25

PG21 with nut in glass fibre reinforced polyamide. Grey.

600505 25

PG29 with nut in glass fibre reinforced polyamide. Grey.



Terminal blocks 500V 16 mm²

600526 24

With one clamp/nut (with nut), suitable for Al or Cu connection.

Maximum cable section per clamp:
5 x 6 mm² / 4 x 10 mm² / 3 x 16 mm².
Can be fitted in types 55200 and 55300.

Compression glands

600501 25

PG21 polyamide with nut in glass fibre reinforced polyamide. Brown.

600502 25

PG29 polyamide with nut in glass fibre reinforced polyamide. Brown.



Terminal blocks 500V 25 mm²

600544 24

With one clamp/nut (with nut), suitable for Al or Cu connection.

Maximum cable section per clamp:
4 x 16 mm² / 3 x 25 mm² / 2 x 35 mm².
Can be fitted in types 55200 and 55300.

Locknuts

600506 100

Nut in glass fibre reinforced polyamide to connect compression glands PG21. Grey.

600507 50

Nut in glass fibre reinforced polyamide to connect compression glands PG29. Grey.



Terminal blocks 500V 25 mm²

600545 24

With one clamp/nut (double nut), suitable for Al or Cu connection.

Maximum cable section per clamp:
4 x 16 mm² / 3 x 25 mm² / 2 x 35 mm².
Can be fitted in types 55200 and 55300.

Universal entries (grey)

610130 25

Cable max. 18 mm, drill 23 mm, PG16

610132 25

Cable max. 24 mm, drill 29 mm, PG21

610133 25

Cable max. 32 mm, drill 38 mm, PG29.



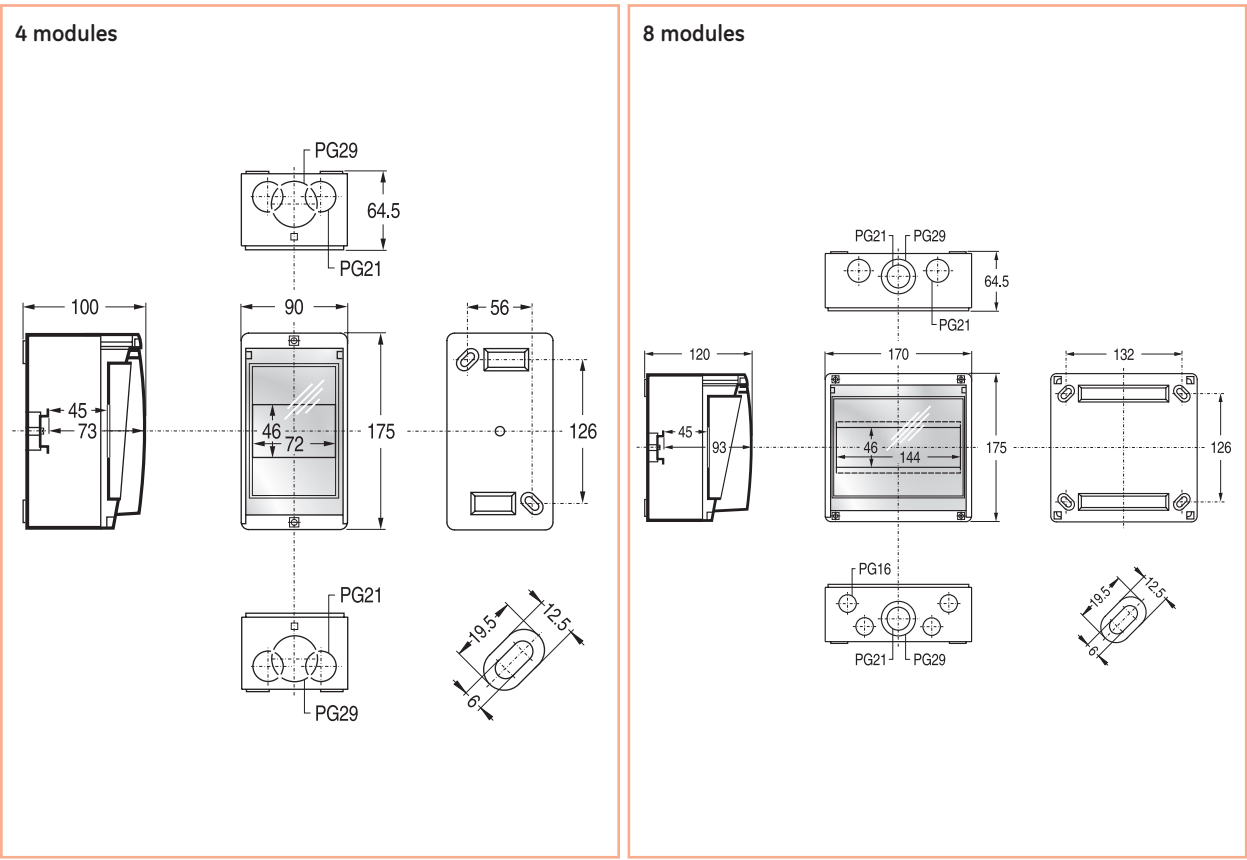
Insulated cap

890838 48

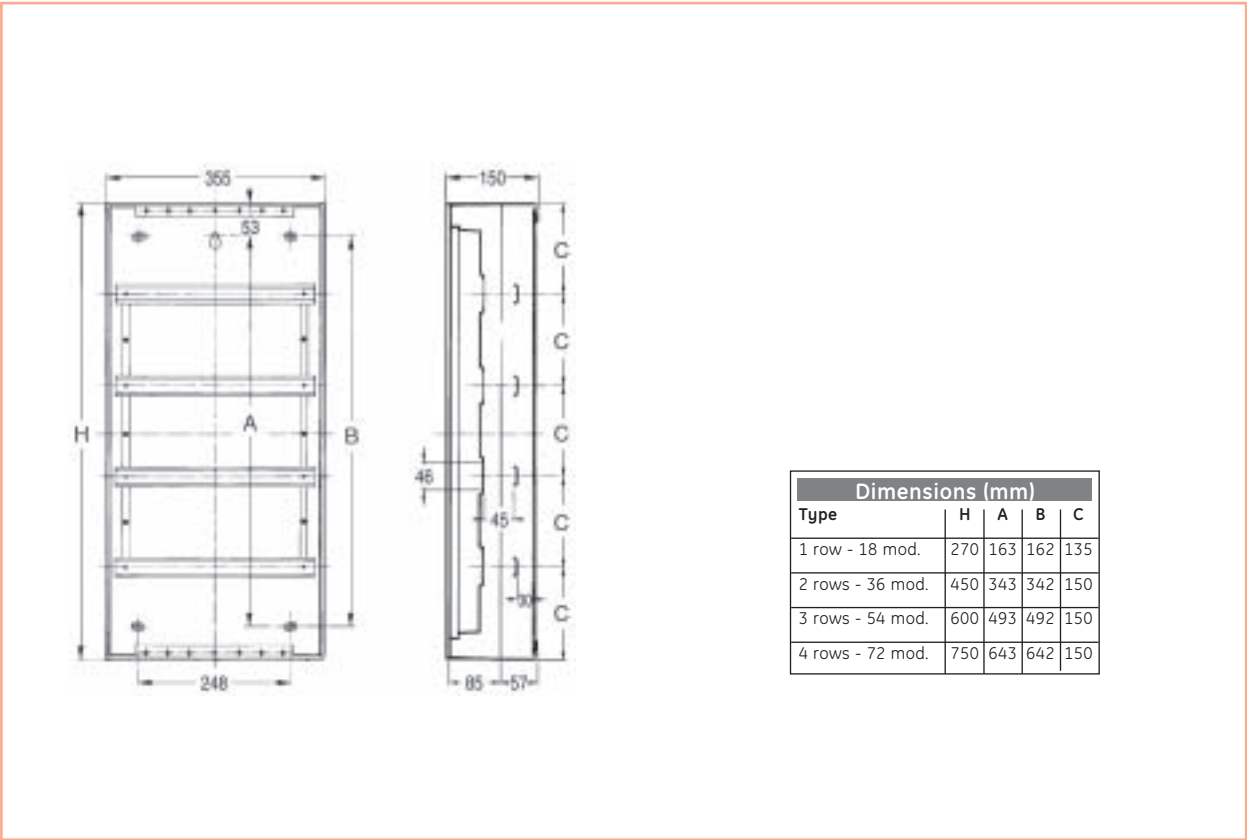
Suitable for terminal blocks
600526
600544
600545

