

Redline

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Circuit Protection: Miniature Circuit Breakers

Just feel protected



GE imagination at work



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Selection table of MCB's

Page no.	Series	Applications	Poles	Add-on devices	Tripping characteristic	Rating current (A)	Short-circuit capacity (kA)
A.14	G30		1, 2, 3, 4	yes	B	6 - 40	3 5 10
				yes	C	2 - 40	3 5 10
A.16	G45		1, 2, 3, 4	yes	B	6 - 40	4.5 6 14
				yes	C	2 - 40	4.5 6 14
A.18	G60		1, 1+N, 2, 3, 4	yes	B	6 - 63	6 10 ⁽¹⁾ 20
				yes	C	0.5 - 63	6 10 ⁽¹⁾ 20
				yes	D	0.5 - 63	6 10 ⁽¹⁾ 20
A.20	EP60		1, 2, 3, 4	yes	K	0.5 - 63	6 10 ⁽¹⁾ 20
A.22	G100		1, 1+N, 2, 3, 4	yes	B	6 - 63	10 ⁽¹⁾ 15 ⁽²⁾ 30
				yes	C	0.5 - 63	10 ⁽¹⁾ 15 ⁽²⁾ 30
				yes	D	0.5 - 63	10 ⁽¹⁾ 15 ⁽²⁾ 30
A.24	EP100		1, 2, 3, 4	yes	K	0.5 - 63	10 15 ⁽²⁾ 30 ⁽²⁾
A.26	GT10		1, 2, 3, 4	yes	B	6 - 63	10 ⁽¹⁾ 30
				yes	C	0.5 - 63	10 ⁽¹⁾ 30
				yes	D	0.5 - 63	10 ⁽¹⁾ 30
A.28	GT25		1, 2, 3, 4	yes	B	6 - 63	15 ⁽²⁾ 20 ⁽²⁾ 25 ⁽²⁾
				yes	C	0.5 - 63	15 ⁽²⁾ 20 ⁽²⁾ 25 ⁽²⁾
				yes	D	0.5 - 63	15 ⁽²⁾ 20 ⁽²⁾ 25 ⁽²⁾
A.30	EP100UC		1, 2	yes	B	6 - 63	6 10
				yes	C	0.5 - 63	6 10
A.32	Hti		1, 2, 3, 4	yes	B	80 - 125	10 15
				yes	C	80 - 125	10 15
				yes	D	80 - 125	10 15
A.36	EP60UL		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.38	EP100UL		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.40	EP100ULH		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



motor

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.42	EP100R		3	yes	B	0.5 - 63	10 → 15
				yes	C	0.5 - 63	10 → 15
A.44	EP100UCR		1,2	yes	B	2 - 63	6 → 10
				yes	C	0.5 - 63	6 → 10
				yes	K	0.5 - 63	6 → 10
A.46	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.48	EP100UCT		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.60	EPC 451N		1+N(1mod)	yes	B-C	2 - 40	4.5 → 6
A.61	EPC 61N		1+N(1mod)	yes	B-C	2 - 40	6 → 7.5
A.62	EPC 101N		1+N(1mod)	yes	B-C	2 - 40	10 → 10
A.63	EPC 611		1P+1P(1mod)	yes	B-C	2 - 40	6 → 6
A.64	EPC 45		2,3,4	yes	B-C	2 - 40	4.5 → 6
A.66	EPC 60		2,3,4	yes	B-C	2 - 40	3 → 6 → 7.5

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.76	EPP60		1, 1+N, 2, 3, 3+N, 4	yes	C	2 - 40	6 ⁽¹⁾ → 10
A.78	EPP100		1, 2, 3, 3+N, 4	yes	B-C	2 - 40	10 ⁽¹⁾ → 15 ⁽²⁾



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

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

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



Technical data of MCB's

Series			G30/G45	G60/EP60 K	G100/EP100 K
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			2-40	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)			1/2/3/4	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	48
	2P (in series) (1)	VDC	110	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; 53/120	250/440; 53/120	250/440; 53/120
Minimum service voltage U _{bmin}		V	12; 12	12; 12	12; 12
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	1/35	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	4.5	4.5	4.5
Add-on devices (side add-on)	Auxiliary contacts		yes	yes	yes
	Tele U		yes	yes	yes
	Tele L		yes	yes	yes
	Tele MP		yes	yes	yes
	PBS		yes	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	120	120	120
Package		mod.	12	12	12
Approvals			KEMA	KEMA	KEMA
CE-marking			yes	yes	yes
Page			A.14/A.16	A.18/A.20 ⁽²⁾	A.22/A.24 ⁽²⁾

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



GT10/GT25	EP100 UC	Hti	EP100 R/EP100 T	EP100 UCR/EP100 UCT
EN/IEC 60947-2 3-5In/5-10In/10-20In	(3) B, C	EN/IEC 60947-2 3-5In/5-10In/10-20In	EN/IEC 60898-1 Z, B, C, D, K ⁽⁵⁾	EN/IEC 60947-2 ⁽³⁾ Z, B, C, K ⁽⁴⁾
0.5-63	B(6-63), C(0.5-63)	80 upto 125	B(6-63), C/D/K(0.5-63)	0.5 - 63
40	30	40	30	30
1/2/3/4	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	415	415	415	415
415	415	415	415	415
48	250	48	48	250
110	500	110	110	500
50/60	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%
400: magn.trip +50%	400: magn.trip +50%	400: magn.trip +50%	400: magn.trip +50%	400: magn.trip +50%
250/440: 53/120 ==	250/440: 250/440 ==	250/440: 53/120 ==	250/440: 53/120 ==	250/440: 250/440 ==
12: 12 ==	12: 12 ==	12: 12 ==	12: 12 ==	12: 12 ==
-	3	-	3	3
yes	yes	yes	yes	yes
500	500	500	500	500
440	440	440	440	440
6	6	6	6	6
10000	10000	10000	10000	10000
2.5	2.5	2.5	2.5	2.5
3g	5g	3g	3g	5g
4000	1000	4000	10000	1000
20000	20000	20000	20000	20000
A	A	A	A	A
any	any	any	any	any
yes	follow polarity	yes	yes	follow polarity
IP20/IP40	IP20/IP40	IP20/IP40	IP20/IP40	IP20/IP40
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
-25/+55	-25/+55	-25/+55	-25/+55	-25/+55
-55/+55	-55/+55	-55/+55	-55/+55	-55/+55
1/35	1/35	70	1/35	1/35
0.75/25	0.75/25	-	0.75/25	0.75/25
1/35	1/35	70	1/35	1/35
0.75/25	0.75/25	-	0.75/25	0.75/25
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
18	18	27	18	18
120	125	210	120	125
12	12	1/4/8	12	12
-	-	-	KEMA	-
yes	yes	yes	yes	yes
A.26/A.28	A.30	A.32	A.42/A.46	A.44/A.48

(2) Motor lines application
no I+N execution in K curve
EP60K in page A.21
EP100K in page A.25

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

MCB's

A

B

C

D

E

F

G

X



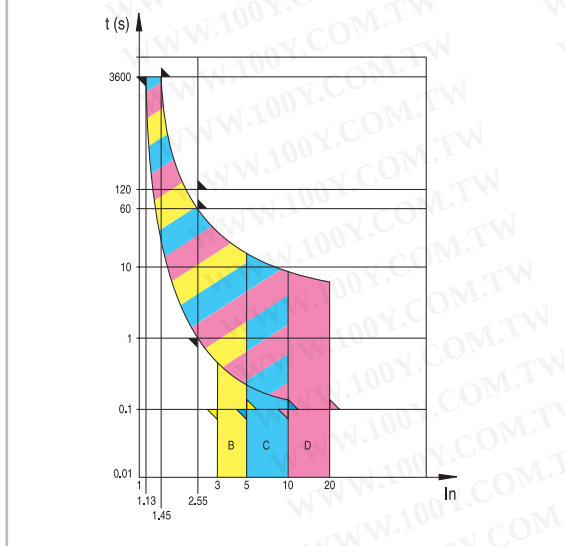
Short-circuit capacity of MCB's

Series			G30	G45	G60/EP60 K
Short-circuit capacity AC (kA)					
EN/IEC 60898-1	Icn	1P	3	4.5	6
		1P+N	3	4.5	6
		2P	3	4.5	6
		3P/3P+N/4P	3	4.5	6
Ics (service)			100% Icn	100% Icn	100% Icn
EN/IEC 60947-2	Icu (ultimate)	1P	-	-	20
			240V	5	6
		415V	3	3	3
		1P+N/2P	-	15	30
		240	10	10	20
		2P	5	6	10
		3P, 4P	10	10	20
		415V	5	6	10
		440V	-	-	6
	Ics (service)			75% Icu	75% Icu
NEMA AB1 (120/240V)			10	14	20
Short-circuit capacity DC (kA)					
EN/IEC 60947-2	Icu (ultimate)	1P	-	-	20
			≤60V == ≤220V ==	-	-
		2P	-	-	25
		≤125V == ≤440V ==	-	-	-
Ics (service)			-	-	100% Icu
Page			A.14	A.16	A.18/A.20

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)

G100/EP100 K EP100 T/EP100 R	GT10	GT25	EP100 UC/ EP100 UCR	Hti
10	-	-	6 (220VDC) ⁽²⁾	-
10	-	-	-	-
10	-	-	6 (440VDC) ⁽³⁾	-
10	-	-	-	-
75% I _{cn}	-	-	100% I _{cn}	-
30	25	50	-	-
15	10	50/25/20/15 ⁽¹⁾	6 ⁽⁵⁾	B/C 10; D 7.5
4	-	-	-	4.5
40	30	-	-	-
30	20	50/50/40/30 ⁽¹⁾	-	B/C 15
15	10	50/25/20/15 ⁽¹⁾	6 ⁽⁵⁾	B/C 10; D 7.5
30	20	50/50/40/30 ⁽¹⁾	-	B/C 15
15	10	50/25/20/15 ⁽¹⁾	-	B/C 10; D 7.5
10	-	50/20/15/10 ⁽¹⁾	-	-
50% I _{cu}	75% I _{cu}	50% I _{cu}	-	100% I _{cu}
30	30	-	-	-
25	20	25	-	10
-	-	-	10 ⁽⁴⁾	-
30	25	30	20 ⁽⁴⁾	15
-	-	-	10 ⁽⁴⁾	-
100% I _{cu}	100% I _{cu}	100% I _{cu}	-	100% I _{cu}
A.22/A.24/A.42/A.46	A.26	A.28	A.30/A.44	A.32

(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

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

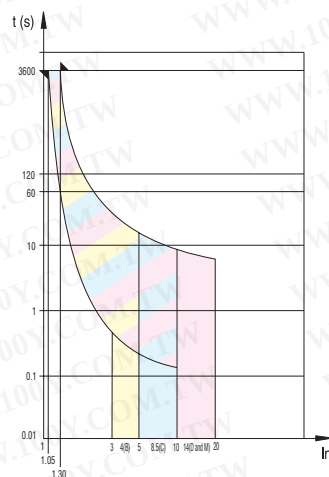
The release is initiated by a bimetal strip in case of overload. The standard defines the range of releases for two special overload values.

Reference ambient temperature is:

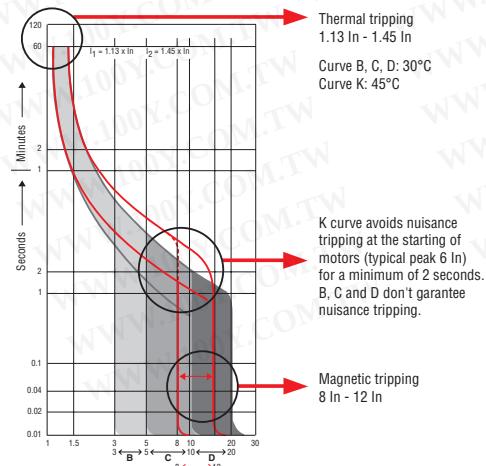
- 40°C for GT10 and GT25
- 50°C for G60 and G100, except for K: 45°C

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)



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		25	25	25
Terminal capacity		14-4 AWG	14-4 AWG	14-8 AWG
Torque		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	A B 6-63, C/D 0.5-63	A B 5-32, C/D 0.5-32
Calibration temperature		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	V 230/400	V 230/400
	1P+N	V -	V -	V -
	2P	V 400	V 400	V 400
	3P	V 400	V 400	V 400
DC	3P+N/4P	V 400	V 400	V 400
	1P ⁽¹⁾	VDC 48	VDC 48	VDC 48
	2P (in series) ⁽¹⁾	VDC 110	VDC 110	VDC 110
Frequency		Hz 50/60	Hz 50/60	Hz 50/60
Maximum service voltage U _{bmax} between two wires		V 250/440; 53/120 ==	V 250/440; 53/120 ==	V 250/440; 53/120 ==
Minimum service voltage U _{bmin}		V 12 and 12 ==	V 12 and 12 ==	V 12 and 12 ==
Selectivity class (EN/IEC 60898)		3	3	3
Isolator application		EN/IEC 60947-2	EN/IEC 60947-2	EN/IEC 60947-2
Rated insulation voltage	Pollution degree 2	V 500	V 500	V 500
	Pollution degree 3	V 440	V 440	V 440
Impulse withstand test voltage		kV 6	kV 6	kV 6
Insulation resistance		MΩ 10000	MΩ 10000	MΩ 10000
Dielectric rigidity		kV 2.5	kV 2.5	kV 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	mm 12	mm 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	°C/RH +55°C / 95%RH	°C/RH +55°C / 95%RH
Operating temperature		°C -25/+55	°C -25/+55	°C -25/+55
Storage temperature		°C -55/+55	°C -55/+55	°C -55/+55
Terminal capacity				
	Rigid cable min/max (top)	mm ² 1/35	mm ² 1/35	mm ² 1/35
	Flexible cable min*/max (top)	mm ² 0.75/25	mm ² 0.75/25	mm ² 0.75/25
	Rigid cable min/max (bottom)	mm ² 1/35	mm ² 1/35	mm ² 1/35
	Flexible cable min*/max (bottom)	mm ² 0.75/25	mm ² 0.75/25	mm ² 0.75/25
(* Flexible cable 0.75/1/1.5 mm ² with cable lug)				
Torque		Nm max 4.5	Nm max 4.5	Nm 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	mm/mod. 18	mm/mod. 18
Weight/mod.		g 125	g 125	g 130
Package		mod. see page A.37	mod. see page A.39	mod. see page A.41
Approvals		UL/CSA/VDE	UL/CSA/VDE	UL
CE-marking		yes	yes	yes
Page		A.36	A.38	A.40

(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	127 V	20	30	30
		240V	10	15	15
		415 V	3	4	4
	1+N /2P	127 V	30	40	40
		240 V	20	30	30
	2 P	415 V	10	15	15
	3/3+N/4P	240 V	20	30	30
		415 V	10	15	15
		440 V	6	10	10
	Ics (service)		75% Icu	50% Icu	50% Icu
Short-circuit capacity DC					
EN/IEC 60947-2	Icu (ultimate)	kA			
	1 P	≤ 60 V $\overline{=}$	20	25	25
		≤ 220 V $\overline{=}$	-	-	-
	2 P	≤ 125 V $\overline{=}$	25	30	30
		≤ 440 V $\overline{=}$	-	-	-
	Ics (service)		100%Icu	100%Icu	10%Icu
Page			A.36	A.38	A.40

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

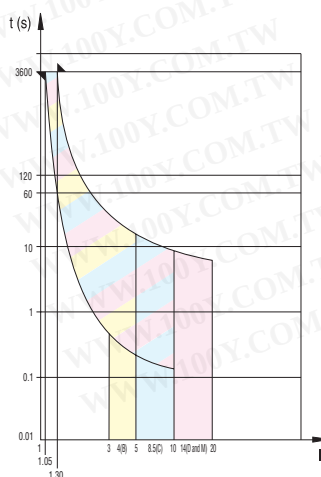
Thermal release

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

Redline		U 230V						
Downstream MCB		Upstream MCB (kA)						
Types	In (A)	G60 & EPP60	G100 & EPP100	GT25	GT25	GT25	Hti	
EPC 451N - EPC45	2-40	0.5-63	0.5-63	< 32	32-40	50-63	80-125	
EPC 61N - EPC60	2-10	25	30	30	30	30	-	
	16-20	25	30	30	30	30	-	
	25-40	25	30	30	30	30	-	
EPC 101N	2-10	25	30	30	30	30	-	
	16-20	25	30	30	30	30	-	
	25-40	25	30	30	30	30	-	
DM60	4-10	15	15	15	15	15	-	
	16-20	15	15	15	15	15	-	
	25-40	15	15	15	15	15	-	
DM100	4-10	15	15	15	15	15	-	
	16-20	15	20	20	20	20	-	
	25-40	15	20	22	22	22	-	
G45	6-40	15	20	22	22	22	16	
G60	0.5-63	-	20	22	22	22	-	
G100	0.5-63	-	-	50	35	30	-	

