

ElfaPlus with UL approvals

MCB's, RCCB's and RCBO's



GE imagination at work

Modular devices with UL approvals

2 Applications

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MCB's

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RCD's

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Add-on devices

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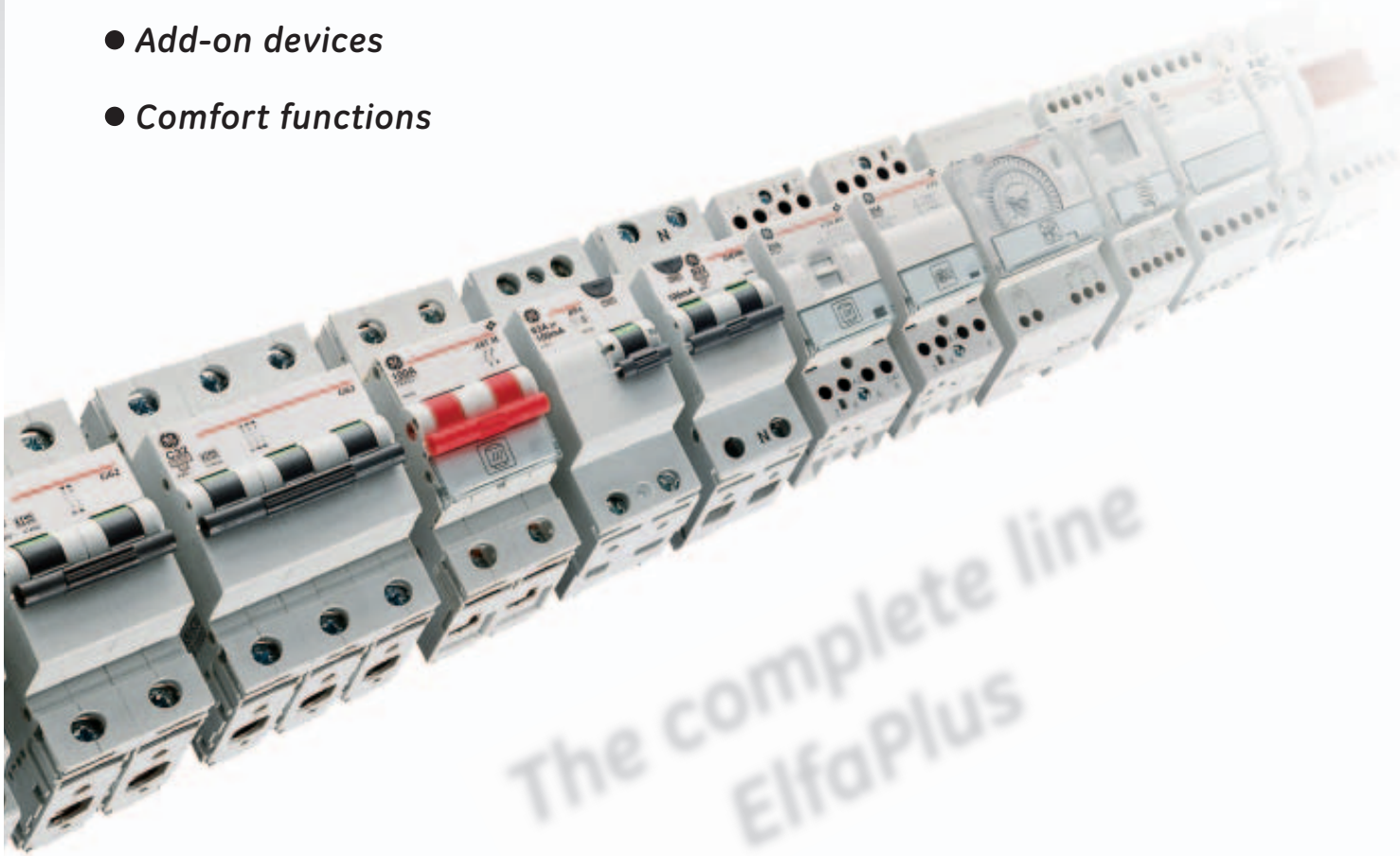


For all applications

Residential



- *Circuit protection*
- *People protection*
- *Add-on devices*
- *Comfort functions*