Dimensional drawings

Fix-o-Rail Junior - Surface mounting



Fix-o-Rail 150 - Surface mounting



Dimensions

A

B

C

D

E

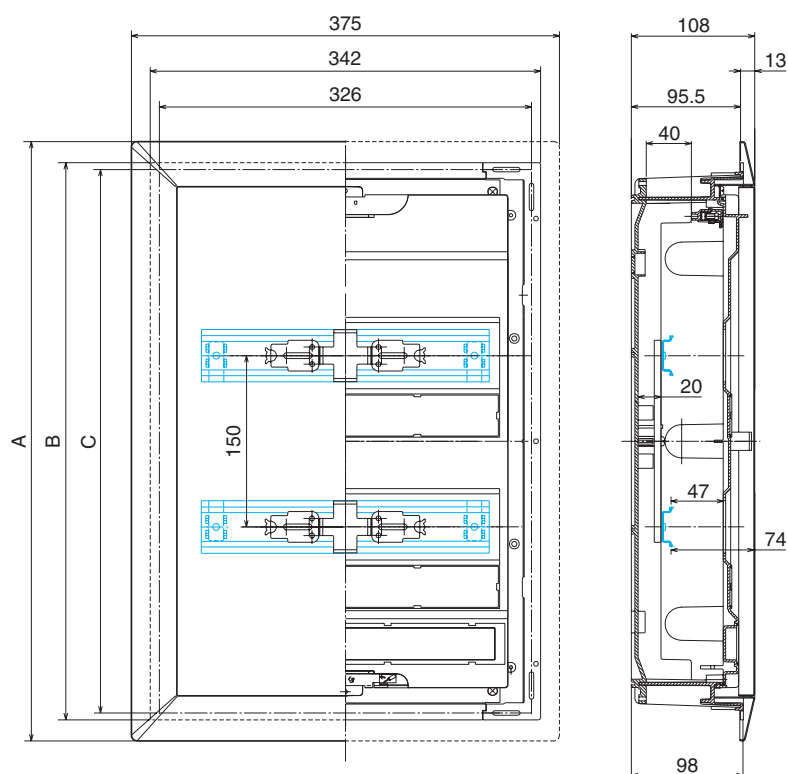
F

X

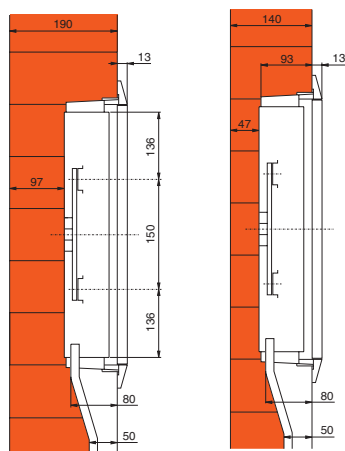


Dimensional drawings

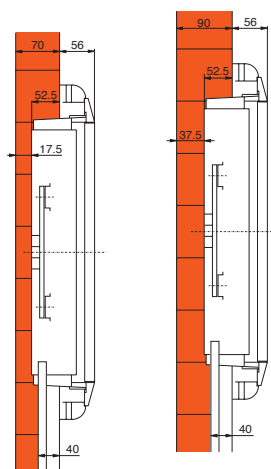
Fix-o-Rail 150-F4 - Flush mounting



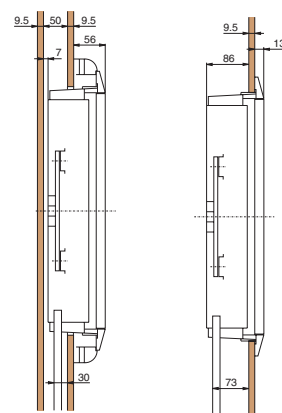
Dimensions (mm)			
Type	A	B	C
1 row - 14 mod.	350	313	301
2 rows - 28 mod.	525	488	476
3 rows - 42 mod.	675	638	626
4 rows - 56 mod.	825	788	776



Flush mounting
into brickwork



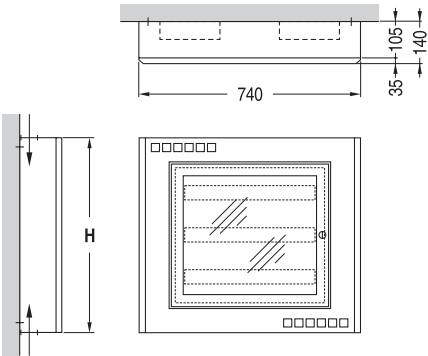
Flush mounting and semi flush
mounting into brickwork



Semi flush mounting
into studed walls

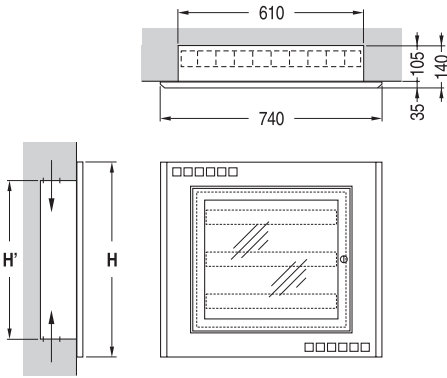
Fix-o-Rail 144

Fix-o-Rail 144 S
Surface mounting

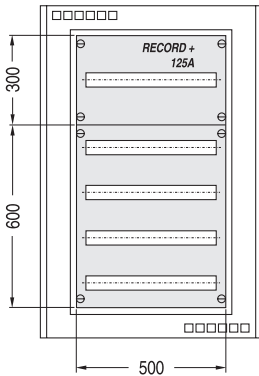
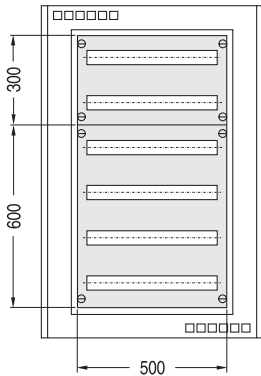
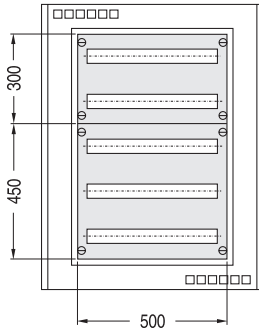
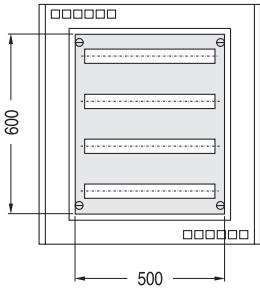
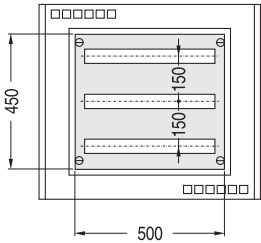


Dimensions (mm)	
	H
3 rows - 72 mod.	650
4 rows - 96 mod.	800
5 rows - 120 mod.	950
6 rows - 144 mod.	1100
4 rows+Record - 120 mod.	1100

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



Dimenions

A

B

C

D

E

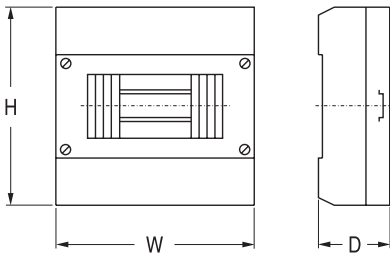
F

X



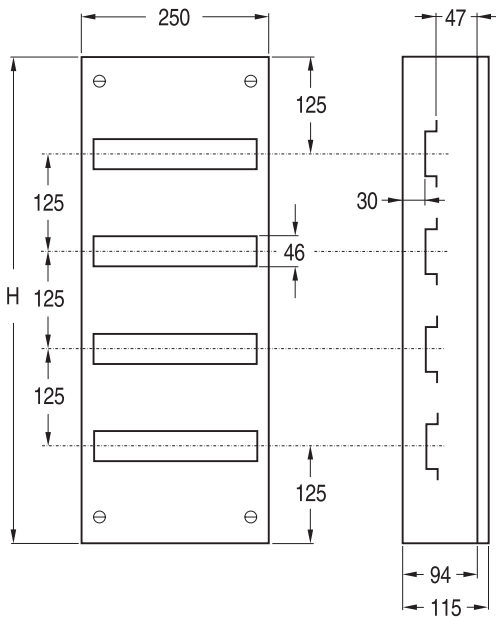
Dimensional drawings

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

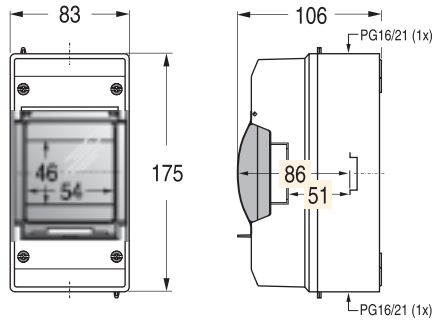


Dimensions (mm)	
Type	H
1 row - 13 mod.	250
2 rows - 26 mod.	375
3 rows - 39 mod.	500
4 rows - 52 mod.	625