Record Plus™ MCCB's at 220/240V AC

Upstream		MCCB's Record Plus™																													
		Icu	FD63/160C	FD63/160E	FD63/160S	FD63/160N	FD63/160H	FD63/160L	FE160N	FE160H	FE160L	FE150V	FE250N	FE250H	FE250L	FG400N	FG400H	FG400L	FG630N	FG630H	FG630L	FK800N	FK800H	FK800L	FK1250N	FK1250H	FK1250L	FK1600N	FK1600H		
Downstream	In (kA)	25	40	50	85	100	200	85	100	200	65	85	100	200	85	100	200	85	100	200	80	100	170	80	100	170	80	100	170		
Redline																															
EPC 451N / EPC 45	6	15	18	18	18	18	18	15	15	15	12	12	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
DP45	6	15	18	22	22	22	22	18	18	18	15	15	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
EPC 61N / EPC 60	7.5	16	20	23	23	23	23	20	20	20	16	16	16	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
DPA A 60	10	22	25	30	36	85	85	36	85	85	30	36	65	65	16	16	16	14	14	14	-	-	-	-	-	-	-	-	-		
DPE100 / EPC 101N	10	18	22	25	25	25	25	22	22	22	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
DPA A100 & DPT 100	15	25	36	42	50	100	100	42	100	100	30	36	65	65	18	18	18	16	16	16	-	-	-	-	-	-	-	-	-		
G60 & EPP60	20	25	36	42	50	100	100	50	100	100	36	42	85	85	22	22	22	18	18	18	-	-	-	-	-	-	-	-	-		
G100 & EPP100	30	-	42	50	65	100	100	65	100	100	42	50	85	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
GT25	≤25A	50	-	-	-	65	100	100	65	100	100	-	65	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
GT25, 32 & 40A	40	-	-	50	65	100	100	65	100	100	42	50	85	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
GT25, 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Series S90	25	-	36	42	85	100	100	85	100	100	36	50	85	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
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™																															
FD63/160C	18	-	30	36	42	50	65	42	50	65	36	42	50	65	42	50	65	42	50	65	-	-	-	-	-	-	-	-	-		
FD63/160E	36	-	-	50	65	85	100	65	85	100	50	65	85	100	65	85	100	65	85	100	-	-	-	-	-	-	-	-	-		
FD63/160S	50	-	-	-	-	85	100	-	85	100	-	85	100	-	85	100	-	85	100	-	85	100	-	-	-	-	-	-	-		
FD63/160N	85	-	-	-	-	100	200	-	100	200	-	100	200	-	100	200	-	100	200	-	100	200	80	100	150	80	100	150	80	100	
FD63/160H	100	-	-	-	-	-	200	-	-	200	-	-	200	-	-	200	-	-	200	-	200	-	100	150	-	100	150	-	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	-	200	80	100	150	-	100	150	-	100	
FE250N	85	-	-	-	-	-	-	-	-	-	-	-	-	100	200	-	100	200	-	100	200	80	100	150	80	100	150	80	100		
FE250H	100	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	200	-	-	200	-	200	80	100	150	-	100	150	-	100	
FG400N	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	200	-	100	200	80	100	150	80	100	150	80	100		
FG400H	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	200	-	200	80	100	150	-	100	150	-	100
FG630N	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	200	80	100	150	80	100	150	80	100	
FG630H	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	200	80	100	150	-	100	150	-	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	FD63/160C	FD63/160E	FD63/160S	FD63/160N	FD63/160H	FD63/160L	FE160N	FE160H	FE160L	FE250V	FE250N	FE250H	FE250L	FG400N	FG400H	FG400L	FG630N	FG630H	FG630L	FK800N	FK800H	FK800L	FK1250N	FK1250H	FK1250L	FK1600N	FK1600H
		In (kA)	18	25	36	50	80	150	50	80	150	36	50	80	150	50	80	150	50	80	150	50	80	100	50	80	100	50	80
		Icu of the combination (kA)																											
Redline																													
EPC 452, 453 & 454	6	15	18	22	25	30	36	25	30	36	18	22	25	30	12	12	12	10	10	10	-	-	-	-	-	-	-	-	-
EPC60	7.5	16	20	23	25	34	40	28	34	40	20	25	30	32	15	15	15	10	10	10	-	-	-	-	-	-	-	-	-
G60	10	18	22	25	30	36	42	30	36	42	22	30	36	36	16	16	16	12	12	12	-	-	-	-	-	-	-	-	-
G100	15	18	25	30	36	42	50	36	42	50	25	30	36	36	22	22	22	16	16	16	-	-	-	-	-	-	-	-	-
GT25 ≤25A	25	-	-	36	42	50	65	42	50	65	-	36	42	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GT25, 32 & 40A	20	-	-	30	36	42	50	36	42	50	-	36	42	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GT25, 50 & 63A	15	18	25	30	36	42	50	36	42	50	25	30	36	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Series Hti	10	15	18	25	30	36	42	30	36	42	18	30	36	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Series S90	15	18	25	30	36	42	50	36	42	50	25	36	42	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Surion																													
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™																													
FD63/160C	18	-	22	25	30	36	42	30	36	42	22	30	36	42	30	36	42	30	36	42	-	-	-	-	-	-	-	-	-
FD63/160E	25	-	-	30	36	42	50	36	42	50	-	36	42	50	36	42	50	36	42	50	-	-	-	-	-	-	-	-	-
FD63/160S	36	-	-	-	42	50	65	42	50	65	-	42	50	65	42	50	65	42	50	65	-	-	-	-	-	-	-	-	-
FD63/160N	50	-	-	-	-	80	150	-	80	150	-	-	80	150	-	80	150	-	80	150	-	80	100	-	80	100	-	80	-
FD63/160H	80	-	-	-	-	-	150	-	-	150	-	-	-	150	-	-	150	-	-	150	-	-	100	-	-	100	-	-	-
FE160N	50	-	-	-	-	-	-	-	80	150	-	-	80	150	-	80	150	-	80	150	-	80	100	-	80	100	-	80	-
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	-	-

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	160	40	50	63	80	100	125	160	40	50	63	80	100	125	
		Selectivity limit (kA) ⁽¹⁾																				
Redline EPC45 B/C curve	≤16	0.6	2.5	T	T	T	T	T	3.5	T	T	T	T	T	T	3.5	T	T	T	T	T	
	20	0.6	2.5	3	T	T	T	T	1.6	3.5	T	T	T	T	T	1.6	3.5	T	T	T	T	
	25	-	0.8	1.2	T	T	T	T	-	-	-	T	T	T	T	-	-	-	T	T	T	
	32	-	-	1.2	3	T	T	T	-	-	-	T	T	T	T	-	-	-	T	T	T	
Redline EPC60 & DME60 B/C curve	40	-	-	-	3	4	T	T	-	-	-	T	T	T	T	-	-	-	T	T	T	
	≥16	0.6	2.5	6	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	20	0.6	2.5	3	6	T	T	T	3.5	T	T	T	T	T	T	3.5	T	T	T	T	T	
	25	-	0.8	1.2	6	6	T	T	1.6	3.5	T	T	T	T	T	1.6	3.5	T	T	T	T	
Redline DM60 DME100 B/C curve	32	-	-	1.2	3	6	T	T	-	-	-	T	T	T	T	-	-	-	T	T	T	
	40	-	-	-	3	4	6	6	-	-	-	-	T	T	T	-	-	-	T	T	T	
	50	-	-	-	1.2	1.5	6	-	-	-	-	3.5	T	T	T	-	-	-	3.5	T	T	
	63	-	-	-	-	1.5	2	-	-	-	-	-	8	T	T	-	-	-	-	8	T	
Redline G60 EPC 101N DM100 B/C curve	≤16	0.6	2.5	6	6	10	T	10	10	T	T	T	T	T	10	10	T	T	T	T	T	
	20	0.6	2.5	3	6	8	T	3.5	10	T	T	T	T	T	3.5	10	T	T	T	T	T	
	25	-	0.8	1.2	6	6	T	1.6	3.5	T	T	T	T	T	1.6	3.5	T	T	T	T	T	
	32	-	-	1.2	3	6	8	-	-	10	10	T	T	T	T	-	-	10	10	T	T	
Redline G100 GT25 B/C curve	40	-	-	-	3	4	6	6	-	-	-	10	T	T	-	-	-	10	10	T	T	
	50	-	-	-	1.2	1.5	6	-	-	-	-	3.5	10	T	T	-	-	-	3.5	10	T	
	63	-	-	-	-	1.5	2	-	-	-	-	-	8	T	T	-	-	-	-	8	T	
	100	-	-	-	-	-	-	-	-	-	-	-	-	15	15	-	-	-	-	-	15	
Hti C curve	80	-	-	-	-	-	1.9	-	-	-	-	-	-	2.5	-	-	-	-	-	-	2.5	
	100	-	-	-	-	-	1.9	-	-	-	-	-	-	2.5	-	-	-	-	-	-	2.5	
	≤25	-	0.8	0.9	1.2	1.5	1.9	-	1	1.2	15	15	15	15	-	1	1.2	15	15	15	15	
	32	-	-	0.9	1.2	1.5	1.9	-	-	1.2	15	15	15	15	-	-	1.2	15	15	15	15	
S90 C curve	40	-	-	-	1.2	1.5	1.9	-	-	-	15	15	15	15	-	-	-	15	15	15	15	
	50	-	-	-	1.2	1.5	1.9	-	-	-	15	15	15	15	-	-	-	15	15	15	15	
	63	-	-	-	-	1.5	1.9	-	-	-	-	15	15	15	-	-	-	-	15	15	15	
	80	-	-	-	-	-	1.9	-	-	-	-	-	15	15	-	-	-	-	-	15	15	
Surion GPS1BS & GPS1MS GPS2BS & GPS2MS	100	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	15	
	≤20	0.6	2.5	6	6	10	T	10	10	T	T	T	T	T	10	10	T	T	T	T	T	
	25	-	1	1.2	6	6	T	-	3.5	15	15	T	T	T	-	3.5	15	15	T	T	T	
	32	-	-	1.2	3	6	10	-	-	6	6	T	T	T	-	-	6	6	T	T	T	
Surion GPS1BH & GPS1MH GPS2BH & GPS2MH	40	-	-	-	3	4	6	-	-	-	6	T	T	T	-	-	-	6	T	T	T	
	50	-	-	-	1.2	1.6	6	-	-	-	3.5	T	T	T	-	-	-	3.5	T	T	T	
	63	-	-	-	-	1.6	2	-	-	-	-	8	T	T	-	-	-	-	8	T	T	
	≤20	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
Record Plus™ FD63/160E LTM	25	-	2.5	15	15	T	T	-	3.5	T	T	T	T	T	-	3.5	T	T	T	T	T	
	32	-	-	6	6	8	T	-	-	T	T	T	T	T	-	-	T	T	T	T	T	
	40	-	-	-	6	8	T	-	-	T	T	T	T	T	-	-	T	T	T	T	T	
	50	-	-	-	-	6	T	-	-	-	3.5	T	T	T	-	-	-	3.5	T	T	T	
	63	-	-	-	-	6	T	-	-	-	-	8	T	T	-	-	-	-	8	T	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	0.6	0.8	0.9
	32	-	0.5	0.6	0.8	1	1.3	-	0.8	0.9	1.2	1.5	3.5	-	0.8	0.9	1.2	1.5	3.5	-	0.8	0.9
	40	-	-	-	0.8	1	1.3	-	-	-	1.2	1.5	3.5	-	-	-	-	1.2	1.5	3.5	-	-
	50	-	-	-	0.8	1	1.3	-	-	-	1.2	1.5	3.5	-	-	-	-	1.2	1.5	3.5	-	-
	63	-	-	-	-	1	1.3	-	-	-	-	1.5	3.5	-	-	-	-	-	1.5	3.5	-	-
	80	-	-	-	-	-	1.3	-	-	-	-	-	3.5	-	-	-	-	-	-	3.5	-	-
	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(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.



Notes



Miniature Circuit Breakers

G30

EN/IEC 60898-1 3000

3

EN/IEC 60947-2 5kA

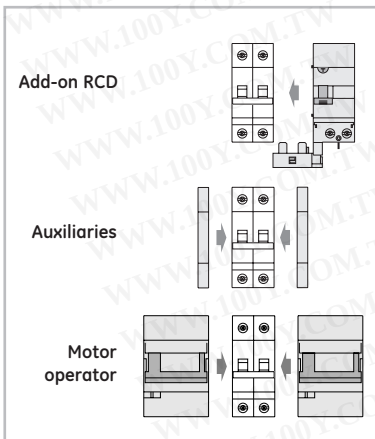
Applications



Approval / Marking



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performances

Thermal setting In	(A) 2-40
Rated voltage AC Un	(V) 240/415
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)	25-35
Poles	1, 2, 3, 4
Weight (g/pole)	120

Short-circuit capacity

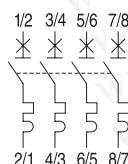
Acc. to EN/IEC 60898-1

Poles	V	I_{cn}/I_{cs} (kA)
1-4	230/400	3

Acc. to EN/IEC 60947-2

Poles	V	I_{cu} (kA)
1	240	5
2	127	-
	240	10
	415	5
3, 4	240	10
	415	5

Series G30 - 3kA - characteristics B-C

1P
1 mod.2P
2 mod.3P
3 mod.4P
4 mod.

In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
2	-	-	G31C02	674381	12
4	-	-	G31C04	674383	12
6	G31B06	674443	G31C06	674384	12
10	G31B10	674445	G31C10	674386	12
16	G31B16	674447	G31C16	674388	12
20	G31B20	674448	G31C20	674389	12
25	G31B25	674449	G31C25	674390	12
32	G31B32	674450	G31C32	674391	12
40	G31B40	674451	G31C40	674392	12
2	-	-	G32C02	674397	6
4	-	-	G32C04	674399	6
6	G32B06	674454	G32C06	674400	6
10	G32B10	674456	G32C10	674402	6
16	G32B16	674458	G32C16	674404	6
20	G32B20	674459	G32C20	674405	6
25	G32B25	674460	G32C25	674406	6
32	G32B32	674461	G32C32	674407	6
40	G32B40	674462	G32C40	674408	6
2	-	-	G33C02	674413	4
4	-	-	G33C04	674415	4
6	G33B06	674466	G33C06	674416	4
10	G33B10	674468	G33C10	674418	4
16	G33B16	674470	G33C16	674420	4
20	G33B20	674471	G33C20	674421	4
25	G33B25	674472	G33C25	674422	4
32	G33B32	674473	G33C32	674423	4
40	G33B40	674474	G33C40	674424	4
2	-	-	G34C02	674429	3
4	-	-	G34C04	674431	3
6	G34B06	674477	G34C06	674432	3
10	G34B10	674479	G34C10	674434	3
16	G34B16	674481	G34C16	674436	3
20	G34B20	674482	G34C20	674437	3
25	G34B25	674483	G34C25	674438	3
32	G34B32	674484	G34C32	674439	3
40	G34B40	674485	G34C40	674440	3

Series G30

A

B

C

D

E

F

G

X



Miniature Circuit Breakers

G45

EN/IEC 60898-1
4500
3
EN/IEC 60947-2
6kA

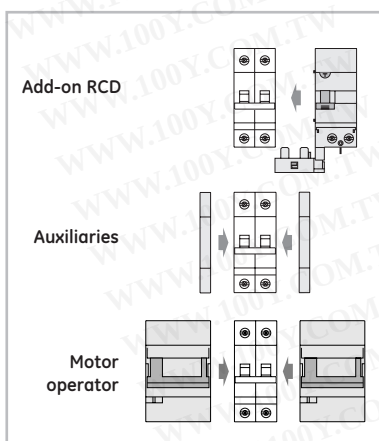
Applications



Approval / Marking



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performances

Thermal setting In	(A) 2-40
Rated voltage AC Un	(V) 240/415
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)	25-35
Poles	1, 2, 3, 4
Weight (g/pole)	120

Short-circuit capacity

Acc. to EN/IEC 60898-1

Poles	V	I_{cn}/I_{cs} (kA)
1-4	230/400	4.5

Acc. to EN/IEC 60947-2

Poles	V	I_{cu} (kA)
1	240	6
2	127	15
	240	10
	415	6
3, 4	240	10
	415	6

Compact MCB's 4,5 kA, see page A.60

Series G45 - 4.5kA - characteristics B-C



1P
1 mod.



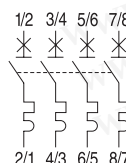
2P
2 mod.



3P
3 mod.



4P
4 mod.



In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
2	-	-	G41C02	674490	12
4	-	-	G41C04	674492	12
6	G41B06	674552	G41C06	674493	12
10	G41B10	674554	G41C10	674495	12
16	G41B16	674556	G41C16	674497	12
20	G41B20	674557	G41C20	674498	12
25	G41B25	674558	G41C25	674499	12
32	G41B32	674559	G41C32	674500	12
40	G41B40	674560	G41C40	674501	12

2	-	-	G42C02	674506	6
4	-	-	G42C04	674508	6
6	G42B06	674563	G42C06	674509	6
10	G42B10	674565	G42C10	674511	6
16	G42B16	674567	G42C16	674513	6
20	G42B20	674568	G42C20	674514	6
25	G42B25	674569	G42C25	674515	6
32	G42B32	674570	G42C32	674516	6
40	G42B40	674571	G42C40	674517	6

2	-	-	G43C02	674522	4
4	-	-	G43C04	674524	4
6	G43B06	674574	G43C06	674525	4
10	G43B10	674576	G43C10	674527	4
16	G43B16	674578	G43C16	674529	4
20	G43B20	674579	G43C20	674530	4
25	G43B25	674580	G43C25	674531	4
32	G43B32	674581	G43C32	674532	4
40	G43B40	674582	G43C40	674533	4

2	-	-	G44C02	674538	3
4	-	-	G44C04	674540	3
6	G44B06	674585	G44C06	674541	3
10	G44B10	674587	G44C10	674543	3
16	G44B16	674589	G44C16	674545	3
20	G44B20	674590	G44C20	674546	3
25	G44B25	674591	G44C25	674547	3
32	G44B32	674592	G44C32	674548	3
40	G44B40	674593	G44C40	674549	3

Series G45

A

B

C

D

E

F

G

X



Miniature Circuit Breakers

G60

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

Special executions G60S for Shipping application in separate document.

