

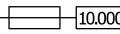














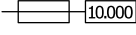




ASTI Residual Current Circuit Breakers - RCCBs

Residual current circuit breakers can be used in TN-S, TN-CS, TT and IT network systems, that is in all systems where neutral and protective conductors are separated. Residual current circuit breakers EFI are used for protection against indirect contact (fault protection) and direct contact (additional protection) of parts under voltage. In the case of protection against indirect contact (fault protection) you can use residual current protective devices with a rated residual current of $I_{\Delta n} \leq 300\text{mA}$. Residual current protective devices with a rated residual current of $I_{\Delta n} \leq 30\text{mA}$ fulfil the conditions for protection against direct contact (additional protection). For protection against fire, according to DIN VDE 0100-482 and IEC 60364-4-482, all cables and conductors in TN and TT systems must be protected by means of residual current protective devices with rated residual current of $I_{\Delta n} \leq 300\text{mA}$. In applications where resistive faults can cause a fire (radiant ceiling heating with panel heating elements), the rated residual current must be $I_{\Delta n} = 30\text{mA}$.

Types

- /// AC Type: they are sensitive to alternating (sinusoidal) AC residual currents.
- /// A Type: they are sensitive to alternating (sinusoidal) AC residual currents and pulsating DC residual currents.
- /// B Type: they are sensitive to alternating (sinusoidal) AC residual currents, pulsating DC residual currents and smooth DC residual currents. Tripping values are defined up to 1kHz.
- /// B+ Type: they are sensitive to alternating (sinusoidal) AC residual currents, pulsating DC residual currents and smooth DC residual currents. Tripping values are defined up to 20kHz and they are below 420mA.
- /// Classification regarding break time
- /// Instantaneous: max. break time 40ms (Inst.)
- /// G/KV-Short time delay: time delayed min. 10ms and max. 40ms (G/KV)
- /// S-Selective: time delayed min. 40ms and max. 150ms (S)

EFI-P2 (2M)		Type AC		Type A	
		Inst.	Inst.	G/KV	S
	For alternating residual current	✓	✓	✓	✓
	For alternating and pulsating direct residual current		✓	✓	✓
	Short-circuit capacity with back-up fuse	✓	✓	✓	✓
	Lower temperature limit of application -25°C	✓	✓	✓	✓
	VDE 0664, part 1 (up to 80 A)		✓		✓
	Short time delayed (10 - 40 ms)			✓	
	Selective (time delayed 40 -150 ms)				✓

EFI-P4 (4M)		Type AC		Type A		Type B			Type B+		
		Inst.	Inst.	G/KV	S	Inst.	G/KV	S	Inst.	G/KV	S
	For alternating residual current	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	For alternating and pulsating direct residual current		✓	✓	✓	✓	✓	✓	✓	✓	✓
  	For alternating, pulsating direct and smooth DC residual current (up to 1kHz)					✓	✓	✓	✓	✓	✓
  	For alternating, pulsating direct and smooth DC residual current (up to 20kHz)								✓	✓	✓
	Short-circuit capacity with back-up fuse	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Lower temperature limit of application -25°C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	VDE 0664, part 1 (up to 80 A)		✓		✓	✓		✓	✓		✓
	Short time delayed (10 - 40 ms)			✓			✓			✓	
	Selective (time delayed 40 -150 ms)				✓			✓			✓

A and AC type residual current circuit breaker EFI-P2(R) & EFI-2

Rated residual current
0,03 - 0,5 A

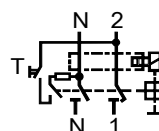
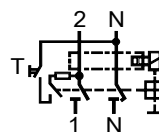
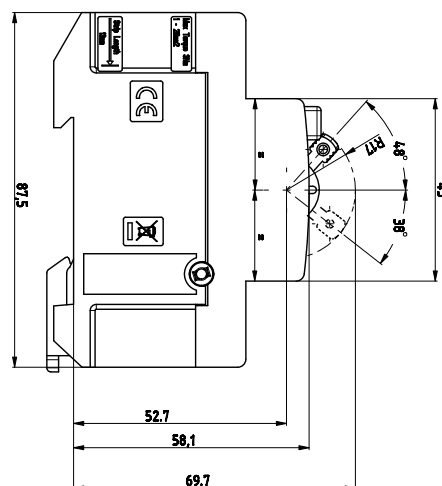
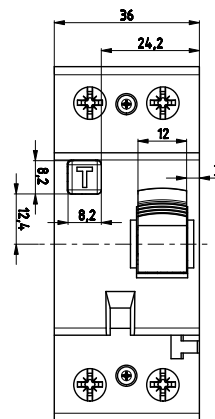
Rated current
16 - 125 A