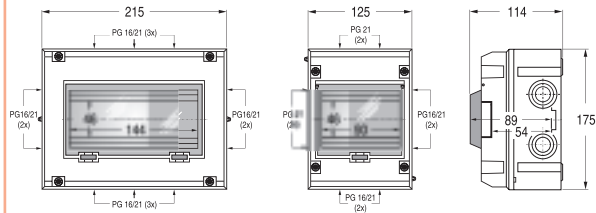


Fix-o-Rail 55 - Surface mounting

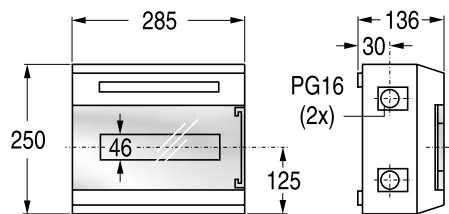
3 modules



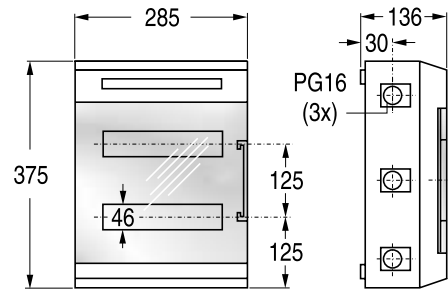
5-8 modules



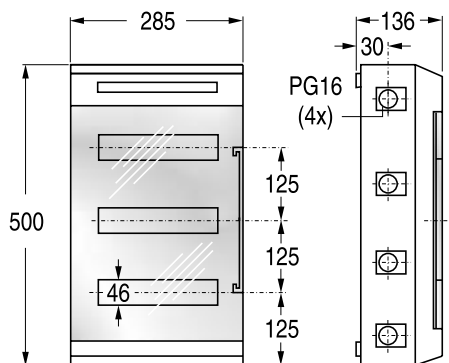
12 modules



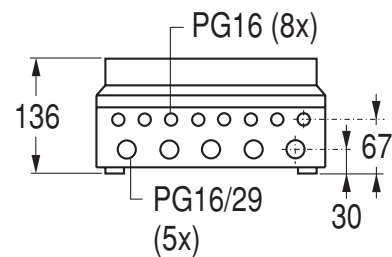
24 modules



36 modules



Top/bottom view



Dimenions

A

B

C

D

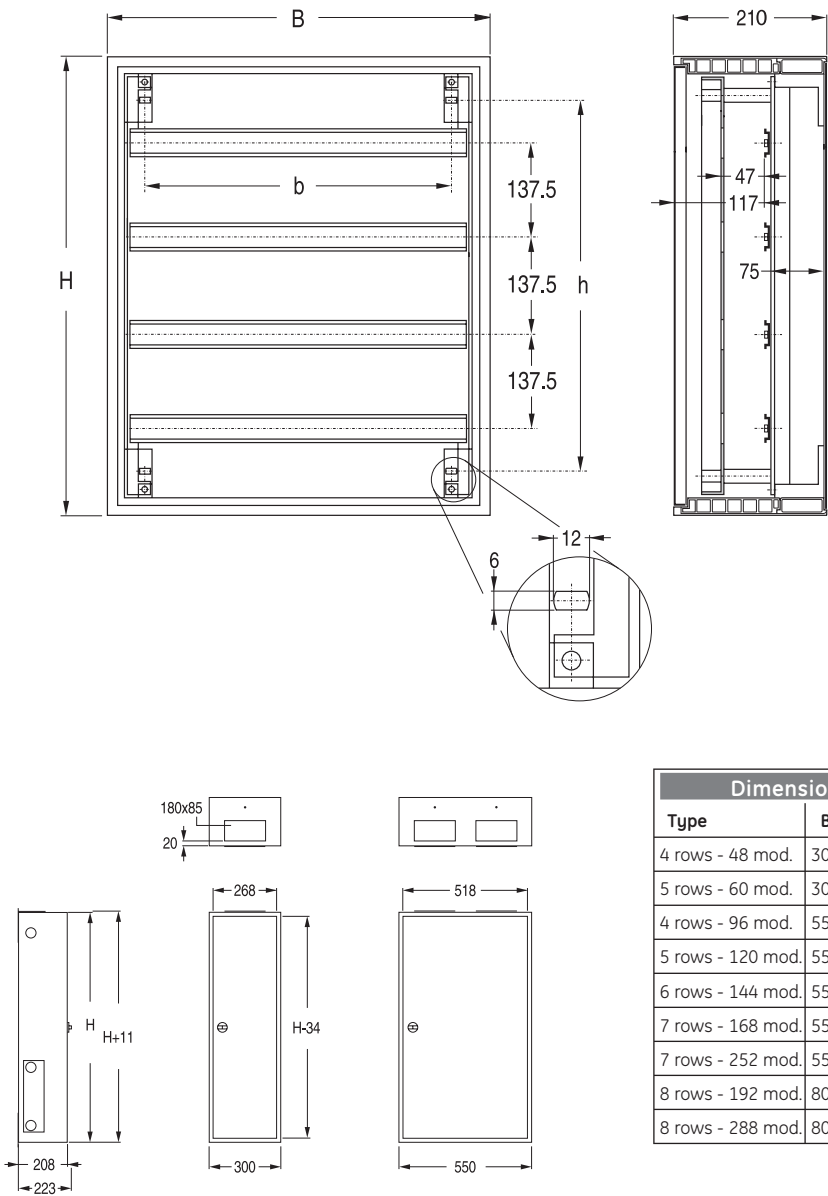
E

F

X

Dimensional drawings

Fix-o-Rail Senior - Surface mounting



Accessories distribution boards

Gland plate

Diagram of a gland plate with dimensions and terminal types. The plate has a width of 126 mm and a height of 52 mm. It features 12 terminals with various types: PG 13.5, PG 13.5, PG 13.5, PG 21, PG 16, PG 13.5, 5/8", 5/8", 5/8", 5/8", 5/8", 5/8", 3/4", 3/4", 1", and 1 1/4".

4P terminal 63A

Diagram of a 4P terminal 63A with dimensions. The terminal has a width of 84 mm and a height of 52 mm.

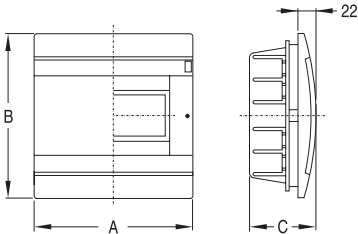
4P terminal 160A

Diagram of a 4P terminal 160A with dimensions. The terminal has a width of 126 mm and a height of 52 mm.

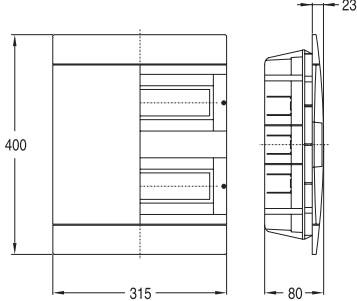


Abaco F - Flush mounting

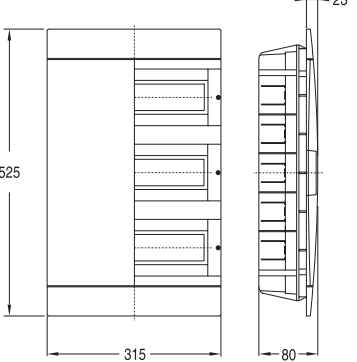
1 row - 14 modules



2 rows - 26 modules

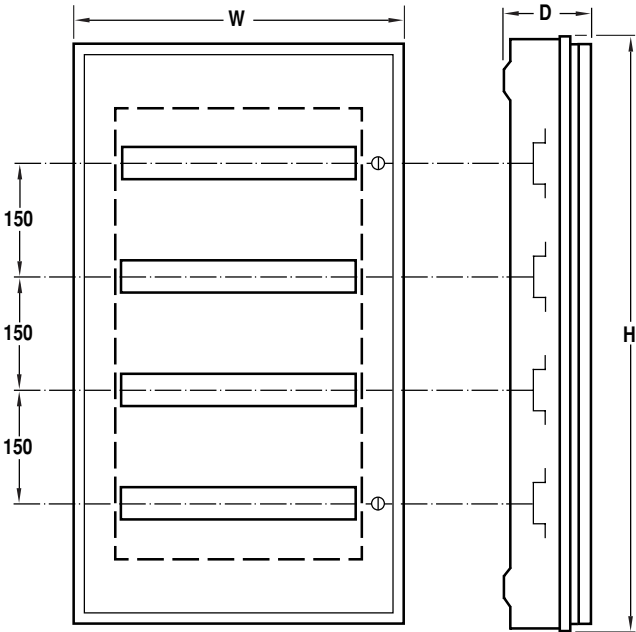


3 rows - 39 modules



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

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

Dimenions

A

B

C

D

E

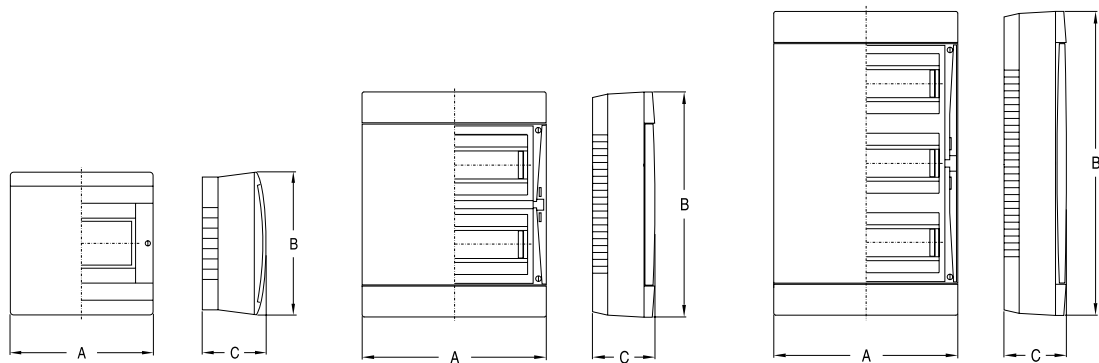
F

X



Dimensional drawings

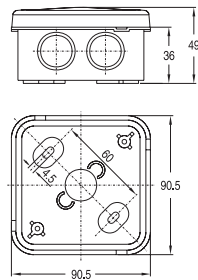
Abaco S - Surface mounting



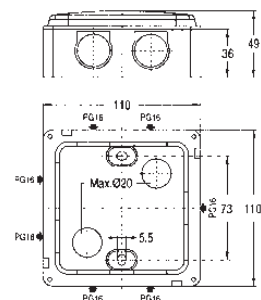
Dimensions (mm)			
Type	A	B	C
1 row - 8/10 mod.	230	200	110
1 row - 12/14 mod.	300	200	110
2 rows - 24/26 mod.	315	400	110
3 rows - 36/39 mod.	315	525	110