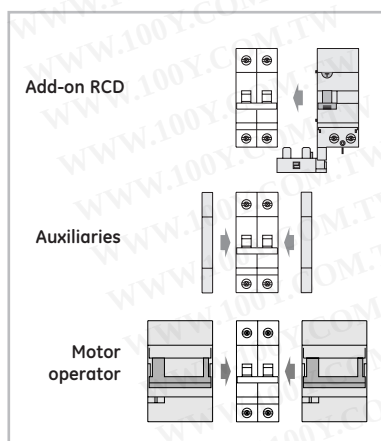
Applications



Approval / Marking



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performances

Thermal setting In	(A) 2-63
Rated voltage AC Un	(V) 240/415
Minimum operating voltage U_{Bmin}	(V) 12
Tripping characteristics	B-C-D
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)	120

Short-circuit capacity

AC acc. to EN/IEC 60898-1

Poles	V	Icn/Ics (kA)
1-4	230/400	6

AC acc. to EN/IEC 60947-2

Poles	V	Icu (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	V ⁽²⁾	Icu/Ics (kA)
1	60	20
2	125	25

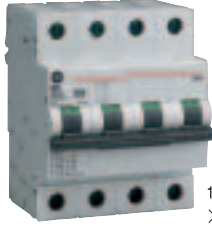
(1) Ics = 75% Icu

(2) Nominal and Maximum VDC on page A.4-A.5

Compact MCB's 6 kA, see page A.66

Screwless MCB's 6 kA, see page A.76

Series G60 - 6kA - characteristics B-C-D

	In (A)	B		C		D		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 1P 1 mod. 1/2 2/1	2	-	-	G61C02	674598	G61D02	674760	12
	4	-	-	G61C04	674600	G61D04	674762	12
	6	G61B06	674692	G61C06	674601	G61D06	674763	12
	10	G61B10	674694	G61C10	674603	G61D10	674765	12
	16	G61B16	674696	G61C16	674605	G61D16	674767	12
	20	G61B20	674697	G61C20	674606	G61D20	674768	12
	25	G61B25	674698	G61C25	674607	G61D25	674769	12
	32	G61B32	674699	G61C32	674608	G61D32	674770	12
	40	G61B40	674700	G61C40	674609	G61D40	674771	12
	50	G61B50	674701	G61C50	674610	G61D50	674772	12
	63	G61B63	674702	G61C63	674611	G61D63	674773	12
 1P+N 2 mod. 1/2 N 2/1 N	2	-	-	G61NC02	674614	G61ND02	674776	6
	4	-	-	G61NC04	674616	G61ND04	674778	6
	6	G61NB06	674703	G61NC06	674617	G61ND06	674779	6
	10	G61NB10	674705	G61NC10	674619	G61ND10	674781	6
	16	G61NB16	674707	G61NC16	674621	G61ND16	674783	6
	20	G61NB20	674708	G61NC20	674622	G61ND20	674784	6
	25	G61NB25	674709	G61NC25	674623	G61ND25	674785	6
	32	G61NB32	674710	G61NC32	674624	G61ND32	674786	6
	40	G61NB40	674711	G61NC40	674625	G61ND40	674787	6
	50	G61NB50	674712	G61NC50	674626	G61ND50	674788	6
	63	G61NB63	674713	G61NC63	674627	G61ND63	674789	6
 2P 2 mod. 1/2 3/4 2/1 4/3	2	-	-	G62C02	674630	G62D02	674792	6
	4	-	-	G62C04	674632	G62D04	674794	6
	6	G62B06	674714	G62C06	674633	G62D06	674795	6
	10	G62B10	674716	G62C10	674635	G62D10	674797	6
	16	G62B16	674718	G62C16	674637	G62D16	674799	6
	20	G62B20	674719	G62C20	674638	G62D20	674800	6
	25	G62B25	674720	G62C25	674639	G62D25	674801	6
	32	G62B32	674721	G62C32	674640	G62D32	674802	6
	40	G62B40	674722	G62C40	674641	G62D40	674803	6
	50	G62B50	674723	G62C50	674642	G62D50	674804	6
	63	G62B63	674724	G62C63	674643	G62D63	674805	6
 3P 3 mod. 1/2 3/4 5/6 2/1 4/3 6/5	2	-	-	G63C02	674646	G63D02	674808	4
	4	-	-	G63C04	674648	G63D04	674810	4
	6	G63B06	674725	G63C06	674649	G63D06	674811	4
	10	G63B10	674727	G63C10	674651	G63D10	674813	4
	16	G63B16	674729	G63C16	674653	G63D16	674815	4
	20	G63B20	674730	G63C20	674654	G63D20	674816	4
	25	G63B25	674731	G63C25	674655	G63D25	674817	4
	32	G63B32	674732	G63C32	674656	G63D32	674818	4
	40	G63B40	674733	G63C40	674657	G63D40	674819	4
	50	G63B50	674734	G63C50	674658	G63D50	674820	4
	63	G63B63	674735	G63C63	674659	G63D63	674821	4
 4P 4 mod. 1/2 3/4 5/6 7/8 2/1 4/3 6/5 8/7	0.5	-	-	G64C0.5	674660			3
	2	-	-	G64C02	674662	G64D02	674824	3
	4	-	-	G64C04	674664	G64D04	674826	3
	6	G64B06	674736	G64C06	674665	G64D06	674827	3
	10	G64B10	674738	G64C10	674667	G64D10	674829	3
	16	G64B16	674740	G64C16	674669	G64D16	674831	3
	20	G64B20	674741	G64C20	674670	G64D20	674832	3
	25	G64B25	674742	G64C25	674671	G64D25	674833	3
	32	G64B32	674743	G64C32	674672	G64D32	674834	3
	40	G64B40	674744	G64C40	674673	G64D40	674835	3
	50	G64B50	674745	G64C50	674674	G64D50	674836	3
	63	G64B63	674746	G64C63	674675	G64D63	674837	3



Miniature Circuit Breakers

EP60

EN/IEC 60898-1 **6000**

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

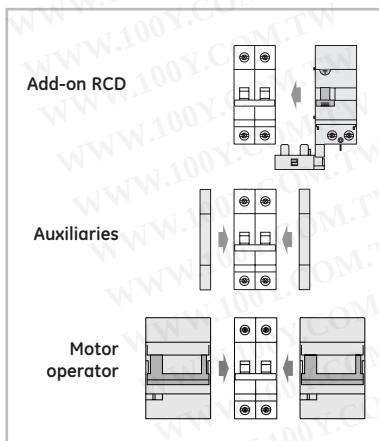
Applications



Approval / Marking



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performances

Thermal setting In	(A) 2-63
Rated voltage AC Un	(V) 240/415
Minimum operating voltage $U_{B\min}$	(V) 12
Tripping characteristics	8-12 In (K) and 6 In non tripping ≤ 2 sec.
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) 120

Short-circuit capacity

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	V_{DC} ⁽²⁾	I_{cu}/I_{cs} (kA)
1	60	20
2	125	25

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

(2) Nominal and Maximum VDC on page A.4-A.5

Series EP60 - 6kA - characteristics K



1P
1 mod.



In (A)	K		Pack.
	Cat. No.	Ref. No.	
0.5	EP61K0.5	681600	12
1	EP61K01	681601	12
1.6	EP61K1.6	681602	12
2	EP61K02	681603	12
3	EP61K03	681604	12
4	EP61K04	681605	12
6	EP61K06	681606	12
8	EP61K08	681607	12
10	EP61K10	681608	12
16	EP61K16	681609	12
20	EP61K20	681610	12
25	EP61K25	681611	12
32	EP61K32	681612	12
40	EP61K40	681613	12
50	EP61K50	681614	12
63	EP61K63	681615	12



2P
2 mod.



0.5	EP62K0.5	681616	6
1	EP62K01	681617	6
1.6	EP62K1.6	681618	6
2	EP62K02	681619	6
3	EP62K03	681620	6
4	EP62K04	681621	6
6	EP62K06	681622	6
8	EP62K08	681623	6
10	EP62K10	681624	6
16	EP62K16	681625	6
20	EP62K20	681626	6
25	EP62K25	681627	6
32	EP62K32	681628	6
40	EP62K40	681629	6
50	EP62K50	681630	6
63	EP62K63	681631	6



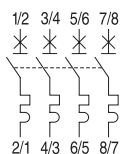
3P
3 mod.



0.5	EP63K0.5	681632	4
1	EP63K01	681633	4
1.6	EP63K1.6	681634	4
2	EP63K02	681635	4
3	EP63K03	681636	4
4	EP63K04	681637	4
6	EP63K06	681638	4
8	EP63K08	681639	4
10	EP63K10	681640	4
16	EP63K16	681641	4
20	EP63K20	681642	4
25	EP63K25	681643	4
32	EP63K32	681644	4
40	EP63K40	681645	4
50	EP63K50	681646	4
63	EP63K63	681647	4



4P
4 mod.



0.5	EP64K0.5	681648	3
1	EP64K01	681649	3
1.6	EP64K1.6	681650	3
2	EP64K02	681651	3
3	EP64K03	681652	3
4	EP64K04	681653	3
6	EP64K06	681654	3
8	EP64K08	681655	3
10	EP64K10	681656	3
16	EP64K16	681657	3
20	EP64K20	681658	3
25	EP64K25	681659	3
32	EP64K32	681660	3
40	EP64K40	681661	3
50	EP64K50	681662	3
63	EP64K63	681663	3

Series EP60

A

B

C

D

E

F

G

X



Miniature Circuit Breakers

G100

EN/IEC 60898-1 **10000**

3

EN/IEC 60947-2 **15kA**

Special executions G100S for Shipping application and EP100R for Railways application in separate document.

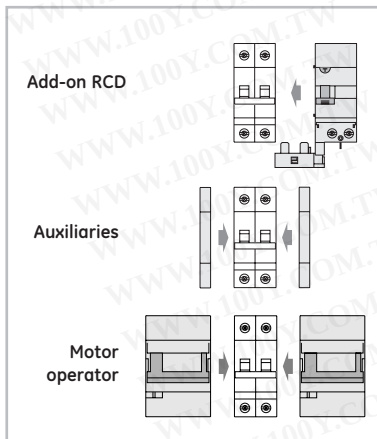
Applications



Approval / Marking



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performances

Thermal setting In	(A)	0.5-63
Rated voltage AC Un	(V)	240/415
Minimum operating voltage $U_{B\min}$	(V)	12
Tripping characteristics		B-C-D
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)	120

Short-circuit capacity

AC acc. to EN/IEC 60898-1

Poles	V	I_{cn} (kA) ⁽¹⁾
1-4	230/400	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	V_{DC} ⁽³⁾	I_{cu}/I_{cs} (kA)
1	60	25
2	125	30

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

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

(3) Nominal and Maximum VDC on page A.4-A.5

Screwless MCB's 10 kA, see page A.78

Series G100 - 10kA - characteristics B-C-D

	In (A)	B		C		D		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 1P 1 mod. 1/2 2/1	0.5	-	-	G101C0.5	674854	G101D0.5	675016	12
	1	-	-	G101C01	674855	G101D01	675017	12
	2	-	-	G101C02	674856	G101D02	675018	12
	3	-	-	G101C03	674857	G101D03	675019	12
	4	-	-	G101C04	674858	G101D04	675020	12
	6	G101B06	674950	G101C06	674859	G101D06	675021	12
	10	G101B10	674952	G101C10	674861	G101D10	675023	12
	13	G101B13	674953	G101C13	674862	G101D13	675024	12
	16	G101B16	674954	G101C16	674863	G101D16	675025	12
	20	G101B20	674955	G101C20	674864	G101D20	675026	12
	25	G101B25	674956	G101C25	674865	G101D25	675027	12
	32	G101B32	674957	G101C32	674866	G101D32	675028	12
	40	G101B40	674958	G101C40	674867	G101D40	675029	12
	50	G101B50	674959	G101C50	674868	G101D50	675030	12
	63	G101B63	674960	G101C63	674869	G101D63	675031	12
 1P+N 2 mod. 1/2 N 2/1 N	0.5	-	-	-	-	G101ND0.5	675032	6
	1	-	-	-	-	G101ND01	675033	6
	2	-	-	G101NC02	674872	G101ND02	675034	6
	3	-	-	G101NC03	674873	G101ND03	675035	6
	4	-	-	G101NC04	674874	G101ND04	675036	6
	6	G101NB06	674961	G101NC06	674875	G101ND06	675037	6
	10	G101NB10	674963	G101NC10	674877	G101ND10	675039	6
	13	G101NB13	674964	G101NC13	674878	G101ND13	675040	6
	16	G101NB16	674965	G101NC16	674879	G101ND16	675041	6
	20	G101NB20	674966	G101NC20	674880	G101ND20	675042	6
	25	G101NB25	674967	G101NC25	674881	G101ND25	675043	6
	32	G101NB32	674968	G101NC32	674882	G101ND32	675044	6
	40	G101NB40	674969	G101NC40	674883	G101ND40	675045	6
	50	G101NB50	674970	G101NC50	674884	G101ND50	675046	6
	63	G101NB63	674971	G101NC63	674885	G101ND63	675047	6
 2P 2 mod. 1/2 3/4 2/1 4/3	0.5	-	-	G102C0.5	674886	G102D0.5	675048	6
	1	-	-	G102C01	674887	G102D01	675049	6
	2	-	-	G102C02	674888	G102D02	675050	6
	3	-	-	G102C03	674889	G102D03	675051	6
	4	-	-	G102C04	674890	G102D04	675052	6
	6	G102B06	674972	G102C06	674891	G102D06	675053	6
	10	G102B10	674974	G102C10	674893	G102D10	675055	6
	13	G102B13	674975	G102C13	674894	G102D13	675056	6
	16	G102B16	674976	G102C16	674895	G102D16	675057	6
	20	G102B20	674977	G102C20	674896	G102D20	675058	6
	25	G102B25	674978	G102C25	674897	G102D25	675059	6
	32	G102B32	674979	G102C32	674898	G102D32	675060	6
	40	G102B40	674980	G102C40	674899	G102D40	675061	6
	50	G102B50	674981	G102C50	674900	G102D50	675062	6
	63	G102B63	674982	G102C63	674901	G102D63	675063	6
 3P 3 mod. 1/2 3/4 5/6 2/1 4/3 6/5	0.5	-	-	G103C0.5	674902	G103D0.5	675064	4
	1	-	-	G103C01	674903	G103D01	675065	4
	2	-	-	G103C02	674904	G103D02	675066	4
	3	-	-	G103C03	674905	G103D03	675067	4
	4	-	-	G103C04	674906	G103D04	675068	4
	6	G103B06	674983	G103C06	674907	G103D06	675069	4
	10	G103B10	674985	G103C10	674909	G103D10	675071	4
	13	G103B13	674986	G103C13	674910	G103D13	675072	4
	16	G103B16	674987	G103C16	674911	G103D16	675073	4
	20	G103B20	674988	G103C20	674912	G103D20	675074	4
	25	G103B25	674989	G103C25	674913	G103D25	675075	4
	32	G103B32	674990	G103C32	674914	G103D32	675076	4
	40	G103B40	674991	G103C40	674915	G103D40	675077	4
	50	G103B50	674992	G103C50	674916	G103D50	675078	4
	63	G103B63	674993	G103C63	674917	G103D63	675079	4
 4P 4 mod. 1/2 3/4 5/6 7/8 2/1 4/3 6/5 8/7	0.5	-	-	G104C0.5	674918	G104D0.5	675080	3
	1	-	-	G104C01	674919	G104D01	675081	3
	2	-	-	G104C02	674920	G104D02	675082	3
	3	-	-	G104C03	674921	G104D03	675083	3
	4	-	-	G104C04	674922	G104D04	675084	3
	6	G104B06	674994	G104C06	674923	G104D06	675085	3
	10	G104B10	674996	G104C10	674925	G104D10	675087	3
	13	G104B13	674997	G104C13	674926	G104D13	675088	3
	16	G104B16	674998	G104C16	674927	G104D16	675089	3
	20	G104B20	674999	G104C20	674928	G104D20	675090	3
	25	G104B25	675000	G104C25	674929	G104D25	675091	3
	32	G104B32	675001	G104C32	674930	G104D32	675092	3
	40	G104B40	675002	G104C40	674931	G104D40	675093	3
	50	G104B50	675003	G104C50	674932	G104D50	675094	3
	63	G104B63	675004	G104C63	674933	G104D63	675095	3



Miniature Circuit Breakers

EP100

EN/IEC 60898-1 10000

EN/IEC 60947-2 15kA

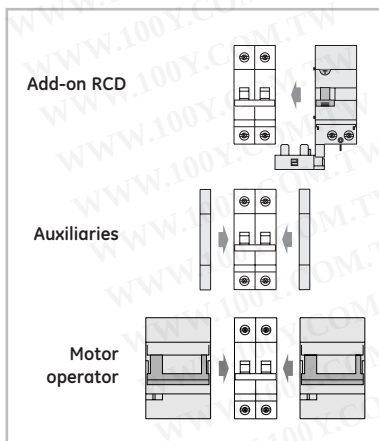
Applications



Approval / Marking



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performances

Thermal setting In	(A) 0.5-63
Rated voltage AC Un	(V) 240/415
Minimum operating voltage $U_{B\min}$	(V) 12
Tripping characteristics	8-12 In (K) and 6 In non tripping ≤ 2 sec.
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)	120

Short-circuit capacity

AC acc. to EN/IEC 60947-2

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

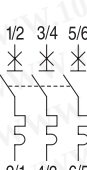
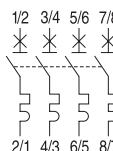
DC acc. to EN/IEC 60947-2