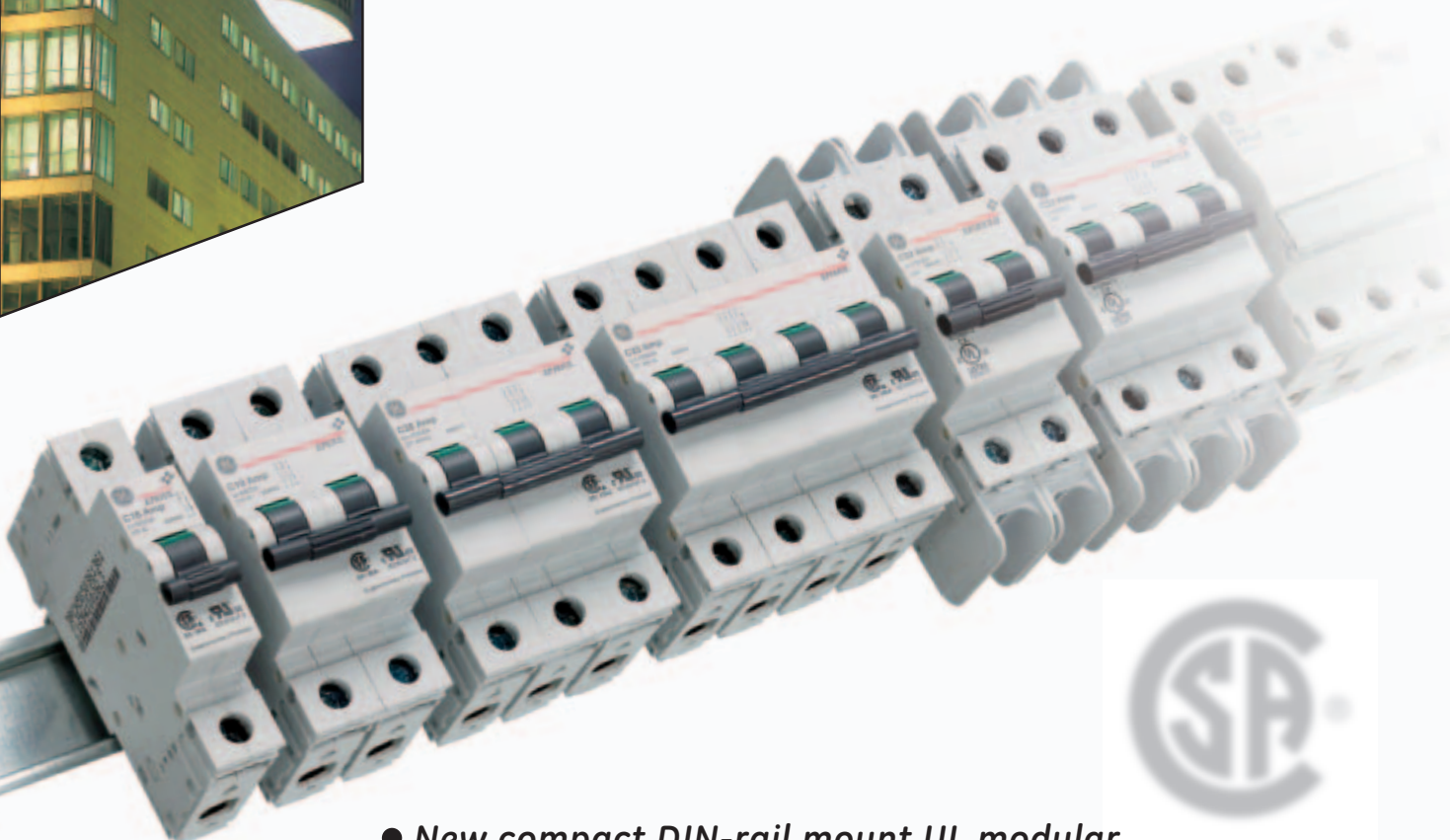


The complete line
ElfaPlus

With UL approvals

Industrial

Commercial



- *New compact DIN-rail mount UL modular devices for circuit & people protection*
- *Line and load reversed connections*
- *Bifunctional (wires & bars) strong terminals*
- *3 trip curves (B, C, D)*

c  US

c  US
LISTED

MCB's - Technical data

Series		EP60 UL	EP100 UL	EP100 ULH
Standards UL 1077 (recognized) & CSA C22.2		yes	yes	-
Standards UL 489 (listed)		-	-	yes
UL file		E151139	E151139	E256870
CSA file		235-04	235-04	-
Nominal voltage acc. UL & CSA	1P	277VAC/50VDC	277VAC/50VDC	120VAC/50VDC
	2P	480VAC/110VDC	480VAC/110VDC	240VAC/110VDC
	3P	480VAC/110VDC	480VAC/110VDC	240VAC/110VDC
	4P	480VAC/110VDC	480VAC/110VDC	-
Reference temperature	°C	25	25	25
Terminal capacity	60/75°C	14-4 AWG	14-4 AWG	14-8 AWG
Torque	N.m/lbs.in	2.5/22.5	2.5/22.5	2.5/22.5
Standards EN/IEC 60947-2		yes	yes	yes
Tripping characteristics		B,C,D	B,C,D	B,C,D
Nominal current	A	B 6-63, C/D 0.5-63	B 6-63, C/D 0.5-63	B 5-32, C/D 0.5-32
Calibration temperature	°C	50	50	50
Number of poles		1/2/3/4	1/2/3/4	1/2/3
Number of modules		1,2,3,4	1,2,3,4	1,2,3
Nominal voltage Un				
	AC 1P	V 230/400	230/400	230/400
	1P+N	V -	-	-
	2P	V 400	400	400
	3P	V 400	400	400
	3P+N/4P	V 400	400	400
	DC 1P ⁽¹⁾	VDC 48	48	48
	2P (in series) ⁽¹⁾	VDC 110	110	110
Frequency	Hz	50/60	50/60	50/60
Maximum service voltage U _{bmax} between two wires	V	250/440; 53/120 [≡]	250/440; 53/120 [≡]	250/440; 53/120 [≡]
Minimum service voltage U _{bmin}	V	12 and 12 [≡]	12 and 12 [≡]	12 and 12 [≡]
Selectivity class (IEC 60898)		3	3	3
Isolator application	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	10,000	10,000	10,000
Dielectric rigidity	kV	2.5	2.5	2.5
Mounting position		Any	Any	Any
Incoming top or bottom		Any	Any	Any
Vibrations resistance (in x, y, z direction) (IEC 77/16.3)		3g	3g	3g
Endurance	electrical at U _n , I _n	10,000	10,000	10,000
	mechanical	20,000	20,000	20,000
Utilisation category (IEC 60947-2)		A	A	A
Protection distance (IEC 60947-2)	mm	12	12	12
Protection degree (outside / inside enclosure with door)		IP20/IP40	IP20/IP40	IP20/IP40
Self-extinguish degree (according to UL94)		V0	V0	V0
Tropicalisation (according to IEC 60068-2 / DIN 40046)	°C/RH	+55°C / 95%RH	+55°C / 95%RH	+55°C / 95%RH
Operating temperature	°C	-25/+55	-25/+55	-25/+55
Storage temperature	°C	-55/+55	-55/+55	-55/+55
Terminal capacity				
	Rigid cable min/max (top)	mm ² 1/35	1/35	1/35
	Flexible cable min*/max (top)	mm ² 0.75/25	0.75/25	0.75/25
	Rigid cable min/max (bottom)	mm ² 1/35	1/35	1/35
	Flexible cable min*/max (bottom)	mm ² 0.75/25	0.75/25	0.75/25
	(* Flexible cable 0.75/1/1.5 mm ² with cable lug)			
	Torque	Nm max 4.5	max 4.5	max 4.5
Add-on devices	Auxiliary contacts	yes	yes	yes
(side add-on)	Tele L	yes	yes	yes
	Tele Mp	yes	yes	yes
Dimensions, weights, packaging (HxDxW) 86x68xW ⁽²⁾	mm/mod.	18	18	18
Weight/mod.	g	125	125	130
Package	mod.	see page 7	see page 9	see page 11
Approvals		UL/CSA/VDE	UL/CSA/VDE	UL
CE-marking		yes	yes	yes
Page		6	8	10

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



MCB's - Short-circuit capacity

Series		EP60 UL	EP100 UL	EP100 ULH
Interrupting capacity acc. to		UL1077	UL1077	UL489
UL	1P/2P 277VAC	6	10	-
	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		6	8	10

Characteristics according to EN/IEC 60947-2

Magnetic release

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

GE offers instantaneous tripping ranges:

- B: 4 I_n
- C: 8.5 I_n (7.5 I_n for 63A)
- D: 14 I_n

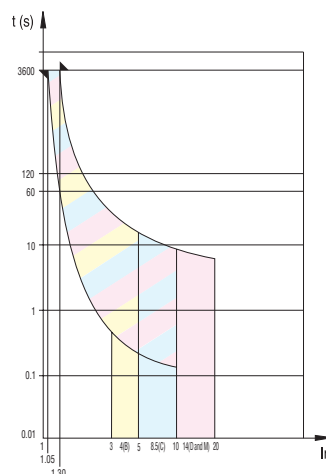
Thermal release

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

Reference ambient temperature is 50°C

Test current B - C - D	Tripping time
1.05 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)





Miniature circuit breakers with UL approval

EP60 UL (Supplementary protection)

Recognized UL 1077 6 kA

EN/IEC 60898 6000
3

EN/IEC 60947-2 10 kA

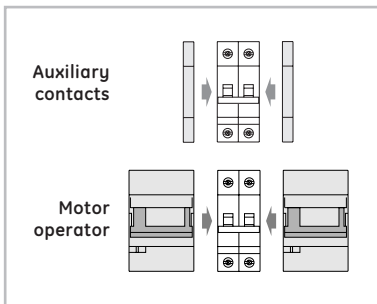
Applications



Approval / Marking



Add-on devices



- Add-on devices**
 Auxiliary contacts ● page 18
 Shunt trip ● page 20
 Motor operator ● page 21

Dimensions ● page 22

Performances

Thermal setting I_n	(A) 0,5-63
Rated voltage AC U_n	(V) 277/480; 110V \equiv
Minimum operating voltage U_{Bmin}	(V) 12
Tripping characteristics	B-C-D
Selectivity class	3
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. to 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, 2	277	6
3, 4	277/480	6

According to IEC 60898

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

According to IEC 60947-2

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

DC according to IEC 60947-2

Poles	U_n (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



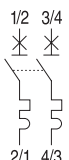
1P
1 mod.