Flex-o-Box - Junction box

Flex-o-Box Junior

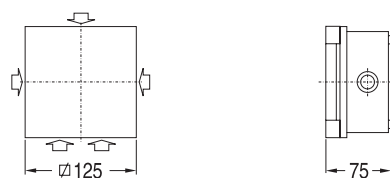


Flex-o-Box JB⁶

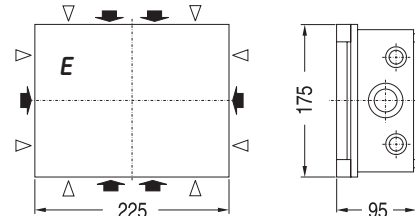


Series 55 - Junction box

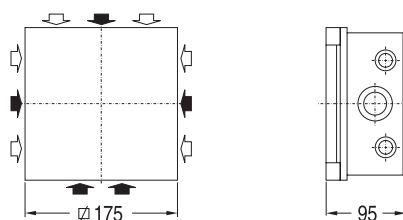
Series 55100



Series 55300

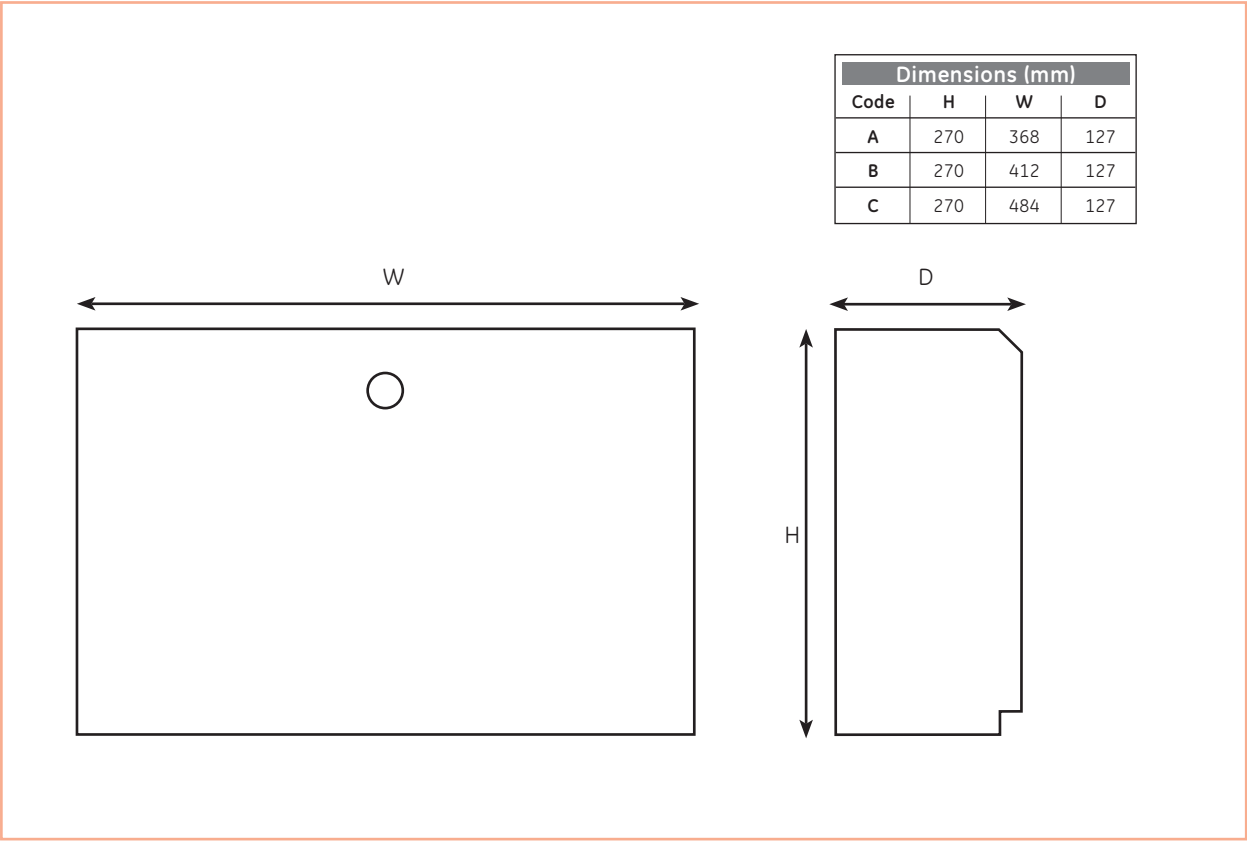


Series 55200

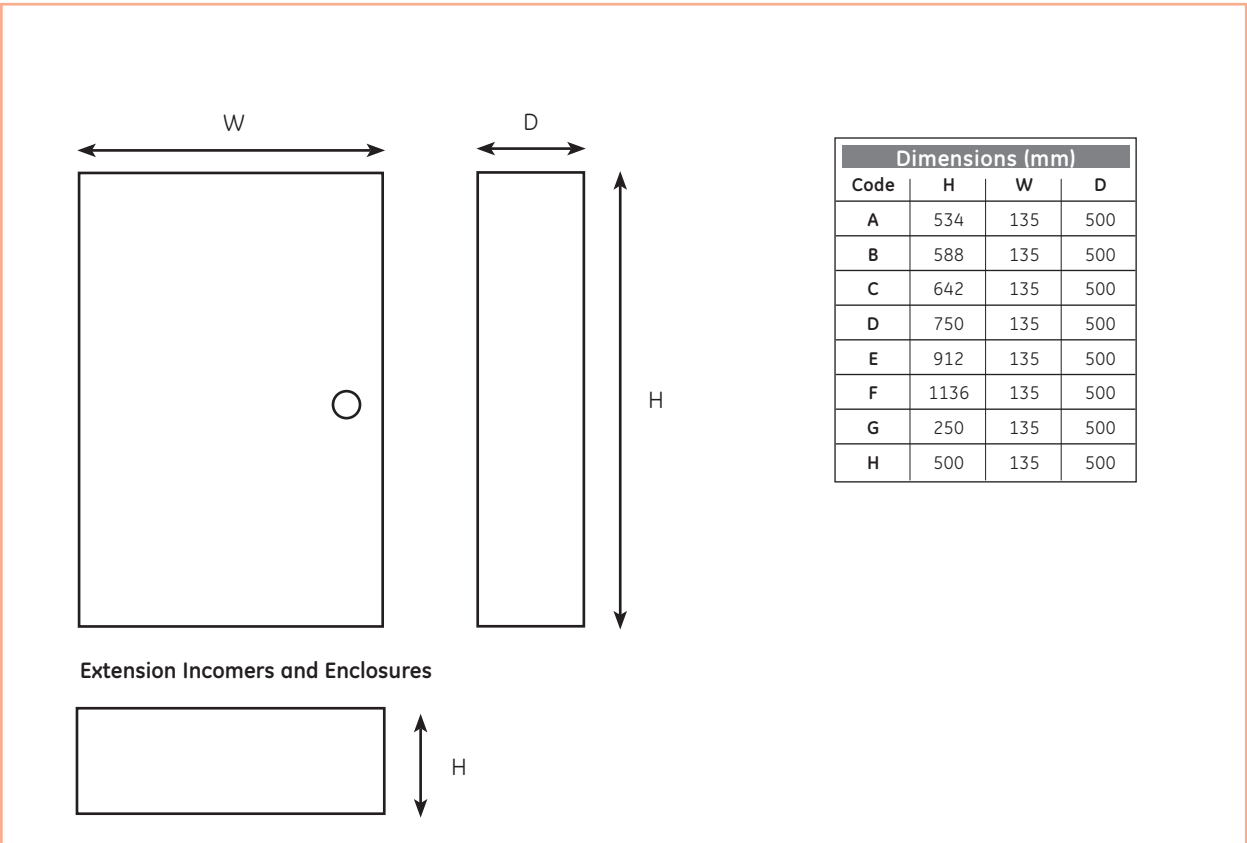


- ▽ PG 21
- ▽ PG 16/21
- ▽ PG 21/29

Modular 200 - distribution board - Type A



Modular 200 - distribution board - Type B



Dimenions

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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290234	EP103ULHB05	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
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666177	CLS72S41D	D.25	666575	AST R 32 30	D.3	667491	SA BLOCK II 40/230 LLE	D.38	667746	EP253 B16	A.19
666178	CLS72Q41D	D.25	666576	AST R 32 3N	D.3	667492	SA C35	D.39	667747	EP253 B20	A.19
666179	GLX72Q41DW	D.25	666577	AST R 32 40	D.3	667493	TELE OV 400	D.39	667748	EP253 B25	A.19
666180	GLX BAT	D.23	666578	AST R 40 20	D.3	667494	SA BLOCK II 15/400 3L+NE	D.38	667749	EP253 B32	A.19
666181	GLX DCF	D.23	666579	AST R 40 30	D.3	667495	SA BLOCK II 15/400 4L/NE	D.38	667750	EP253 B40	A.19
666182	GLX PRG	D.23	666580	AST R 40 3N	D.3	667496	SA BLOCK II 40/400 3L+NE	D.38	667751	EP253 B50	A.19
666192	GLX Q 62 W 400	D.23	666581	AST R 40 40	D.3	667497	SA BLOCK II 40/400 4L/NE	D.38	667752	EP253 B63	A.19
666193	GLX Q 64 W 400	D.23	666582	AST R 63 20	D.3	667498	SA BLOCK II 40/400 4L/NE C	D.38	667758	EP254 B06	A.19
666194	GLX Q 62 Y 400	D.23	666583	AST R 63 30	D.3	667499	SA C63	D.39	667760	EP254 B10	A.19
666195	GLX Q 64 Y 400	D.23	666584	AST R 63 3N	D.3	667500	SA PLUGIN II 15/230	D.38	667762	EP254 B16	A.19
666311	PLTS + TD	D.16	666585	AST R 63 40	D.3	667501	SA PLUGIN II 15/400	D.38	667763	EP254 B20	A.19
666340	AST B 12	D.5	666586	AST S 16 1	D.3	667502	SA PLUGIN II 40/230	D.38	667764	EP254 B25	A.19
666341	AST B 230	D.5	666587	AST S 16 10	D.3	667503	SA PLUGIN II 40/400	D.38	667765	EP254 B32	A.19
666342	AST B 24	D.5	666588	AST S 16 2	D.3	667504	SA PLUGIN II 40/230 C	D.38	667766	EP254 B40	A.19
666343	AST L CL	D.5	666589	AST S 16 20	D.3	667505	SA PLUGIN II 40/400 C	D.38	667767	EP254 B50	A.19
666344	AST L GN	D.5	666590	AST S 16 30	D.3	667506	SA PLUGIN II 40/230 LNE	D.38	667768	EP254 B63	A.19
666345	AST L OR	D.5	666591	AST S 16 30 2	D.3	667507	SA PLUGIN II 40/230 3L+NE	D.38	669486	EPP	A.42
666346	AST L RD	D.5	666592	AST S 16 40 2	D.3	667508	SA PHOT 600V	D.39	670000		
666347	AST B	D.5	666593	AST S 16 40	D.3	667509	SA PHOT 1000V	D.39	671504	Hti 101 B080	A.25
666358	LSS LDR	D.27	666594	AST S 32 1	D.3	667510	SA TV	D.39	671505	Hti 101 B100	A.25
666361	LSS 11	D.27	666595	AST S 32 10	D.3	667511	SA PLUGIN II 60 NGND	D.38	671506	Hti 101 B125	A.25
666362	LSS 32	D.27	666596	AST S 32 2	D.3	667512	SA MODULE 15/230	D.39	671510	Hti 102 B080	A.25
666364	LSS W	D.27	666597	AST S 32 20	D.3	667513	SA MODULE 15/400	D.39	671511	Hti 102 B100	A.25
666375	MT CT 100	D.33	666598	AST S 32 30 2	D.3	667514	SA MODULE 40/230	D.39	671512	Hti 102 B125	A.25
666376	MT CT 1000	D.33	666599	AST S 32 30	D.3	667515	SA MODULE 40/400	D.39	671516	Hti 103 B080	A.25
666377	MT CT 150	D.33	666600	AST S 32 40	D.3	667516	SA MODULE 60 NGND	D.39	671517	Hti 103 B100	A.25
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678181	EPP61B63	A.65	678281	EPP102B63	A.67	678722	EPP64C40	A.65	681603	EP61K03	A.15
678182	EPP62B06	A.65	678282	EPP103B06	A.67	678723	EPP64C50	A.65	681604	EP61K04	A.15
678183	EPP62B10	A.65	678283	EPP103B10	A.67	678724	EPP64C63	A.65	681605	EP61K06	A.15
678184	EPP62B13	A.65	678284	EPP103B13	A.67	678725	EPP104B06	A.67	681606	EP61K08	A.15
678185	EPP62B16	A.65	678285	EPP103B16	A.67	678726	EPP104B10	A.67	681607	EP61K1.6	A.15
678186	EPP62B20	A.65	678286	EPP103B20	A.67	678727	EPP104B13	A.67	681608	EP61K10	A.15