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

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

(2) Nominal and Maximum VDC on page A.4-A.5

Series EP100 - 10kA - characteristics K

		K		
	In (A)	Cat. No.	Ref. No.	Pack.
1P 1 mod.  1/2 	0.5	EP101K0.5	672402	12
	1	EP101K01	672403	12
	1.6	EP101K1.6	681588	12
	2	EP101K02	672404	12
	3	EP101K03	672405	12
	4	EP101K04	672406	12
	6	EP101K06	672407	12
	8	EP101K08	672408	12
	10	EP101K10	672409	12
	16	EP101K16	672411	12
	20	EP101K20	672412	12
	25	EP101K25	672413	12
	32	EP101K32	672414	12
	40	EP101K40	672415	12
	50	EP101K50	672416	12
	63	EP101K63	672417	12
2P 2 mod.  1/2 3/4 	0.5	EP102K0.5	672434	6
	1	EP102K01	672435	6
	1.6	EP102K1.6	681591	6
	2	EP102K02	672436	6
	3	EP102K03	672437	6
	4	EP102K04	672438	6
	6	EP102K06	672439	6
	8	EP102K08	672440	6
	10	EP102K10	672441	6
	16	EP102K16	672443	6
	20	EP102K20	672444	6
	25	EP102K25	672445	6
	32	EP102K32	672446	6
	40	EP102K40	672447	6
	50	EP102K50	672448	6
	63	EP102K63	672449	6
3P 3 mod.  1/2 3/4 5/6 	0.5	EP103K0.5	672450	4
	1	EP103K01	672451	4
	1.6	EP103K1.6	681594	4
	2	EP103K02	672452	4
	3	EP103K03	672453	4
	4	EP103K04	672454	4
	6	EP103K06	672455	4
	8	EP103K08	672456	4
	10	EP103K10	672457	4
	16	EP103K16	672459	4
	20	EP103K20	672460	4
	25	EP103K25	672461	4
	32	EP103K32	672462	4
	40	EP103K40	672463	4
	50	EP103K50	672464	4
	63	EP103K63	672465	4
4P 4 mod.  1/2 3/4 5/6 7/8 	0.5	EP104K0.5	672466	3
	1	EP104K01	672467	3
	1.6	EP104K1.6	681597	3
	2	EP104K02	672468	3
	3	EP104K03	672469	3
	4	EP104K04	672470	3
	6	EP104K06	672471	3
	8	EP104K08	672472	3
	10	EP104K10	672473	3
	16	EP104K16	672475	3
	20	EP104K20	672476	3
	25	EP104K25	672477	3
	32	EP104K32	672478	3
	40	EP104K40	672479	3
	50	EP104K50	672480	3
	63	EP104K63	672481	3

Series EP100

A

B

C

D

E

F

G

X



Miniature Circuit Breakers

GT10

EN/IEC 60947-2

10kA

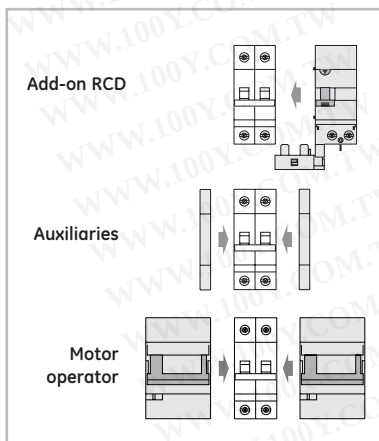
Applications



Marking



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

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		3-5 I_n (B) 5-10 I_n (C) 10-20 I_n (D)
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)	120

Short-circuit capacity

AC according to EN/IEC 60947-2

Poles	V	I_{cu} (kA) ⁽¹⁾
1	240	10
2	127	30
	240	20
	415	10
3, 4	240	20
	415	10

DC according to EN/IEC 60947-2

Poles	V $\overline{\text{---}}$ ⁽²⁾	I_{cu} (kA)/ I_{cs} (kA)
1	60	20
2	125	25

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

(2) Nominal and Maximum VDC on page A.4-A.5

Series GT10 - 10kA - 3-5In (B), 5-10In (C), 10-20In (D)

	In (A)	3-5In (B)		5-10In (C)		10-20In (D)		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
1P 1 mod.  1/2 2/1	0.5	-	-	GT101C0.5	675112	GT101D0.5	675220	12
	1	-	-	GT101C01	675113	GT101D01	675221	12
	2	-	-	GT101C02	675114	GT101D02	675222	12
	3	-	-	GT101C03	675115	GT101D03	675223	12
	4	-	-	GT101C04	675116	GT101D04	675224	12
	6	GT101B06	675176	GT101C06	675117	GT101D06	675225	12
	10	GT101B10	675178	GT101C10	675119	GT101D10	675227	12
	13	GT101B13	675179	GT101C13	675120	GT101D13	675228	12
	16	GT101B16	675180	GT101C16	675121	GT101D16	675229	12
	20	GT101B20	675181	GT101C20	675122	GT101D20	675230	12
	25	GT101B25	675182	GT101C25	675123	GT101D25	675231	12
	32	GT101B32	675183	GT101C32	675124	GT101D32	675232	12
	40	GT101B40	675184	GT101C40	675125	GT101D40	675233	12
	50	GT101B50	675185	GT101C50	675126	GT101D50	675234	12
	63	GT101B63	675186	GT101C63	675127	GT101D63	675235	12
2P 2 mod.  1/2 3/4 2/1 4/3	0.5	-	-	GT102C0.5	675128	GT102D0.5	675236	6
	1	-	-	GT102C01	675129	GT102D01	675237	6
	2	-	-	GT102C02	675130	GT102D02	675238	6
	3	-	-	GT102C03	675131	GT102D03	675239	6
	4	-	-	GT102C04	675132	GT102D04	675240	6
	6	GT102B06	675187	GT102C06	675133	GT102D06	675241	6
	10	GT102B10	675189	GT102C10	675135	GT102D10	675243	6
	13	GT102B13	675190	GT102C13	675136	GT102D13	675244	6
	16	GT102B16	675191	GT102C16	675137	GT102D16	675245	6
	20	GT102B20	675192	GT102C20	675138	GT102D20	675246	6
	25	GT102B25	675193	GT102C25	675139	GT102D25	675247	6
	32	GT102B32	675194	GT102C32	675140	GT102D32	675248	6
	40	GT102B40	675195	GT102C40	675141	GT102D40	675249	6
	50	GT102B50	675196	GT102C50	675142	GT102D50	675250	6
	63	GT102B63	675197	GT102C63	675143	GT102D63	675251	6
3P 3 mod.  1/2 3/4 5/6 2/1 4/3 6/5	0.5	-	-	GT103C0.5	675144	GT103D0.5	675252	4
	1	-	-	GT103C01	675145	GT103D01	675253	4
	2	-	-	GT103C02	675146	GT103D02	675254	4
	3	-	-	GT103C03	675147	GT103D03	675255	4
	4	-	-	GT103C04	675148	GT103D04	675256	4
	6	GT103B06	675198	GT103C06	675149	GT103D06	675257	4
	10	GT103B10	675200	GT103C10	675151	GT103D10	675259	4
	13	GT103B13	675201	GT103C13	675152	GT103D13	675260	4
	16	GT103B16	675202	GT103C16	675153	GT103D16	675261	4
	20	GT103B20	675203	GT103C20	675154	GT103D20	675262	4
	25	GT103B25	675204	GT103C25	675155	GT103D25	675263	4
	32	GT103B32	675205	GT103C32	675156	GT103D32	675264	4
	40	GT103B40	675206	GT103C40	675157	GT103D40	675265	4
	50	GT103B50	675207	GT103C50	675158	GT103D50	675266	4
	63	GT103B63	675208	GT103C63	675159	GT103D63	675267	4
4P 4 mod.  1/2 3/4 5/6 7/8 2/1 4/3 6/5 8/7	0.5	-	-	GT104C0.5	675160	GT104D0.5	675268	3
	1	-	-	GT104C01	675161	GT104D01	675269	3
	2	-	-	GT104C02	675162	GT104D02	675270	3
	3	-	-	GT104C03	675163	GT104D03	675271	3
	4	-	-	GT104C04	675164	GT104D04	675272	3
	6	GT104B06	675209	GT104C06	675165	GT104D06	675273	3
	10	GT104B10	675211	GT104C10	675167	GT104D10	675275	3
	13	GT104B13	675212	GT104C13	675168	GT104D13	675276	3
	16	GT104B16	675213	GT104C16	675169	GT104D16	675277	3
	20	GT104B20	675214	GT104C20	675170	GT104D20	675278	3
	25	GT104B25	675215	GT104C25	675171	GT104D25	675279	3
	32	GT104B32	675216	GT104C32	675172	GT104D32	675280	3
	40	GT104B40	675217	GT104C40	675173	GT104D40	675281	3
	50	GT104B50	675218	GT104C50	675174	GT104D50	675282	3
	63	GT104B63	675219	GT104C63	675175	GT104D63	675283	3

Series GT10

A

B

C

D

E

F

G

X



Miniature Circuit Breakers

GT25

EN/IEC 60947-2 **100kA**
25kA
20kA
15kA

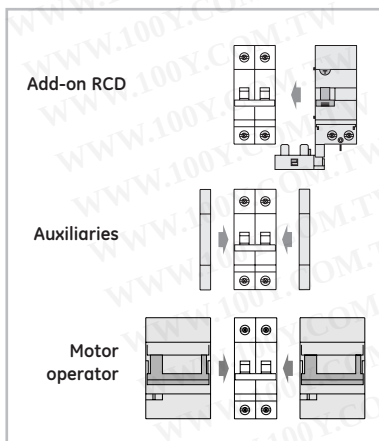
Applications



Marking



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

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		3-5 I_n (B) 5-10 I_n (C) 10-20 I_n (D)
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)	120

Short-circuit capacity

Acc. to EN/IEC 60947-2

I_n (A)	Poles	V	I_{cu} (kA) ⁽¹⁾
0.5-4	1	240	100
	2-4	415	100
6-25	1	240	25
	2-4	240	50
		415	25
32-40	1	240	20
	2-4	240	40
		415	20
50-63	1	240	15
	2-4	240	30
		415	15

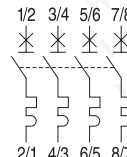
DC acc. to EN/IEC 60947-2

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

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

(2) Nominal and Maximum VDC on page A.4-A.5

Series GT25 - 25kA - 3-5In (B), 5-10In (C), 10-20In (D)

	In (A)	3-5In (B)		5-10In (C)		10-20In (D)		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
1P 1 mod.  	0.5	-	-	GT251C0.5	675284	GT251D0.5	675392	12
	1	-	-	GT251C01	675285	GT251D01	675393	12
	2	-	-	GT251C02	675286	GT251D02	675394	12
	4	-	-	GT251C04	675288	GT251D04	675396	12
	6	GT251B06	675348	GT251C06	675289	GT251D06	675397	12
	10	GT251B10	675350	GT251C10	675291	GT251D10	675399	12
	16	GT251B16	675352	GT251C16	675293	GT251D16	675401	12
	20	GT251B20	675353	GT251C20	675294	GT251D20	675402	12
	25	GT251B25	675354	GT251C25	675295	GT251D25	675403	12
	32	GT251B32	675355	GT251C32	675296	GT251D32	675404	12
	40	GT251B40	675356	GT251C40	675297	GT251D40	675405	12
	50	GT251B50	675357	GT251C50	675298	GT251D50	675406	12
	63	GT251B63	675358	GT251C63	675299	GT251D63	675407	12
2P 2 mod.  	0.5	-	-	GT252C0.5	675300	GT252D0.5	675408	6
	1	-	-	GT252C01	675301	GT252D01	675409	6
	2	-	-	GT252C02	675302	GT252D02	675410	6
	4	-	-	GT252C04	675304	GT252D04	675412	6
	6	GT252B06	675359	GT252C06	675305	GT252D06	675413	6
	10	GT252B10	675361	GT252C10	675307	GT252D10	675415	6
	16	GT252B16	675363	GT252C16	675309	GT252D16	675417	6
	20	GT252B20	675364	GT252C20	675310	GT252D20	675418	6
	25	GT252B25	675365	GT252C25	675311	GT252D25	675419	6
	32	GT252B32	675366	GT252C32	675312	GT252D32	675420	6
	40	GT252B40	675367	GT252C40	675313	GT252D40	675421	6
	50	GT252B50	675368	GT252C50	675314	GT252D50	675422	6
	63	GT252B63	675369	GT252C63	675315	GT252D63	675423	6
3P 3 mod.  	0.5	-	-	GT253C0.5	675316	GT253D0.5	675424	4
	1	-	-	GT253C01	675317	GT253D01	675425	4
	2	-	-	GT253C02	675318	GT253D02	675426	4
	4	-	-	GT253C04	675320	GT253D04	675428	4
	6	GT253B06	675370	GT253C06	675321	GT253D06	675429	4
	10	GT253B10	675372	GT253C10	675323	GT253D10	675431	4
	16	GT253B16	675374	GT253C16	675325	GT253D16	675433	4
	20	GT253B20	675375	GT253C20	675326	GT253D20	675434	4
	25	GT253B25	675376	GT253C25	675327	GT253D25	675435	4
	32	GT253B32	675377	GT253C32	675328	GT253D32	675436	4
	40	GT253B40	675378	GT253C40	675329	GT253D40	675437	4
	50	GT253B50	675379	GT253C50	675330	GT253D50	675438	4
	63	GT253B63	675380	GT253C63	675331	GT253D63	675439	4
4P 4 mod.  	0.5	-	-	GT254C0.5	675332	GT254D0.5	675440	3
	1	-	-	GT254C01	675333	GT254D01	675441	3
	2	-	-	GT254C02	675334	GT254D02	675442	3
	4	-	-	GT254C04	675336	GT254D04	675444	3
	6	GT254B06	675381	GT254C06	675337	GT254D06	675445	3
	10	GT254B10	675383	GT254C10	675339	GT254D10	675447	3
	16	GT254B16	675385	GT254C16	675341	GT254D16	675449	3
	20	GT254B20	675386	GT254C20	675342	GT254D20	675450	3
	25	GT254B25	675387	GT254C25	675343	GT254D25	675451	3
	32	GT254B32	675388	GT254C32	675344	GT254D32	675452	3
	40	GT254B40	675389	GT254C40	675345	GT254D40	675453	3
	50	GT254B50	675390	GT254C50	675346	GT254D50	675454	3
	63	GT254B63	675391	GT254C63	675347	GT254D63	675455	3



Miniature Circuit Breakers

EP100 UC

EN/IEC 60898-2 6000 T15

DIN VDE 0641

EN/IEC 60947-2 10kA

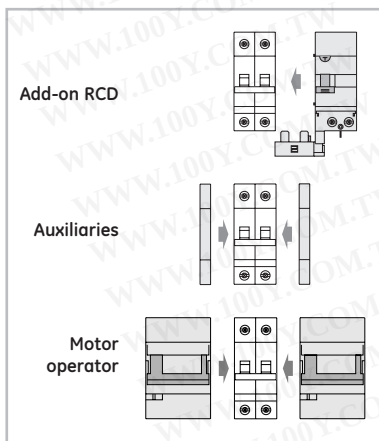
Applications



Standards / Marking

EN/IEC 60898-2, DIN VDE 0641

Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performance

Thermal setting I_n	(A) 0.5 -63
Rated voltage AC U_n	(V) 230/400 250/500/880 $\equiv$
Minimum operating voltage U_{Bmin}	(V) 12 12 $\equiv$
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	125 DC	10
	250 DC	6
	230/400 AC	6
2	250 DC	10
	500 DC	6
	400 AC	6
4	800 DC	6

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

Poles	V	I_{cu} (kA)
1	220 DC	10 ⁽³⁾
2	440 DC	10 ⁽³⁾
1	230 AC	6 ⁽⁴⁾
2	400 AC	6 ⁽⁴⁾

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

(2) For 4P execution open circuit voltage $U_{co} = 1000 \equiv$

(3) $T = 4ms$

(4) 4.5kA for 50A & 63A

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

Series EP100 UC - 10kA - characteristic B-C



1P
1 mod.



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



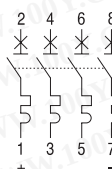
2P
2 mod.



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



4P
4.5 mod. (1)

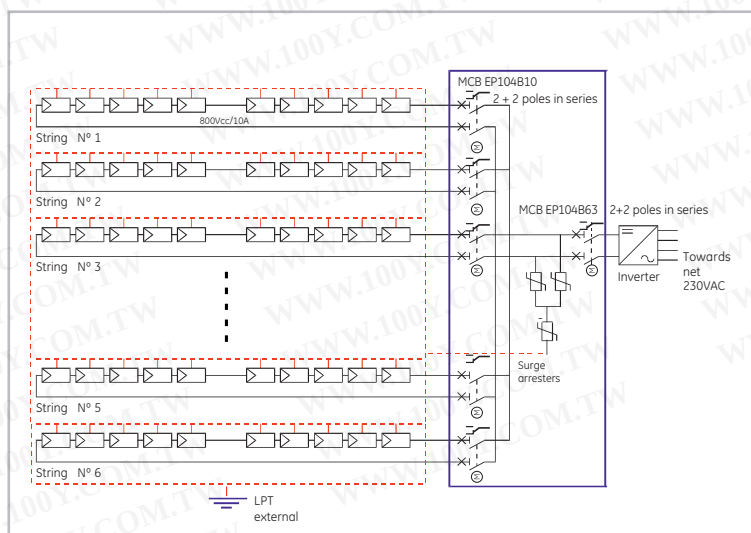
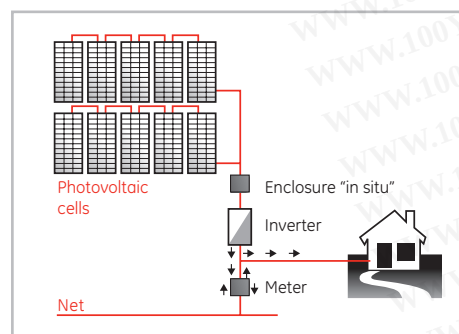


10	EP104 UC B10	690200		3
16	EP104 UC B16	688029		3
20	EP104 UC B20	688026		3
25	EP104 UC B25	691580		3
32	EP104 UC B32	691581		3
40	EP104 UC B40	688027		3
63	EP104 UC B63	688028		3

New

(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

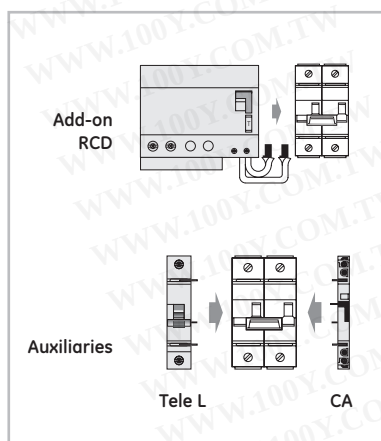
Applications



Standard / Marking

EN/IEC 60947-2

Add-on devices



- Add-on RCD ● pg A.34
 Auxiliary contacts ● pg A.35
 Shunt trip ● pg A.35

More technical data ● website
 Dimensions ● pg A.81

Performance

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

Short-circuit capacity

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

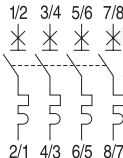
Poles	V	Icu (kA) ⁽¹⁾
1	230/400	10 ⁽²⁾
2	230	15 ⁽³⁾
3, 4	230	15 ⁽³⁾
3, 4	400	10 ⁽²⁾

Add-on RCD - technical performances

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

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

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

	In (A)	3-5 In (B)		5-10 In (C)		10-20 In (D)		Pack.
		Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
 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.32

Series Hti

A

B

C

D

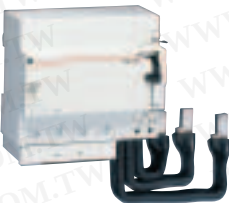
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F

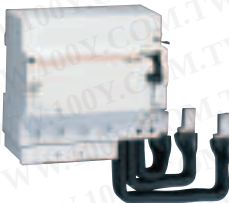
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X

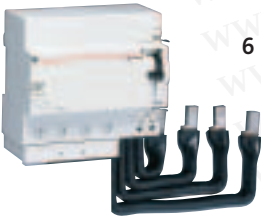
Series Hti - Add-on RCD - Type AC

	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

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

Series Hti - Shunt trip

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

Series Hti

A

B

C

D

E

F

G

X





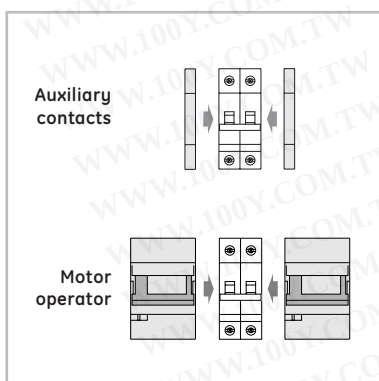
Applications



Approval / Marking



Add-on devices



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

Dimensions ● pg A.80

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; 110V $\equiv$
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
2, 3, 4	240	20
	415	10
	440	6

DC according to EN/IEC 60947-2

Poles	Un (V $\equiv$)	I _{cu} (kA)/I _{cs} (kA)
1	60	25
2	125	30

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

with UL 1077 approval

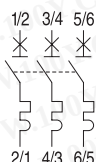
Series EP60 UL - 6kA - characteristics B-C-D

1P
1 mod.