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



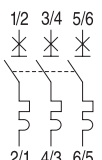
2P
2 mod.



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



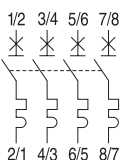
3P
3 mod.



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



4P
4 mod.



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

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

EP60 UL





Miniature circuit breakers with UL approval

EP100 UL (Supplementary protection)

Recognized UL 1077 10 kA

EN/IEC 60898 10000
3

EN/IEC 60947-2 15 kA

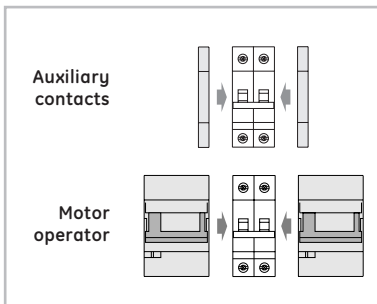
Applications



Approval / Marking



Add-on devices



- Add-on devices**
 Auxiliary contacts ● page 18
 Shunt trip ● page 20
 Motor operator ● page 21

Dimensions ● page 22

Performances

Thermal setting I_n	(A) 0,5-63
Rated voltage AC U_n	(V) 277/480; 110V \equiv
Minimum operating voltage U_{Bmin}	(V) 12
Tripping characteristics	B-C-D
Selectivity class	3
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. to 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, 2	277	10
3, 4	277/480	10

According to IEC 60898

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

According to IEC 60947-2

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

DC according to 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 1077 approval

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



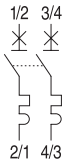
1P
1 mod.



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



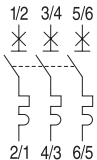
2P
2 mod.



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



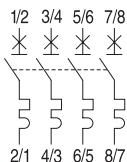
3P
3 mod.



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



4P
4 mod.



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

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



Miniature circuit breakers with UL approval

EP100 ULH (Branch circuit protection)



Listed UL 489 10 kA
 EN 60947-2 15 kA

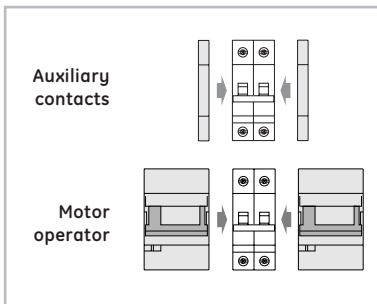
Applications



Approval / Marking



Add-on devices



- Add-on devices***
 Auxiliary contacts ● page 18
 Shunt trip ● page 20
 Motor operator ● page 21

Dimensions ● page 22

* UL 489 on process

Performances

Thermal setting I_n	(A)	0,5-32
Rated voltage AC U_n	(V)	120/240; 110V \equiv
Minimum operating voltage U_{Bmin}	(V)	12
Tripping characteristics		B-C-D
Selectivity class		3
Mechanical/electrical endurance		20000/10000
Tropicalisation acc. to 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 IEC 60947-2

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

DC according to 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



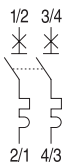
1P
1 mod.
(1)



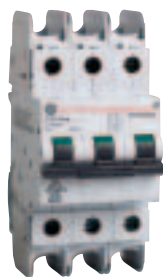
In (A)	B		C		D		Pack.
	Cat. No.	Ref. No.	Cat. No.	Ref. No.	Cat. No.	Ref. No.	
0,5	-	-	EP101ULHC0,5	690265	EP101ULHD0,5	690313	12
1	-	-	EP101ULHC01	690266	EP101ULHD01	690314	12
2	-	-	EP101ULHC02	690267	EP101ULHD02	690315	12
4	-	-	EP101ULHC04	690269	EP101ULHD04	690317	12
5	EP101ULHB05	690214	EP101ULHC05	690270	EP101ULHD05	690318	12
6	EP101ULHB06	690215	EP101ULHC06	690271	EP101ULHD06	690320	12
10	EP101ULHB10	690216	EP101ULHC10	690273	EP101ULHD10	690321	12
13	EP101ULHB13	690217	EP101ULHC13	690274	EP101ULHD13	690322	12
15	EP101ULHB15	690218	EP101ULHC15	690275	EP101ULHD15	690323	12
16	EP101ULHB16	690219	EP101ULHC16	690276	EP101ULHD16	690324	12
20	EP101ULHB20	690220	EP101ULHC20	690277	EP101ULHD20	690325	12
25	EP101ULHB25	690221	EP101ULHC25	690278	EP101ULHD25	690326	12
30	EP101ULHB30	690222	EP101ULHC30	690279	EP101ULHD30	690327	12
32	EP101ULHB32	690223	EP101ULHC32	690280	EP101ULHD32	690328	12



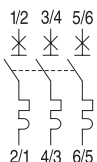
2P
2 mod.



0,5	-	-	EP102ULHC0,5	690281	EP102ULHD0,5	690329	3
1	-	-	EP102ULHC01	690282	EP102ULHD01	690330	3
2	-	-	EP102ULHC02	690283	EP102ULHD02	690331	3
4	-	-	EP102ULHC04	690285	EP102ULHD04	690333	3
5	EP102ULHB05	690224	EP102ULHC05	690286	EP102ULHD05	690334	3
6	EP102ULHB06	690225	EP102ULHC06	690287	EP102ULHD06	690335	3
10	EP102ULHB10	690226	EP102ULHC10	690289	EP102ULHD10	690337	3
13	EP102ULHB13	690227	EP102ULHC13	690290	EP102ULHD13	690338	3
15	EP102ULHB15	690228	EP102ULHC15	690291	EP102ULHD15	690339	3
16	EP102ULHB16	690229	EP102ULHC16	690292	EP102ULHD16	690340	3
20	EP102ULHB20	690230	EP102ULHC20	690293	EP102ULHD20	690341	3
25	EP102ULHB25	690231	EP102ULHC25	690294	EP102ULHD25	690342	3
30	EP102ULHB30	690232	EP102ULHC30	690295	EP102ULHD30	690343	3
32	EP102ULHB32	690233	EP102ULHC32	690296	EP102ULHD32	690344	3



3P
3 mod.