678187	EPP62B25	A.65	678287	EPP103B25	A.67	678728	EPP104B16	A.67	681609	EP61K16	A.15
678188	EPP62B32	A.65	678288	EPP103B32	A.67	678729	EPP104B20	A.67	681610	EP61K20	A.15
678189	EPP62B40	A.65	678289	EPP103B40	A.67	678730	EPP104B25	A.67	681611	EP61K25	A.15
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678191	EPP62B63	A.65	678291	EPP103B63	A.67	678732	EPP104B40	A.67	681613	EP61K40	A.15
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678194	EPP63B13	A.65	678294	EPP103NB13	A.67	678735	EPP104C06	A.67	681616	EP62K0.5	A.15
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678197	EPP63B25	A.65	678297	EPP103NB25	A.67	678738	EPP104C16	A.67	681619	EP62K03	A.15
678198	EPP63B32	A.65	678298	EPP103NB32	A.67	678739	EPP104C20	A.67	681620	EP62K04	A.15
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678212	EPP61C06	A.65	678312	EPP102C06	A.67	681457	EP103B32RAIL	A.35	681634	EP63K02	A.15
678213	EPP61C10	A.65	678313	EPP102C10	A.67	681458	EP103B40RAIL	A.35	681635	EP63K03	A.15
678214	EPP61C13	A.65	678314	EPP102C13	A.67	681459	EP103B50RAIL	A.35	681636	EP63K04	A.15
678215	EPP61C16	A.65	678315	EPP102C16	A.67	681460	EP103B63RAIL	A.35	681637	EP63K06	A.15
678216	EPP61C20	A.65	678316	EPP102C20	A.67	681461	EP103C0.5RAIL	A.35	681638	EP63K08	A.15
678217	EPP61C25	A.65	678317	EPP102C25	A.67	681462	EP103C01RAIL	A.35	681639	EP63K1.6	A.15
678218	EPP61C32	A.65	678318	EPP102C32	A.67	681463	EP103C02RAIL	A.35	681640	EP63K10	A.15
678219	EPP61C40	A.65	678319	EPP102C40	A.67	681464	EP103C03RAIL	A.35	681641	EP63K16	A.15
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678224	EPP61NC13	A.65	678324	EPP103C13	A.67	681469	EP103C20RAIL	A.35	681646	EP63K50	A.15
678225	EPP61NC16	A.65	678325	EPP103C16	A.67	681470	EP103C25RAIL	A.35	681647	EP63K63	A.15
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678231	EPP61NC63	A.65	678331	EPP103C63	A.67	681476	EP101UCRB10	A.37	681653	EP64K06	A.15
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678233	EPP62C10	A.65	678333	EPP103NC10	A.67	681478	EP101UCRB20	A.37	681655	EP64K1.6	A.15
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678237	EPP62C25	A.65	678337	EPP103NC25	A.67	681482	EP101UCRB50	A.37	681659	EP64K25	A.15
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678239	EPP62C40	A.65	678339	EPP103NC40	A.67	681484	EP102UCRB06	A.37	681661	EP64K40	A.15
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678241	EPP62C63	A.65	678341	EPP103NC63	A.67	681486	EP102UCRB16	A.37	681663	EP64K63	A.15
678242	EPP63C06	A.65	678359	FPPA225/030	B.8	681487	EP102UCRB20	A.37	681771	EP101UCRB02	A.37
678243	EPP63C10	A.65	678360	FPPA240/030	B.8	681488	EP102UCRB25	A.37	681772	EP101UCRB04	A.37
678244	EPP63C13	A.65	678361	FPPA263/030	B.8	681489	EP102UCRB32	A.37	681773	EP102UCRB02	A.37
678245	EPP63C16	A.65	678362	FPPA425/030	B.8	681490	EP102UCRB40	A.37	681774	EP102UCRB04	A.37
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
678248	EPP63C32	A.65	678365	FPPA225/100	B.8	681493	EP101UCRC0.5	A.37	686002	CTX + R 16 1 024 A	D.11
678249	EPP63C40	A.65	678366	FPPA240/100	B.8	681494	EP101UCRC01	A.37	686003	CTX + R 16 1 048 A	D.11
678250	EPP63C50	A.65	678367	FPPA263/100	B.8	681495	EP101UCRC02	A.37	686004	CTX + R 16 1 115 A	D.11
678251	EPP63C63	A.65	678368	FPPA425/100	B.8	681496	EP101UCRC04	A.37	686005	CTX + R 16 1 230 A	D.11
678252	EPP63NC06	A.65	678369	FPPA440/100	B.8	681497	EP101UCRC06	A.37	686006	CTX + R 16 1 240 A	D.11
678253	EPP63NC10	A.65	678370	FPPA463/100	B.8	681498	EP101UCRC10	A.37	686007	CTX + R 16 10 008 A	D.11
678254	EPP63NC13	A.65	678371	FPPA225/300	B.8	681499	EP101UCRC16	A.37	686008	CTX + R 16 10 012 A	D.11
678255	EPP63NC16	A.65	678372	FPPA240/300	B.8	681500	EP101UCRC20	A.37	686009	CTX + R 16 10 024 A	D.11
678256	EPP63NC20	A.65	678373	FPPA263/300	B.8	681501	EP101UCRC25	A.37	686010	CTX + R 16 10 048 A	D.11
678257	EPP63NC25	A.65	678374	FPPA425/300	B.8	681502	EP101UCRC32	A.37			