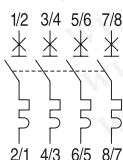
In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0.5	-	-	EP61ULC0.5	686656	EP61ULD0.5	686732	12
1	-	-	EP61ULC01	686657	EP61ULD01	686733	12
2	-	-	EP61ULC02	686658	EP61ULD02	686734	12
4	-	-	EP61ULC04	686660	EP61ULD04	686736	12
6	EP61ULB06	686601	EP61ULC06	686662	EP61ULD06	686738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

EP60 UL

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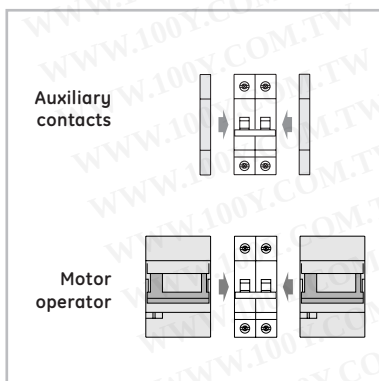
Applications



Approval / Marking



Add-on devices



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

Dimensions ● pg A.80

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; 110V $\equiv$
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	Icc (kA)
1	277	10
2, 3, 4	277/480	10

According to EN/IEC 60898-1

Poles	V	Icn/Ics (kA)
1	230/400	10
2, 3, 4	400	10

According to EN/IEC 60947-2

Poles	V	Icu (kA) ⁽¹⁾
1	127	30
	240	15
	415	4
2	127	40
2, 3, 4	240	30
	415	15
	440	10

DC according to EN/IEC 60947-2

Poles	Un (V $\equiv$)	Icu (kA)/Ics (kA)
1	60	25
2	125	30

(1) Ics = 50% Icu

with UL 1077 approval

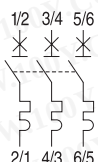
Series EP100 UL - 10kA - characteristics B-C-D


1P
1 mod.

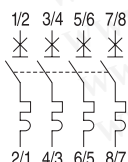

In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0.5	-	-	EP101ULC0.5	686864	EP101ULD0.5	686940	12
1	-	-	EP101ULC01	686865	EP101ULD01	686941	12
2	-	-	EP101ULC02	686866	EP101ULD02	686942	12
4	-	-	EP101ULC04	686868	EP101ULD04	686944	12
6	EP101ULB06	686809	EP101ULC06	686870	EP101ULD06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

EP100 UL

A

B

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X



Miniature circuit breakers with UL approval

EP100 ULH (Branch circuit protection)

Listed UL 489 **10 kA**
EN 60947-2 **15 kA**

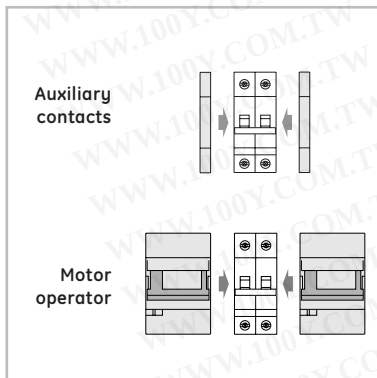
Applications



Approval / Marking



Add-on devices



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

Dimensions ● pg A.80

Performances

Thermal setting I_n	(A) 0.5-32
Rated voltage AC U_n	(V) 120/240; 110V $\equiv$
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	240	30
	440	10

DC according to EN/IEC 60947-2

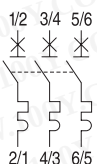
Poles	U_n (V $\equiv$)	I_{cu} (kA)/ I_{cs} (kA)
1	60	25
2	125	30

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

with UL 489 approval

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

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

1P
1 mod.
(1)2P
2 mod.3P
3 mod.

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

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

Accessories for MCB's

Walls

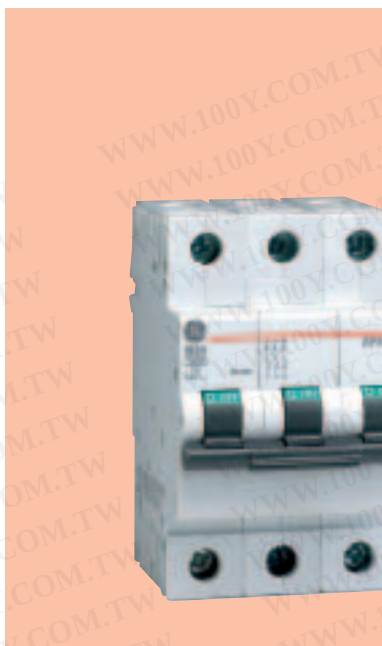
Walls for terminals IP

Cat. No.	Ref. No.	Pack.
WUL	690244	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
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Miniature circuit breakers for railway applications

EP100 R

EN 60898-1 10000

3

EN 60947-2 15 kA



Applications

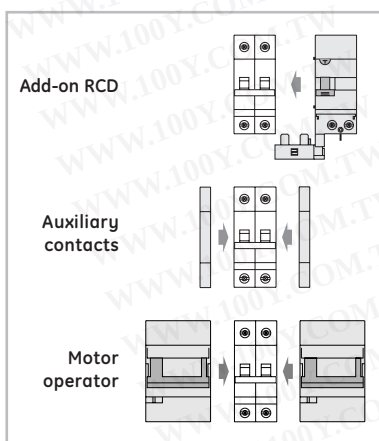


Approval / Marking

BTA-EN50155



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performance

Thermal setting In	(A) 0.5 -63
Rated voltage AC Un	(V) 230/400
Minimum operating voltage U _{8min}	(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	400 DC	10 ⁽¹⁾

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

Poles	V	I _{cu} (kA) ⁽²⁾
3	240 DC	30
	415 DC	15
	440 AC	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}

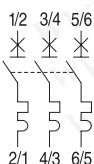
Railway
Applications



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

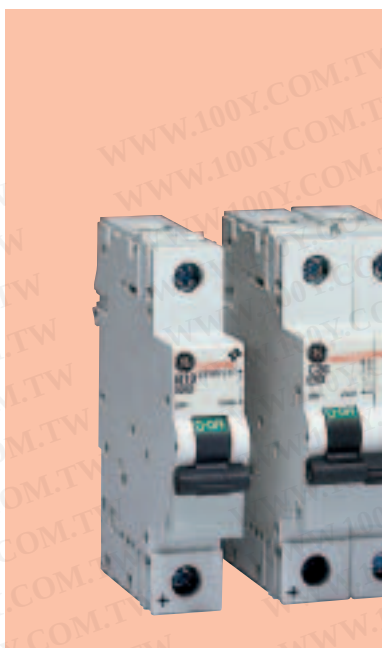
E

F

G

X





Miniature circuit breakers for railway applications

EP100 UCR

EN/IEC 60898-2 6000 T15

DIN VDE 0641

EN/IEC 60947-2 10kA



Applications

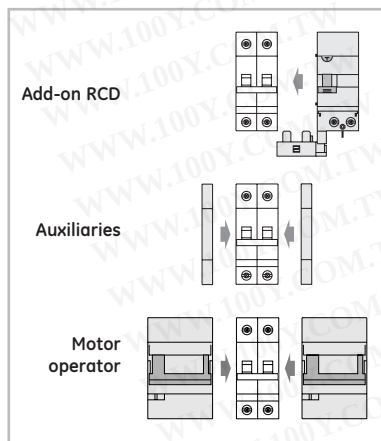


Standards / Marking

BTA-EN50155



Add-on devices



- Add-on RCD ● pg B.16
- 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.50
- Busbars ● pg E.2
- More technical data ● website
- Dimensions ● pg A.80

Performance

Thermal setting In	(A) 0.5 -63
Rated voltage AC Un	(V) 230/400 250/500 =
Minimum operating voltage U _{Bmin}	(V) 12 12 =
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	125 DC	10
	220 DC	6
	230/400 AC	6
2	250 DC	10
	440 DC	6
	400 AC	6

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

Poles	V	I _{cu} (kA)
1	220 DC	10 ⁽²⁾
2	440 DC	10 ⁽²⁾
1	230 AC	6 ⁽³⁾
2	400 AC	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: Bombardier Certification for K curve on process

Series EP100 UCR

A

B

C

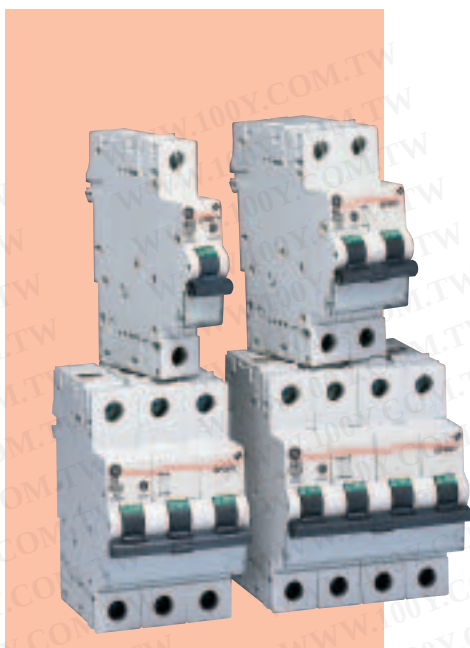
D

E

F

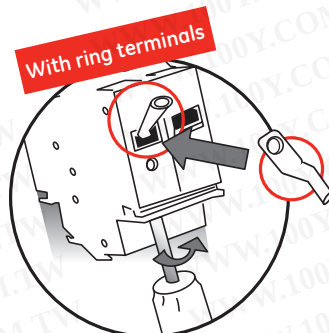
G

X



Miniature circuit breakers with ring terminals

Series EP100T



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

Applications



Standards

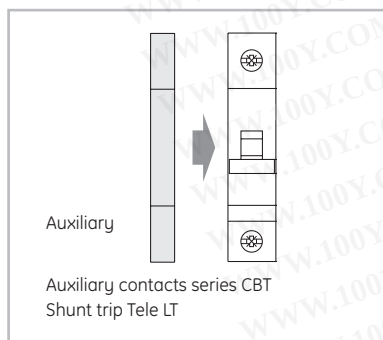
Certified acc. new CEI UNI 11170
(higher protection against fires)
Certified acc. to NF 16-101, smoke
index F
Shock and vibrations tests acc. to
IEC 61373

Approval / Marking

Trenitalia n° 371441.01



Add-on devices



- Auxiliary contacts ● pg C.10
- Shunt trip ● pg C.11
- Dimensions ● pg A.80

Performances

Thermal setting In	(A) 0.5 to 63 at 45°C
Rated voltage AC Un	(V) 240/440
Operating temperature	(°C) -40/+70
Tripping characteristics	Z-B-C-K
Selectivity class	3
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. IEC 60068-2-28/2-30	95% RH under 55°C
Capacity of ring terminal	(mm ²) 16 (x2 connections)
Torque	(Nm) 2
Poles	1, 2, 3, 4
Self-extinguish degree	according to 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~	Icn (kA)
1-4	230/400	10

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

Poles	V~	Icu (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---	Icu (kA)/Ics(kA)
1	60	25/15 ms
2	110	30/15 ms

Railway applications
with ring terminals

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

1P
1 mod.



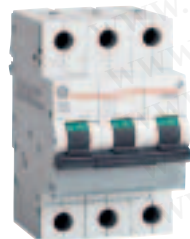
In (A)	2-3 In (Z)		3-5 In (B)		8-12 In (C)		8-12 In (K)		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	EP101TZ0.5	691277	-	-	EP101TC0.5	691245	EP101TK0.5	691261	12
1	EP101TZ01	691278	-	-	EP101TC01	691246	EP101TK1	691267	12
1,6	EP101TZ1.6	691284	-	-	EP101TC1.6	691252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



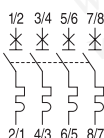
In (A)	2-3 In (Z)		3-5 In (B)		8-12 In (C)		8-12 In (K)		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	EP102TZ0.5	691337	-	-	EP102TC0.5	691304	EP102TK0.5	691321	6
1	EP102TZ01	691338	-	-	EP102TC01	691305	EP102TK01	691322	6
1,6	EP102TZ1.6	691344	-	-	EP102TC1.6	691311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

G

X

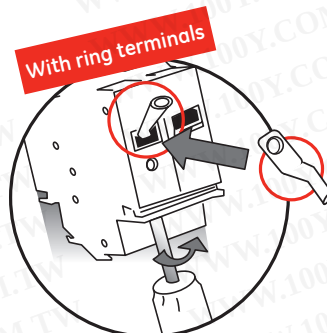


New



Miniature circuit breakers with ring terminals

Series EP100UCT



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

Applications



Standards

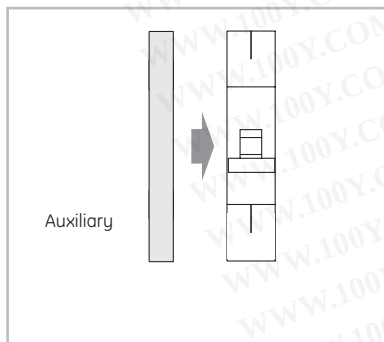
Certified acc. new CEI UNI 11170
(higher protection against fires)
Certified acc. to NF 16-101, smoke
index F
Shock and vibrations tests acc. to
IEC 61373

Approval / Marking

Trenitalia n° 371441.01



Add-on devices



- Auxiliary contacts ● pg C.10
- Shunt trip ● pg C.11
- Dimensions ● pg A.80

Performances

Thermal setting In	(A)	0.5 to 63 at 45°C
Rated voltage AC Un	(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 ---	Icu (kA)/Ics(kA)
1	24	25/15 ms
	60	25/15 ms
	110	20/10 ms
	250	10/5 ms
2	24	30/15 ms
	60	30/15 ms
	110	25/15 ms
	250	10/5 ms

New



Railway applications
with ring terminals

Series EP100UCT - 10kA - characteristics Z-B-C-K

1P
1 mod.



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

2P
2 mod.