0,5	-	-	EP103ULHC0,5	690297	EP103ULHD0,5	690345	2
1	-	-	EP103ULHC01	690298	EP103ULHD01	690346	2
2	-	-	EP103ULHC02	690299	EP103ULHD02	690347	2
4	-	-	EP103ULHC04	690301	EP103ULHD04	690349	2
5	EP103ULHB05	290234	EP103ULHC05	690302	EP103ULHD05	690350	2
6	EP103ULHB06	690235	EP103ULHC06	690303	EP103ULHD06	690351	2
10	EP103ULHB10	690236	EP103ULHC10	690305	EP103ULHD10	690353	2
13	EP103ULHB13	290237	EP103ULHC13	690306	EP103ULHD13	690354	2
15	EP103ULHB15	290238	EP103ULHC15	690307	EP103ULHD15	690355	2
16	EP103ULHB16	690239	EP103ULHC16	690308	EP103ULHD16	690356	2
20	EP103ULHB20	690240	EP103ULHC20	690309	EP103ULHD20	690357	2
25	EP103ULHB25	690241	EP103ULHC25	690310	EP103ULHD25	690358	2
30	EP103ULHB30	290242	EP103ULHC30	690311	EP103ULHD30	690359	2
32	EP103ULHB32	690243	EP103ULHC32	690312	EP103ULHD32	690360	2

Accessories for MCB's

Walls



	Cat. No.	Ref. No.	Pack.
Walls for terminals IP	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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EP100 ULH

RCD's - Technical data			RCCB's	RCBO's
Series			FPAUL	DPA100
Standards			UL1053 & IEC 61008-1	UL1053 & IEC 61009-1
Magnetic tripping characteristics			-	B-C
Residual tripping characteristic			A	A
Tripping time at IΔn	Instantaneous	ms	< 40	< 40
Rated current		A	16, 25, 40, 63	10, 13, 16, 32, 40
Rated residual current IΔn		mA	10, 30, 100, 300, 500	10, 30
Calibration temperature		°C	30	30
Number of poles versus modules			1	1
Rated voltage Un	2P AC	V	240	277 & 240 (1P+N)
	4P AC	V	UL: 240; IEC: 415	-
Frequency		Hz	50/60	50/60
Power supply			Top/Bottom	Top/Bottom
Selectivity class			-	3
Rated making and breaking capacity (Im)			500 (or 10xIn)	-
Residual making and breaking capacity (IΔm)			500 (or 10xIn)	6000
Conditional short-circuit capacity (Iinc)			10000 fuse 100A glgG	-
Conditional residual short-circuit capacity (IΔc)			10000	-
Short-circuit capacity (Icn)			-	10,000
Grid distance (safety distance between two devices)			35	35
Isolator application			yes	yes
Insulation degree	Insulation voltage	V (DC)	500	500
	Shock voltage (1.2/50ms)	kV	8	6
	Insulation resistance	(mOhm)	1000	1000
	Dielectric strength	V	2500	2500
Shock resistance (in x, y, z direction) (IEC 60077/16.3)			40g, 18 shocks 5 ms	40g, 18 shocks 5 ms
Vibration resistance (in x, y, z direction; IEC 60068-2-6)			1.5g, 30 min, 0..80Hz	1.5g, 30 min, 0..80Hz
Endurance	electrical at Un, In		10000	10000
	mechanical at Un, In		20000	20000
Protection degree (outside/inside electrical enclosure)			IP 20 / IP 40	IP 20 / IP 40
Self extinguish degree (according to UL94)			V2	V2
Tropicalisation (according to IEC 60068-2, DIN 40046)			+55/95%	+55/95%
Pollution degree (acc. IEC 60947-1)			3	3
Operating temperature			AC (-5.. +60); A (-25.. +60)	-5..+60
Storage temperature			-25..+70	-25..+70
Terminals capacity	Rigid cable min/max (top)	mm ²	1.5/50 [1.5/35]	1/25
	Flexible cable min*/max (top)	mm ²	1.5/35 [1.5/25]	1/16
	Rigid cable min/max (bottom)	mm ²	1.5/50 [1.5/35]	1/35
	Flexible cable min*/max (bottom)	mm ²	1.5/35 [1.5/25]	1/25
	(*Flexible cable 0.75/1/1.5 mm ² with cable lug)			
Torque	Top/Bottom	Nm	5/5	3/4
Add-on devices (side add-on)	Auxiliary contacts		yes	yes
	Tele L		yes	yes
	Tele M		yes	yes
Dimensions, weights, packaging				
# Poles			2-4	1+N
(HxDxW) 86x68xW			36/72	36
Weight/unit			2P=250 / 4P=368	250
Package/unit			2P=1/6 / 4P=1/3	1/6
Approvals			UL	UL & CEBEC
CE-marking			yes	yes
Page			13	14



Residual current circuit breakers

Series FPAUL

Recognized UL1053

IEC 61008

Type A



Performances UL

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

Performances IEC

Thermal setting I_n	(A)	16, 25, 40, 63
Residual current $I_{\Delta n}$	(mA)	10, 30, 100, 300, 500
Rated maximum voltage AC U_n	(V)	2P: 240 4P: 240/415
Minimum operating voltage U_{8min}	(V)	2P: 117 4P: 190
Mechanical/electrical endurance		20000/10000
Tropicalisation acc.to IEC 60068-2-28/2-30 and DIN 40046		95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm ²)	35-50
Poles		2, 4
Nuisance tripping resistance		AC: 250A 8/20μs; Type S: 3000A 8/20μs
Ambient temperature	(°C)	Type A: -25 upto 40
Weight	(g)	2P: 220 4P: 385

Short-circuit capacity

Acc. to IEC 61008	
Making and breaking capacity	$I_m=500A$
Residual making and breaking capacity	$I_{\Delta m} \geq 500A$ from 16 upto 40A $I_{\Delta m} = 10I_n$ from 63 upto 100A
Short-circuit capacity	$I_{nc}=10000A$ at 230/400V fuse 80A gG



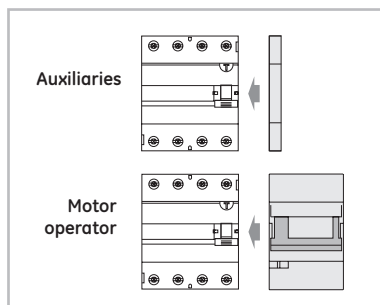
Applications



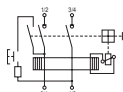
Approval



Add-on devices

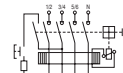


Series FPAUL - Type A



2P

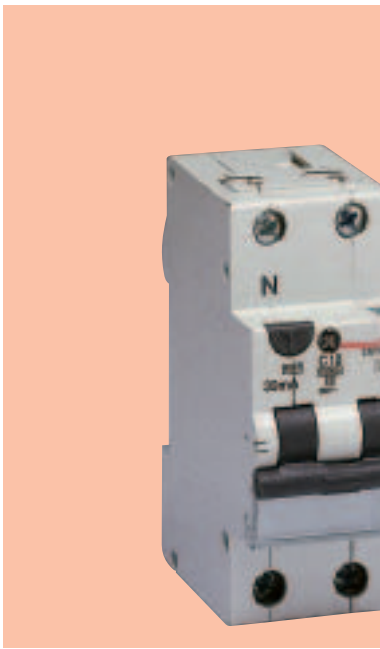
In (A)	10*/30mA		100mA		300mA		500mA		Pack.
	Cat. nr.	Ref. nr.	Cat. nr.	Ref. nr.	Cat. nr.	Ref. nr.	Cat. nr.	Ref. nr.	
16	FPAUL 216/010*	608377							
25	FPAUL 225/030	608378	FPAUL 225/100	608379	FPAUL 225/300	608380	FPAUL 225/500	608381	1/6
40	FPAUL 240/030	608382	FPAUL 240/100	608383	FPAUL 240/300	608384	FPAUL 240/500	608385	1/6
63	FPAUL 263/030	608386	FPAUL 263/100	608387	FPAUL 263/300	608388	FPAUL 263/500	608401	1/6