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686038	CTX + R 16 20 024 A	D.11	686138	PLS + C 16 2 008 A	D.15	686623	EP62ULB32	A.29	686770	EP63ULD0.5	A.29
686039	CTX + R 16 20 048 A	D.11	686139	PLS + C 16 2 012 A	D.15	686624	EP62ULB40	A.29	686771	EP63ULD01	A.29
686040	CTX + R 16 20 115 A	D.11	686140	PLS + C 16 2 024 A	D.15	686625	EP62ULB50	A.29	686772	EP63ULD02	A.29
686041	CTX + R 16 20 23060	D.11	686141	PLS + C 16 2 048 A	D.15	686627	EP62ULB63	A.29	686774	EP63ULD04	A.29
686042	CTX + R 16 20 230 A	D.11	686142	PLS + C 16 2 230 A	D.15	686629	EP63ULB06	A.29	686776	EP63ULD06	A.29
686043	CTX + R 16 20 240 A	D.11	686143	PLS + C 16 2 240 A	D.15	686630	EP63ULB10	A.29	686777	EP63ULD10	A.29
686044	CTX + R 16 22 012 A	D.11	686144	PLS + C 16 20 008 A	D.15	686633	EP63ULB16	A.29	686780	EP63ULD16	A.29
686045	CTX + R 16 22 024 A	D.11	686145	PLS + C 16 20 012 A	D.15	686634	EP63ULB20	A.29	686781	EP63ULD20	A.29
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686047	CTX + R 16 22 23060	D.11	686147	PLS + C 16 20 048 A	D.15	686637	EP63ULB32	A.29	686784	EP63ULD32	A.29
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686049	CTX + R 16 22 240 A	D.11	686149	PLS + C 16 20 240 A	D.15	686639	EP63ULB50	A.29	686786	EP63ULD50	A.29
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686052	CTX + R 16 30 048 A	D.11	686152	PLS + C 16 3 024 A	D.15	686644	EP64ULB10	A.29	686790	EP64ULD01	A.29
686053	CTX + R 16 30 230 A	D.11	686153	PLS + C 16 3 048 A	D.15	686647	EP64ULB16	A.29	686791	EP64ULD02	A.29
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686056	CTX + R 16 4 048 A	D.11	686156	PLS + C 32 10 008 A	D.15	686651	EP64ULB32	A.29	686796	EP64ULD10	A.29
686057	CTX + R 16 4 115 A	D.11	686157	PLS + C 32 10 012 A	D.15	686652	EP64ULB40	A.29	686799	EP64ULD16	A.29
686058	CTX + R 16 4 230 A	D.11	686158	PLS + C 32 10 024 A	D.15	686653	EP64ULB50	A.29	686800	EP64ULD20	A.29
686059	CTX + R 16 4 240 A	D.11	686159	PLS + C 32 10 048 A	D.15	686655	EP64ULB63	A.29	686801	EP64ULD25	A.29
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686062	CTX + R 16 40 048 A	D.11	686162	PLS + C 32 20 008 A	D.15	686658	EP61ULC02	A.29	686805	EP64ULD50	A.29
686063	CTX + R 16 40 23060	D.11	686163	PLS + C 32 20 012 A	D.15	686660	EP61ULC04	A.29	686807	EP64ULD63	A.29
686064	CTX + R 16 40 230 A	D.11	686164	PLS + C 32 20 024 A	D.15	686662	EP61ULC06	A.29	686809	EP101ULB06	A.31
686065	CTX + R 16 40 240 A	D.11	686165	PLS + C 32 20 048 A	D.15	686663	EP61ULC10	A.29	686810	EP101ULB10	A.31
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686067	CTX + R 5 11	D.15	686167	PLS + C 32 20 240 A	D.15	686667	EP61ULC20	A.29	686814	EP101ULB20	A.31
686068	CTX + R 5 20	D.15	686168	PLS + C 32 30 008 A	D.15	686668	EP61ULC25	A.29	686815	EP101ULB25	A.31
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686070	PLS + / CTX + TS 1	D.15	686170	PLS + C 32 30 024 A	D.15	686671	EP61ULC40	A.29	686818	EP101ULB40	A.31
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686072	PLS + 16 1 012 A	D.14	686172	PLS + C 32 30 230 A	D.15	686674	EP61ULC63	A.29	686821	EP101ULB63	A.31
686073	PLS + 16 1 024 A	D.14	686173	PLS + C 32 30 240 A	D.15	686675	EP62ULC0.5	A.29	686823	EP102ULB06	A.31
686074	PLS + 16 1 048 A	D.14	686174	PLS + CAP	D.15	686676	EP62ULC01	A.29	686824	EP102ULB10	A.31
686075	PLS + 16 1 115 A	D.14	686175	PLS + M	D.15	686677	EP62ULC02	A.29	686827	EP102ULB16	A.31
686076	PLS + 16 1 230 A	D.14	686176	PLS + PU 16 2 024 A	D.14	686679	EP62ULC04	A.29	686828	EP102ULB20	A.31
686077	PLS + 16 1 240 A	D.14	686177	PLS + PU 16 2 230 A	D.14	686681	EP62ULC06	A.29	686829	EP102ULB25	A.31
686078	PLS + 16 10 008 A	D.14	686178	PLS + PU 16 20 024 A	D.14	686682	EP62ULC10	A.29	686831	EP102ULB32	A.31
686079	PLS + 16 10 012 A	D.14	686179	PLS + PU 16 20 230 A	D.14	686685	EP62ULC16	A.29	686832	EP102ULB40	A.31
686080	PLS + 16 10 024 A	D.14	686180	PLS + PU 16 40 024 A	D.14	686686	EP62ULC20	A.29	686833	EP102ULB50	A.31
686081	PLS + 16 10 048 A	D.14	686181	PLS + PU 16 40 230 A	D.14	686687	EP62ULC25	A.29	686835	EP102ULB63	A.31
686082	PLS + 16 10 115 A	D.14	686182	PLS + SA 16 20 012 A	D.14	686689	EP62ULC32	A.29	686837	EP103ULB06	A.31
686083	PLS + 16 10 230 A	D.14	686183	PLS + SA 16 20 024 A	D.14	686690	EP62ULC40	A.29	686838	EP103ULB10	A.31
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686085	PLS + 16 11	D.14	686185	PLS + SA 16 20 230 A	D.14	686693	EP62ULC63	A.29	686842	EP103ULB20	A.31