0,5	EP102UCTZ0.5	691544	-	-	EP102UCTC0.5	691511	EP102UCTK0.5	691528	6
1	EP102UCTZ01	691545	-	-	EP102UCTC01	691512	EP102UCTK01	691529	6
1,6	EP102UCTZ02	691546	-	-	EP102UCTC1.6	691518	EP102UCTK1.6	691535	6
2	EP102UCTZ1.6	691551	-	-	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 EP100UCT

A

B

C

D

E

F

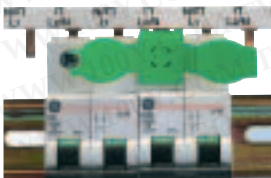
G

X



New

Accessories for MCB's - Series C, G, GT and 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

Notes

Dimensional drawings

A

B

C

D

E

F

G

X



2 circuits in 1 mo

ElfaPlus Unibis™: the solution

Circuit protection

A

B

C

D

E

F

G

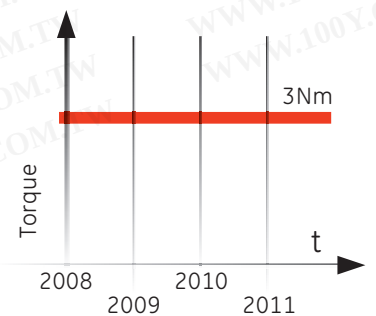
X

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

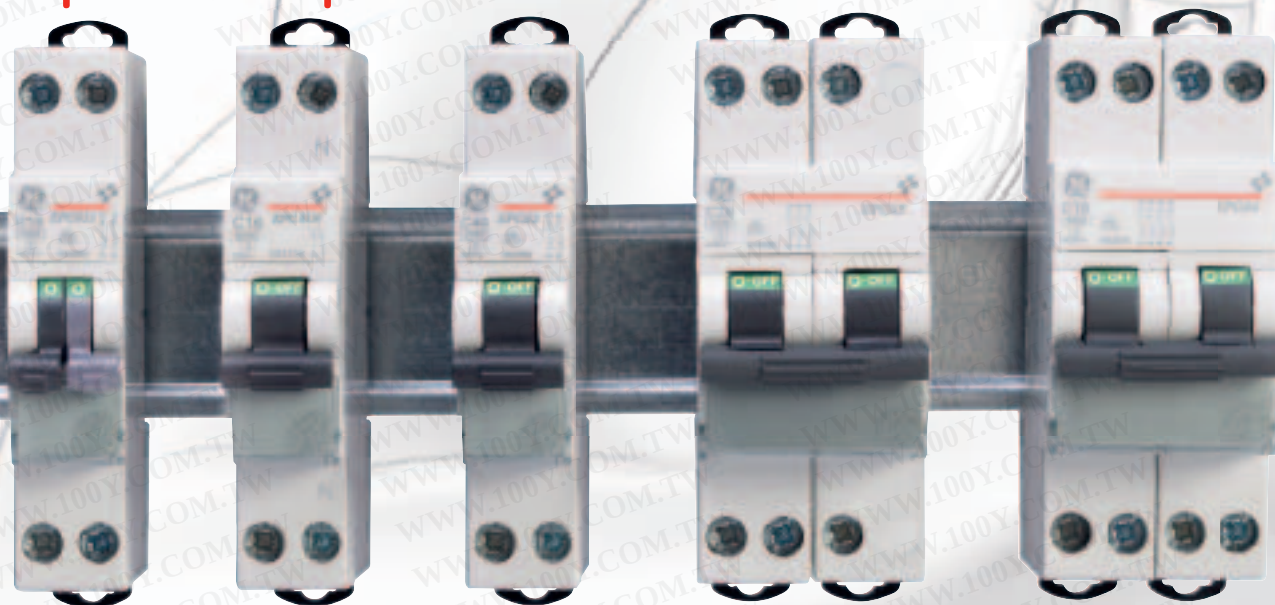
Up to 6mm² + 4mm² wires combined.



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
- ✓ CEBC, NF, VDE, KEMA, IMQ certified

3 performances
up to 10kA



New

(1) 10 kA for 1P+N versions

The solution for

Unibis™ compact MCB's
quality and reliability guaranteed

Circuit protection

A

B

C

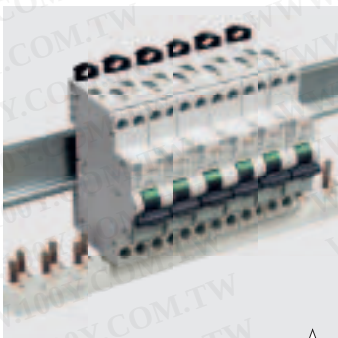
D

E

F

G

X



High performance clips

To fix the MCB to the DIN rail.



High performance torque

Up to 3Nm.



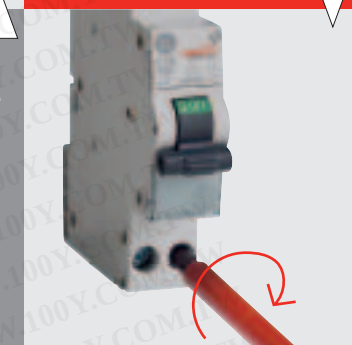
Easy to replace

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.



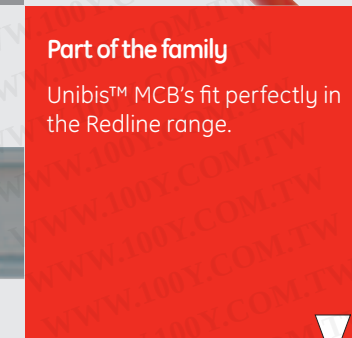
Safety terminals IP20

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



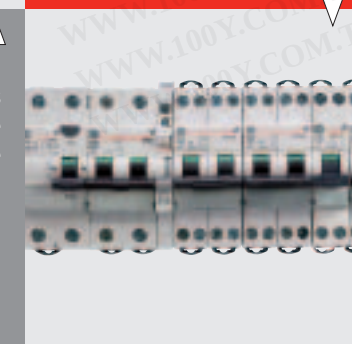
Full functionality

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



Part of the family

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



New

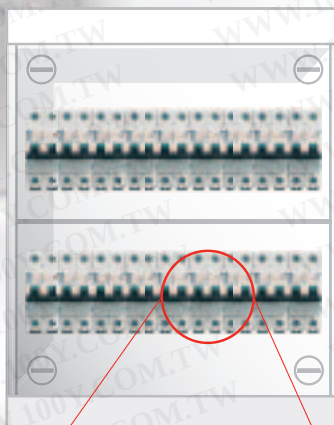


renovations

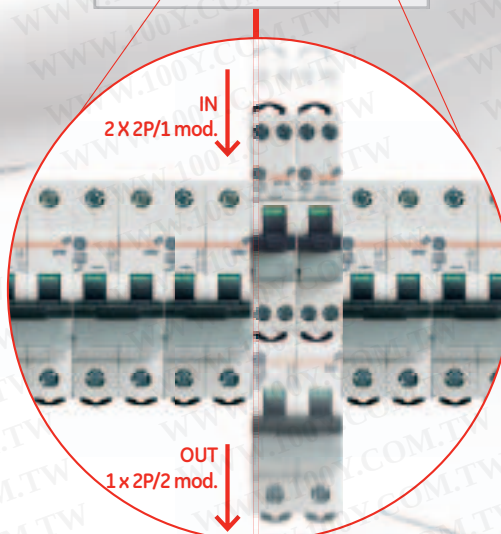
Saving up to 50% space
in distribution boards!

Before

18 x 2P MCB's
36 MODULES



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



FREE DIN-RAIL FOR
EXTENSIONS



OR

DISTRIBUTION BOARD
REDUCED BY 50%



After

18 x 2P MCB's
18 MODULES

New

Technical data of compact MCB's

Series			EPC 451N	EPC 61N
Standards			EN 60898-1	EN 60898-1
Tripping characteristics			B,C	B,C
Nominal current (In)			2-40	2-40
Calibration temperature (°C)			30	30
Number of poles (# mod)			1+N (1 mod)	1+N (1 mod)
Neutral pole protected			-	-
Nominal voltage Un AC	1P+N	(V)	240	240
	1P+1P	(V)	-	-
	2P	(V)	-	-
	3P	(V)	-	-
	4P	(V)	-	-
Nominal voltage Un DC			-	-
Frequency	2P	(V=)	-	-
		(Hz)	50/60	50/60
			Thresh. magn. + 40%	Thresh. magn. + 40%
			Thresh. magn. + 50%	Thresh. magn. + 50%
Maximum service voltage Ub max			250	250
Minimum service voltage Ub min			12	12
Selectivity class (EN 60898-1)			3	3
Rated insulation voltage	Pollution degree 2	(V)	500	500
	Pollution degree 3	(V)	400	400
Impulse withstand test voltage (kV)			6	6
Insulation resistance (MΩ)			1000	1000
Dielectric rigidity (kV)			2.5	2.5
Vibration resistance (in x,y,z direction) (IEC 77/16.3) (g)			3	3
Endurance	Electrical at Un,In		10000 ⁽¹⁾	10000 ⁽¹⁾
	Mechanical		20000	20000
Utilisation category (EN 60947-2)			A	A
Mounting position: vertical/horizontal			any	any
Incoming top or bottom			yes	yes
Protection degree (outside/inside enclosure with door)			IP20/IP40	IP20/IP40
Selfextinguish degree (acc. UL 94)			V2	V2
Tropicalisation (acc. EN 60068-2/DIN 40046)			+55°C/95%RH	+55°C/95%RH
Operating temperature (°C)			-25/+55	-25/+55
Storage temperature (°C)			-55/+55	-55/+55
Terminal capacity	Rigid cable min/max (top)	(mm²)	1/16 ⁽²⁾	1/16 ⁽²⁾
	Flexible cable min/max (top)	(mm²)	1/10 ⁽²⁾	1/10 ⁽²⁾
	Rigid cable min/max (bottom)	(mm²)	1/16 ⁽²⁾	1/16 ⁽²⁾
	Flexible cable min/max (bottom)	(mm²)	1/10 ⁽²⁾	1/10 ⁽²⁾
	Torque	(Nm)	3	3
Add-on devices	Auxiliary contacts		yes	yes
	Tele U		yes ⁽³⁾	yes ⁽³⁾
	Tele L		yes ⁽³⁾	yes ⁽³⁾
	Tele MP		yes ⁽³⁾	yes ⁽³⁾
	PBS		yes ⁽³⁾	yes ⁽³⁾
Busbar systems	Pin (top/bottom)		yes/yes	yes/yes
	Fork (top/bottom)		no/no	no/no
Accessories			yes	yes
Width per mod. (mm)			18	18
Weight per mod. (g)			125	125
Package			12	12
Approvals			KEMA, IMQ	VDE, KEMA, IMQ
CE- marking			yes	yes
Page			A.60	A.61

Short-circuit capacity of compact MCB's

Series			EPC 451N	EPC 61N
Short-circuit capacity AC			(kA)	(kA)
EN/IEC 60898-1	1P+N	240 V	4.5	6
	1P+1P	240 V	-	-
	2P	415 V	-	-
	3P	415 V	-	-
	4P	415 V	-	-
EN 60947-2 Ics (service)	1P+N	230 V	6	7.5
	1P+1P	230 V	-	-
	2P	415 V	-	-
	3P	415 V	-	-
	4P	415 V	-	-
Short-circuit capacity DC				
EN 60947-2 Icu	2P	96 V=		

(1) 8000 for 32 and 40 A

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

(3) Requires CA auxiliary contact as interface

(4) Icn1= 6kA



EPC 101N	EPC 611	EPC 45	EPC 60
EN 60898-1	EN 60898-1	EN 60898-1	EN 60898-1
B,C	B,C	B,C	B,C
2-40	2-40	2-40	2-40
30	30	30	30
1+N (1 mod)	1P+1P (1 mod)	2 (1 mod), 3&4 (2 mod)	2 (1 mod), 3&4 (2 mod)
-	-	-	-
240	-	-	-
-	240	-	-
-	-	415	415
-	-	415	415
-	-	415	415
-	-	96	96
50/60	50/60	50/60	50/60
Thresh. magn. + 40%	Thresh. magn. + 40%	Thresh. magn. + 40%	Thresh. magn. + 40%
Thresh. magn. + 50%	Thresh. magn. + 50%	Thresh. magn. + 50%	Thresh. magn. + 50%
250	250/440	250/440	250/440
12	12	12	12
3	3	3	3
500	500	500	500
400	400	400	400
6	6	6	6
1000 ⁽¹⁾	1000	10000	10000
2.5	2.5	2.5	2.5
3	3	3	3
10000 ⁽¹⁾	10000 ⁽¹⁾	10000 ⁽¹⁾	10000 ⁽¹⁾
20000	20000	20000	20000
A	A	A	A
any	any	any	any
yes	yes	yes	yes
IP20/IP40	IP20/IP40	IP20/IP40	IP20/IP40
V2	V2	V2	V2
+55°C/95%RH	+55°C/95%RH	+55°C/95%RH	+55°C/95%RH
-25/+55	-25/+55	-25/+55	-25/+55
-55/+55	-55/+55	-55/+55	-55/+55
1/16 ⁽²⁾	1/16 ⁽²⁾	1/16 ⁽²⁾	1/16 ⁽²⁾
1/10 ⁽²⁾	1/10 ⁽²⁾	1/10 ⁽²⁾	1/10 ⁽²⁾
1/16 ⁽²⁾	1/16 ⁽²⁾	1/16 ⁽²⁾	1/16 ⁽²⁾
1/10 ⁽²⁾	1/10 ⁽²⁾	1/10 ⁽²⁾	1/10 ⁽²⁾
3	3	3	3
yes	yes	yes	yes
yes ⁽³⁾	yes ⁽³⁾	yes ⁽³⁾	yes ⁽³⁾
yes ⁽³⁾	yes ⁽³⁾	yes ⁽³⁾	yes ⁽³⁾
yes ⁽³⁾	yes ⁽³⁾	yes ⁽³⁾	yes ⁽³⁾
yes ⁽³⁾	yes ⁽³⁾	yes ⁽³⁾	yes ⁽³⁾
yes/yes	yes/yes	yes/yes	yes/yes
no/no	no/no	no/no	no/no
yes	yes	yes	yes
18	18	18/36	18/36
125	160	160/320	160/320
12	12/6	12/6	12/6
KEMA	VDE, IMQ	IMQ, NF	VDE, IMQ, NF, CEBEC
yes	yes	yes	yes
A.62	A.63	A.64	A.66

EPC 101N	EPC 611	EPC 45	EPC 60
(kA)	(kA)	(kA)	(kA)
10 ⁽⁴⁾	-	-	-
-	6	-	-
-	-	4.5	6
-	-	4.5	6
-	-	4.5	6
10	-	-	-
-	6	-	-
-	-	6	7.5
-	-	6	7.5
-	-	6	7.5
-	-	4.5	6

(1) 8000 for 32 and 40 A

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

(3) Requires CA auxiliary contact as interface

(4) Icn1= 6kA

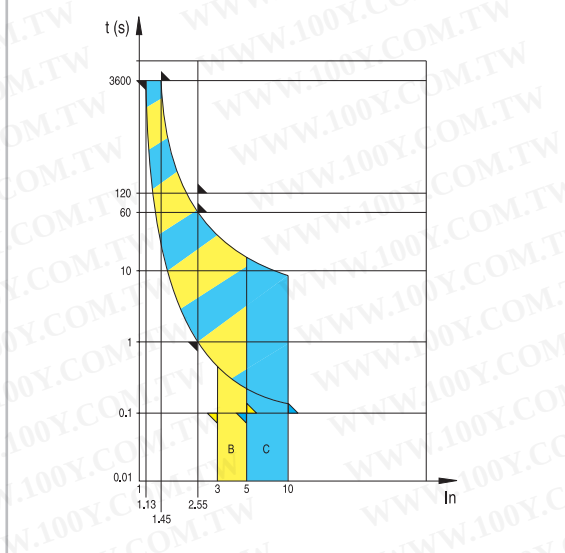


New

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) t < 0.1s	Only for resistive loads such as: - electrical heating - water heater - stoves
C	5 × 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

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.

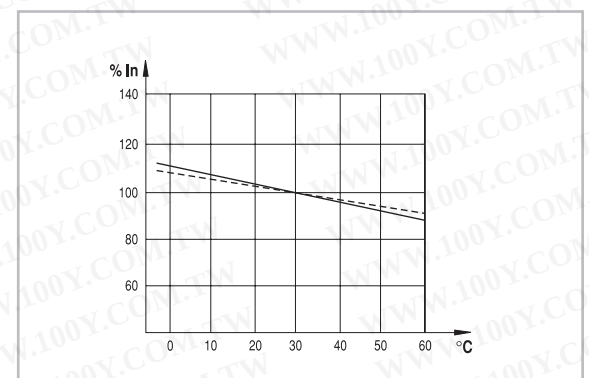
Calculation

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.

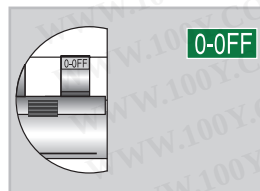
Power losses per pole

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

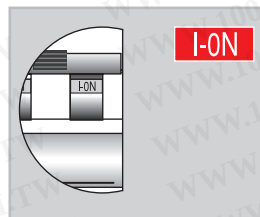
The toggle permits to switch the MCB ON or OFF

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.

Compact MCB's

A

B

C

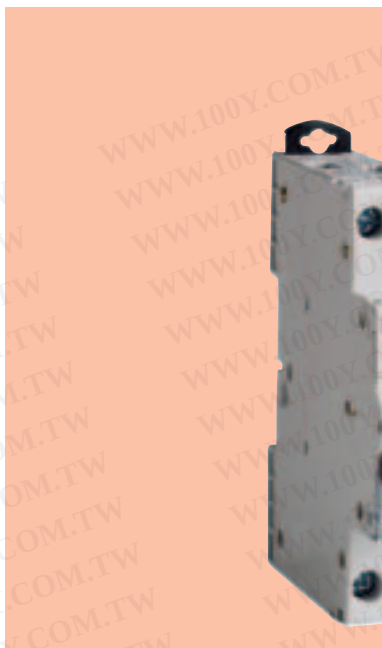
D

E

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G

X



Compact MCB's

Series EPC 451N

EN/IEC 60898-1

4500

3

EN/IEC 60947-2

6kA

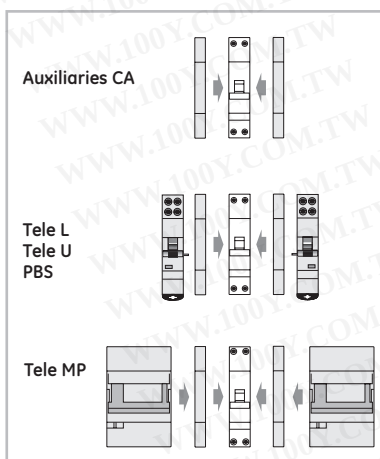
Applications



Approvals / Marking



Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS, Tele MP) to the MCB, an universal CA auxiliary has to be coupled first as interface.