4P

In (A)	30mA		100mA		300mA		500mA		Pack.
	Cat. nr.	Ref. nr.	Cat. nr.	Ref. nr.	Cat. nr.	Ref. nr.	Cat. nr.	Ref. nr.	
25	FPAUL 425/030	608389	FPAUL 425/100	608390	FPAUL 425/300	608391	FPAUL 425/500	608392	1/3
40	FPAUL 440/030	608393	FPAUL 440/100	608394	FPAUL 440/300	608395	FPAUL 440/500	608396	1/3
63	FPAUL 463/030	608397	FPAUL 463/100	608398	FPAUL 463/300	608399	FPAUL 463/500	608400	1/3





Residual current circuit breakers with overcurrent protection

DPA100

Recognized UL1053

EN 61009-1

10000

3

Type A



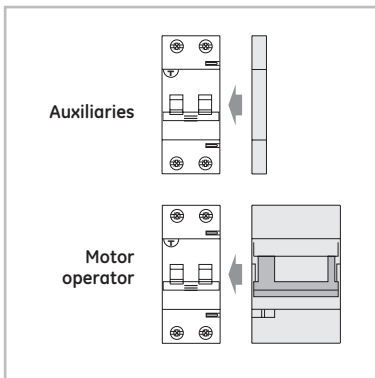
Applications



Approval



Add-on devices



Add-on devices

- Auxiliary contacts ● page 18
- Shunt trip ● page 20
- Motor operator ● page 21

Dimensions ● page 22

Performances UL

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

Performances IEC

Thermal setting In	(A) 10 to 32
Residual current IΔn	(mA) 10, 30, 100, 300
Tripping characteristic	B-C
Rated voltage AC Un	(V) 240
Minimum operating voltage U$_{Bmin}$	(V) 100
Mechanical/electrical endurance	20000/10000
Tropicalisation acc. to IEC 60068-2-28/2-30 and DIN 40046	95%RH at 55°C
Terminal capacity flexible/rigid cable	(mm ²) Top terminal: 16-25 Bottom terminal: 25-35
Poles	1+N
Nuisance tripping resistance	250A 8/20 μ s; 200A 0.5 μ s - 100kHz
Ambient temperature	(°C) Type A: -25 upto 40
Weight	(g) 250

Short-circuit capacity

According to IEC 61009-1	
Residual making and breaking capacity	I Δ m =7500A
Short-circuit capacity	Icn=10000A at 230V
Selectivity class	3

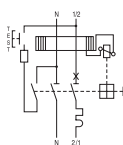
According to IEC 60947-2	
Short-circuit capacity	Icu=15000A at 230V



DPA100 - ¹⁰⁰⁰⁰/₃ Type A  - characteristic B



1P+N

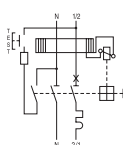


In (A)	10 mA		30 mA		Pack.
	Cat. nr.	Ref. nr.	Cat. nr.	Ref. nr.	
10	DPA 100B10/010	609581	DPA 100B10/030	609586	1/6
13	DPA 100B13/010	609582	DPA 100B13/030	609587	1/6
16	DPA 100B16/010	609583	DPA 100B16/030	609588	1/6
25			DPA 100B25/030	609590	1/6
32			DPA 100B32/030	609591	1/6
40			DPA 100B40/030	609592	1/6

DPA100 - ¹⁰⁰⁰⁰/₃ Type A  - characteristic C



1P+N



In (A)	10 mA		30 mA		Pack.
	Cat. nr.	Ref. nr.	Cat. nr.	Ref. nr.	
10	DPA 100C10/010	609620	DPA 100C10/030	609626	1/6
13	DPA 100C16/010	609621	DPA 100C13/030	609627	1/6
16	DPA 100C16/010	609622	DPA 100C16/030	609628	1/6
25			DPA 100C25/030	609630	1/6
32			DPA 100C32/030	609631	1/6
40			DPA 100C40/030	609632	1/6

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



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

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

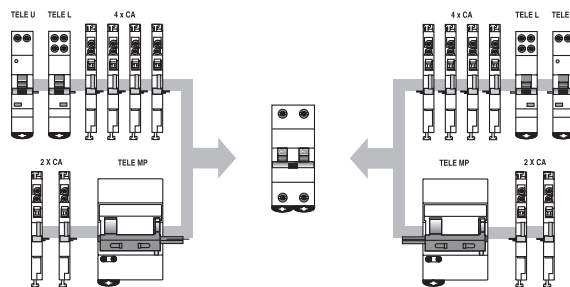
Coupling of add-on devices on MCB's, RCCB's and modular switches

Cat. No.	Description	Function	EP60UL	EP100UL	EP100ULH	FPAUL	DPA100
CA H	Auxiliary contact	H	L-R	L-R	L-R	R	R
CA S/H	Signal or auxiliary contact	S/H	L-R	L-R	L-R	R	R
CA S/H-G	Signal or aux. contact, gold cont.	S/H	L-R	L-R	L-R	R	R
CB SH/HH-R	Signal or auxiliary + aux. contact	S/H+H	R	R	R	R	R
CB SH/HH-L	Signal or auxiliary + aux. contact	S/H+H	L	L	L	-	-
Tele L	Shunt trip	TL	L-R	L-R	L-R	R	R
Tele MP	Motor operator	TM	L-R	L-R	L-R	R	R

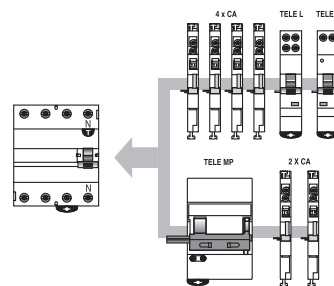
L = Coupling on the left
R = Coupling on the right

For detailed information, see technical catalogue

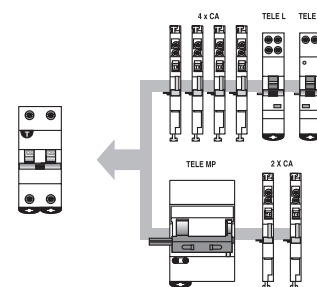
**Miniature Circuit Breakers
Series EP UL**



**Residual Current Circuit Breakers (RCCB)
Series FPAUL**



**Residual Current Circuit Breakers (RCBO)
with Overcurrent Protection
Serie DPA100**

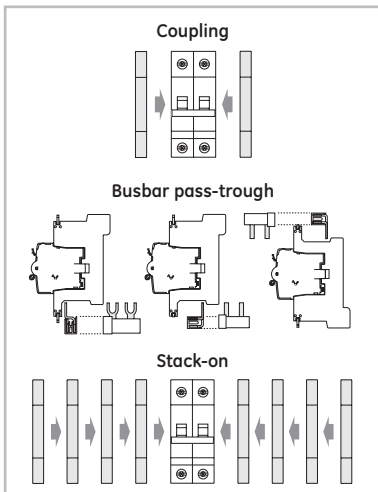




Applications



Approvals



Auxiliary switches

Series CA

IEC 62019

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

Performance

Change-over contacts	1
Rated current AC Un/In	(V/A) 240/5
Rated voltage DC Un/In	(V/A) 220/0.4; 60/1; 24/4
Electrical endurance	10000
Terminal capacity flexible/rigid cable	(mm ²) 2.5
	18-14 AWG
Weight	(g) 70

Utilisation

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

Auxiliary contact CA H (function H)

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

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

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

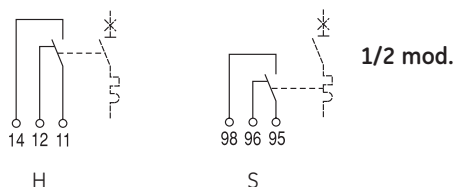
The user can change the function at the moment of installation.