686086	PLS + 16 11 008 A	D.14	686186	PLS + SA 16 20 240 A	D.14	686694	EP63ULC0.5	A.29	686843	EP103ULB25	A.31
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686088	PLS + 16 11 024 A	D.14	686188	PLS + SB 16 20 024 A	D.14	686696	EP63ULC02	A.29	686846	EP103ULB40	A.31
686089	PLS + 16 11 048 A	D.14	686189	PLS + SB 16 20 048 A	D.14	686698	EP63ULC04	A.29	686847	EP103ULB50	A.31
686090	PLS + 16 11 115 A	D.14	686190	PLS + SB 16 20 230 A	D.14	686700	EP63ULC06	A.29	686849	EP103ULB63	A.31
686091	PLS + 16 11 230 A	D.14	686191	PLS + SB 16 20 240 A	D.14	686701	EP63ULC10	A.29	686851	EP104ULB06	A.31
686092	PLS + 16 11 240 A	D.14	686192	PLS + SG	D.15	686704	EP63ULC16	A.29	686852	EP104ULB10	A.31
686093	PLS + 16 2 008 A	D.14	686195	PLT + AS 230A OFF	D.19	686705	EP63ULC20	A.29	686855	EP104ULB16	A.31
686094	PLS + 16 2 012 A	D.14	686196	PLT + IG 024U	D.19	686706	EP63ULC25	A.29	686856	EP104ULB20	A.31
686095	PLS + 16 2 024 A	D.14	686197	PLT + IG 230A	D.19	686708	EP63ULC32	A.29	686857	EP104ULB25	A.31
686096	PLS + 16 2 048 A	D.14	686198	PLT + MF 024U 0.1S-60M	D.19	686709	EP63ULC40	A.29	686859	EP104ULB32	A.31
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AST S 16 30 2	666591	D.3	CTX + R 16 30 230 A	686053	D.11	DMCE60806/030	694014	B.15	DOCA 532/500	607671	B.21
AST S 16 40	666593	D.3	CTX + R 16 4 012 A	686054	D.11	DMCE60810/030	694015	B.15	DOCS 232/100	607513	B.21
AST S 16 40 2	666592	D.3	CTX + R 16 4 024 A	686055	D.11	DMCE60816/030	694016	B.15	DOCS 232/1000	607516	B.21
AST S 32 1	666594	D.3	CTX + R 16 4 048 A	686056	D.11	DMCE60820/030	694017	B.15	DOCS 232/300	607514	B.21
AST S 32 10	666595	D.3	CTX + R 16 4 115 A	686057	D.11	DMCE60825/030	694018	B.15	DOCS 232/500	607515	B.21
AST S 32 2	666596	D.3	CTX + R 16 4 230 A	686058	D.11	DMCE60832/030	694019	B.15	DOCS 263/100	607519	B.21
AST S 32 20	666597	D.3	CTX + R 16 4 240 A	686059	D.11	DMCE60840/030	694020	B.15	DOCS 263/1000	607522	B.21
AST S 32 30	666599	D.3	CTX + R 16 40 008 A	686025	D.11	DMCE60C06/030	694000	B.15	DOCS 263/300	607520	B.21
AST S 32 30 2	666598	D.3	CTX + R 16 40 012 A	686060	D.11	DMCE60C10/030	694001	B.15	DOCS 263/500	607521	B.21
AST S 32 40	666600	D.3	CTX + R 16 40 024 A	686061	D.11	DMCE60C16/030	694002	B.15	DOCS 3125/300	671585	A.26
AST S 32 40 2	666601	D.3	CTX + R 16 40 048 A	686062	D.11	DMCE60C20/030	694003	B.15	DOCS 332/100	607597	B.21
AST SL 16 10	666602	D.3	CTX + R 16 40 230 A	686064	D.11	DMCE60C25/030	694004	B.15	DOCS 332/1000	607600	B.21
AST SL 16 20	666603	D.3	CTX + R 16 40 23060	686063	D.11	DMCE60C32/030	694005	B.15	DOCS 332/300	607598	B.21
AST SL 32 10	666604	D.3	CTX + R 16 40 240 A	686065	D.11	DMCE60C40/030	694006	B.15	DOCS 332/500	607599	B.21
AST SL 32 20	666605	D.3	CTX + R 5 02	686066	D.15	DMCEA60806/030	694021	B.15	DOCS 363/100	607603	B.21
AST S2 16 1	666606	D.3	CTX + R 5 11	686067	D.15	DMCEA60810/030	694022	B.15	DOCS 363/1000	607606	B.21
AST S2 16 2	666607	D.3	CTX + R 5 20	686068	D.15	DMCEA60816/030	694023	B.15	DOCS 363/300	607604	B.21
AST S2 32 1	666608	D.3	CTX 06 11	666162	D.7	DMCEA60820/030	694024	B.15	DOCS 363/500	607605	B.21
AST S2 32 2	666609	D.3	CTX 06 20	666163	D.7	DMCEA60825/030	694025	B.15	DOCS 4125/300	671593	A.26
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BE 12	666633	D.29	DMCEA60840/030	694027	B.15	DMCEA60840/030	694027	B.15	DOCS 432/1000	607696	B.21
BE 230	666632	D.29	CTX 20 11 024 A	666127	D.7	DMCEA60C06/030	694007	B.15	DOCS 432/300	607694	B.21
BLANK4	610382	F.28	CTX 20 11 230 A	666126	D.7	DMCEA60C10/030	694008	B.15	DOCS 432/500	607695	B.21
BU 12	666630	D.29	CTX 20 20 012 A	666130	D.7	DMCEA60C16/030	694009	B.15	DOCS 463/100	607699	B.21
BU 230	666629	D.29	CTX 20 20 024 A	666133	D.7	DMCEA60C20/030	694010	B.15	DOCS 463/1000	607702	B.21
C			CTX 20 20 048 A	666134	D.7	DMCEA60C25/030	694011	B.15	DOCS 463/300	607700	B.21
CA H	672567	C.4	CTX 20 20 230 A	666131	D.7	DMCEA60C32/030	694012	B.15	DOCS 463/500	607701	B.21
CA S/H	672568	C.4	CTX 20 20 240 A	666132	D.7	DMCEA60C40/030	694013	B.15	DOCS 532/100	607687	B.21
CA S/H G	672569	C.4	CTX 24 04 024 U	666140	D.7	DOC 2125/030	671574	A.26	DOCS 532/1000	607690	B.21
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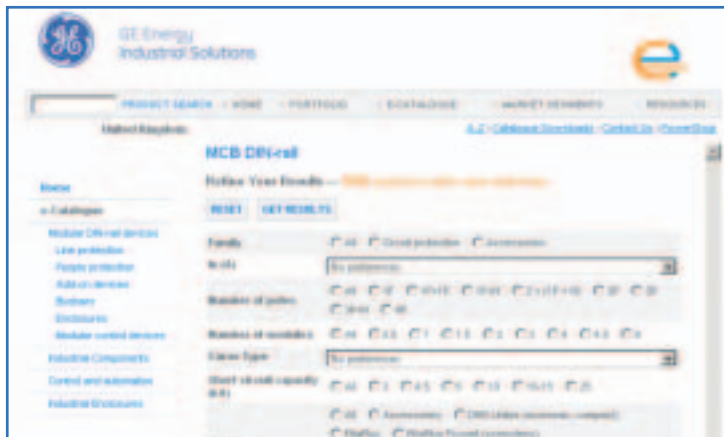
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EPP104C13	678737	A.67	EPP64B63	678714	A.65	FPA 440/300	604103	B.7	Hti 101 B100	671505	A.25
EPP104C16	678738	A.67	EPP64C06	678715	A.65	FPA 440/500	604104	B.26	Hti 101 B125	671506	A.25
EPP104C20	678739	A.67	EPP64C10	678716</							