Auxiliary contacts ● pg C.6

Busbars ● pg E.2
Dimensions ● pg A.82

Performances

Thermal setting In	(A)	2-40
Rated voltage AC Un	(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	4.5

Acc. to EN/IEC 60947-2

Poles	V	I _{cu} (kA)
1P+N	240	6

Attention: do not use on IT net configuration

Series EPC 451N - 4.5kA - characteristics B-C

In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
2 ⁽³⁾	EPC 451N B02	692810	EPC 451N C02	692781	12
4 ⁽³⁾	EPC 451N B04	692811	EPC 451N C04	692782	12
6	EPC 451N B06	692812	EPC 451N C06	692783	12
10	EPC 451N B10	692813	EPC 451N C10	692784	12
16	EPC 451N B16	692814	EPC 451N C16	692786	12
20	EPC 451N B20	692815	EPC 451N C20	692787	12
25	EPC 451N B25	692816	EPC 451N C25	692788	12
32	EPC 451N B32	692817	EPC 451N C32	692789	12
40 ⁽³⁾	EPC 451N B40	692818	EPC 451N C40	692790	12

(1) 8000 for 32 and 40A

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

(3) On demand

Compact MCB's

Series EPC 61N



EN/IEC 60898-1

6000

3

EN/IEC 60947-2

7.5kA

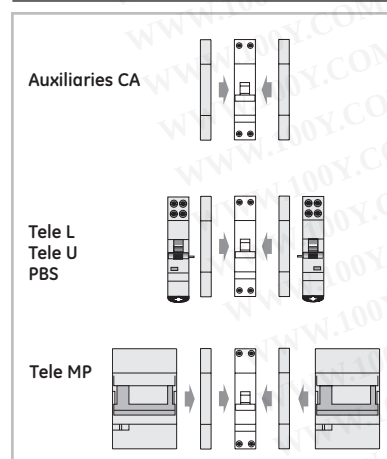
Applications



Approvals / Marking



Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS, Tele MP) to the MCB, an universal CA auxiliary has to be coupled first as interface.

Auxiliary contacts ● pg C.6

Busbars ● pg E.2
Dimensions ● pg A.82

Performances

Thermal setting In	(A) 2-40
Rated voltage AC Un	(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	7.5

Attention: do not use on IT net configuration

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

In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
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
1/2 N	13	EPC 61N B13 692604	EPC 61N C13	692795	12
	16	EPC 61N B16 692823	EPC 61N C16	692796	12
	20	EPC 61N B20 692824	EPC 61N C20	692797	12
	25	EPC 61N B25 692825	EPC 61N C25	692798	12
2/1 N	32	EPC 61N B32 692826	EPC 61N C32	692799	12
	40	EPC 61N B40 692827	EPC 61N C40	692800	12

(1) 8000 for 32 and 40A

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



New



Compact MCB's

Series EPC 101N

EN/IEC 60898-1

10000

3

EN/IEC 60947-2

10kA

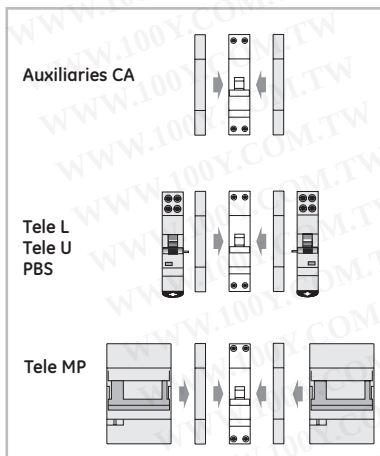
Applications



Approval / Marking



Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS, Tele MP) to the MCB, an universal CA auxiliary has to be coupled first as interface.

Auxiliary contacts ● pg C.6

Busbars ● pg E.2
Dimensions ● pg A.82

Performances

Thermal setting In	(A) 2-40
Rated voltage AC Un	(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	1+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	10

Acc. to EN/IEC 60947-2

Poles	V	I _{cu} (kA) ⁽³⁾
1P+N	240	10

Attention: do not use on IT net configuration

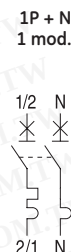
Series EPC 101N - 10kA - characteristics B-C

In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
2	EPC 101N B02	692828	EPC 101N C02	692801	12
4	EPC 101N B04	692829	EPC 101N C04	692802	12
6	EPC 101N B06	692830	EPC 101N C06	692803	12
10	EPC 101N B10	692831	EPC 101N C10	692804	12
13	EPC 101N B13	692605	EPC 101N C13	692606	12
16	EPC 101N B16	692832	EPC 101N C16	692805	12
20	EPC 101N B20	692833	EPC 101N C20	692806	12
25	EPC 101N B25	692834	EPC 101N C25	692807	12
32	EPC 101N B32	692835	EPC 101N C32	692808	12
40	EPC 101N B40	692836	EPC 101N C40	692809	12

(1) 8000 for 32 and 40A

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

(3) I_{cn} = 6kA



Compact MCB's

Series EPC 611



EN/IEC 60898-1

6000

3

EN/IEC 60947-2

6kA

Performances

Thermal setting In	(A) 2-40
Rated voltage AC Un	(V) 230
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+1P (1 mod)
Weight	(g) 125

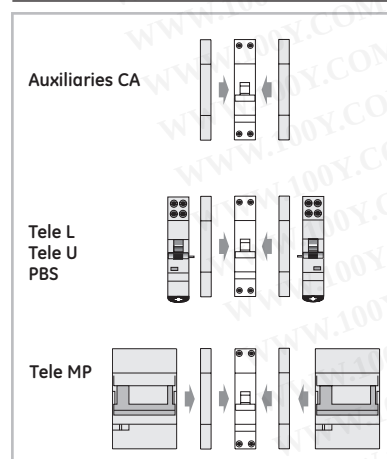
Applications



Approval / Marking



Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS, Tele MP) to the MCB, an universal CA auxiliary has to be coupled first as interface.

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

In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
2	EPC 611 B02	692689	EPC 611 C02	692699	12
4	EPC 611 B04	692690	EPC 611 C04	692700	12
6	EPC 611 B06	692691	EPC 611 C06	692701	12
10	EPC 611 B10	692692	EPC 611 C10	692702	12
13	EPC 611 B13	692693	EPC 611 C13	692703	12
16	EPC 611 B16	692694	EPC 611 C16	692704	12
20	EPC 611 B20	692695	EPC 611 C20	692705	12
25	EPC 611 B25	692696 ⁽³⁾	EPC 611 C25	692706 ⁽³⁾	12
32	EPC 611 B32	692697 ⁽³⁾	EPC 611 C32	692707 ⁽³⁾	12
40	EPC 611 B40	692698 ⁽³⁾	EPC 611 C40	692708 ⁽³⁾	12
25+10	EPC 611 B25B10	693382	EPC 611 C25C10	693391	12
25+13	EPC 611 B25B13	693383	EPC 611 C25C13	693392	12
25+16	EPC 611 B25B16	693384	EPC 611 C25C16	693393	12
32+10	EPC 611 B32B10	693385	EPC 611 C32C10	693394	12
32+13	EPC 611 B32B13	693386	EPC 611 C32C13	693395	12
32+16	EPC 611 B32B16	693387	EPC 611 C32C16	693396	12
40+10	EPC 611 B40B10	693388	EPC 611 C40C10	693397	12
40+13	EPC 611 B40B13	693389	EPC 611 C40C13	693398	12
40+16	EPC 611 B40B16	693390	EPC 611 C40C16	693399	12

1P+1P
1 mod.



Auxiliary contacts ● pg C.6

Busbars ● pg E.2
Dimensions ● pg A.82

(1) 8000 for 32 and 40A
(2) Also accepting (2x4mm²) or (1x4mm²)+(1x6mm²)
(3) On request



New



Compact MCB's

Series EPC 45

EN/IEC 60898-1

EN/IEC 60947-2

4500

3

6kA

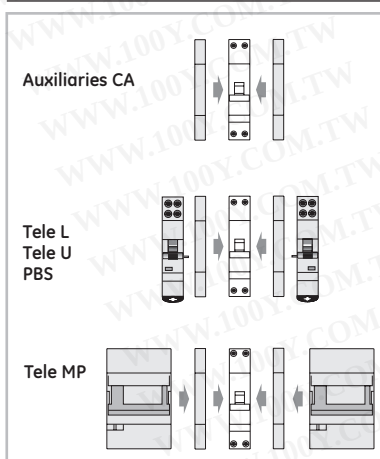
Applications



Approvals / Marking



Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS, Tele MP) to the MCB, an universal CA auxiliary has to be coupled first as interface.

Performances

Thermal setting In	(A)	2-40
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 ⁽¹⁾
Tropicalisation acc. to EN/IEC 60068-2		55°C at 95% RH
Terminal capacity flexible/rigid cable	(mm ²)	10-16 ⁽²⁾
Poles		2, 3, 4
Weight	(g/mod)	160

Short-circuit capacity

Acc. to EN/IEC 60898-1

Poles	V	I _{cn} /I _{cs} (kA)
2P	415	4.5
3P	415	4.5
4P	415	4.5

Acc. to EN/IEC 60947-2

Poles	V	I _{cu} (kA)
2P	415	6
3P	415	6
4P	415	6

DC acc. EN/IEC 60947-2

Poles	Un (V $\overline{=}$)	I _{cu} (kA)
2P	96	4.5

(1) 8000 for 32 and 40A

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

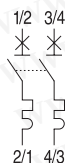
Auxiliary contacts ● pg C.6

Busbars ● pg E.2
Dimensions ● pg A.82

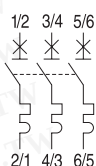
New



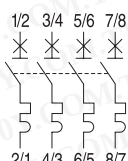
Series EPC 45 - 4.5kA - characteristics B-C

2P
1 mod.

2/1 4/3

3P(1)
2 mod.

2/1 4/3 5/6

4P
2 mod.

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

In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
2	EPC 452 B02	692608	EPC 452 C02	692527	12
4	EPC 452 B04	692609	EPC 452 C04	692528	12
6	EPC 452 B06	692610	EPC 452 C06	692529	12
10	EPC 452 B10	692611	EPC 452 C10	692530	12
16	EPC 452 B16	692612	EPC 452 C16	692531	12
20	EPC 452 B20	692613	EPC 452 C20	692532	12
25	EPC 452 B25	692614	EPC 452 C25	692533	12
32	EPC 452 B32	692615	EPC 452 C32	692534	12
40	EPC 452 B40	692616	EPC 452 C40	692535	12

2	EPC 453 B02	692617	EPC 453 C02	692536 ⁽¹⁾	6
4	EPC 453 B04	692618	EPC 453 C04	692537 ⁽¹⁾	6
6	EPC 453 B06	692619	EPC 453 C06	692538 ⁽¹⁾	6
10	EPC 453 B10	692620	EPC 453 C10	692539 ⁽¹⁾	6
16	EPC 453 B16	692621	EPC 453 C16	692540 ⁽¹⁾	6
20	EPC 453 B20	692622	EPC 453 C20	692541 ⁽¹⁾	6
25	EPC 453 B25	692623	EPC 453 C25	692542 ⁽¹⁾	6
32	EPC 453 B32	692624	EPC 453 C32	692543 ⁽¹⁾	6
40	EPC 453 B40	692625	EPC 453 C40	692544 ⁽¹⁾	6

2	EPC 454 B02	692626	EPC 454 C02	692545	6
4	EPC 454 B04	692627	EPC 454 C04	692546	6
6	EPC 454 B06	692628	EPC 454 C06	692547	6
10	EPC 454 B10	692629	EPC 454 C10	692548	6
16	EPC 454 B16	692630	EPC 454 C16	692549	6
20	EPC 454 B20	692631	EPC 454 C20	692550	6
25	EPC 454 B25	692632	EPC 454 C25	692551	6
32	EPC 454 B32	692633	EPC 454 C32	692552	6
40	EPC 454 B40	692634	EPC 454 C40	692553	6

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



Compact MCB's

Series EPC 60

EN/IEC 60898-1

6000

3

EN/IEC 60947-2

7.5kA

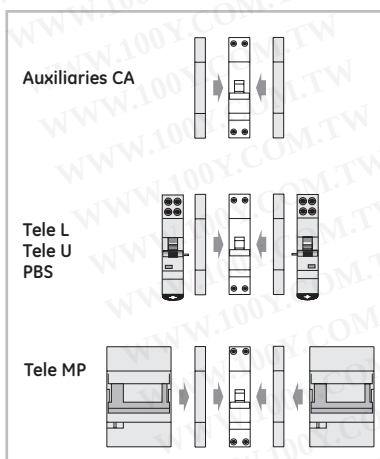
Applications



Approvals / Marking



Add-on devices



When coupling an add-on device (Tele L, Tele U, PBS, Tele MP) to the MCB, an universal CA auxiliary has to be coupled first as interface.

Performances

Thermal setting In	(A) 2-40
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 ⁽¹⁾
Tropicalisation acc. to EN/IEC 60068-2	55°C at 95% RH
Terminal capacity flexible/rigid cable (mm ²)	10-16 ⁽²⁾
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	240/415	7.5
3P	240/415	7.5
4P	240/415	7.5

(1) 8000 for 32 and 40A

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

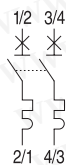
Auxiliary contacts ● pg C.6

Busbars ● pg E.2
Dimensions ● pg A.82

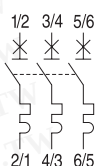
New



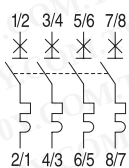
Series EPC 60 - 6kA - characteristics B-C

2P
1 mod.

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

2	EPC 63 B02	692644	EPC 63 C02	692563 ⁽¹⁾	6
4	EPC 63 B04	692645	EPC 63 C04	692564 ⁽¹⁾	6
6	EPC 63 B06	692646	EPC 63 C06	692565 ⁽¹⁾	6
10	EPC 63 B10	692647	EPC 63 C10	692566 ⁽¹⁾	6
16	EPC 63 B16	692648	EPC 63 C16	692567 ⁽¹⁾	6
20	EPC 63 B20	692649	EPC 63 C20	692568 ⁽¹⁾	6
25	EPC 63 B25	692650	EPC 63 C25	692569 ⁽¹⁾	6
32	EPC 63 B32	692651	EPC 63 C32	692570 ⁽¹⁾	6
40	EPC 63 B40	692652	EPC 63 C40	692571 ⁽¹⁾	6

4P
2 mod.

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	EPC 64 C32	692579	6
40	EPC 64 B40	692661	EPC 64 C40	692580	6

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

Series EPC 60

A

B

C

D

E

F

G

X

Screwless & Plug-in

The new range of *Fixwell*™ MCB

Circuit protection

A

B

C

D

E

F

G

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 Redline
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



Easy DIN-rail extraction

Plug-in connection with standard busbars

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

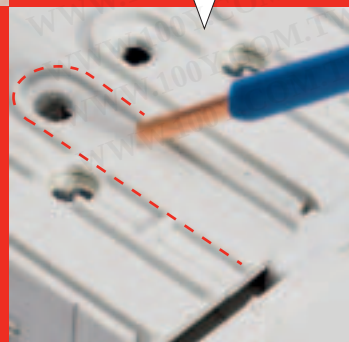


Integrated guide

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.



Up to
63A

New



Reliable



Up to
20A

Sure and secure from the first moment

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

Part of the family

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

Rigid and flexible cable

You have the choice : rigid cable or multiwire from 1 up to 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⁾		(A)	6 - 63	6 - 63	
Calibration temperature		(°C)	30	30	
Number of poles (# mod)				1/1P+N/2/3/3P+N/4P	1/2/3/3P+N/4P
Neutral pole protected				yes	yes
Clip-on (rapid closing)				yes	yes
Nominal voltage (Un)	AC	1P	(V)	240/415	240/415
		1P+N	(V)	240	240
		2P	(V)	415	415
		3P/3P+N/4P	(V)	415	415
	DC	1P ⁽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 (U _{bmax}) between two wires		(V)	250/440; 53/120 DC	250/440; 53/120 DC	
Minimum service voltage (U _{bmin})		(V)	12; 12 DC	12; 12 DC	
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

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

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

How to mount the busbar into devices

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

Easy to dismount from DIN rail

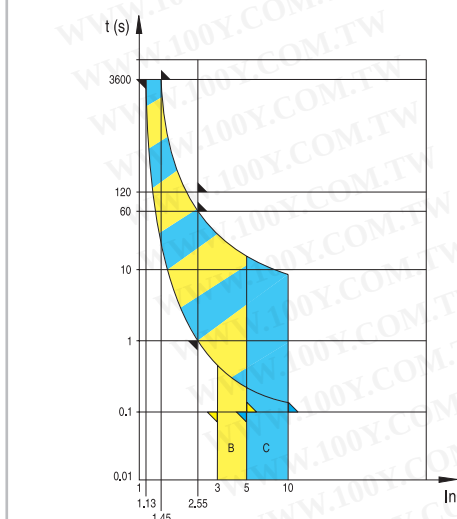
Short-circuit capacity of screwless MCB's

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
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	

Characteristics according to IEC/EN 60898-1

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

Tripping characteristic curves (EN/IEC 60898-1)



Magnetic release

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

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

Thermal release

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

Reference ambient temperature is 30°C.

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

Influence of ambient air temperature on the rated current

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

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

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

Calculation example

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

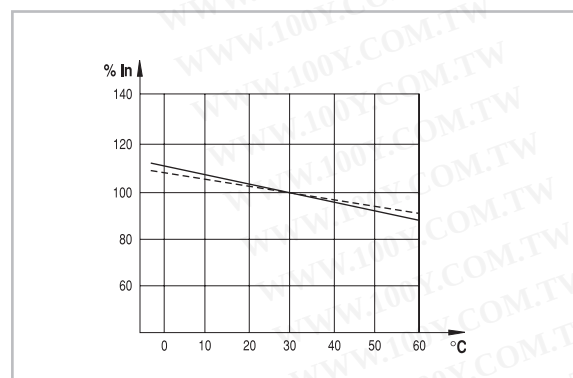
Calculation

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

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

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

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



Tripping current as a function of the frequency

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

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

For DC current magnetic tripping is 50% higher.