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

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

Series CA

Function	Cat. No.	Ref. No.	Pack.	
H	CA H	672567	1	
S/H	CA S/H	672568	1	
S/H	CA S/H G	672569	1	golden contacts



Auxiliary switches



Series CB

IEC 62019

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

Applications



Approvals



Performance

Change-over contacts	2
Rated current AC Un/In	(V/A) 240/5
Rated voltage DC Un/In	(V/A) 220/0.4; 60/1; 24/4
Electrical endurance	10000
Terminal capacity flexible/rigid cable	(mm ²) 2.5
	18-14 AWG
Weight	(g) 80

Functions

Bottom auxiliary contact (function H)

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

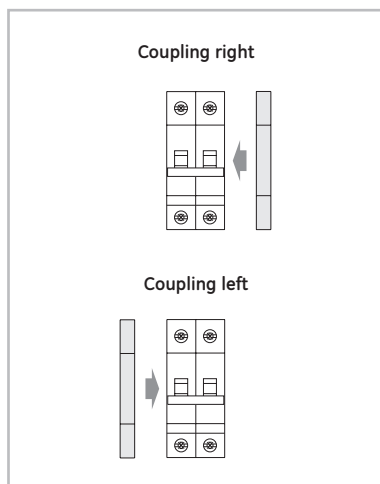
Top signal or auxiliary contact (function S/H).

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

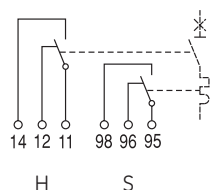
The user can make the change of the function at the moment of installation.

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

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



Series CB



1/2 mod.

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

(1) R= coupling on the right

(2) L= coupling on the left




Shunt trip Tele L

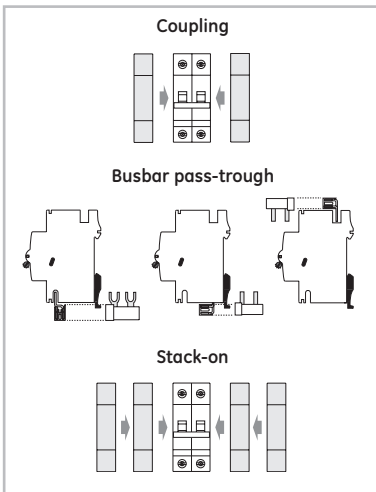
- Common device for all modular protection devices.
- Can be coupled on both sides of MCB's and modular switches, on the right side of RCCB's and RCBO's.
- Permit the pass-trough of busbars, pin & fork, at top or bottom terminals.
- Stack-on left and right side up to 4 modules.

Applications



Approvals

IEC 60947-2 



Performance

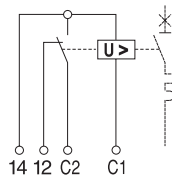
The Tele L allows to remotely switch off any MCB, RCCB or RCBO by means of push-buttons or any other automatic management processor. A built-in contact in series with the coil prevents burn-out damage if the voltage remains.

Rated voltage	(V) 110/415, 110/125 DC
	(V) 24/60, 24/48 DC
Tripping time	(ms) <10
Electrical endurance	10000
Terminal capacity flexible/rigid cable	(mm ²) 2.5
	18-14 AWG
Weight	(g) 125

Tele L - Shunt trip



1P
1 mod.



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

Motor operator Tele MP



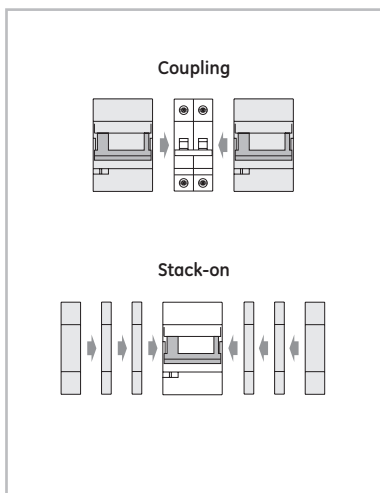
- Common device for all modular protection devices.
- Can be coupled on both sides of MCB's and modular switches, on the right hand side of RCCB's and RCBO's.
- Stack-on left and right sides up to 4 modules. One of them can be coupled between the main device and the motor operator.
- Can be locked in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