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Hti 104 D100	671571	A.25	PLS + 16 10 024 A	686080	D.14	PLS + SA 16 20 230 A	686185	D.14	TELE L-2	672574	C.9
Hti 104 D125	671572	A.25	PLS + 16 10 048 A	686081	D.14	PLS + SA 16 20 240 A	686186	D.14	TELE LT-1	667252	C.11
Hti H	671597	A.27	PLS + 16 10 115 A	686082	D.14	PLS + SB 16 20 012 A	686187	D.14	TELE LT-2	667253	C.11
Hti H/S	671599	A.27	PLS + 16 10 230 A	686083	D.14	PLS + SB 16 20 024 A	686188	D.14	TELE MP	672580	C.7
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Hti HSR	671602	A.27	PLS + 16 10 240 A 1	686084	D.14	PLS + SB 16 20 230 A	686190	D.14	TELE OV 400	667493	D.39
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K			PLS + 16 11 008 A	686086	D.14	PLS + SG	686192	D.15	Tele REC BASIC 240/300	676950	B.25
KS	624929	A.33	PLS + 16 11 012 A	686087	D.14	PLT + AS 230A OFF	686195	D.19	Tele REC BASIC 263/030	677118	B.25
L			PLS + 16 11 024 A	686088	D.14	PLT + IG 024U	686196	D.19	Tele REC BASIC 263/300	677120	B.25
LLINK1	409000	F.28	PLS + 16 11 048 A	686089	D.14	PLT + IG 230A	686197	D.19	Tele REC BASIC 440/030	676951	B.25
LSS 11	666361	D.27	PLS + 16 11 115 A	686090	D.14	PLT + MF 024U 0.15-60M	686198	D.19	Tele REC BASIC 440/300	676952	B.25
LSS 32	666362	D.27	PLS + 16 11 230 A	686091	D.14	PLT + MF 024U 30S-20H	686199	D.19	Tele REC BASIC 463/030	677119	B.25
LSS LDR	666358	D.27	PLS + 16 11 23060	686285	D.14	PLT + MF 230A 0.15-60M	686200	D.19	Tele REC BASIC 463/300	677121	B.25
LSS W	666364	D.27	PLS + 16 11 240 A	686092	D.14	PLT + MF 230A 30S-20H	686201	D.19	Tele REC BASIC A 240/300	677122	B.25
M			PLS + 16 2	686101	D.14	PLT + OF 024U 1-60M	686202	D.19	Tele REC BASIC A 240/300	677126	B.25
MS1	662100	F.25	PLS + 16 2 008 A	686093	D.14	PLT + OF 024U 1-60S	686203	D.19	Tele REC BASIC A 263/300	677123	B.25
MS11	662105	F.25	PLS + 16 2 012 A	686094	D.14	PLT + OF 230A 1-60M	686204	D.19	Tele REC BASIC A 263/030	677127	B.25
MS16	662106	F.25	PLS + 16 2 024 A	686095	D.14	PLT + OF 230A 1-60S	686205	D.19	Tele REC BASIC A 440/300	677124	B.25
MS2	662101	F.25	PLS + 16 2 048 A	686096	D.14	PLT + ON 024U 1-60M	686206	D.19	Tele REC BASIC A 440/300	677128	B.25
MS4	662102	F.25	PLS + 16 2 115 A	686097	D.14	PLT + ON 024U 1-60S	686207	D.19	Tele REC BASIC A 463/030	677125	B.25
MS6	662103	F.25	PLS + 16 2 230 A	686098	D.14	PLT + ON 230A 1-60M	686208	D.19	Tele REC BASIC A 463/300	677129	B.25
MS8	662104	F.25	PLS + 16 2 240 A	686099	D.14	PLT + ON 230A 1-60S	686209	D.19	Tele REC BASIC Ai 240/030	677130	B.25
MSC SE	666499	D.5	PLS + 16 20	686100	D.14	PLT + PS 024U 1-60M	686210	D.19	Tele REC BASIC Ai 263/030	677131	B.25
MSC SEP	666501	D.5	PLS + 16 20 008 A	686102	D.14	PLT + PS 024U 1-60S	686211	D.19	Tele REC PLUS Motor	677132	B.26
MSC SPP	666502	D.5	PLS + 16 20 012 A	686103	D.14	PLT + PS 230A 1-60M	686212	D.19	Tele REC SOLAR Motor	677133	B.28
MT AA	666414	D.31	PLS + 16 20 024 A	686104	D.14	PLT + PS 230A 1-60S	686213	D.19	TELE U-12	672576	C.9
MT AA 10	666408	D.31	PLS + 16 20 048 A	686105	D.14	PLT + SS 024U	686218	D.19	TELE U-20	672575	C.9
MT AA 15	666409	D.31	PLS + 16 20 115 A	686106	D.14	PLT + SS 230A	686219	D.19	TELE U-234	672577	C.9
MT AA 20	666410	D.31	PLS + 16 20 230 A	686108	D.14	PLTS + D	686214	D.16	TELE U-48	672578	C.9
MT AA 25	666411	D.31	PLS + 16 20 23060	686107	D.14	PLTS + M	686216	D.16	TR B 10	666636	D.29
MT AA 30	666412	D.31	PLS + 16 20 240 A 3	686109	D.14	PLTS + TD	666311	D.16	TR B 15	666637	D.29
MT AA 5	666413	D.31	PLS + 32 10 008 A	686110	D.14	PRI 01	666446	D.35	TR B 16	666651	D.29
MT AF	666415	D.31	PLS + 32 10 012 A	686111	D.14	PRI 10	666445	D.35	TR B 30	666652	D.29
MT AH110	666431	D.31	PLS + 32 10 024 A	686112	D.14	R			TR B 5	666638	D.29
MT AH230	666416	D.31	PLS + 32 10 048 A	686113	D.14	RM1	662108	F.25	TR B 8	666650	D.29
MT AH24	666432	D.31	PLS + 32 10 115 A	686114	D.14	RM11	662113	F.25	TR B 8S	666640	D.29
MT AV 300	666417	D.31	PLS + 32 10 230 A	686115	D.14	RM14SPD	662115	F.25	TR S 15	666641	D.29
MT AV 500	666418	D.31	PLS + 32 10 240 A	686116	D.14	RM16	662114	F.25	TR S 25	666642	D.29
MT CT 100	666375	D.33	PLS + 32 20	686117	D.14	RM2	662109	F.25	TR S 40	666643	D.29
MT CT 1000	666376	D.33	PLS + 32 20 008 A	686118	D.14	RM4	662110	F.25	TR S 63	666644	D.29
MT CT 1200	666377	D.33	PLS + 32 20 012 A	686119	D.14	RM6	662111	F.25	TS222	662152	F.26
MT CT 150	666377	D.33	PLS + 32 20 024 A	686120	D.14	RM8	662112	F.25	TS255	662155	F.26
MT CT 1500	666678	D.33	PLS + 32 20 048 A	686121	D.14	S			TS2345	662153	F.26
MT CT 200	666378	D.33	PLS + 32 20 115 A	686122	D.14	SA BLOCK ADSL	667484	D.39	TS2442	662154	F.26
MT CT 2000	666679	D.33	PLS + 32 20 230 A	686123	D.14	SA BLOCK I 100 N	667471	D.38	TS2444	662156	F.26
MT CT 250	666379	D.33	PLS + 32 20 240 A	686124	D.14	SA BLOCK I 35	667470	D.38	V		
MT CT 300	666380	D.33	PLS + C	686125	D.15	SA BLOCK I PC	667472	D.38	VCM13	618405	F.27
MT CT 40	666381	D.33	PLS + C 16 1 008 A	686126	D.15	SA BLOCK I 100	667486	D.38	VCM2	618401	F.27
MT CT 400	666382	D.33	PLS + C 16 1 012 A	686127	D.15	SA BLOCK I 100N	667487	D.38	VCM3A3	618416	F.27
MT CT 50	666383	D.33	PLS + C 16 1 024 A	686128	D.15	SA BLOCK I 65	667517	D.38	VCM4	618402	F.27
MT CT 500	666384	D.33	PLS + C 16 1 048 A	686129	D.15	SA BLOCK I 65N	667518	D.38	VCM4A4	618419	F.27
MT CT 60	666385	D.33	PLS + C 16 1 230 A	686130	D.15	SA BLOCK II 15/230	667473	D.38	VCM5A5	618423	F.27
MT CT 600	666386	D.33	PLS + C 16 1 240 A	686131	D.15	SA BLOCK II 15/230 C	667475	D.38	VCM6	618403	F.27
MT CT 80	666387	D.33	PLS + C 16 1 008	686132	D.15	SA BLOCK II 15/230 LLE	667489	D.38	VCM7A7	618489	F.27
MT CT 800	666388	D.33	PLS + C 16 10 012	686133	D.15	SA BLOCK II 15/230 LNE	667488	D.38	VCM9	618404	F.27
MT DA 5 2M	666671	D.32	PLS + C 16 10 024	686134	D.15	SA BLOCK II 15/400	667474	D.38	VCMA13	618413	F.27
MT DA DV 52M	666674	D.32	PLS + C 16 10 048	686135	D.15	SA BLOCK II 15/400 3L+NE	667494	D.38	VCMA2	618406	F.27
MT DE 1 1M	666675	D.32	PLS + C 16 10 230	686136	D.15	SA BLOCK II 15/400 4L/NE	667495	D.38	VCMA4	618407	F.27
MT DE 11 32A	666434	D.32	PLS + C 16 10 240	686137	D.15	SA BLOCK II 15/400 C	667476	D.38	VCMA6	618409	F.27
MT DE 11 63A	666450	D.32	PLS + C 16 2 008 A	686138	D.15	SA BLOCK II 15LN	667483	D.38	VCMA9	618411	F.27
MT DE 31 O	666676	D.32	PLS + C 16 2 012 A	686139	D.15	SA BLOCK II 15N	667481	D.38	W		
MT DE 3N I 63A	666631	D.32	PLS + C 16 2 024 A	686140	D.15	SA BLOCK II 40/230	667477	D.38	WUL	690244	A.33
MT DE 3N15A	666452	D.32	PLS + C 16 2 048 A	686141	D.15	SA BLOCK II 40/230 C	667479	D.38			
MT DF 2M	666673	D.32	PLS + C 16 2 230 A	686142	D.15	SA BLOCK II 40/230 LLE	667491	D.38			
MT DN 3L	666451	D.32	PLS + C 16 2 240 A	686143	D.15	SA BLOCK II 40/230 LNE	667490	D.38			
MT DN 3R 4M	666453	D.32	PLS + C 16 20 008 A	686144	D.15	SA BLOCK II 40/400	667478	D.38			
MT DV 500 2M	666670	D.32	PLS + C 16 20 012 A	686145	D.15	SA BLOCK II 40/400 3L+NE	667496	D.38			
MT DW 110	667214	D.32	PLS + C 16 20 024 A	686146	D.15	SA BLOCK II 40/400 4L/NE	667497	D.38			
MT DW 11000	667215	D.32	PLS + C 16 20 048 A	686147	D.15	SA BLOCK II 40/400 4L/NE C	667498	D.38			
MT RSC	666404	D.33	PLS + C 16 20 230 A	686148	D.15	SA BLOCK II 40/400 C	667480	D.38			
MT S 4	666405	D.33	PLS + C 16 20 240 A	686149	D.15	SA BLOCK II 40N	667482	D.38			
MT S 7	666406	D.33	PLS + C 16 3 008 A	686150	D.15	SA C35	667492	D.39			
MT SP 100	666389	D.33	PLS + C 16 3 012 A	686151	D.15	SA C63	667499	D.39			
MT SP 1000	666390	D.33	PLS + C 16 3 024 A	686152	D.15	SA MODULE 15/230	667512	D.39			
MT SP 150	666391	D.33	PLS + C 16 3 048 A	686153	D.15	SA MODULE 15/400	667513	D.39			
MT SP 200</											

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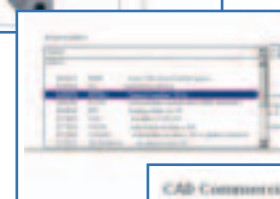
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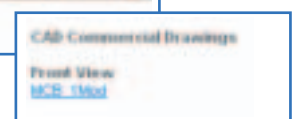
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