Tripping current variations

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

Power losses

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

Power losses per pole

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



Screwless MCB's

Series EPP60

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

Applications



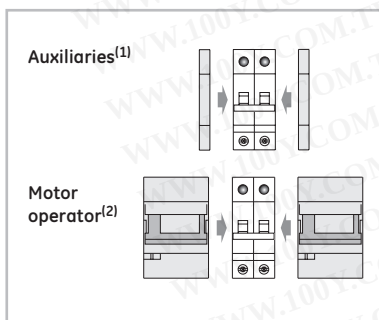
Approvals / Marking



Screwless connection



Add-on devices



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

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

Performances

Thermal setting In	(A)	6-63
Rated voltage AC Un	(V)	240/415
Minimum operating voltage U _{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 (V $\overline{\text{---}}$)	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
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
2/1 N

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

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

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

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

In (A)	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Pack.
6	EPP64B06	678705	EPP64C06	678715	3
10	EPP64B10	678706	EPP64C10	678716	3
13	EPP64B13	678707	EPP64C13	678717	3
16	EPP64B16	678708	EPP64C16	678718	3
20	EPP64B20	678709	EPP64C20	678719	3
25	EPP64B25	678710	EPP64C25	678720	3
32	EPP64B32	678711	EPP64C32	678721	3
40	EPP64B40	678712	EPP64C40	678722	3
50	EPP64B50	678713	EPP64C50	678723	3
63	EPP64B63	678714	EPP64C63	678724	3

(1) Approval pending


SCREWLESS
top terminals
In=6 to 20A


New



Screwless MCB's

Series EPP100

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

Applications



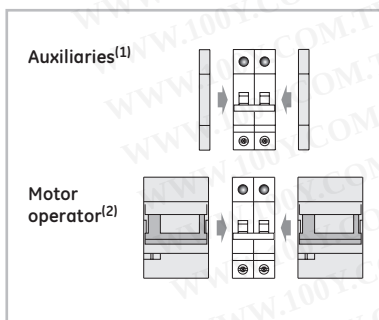
Approvals / Marking



Screwless connection



Add-on devices



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

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

Performances

Thermal setting 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		1/2/3/3P+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	Un (V $\overline{\text{---}}$)	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



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1/2

2/1

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In (A)	B		C		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
6	EPP101B06	678262	EPP101C06	678302	12
10	EPP101B10	678263	EPP101C10	678303	12
13	EPP101B13	678264	EPP101C13	678304	12
16	EPP101B16	678265	EPP101C16	678305	12
20	EPP101B20	678266	EPP101C20	678306	12
25	EPP101B25	678267	EPP101C25	678307	12
32	EPP101B32	678268	EPP101C32	678308	12
40	EPP101B40	678269	EPP101C40	678309	12
50	EPP101B50	678270	EPP101C50	678310	12
63	EPP101B63	678271	EPP101C63	678311	12
6	EPP102B06	678272	EPP102C06	678312	6
10	EPP102B10	678273	EPP102C10	678313	6
13	EPP102B13	678274	EPP102C13	678314	6
16	EPP102B16	678275	EPP102C16	678315	6
20	EPP102B20	678276	EPP102C20	678316	6
25	EPP102B25	678277	EPP102C25	678317	6
32	EPP102B32	678278	EPP102C32	678318	6
40	EPP102B40	678279	EPP102C40	678319	6
50	EPP102B50	678280	EPP102C50	678320	6
63	EPP102B63	678281	EPP102C63	678321	6
6	EPP103B06	678282	EPP103C06	678322	4
10	EPP103B10	678283	EPP103C10	678323	4
13	EPP103B13	678284	EPP103C13	678324	4
16	EPP103B16	678285	EPP103C16	678325	4
20	EPP103B20	678286	EPP103C20	678326	4
25	EPP103B25	678287	EPP103C25	678327	4
32	EPP103B32	678288	EPP103C32	678328	4
40	EPP103B40	678289	EPP103C40	678329	4
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63	EPP103B63	678291	EPP103C63	678331	4
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50	EPP103NB50	678300	EPP103NC50	678340	3
63	EPP103NB63	678301	EPP103NC63	678341	3
6	EPP104B06	678725	EPP104C06	678735	3
10	EPP104B10	678726	EPP104C10	678736	3
13	EPP104B13	678727	EPP104C13	678737	3
16	EPP104B16	678728	EPP104C16	678738	3
20	EPP104B20	678729	EPP104C20	678739	3
25	EPP104B25	678730	EPP104C25	678740	3
32	EPP104B32	678731	EPP104C32	678741	3
40	EPP104B40	678732	EPP104C40	678742	3
50	EPP104B50	678733	EPP104C50	678743	3
63	EPP104B63	678734	EPP104C63	678744	3

(1) Approval pending



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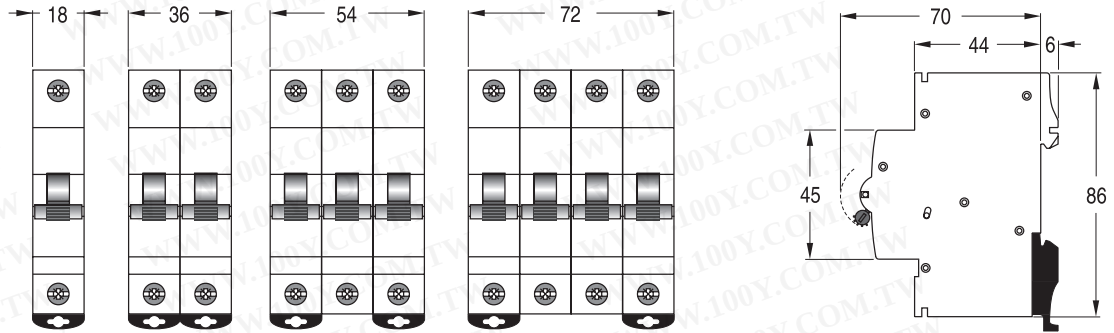
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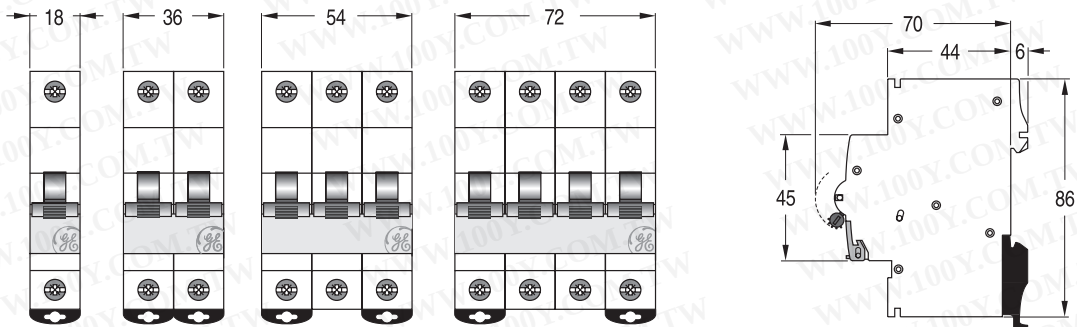
SCREWLESS
top terminals
In=6 to 20A


Dimensional drawings

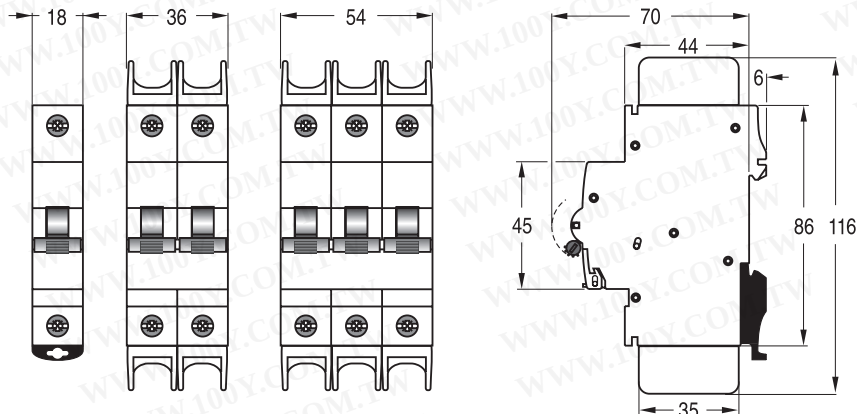
Miniature Circuit Breakers - Series G & GT and Series EP100 UC, EP60 UL and EP100 UL



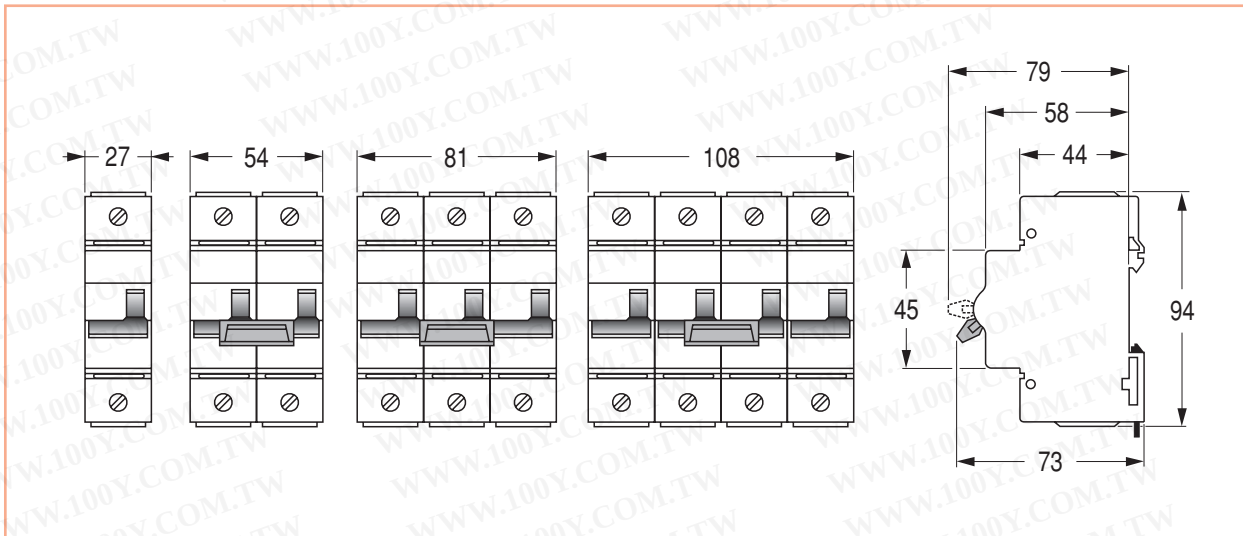
Miniature Circuit Breakers - Series EP60, EP100, EP100T, EP100UCT, EP100R and EP100UCR



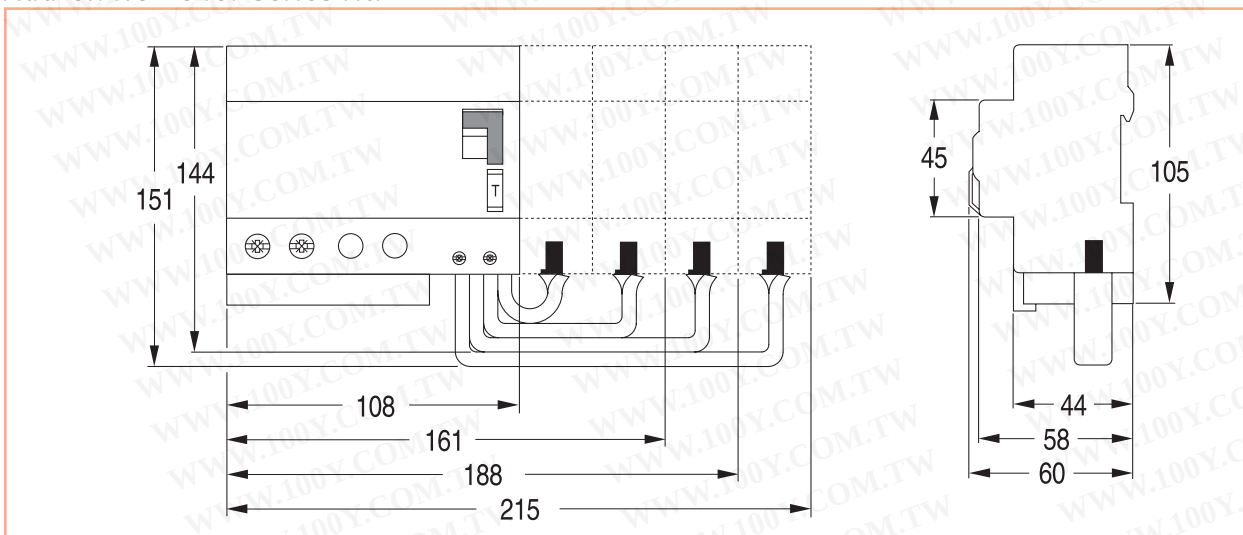
MCB with UL 489 approval - Series EP100 ULH



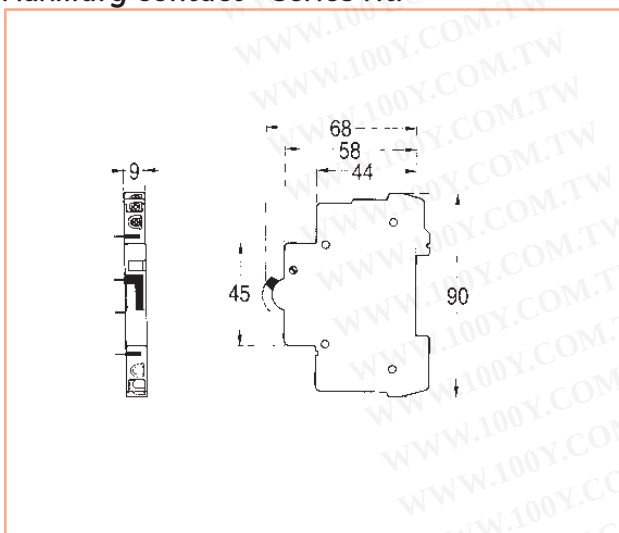
Miniature Circuit Breakers - Series Hti



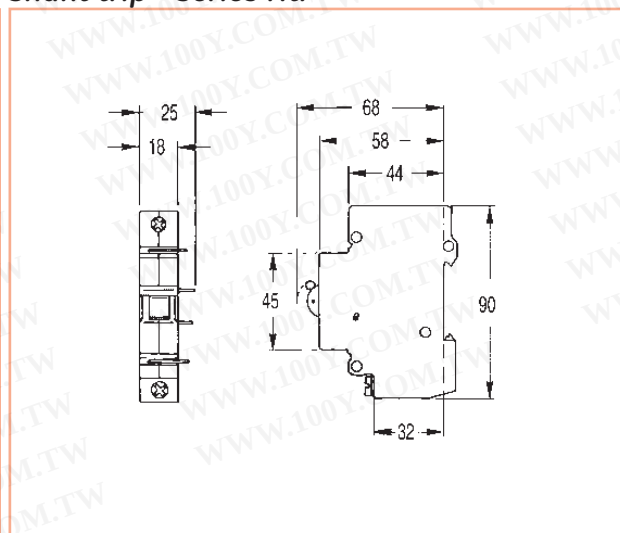
Add-on RCD's for Series Hti



Auxiliary contact - Series Hti

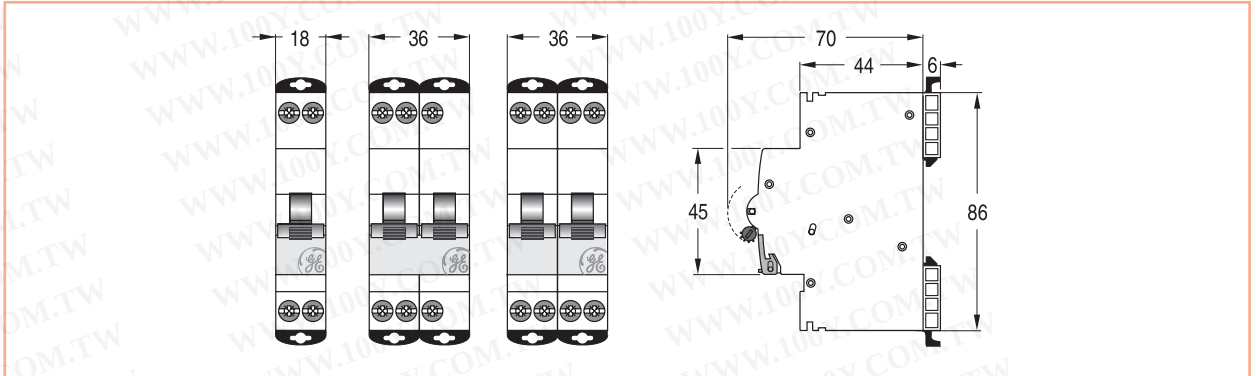


Shunt trip - Series Hti

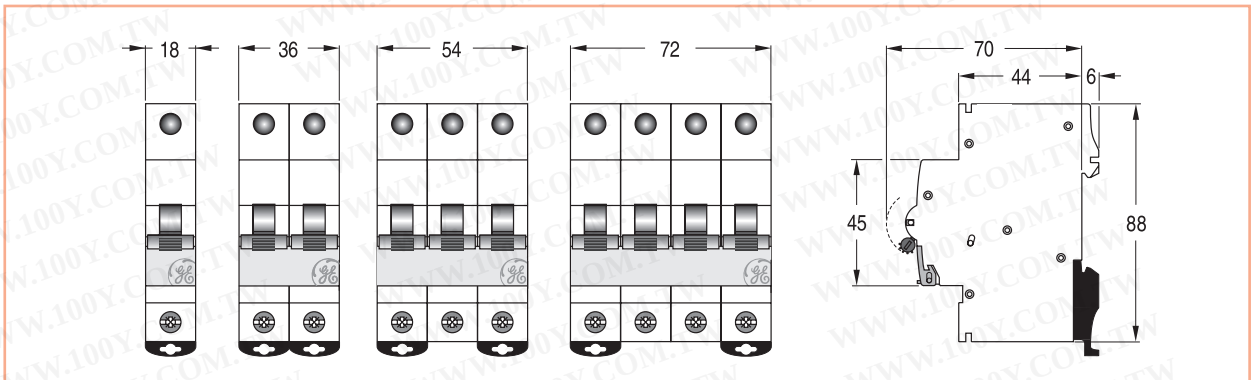


Dimensional drawings

Compact MCB's - Series EPC - Unibis™



Screwless MCB's - Series EPP - Fixwell™



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