Applications



Standard

IEC 60947-2  in process



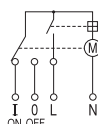
Performance

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

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

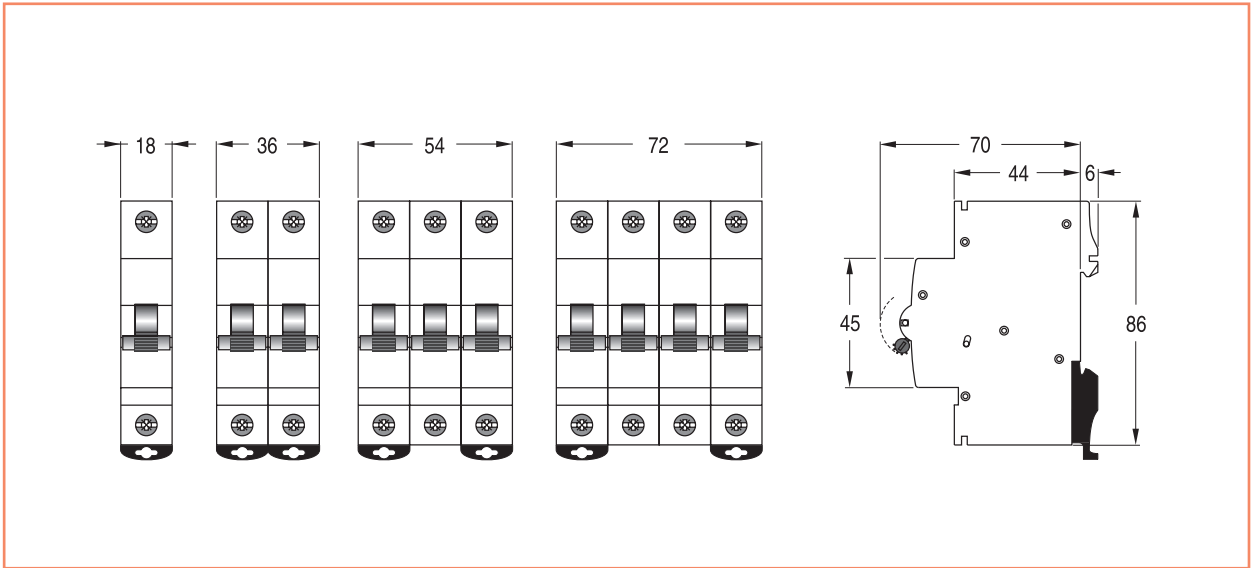
Tele MP - Motor operator

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

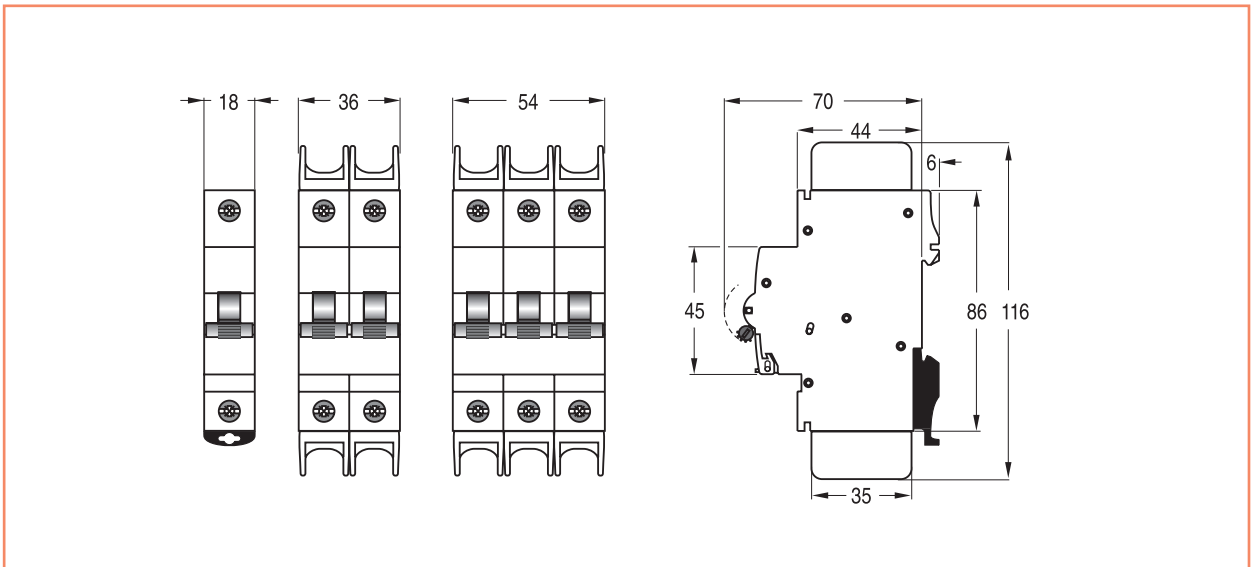


Dimensional drawings

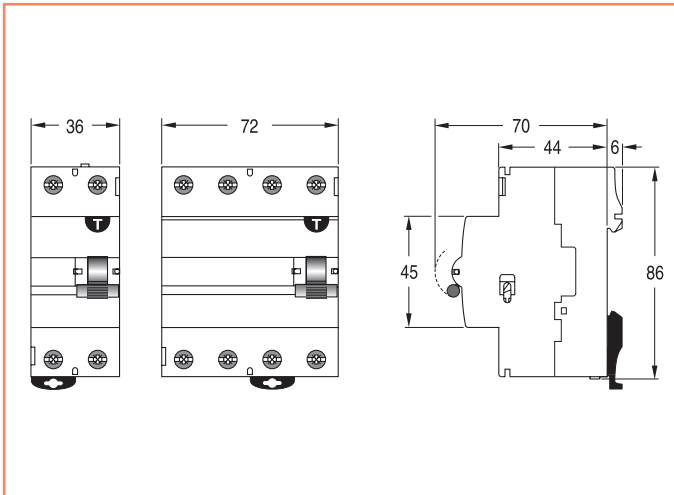
Miniature circuit breakers - Series EP60UL & EP100UL



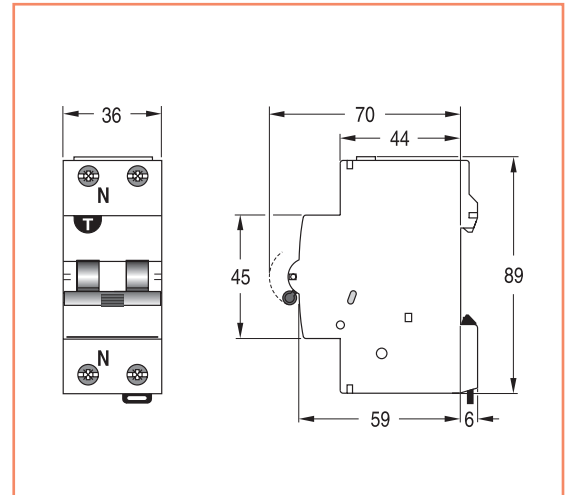
Miniature circuit breakers - Series EP100ULH



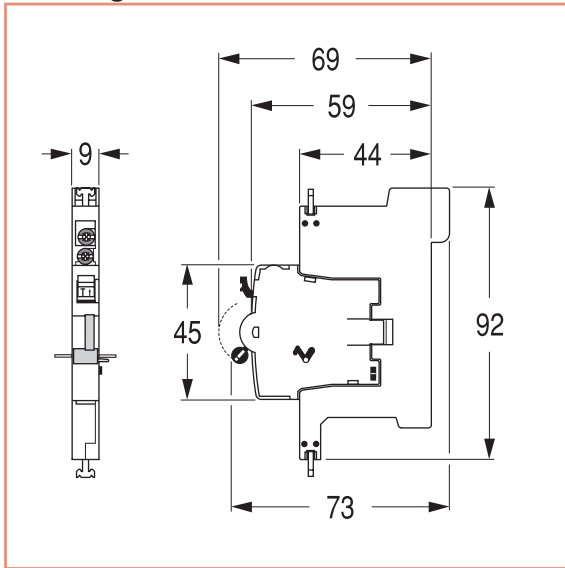
RCCB's - Series FPAUL



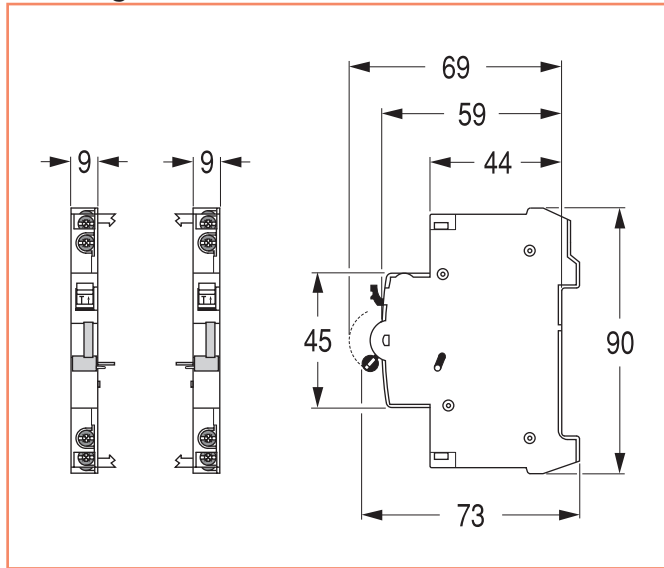
RCBO's - Series DPA100



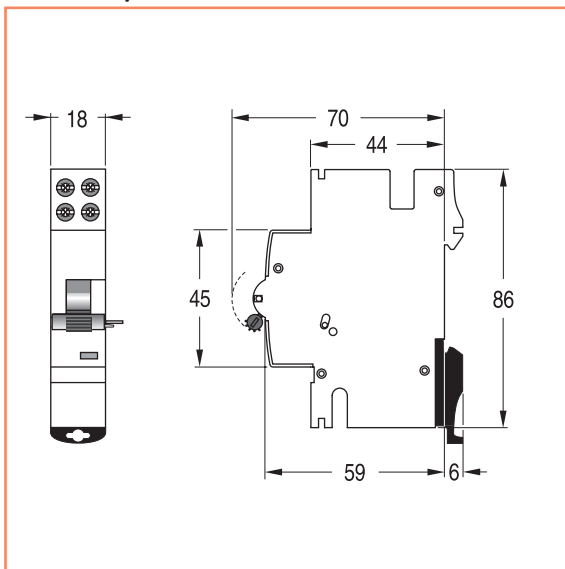
Auxiliary switches - Series CA



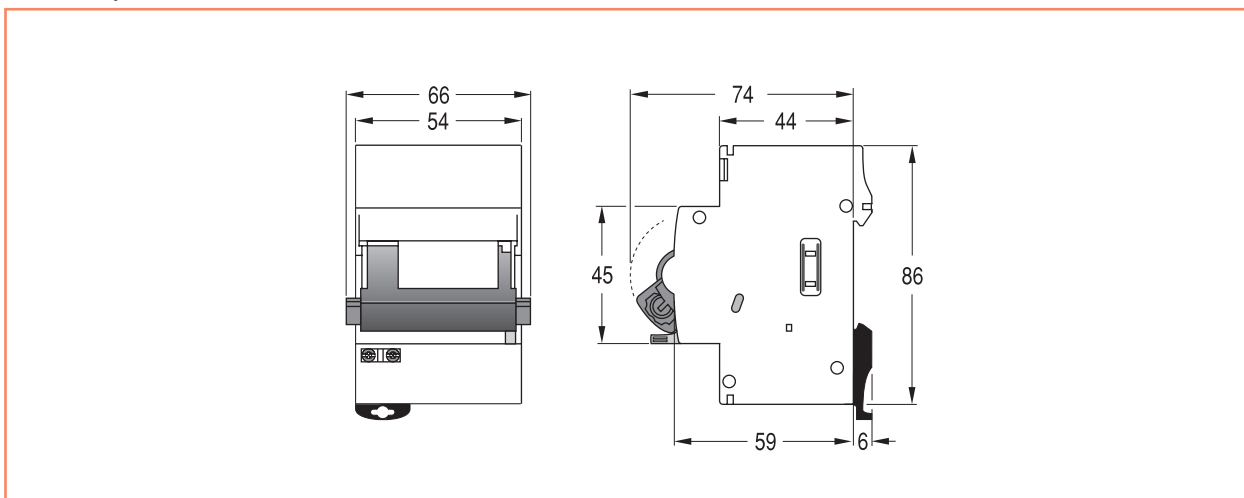
Auxiliary switches - Series CB



Shunt trip Tele L



Motor operator Tele MP



Cat. no.	Ref. no.	Pg.
690227	EP102ULHB13	11
690228	EP102ULHB15	11
690232	EP102ULHB30	11
690234	EP103ULHB05	11
690237	EP103ULHB13	11
690238	EP103ULHB15	11
690242	EP103ULHB30	11
690244	WUL	11
690270	EP101ULHC05	11
690274	EP101ULHC13	11
690275	EP101ULHC15	11
690279	EP101ULHC30	11
690286	EP102ULHC05	11
690290	EP102ULHC13	11
690291	EP102ULHC15	11
690295	EP102ULHC30	11
690302	EP103ULHC05	11
690306	EP103ULHC13	11
690307	EP103ULHC15	11
690311	EP103ULHC30	11
690318	EP101ULHD05	11
690322	EP101ULHD13	11
690323	EP101ULHD15	11
690327	EP101ULHD30	11
690328	EP101ULHD32	11
690334	EP102ULHD05	11
690338	EP102ULHD13	11
690339	EP102ULHD15	11
690343	EP102ULHD30	11
690344	EP102ULHD32	11
690350	EP103ULHD05	11
690354	EP103ULHD13	11
690355	EP103ULHD15	11
690225	EP102ULHB06	11
690226	EP102ULHB10	11
690229	EP102ULHB16	11
690230	EP102ULHB20	11
690231	EP102ULHB25	11
690233	EP102ULHB32	11
690235	EP103ULHB06	11
690236	EP103ULHB10	11
690239	EP103ULHB16	11
690240	EP103ULHB20	11
690241	EP103ULHB25	11
690243	EP103ULHB32	11
690265	EP101ULHC0,5	11
690266	EP101ULHC01	11
690267	EP101ULHC02	11
690269	EP101ULHC04	11
690271	EP101ULHC06	11
690273	EP101ULHC10	11
690276	EP101ULHC16	11
690277	EP101ULHC20	11
690278	EP101ULHC25	11
690280	EP101ULHC32	11
690281	EP102ULHC0,5	11
690282	EP102ULHC01	11
690283	EP102ULHC02	11
690285	EP102ULHC04	11
690287	EP102ULHC06	11
690289	EP102ULHC10	11
690292	EP102ULHC16	11
690293	EP102ULHC20	11
690294	EP102ULHC25	11
690296	EP102ULHC32	11
690297	EP103ULHC0,5	11
690298	EP103ULHC01	11
690299	EP103ULHC02	11
690301	EP103ULHC04	11
690303	EP103ULHC06	11
690305	EP103ULHC10	11
690308	EP103ULHC16	11
690309	EP103ULHC20	11
690310	EP103ULHC25	11
690312	EP103ULHC32	11
690313	EP101ULHD0,5	11
690314	EP101ULHD01	11
690315	EP101ULHD02	11
690317	EP101ULHD04	11
690320	EP101ULHD06	11
690323	EP101ULHD10	11
690324	EP101ULHD16	11
690325	EP101ULHD20	11
690326	EP101ULHD25	11
690329	EP102ULHD0,5	11
690330	EP102ULHD01	11
690331	EP102ULHD02	11

Cat. no.	Ref. no.	Pg.
690333	EP102ULHD04	11
690335	EP102ULHD06	11
690337	EP102ULHD10	11
690340	EP102ULHD16	11
690341	EP102ULHD20	11
690342	EP102ULHD25	11
690345	EP103ULHD0,5	11
690346	EP103ULHD01	11
690347	EP103ULHD02	11
690349	EP103ULHD04	11
690351	EP103ULHD06	11
690353	EP103ULHD10	11
690356	EP103ULHD16	11
690357	EP103ULHD20	11
690358	EP103ULHD25	11
690359	EP103ULHD30	11
690360	EP103ULHD32	11

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July 2006
GE Consumer & Industrial



GE Consumer & Industrial Power Protection

Power Protection (formerly GE Power Controls), a division of GE Consumer & Industrial, is a first class European supplier of low-voltage products including wiring devices, residential and industrial electrical distribution components, automation products, enclosures and switchboards. Demand for the company's products comes from wholesalers, installers, panel-board builders, contractors, OEMs and utilities worldwide

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