Type
A, AC

Technical data EFI-P2(R) Instantaneous type AC & A

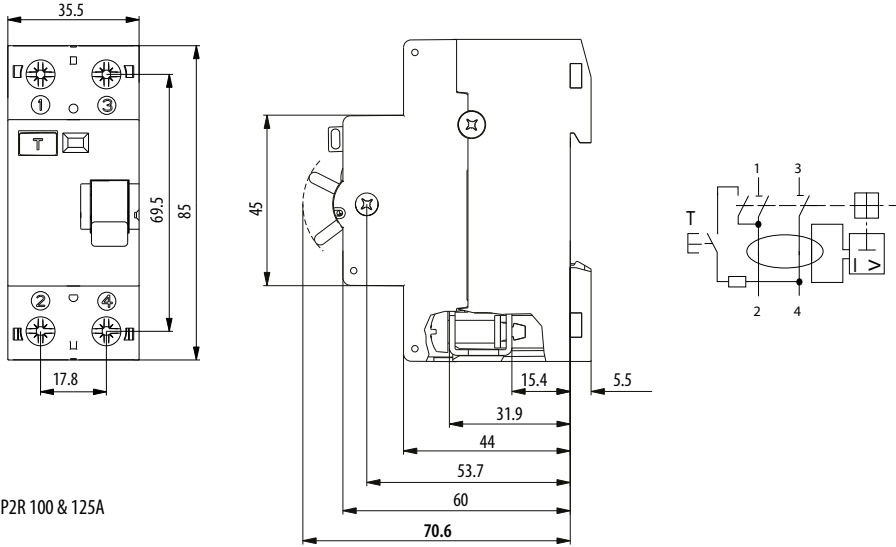
	EFI-P2, EFI-P2R 16-80A	EFI-P2R 100-125A
Electrical		
Rated Voltage U_n	230 / 240 V AC	230 V AC
Rated current I_n	16, 25, 40, 63, 80A	100, 125A
Rated frequency f_n	50/60Hz	50Hz
Rated insulation voltage U_i	440V	400V
Rated impulse withstand voltage (1,2/50 μ s)	4kV	4kV
Peak withstand current (8/20 μ s)	400A	250A
Electrical isolation	> 4mm contact space	
Rated residual operating current $I_{\Delta n}$	0,03; 0,1; 0,3 & 0,5A	
Rated conditional short-circuit current I_{cn}	10kA	10kA
Rated making and breaking capacity I_m	800A	1250A
Max back-up fuse for short circuit protection	80A gG	125A gG
Voltage range test circuit	150-264V	150-264V
Min. operating voltage	voltage independent	voltage independent
Insulating class	B	B
Standards	IEC/EN 61008	IEC/EN 61008
Mechanical Endurance (cycles)	> 10.000	> 5.000
Electrical endurance (cycles)	> 4.000	> 2.000
Shock resistance acc. to	IEC/EN 61008-1	IEC/EN 61008-1
Resistance to vibrations acc. To IEC 60068-2-7	5g (10, 60 & 500Hz)	5g (10, 60 & 500Hz)
Mechanical		
Frame size	45mm	45mm
Device height	68mm (DIN rail acc to EN6071)	
Device width	36mm (2 x Module units)	36mm (2 x Module units)
Degree of protection	IP20	IP20
Upper and lower terminals	open mounted/lift terminals	
Terminal capacity	1-25mm ²	1-50mm ²
Terminal screw	M5 (Pozidrive PZ2)	M6 (Pozidrive PZ2)
Terminal torque	max. 3Nm	max 5,0Nm
Busbar thickness	0,8 - 2 mm	0,8 - 2 mm
Operating temperature	-25°C ... +70°C	-25°C ... +55°C
Storage and transport temperature	-40°C ... +70°C	-40°C ... +70°C
Resistance to climatic conditions	IEC/EN 61008	IEC/EN 61008
Contact position indicator	mechanical red/green	
Mounting position	any	
Mounting on the rail	35mm acc to EN50022	
Supply possibility	top or bottom	

EFI-P2, EFI-P2R 16 - 80A



Version with N-pole
on the left

I_n [A]	Power dissipation EFI-P2 P/pole [W]
16	0,46-0,51
25	1,22-1,27
40	3,48-3,72
63	2,14-2,58
80	3,53-3,82
100	7,35-7,65
125	10,7-11,3



EFIP2R 100 & 125A

EFIP2 Instantaneous, EFIP2R Instantaneous

I_n [A]	$I_{\Delta n}$ [A]	Type A	Type A Code No.	Type A Reset	Type A - R Code No.	Type AC	Type AC Code No.	g	
16	0.03	EFIP2 A 16/0.03	002061110	EFIP2R A 16/0.03	002061460	EFIP2 AC 16/0.03	002061210	175	1/54
25		EFIP2 A 25/0.03	002061111	EFIP2R A 25/0.03	002061461	EFIP2 AC 25/0.03	002061211	175	1/54
40		EFIP2 A 40/0.03	002061112	EFIP2R A 40/0.03	002061462	EFIP2 AC 40/0.03	002061212	175	1/54
63		EFIP2 A 63/0.03	002061113	EFIP2R A 63/0.03	002061463	EFIP2 AC 63/0.03	002061213	190	1/54
80		EFIP2 A 80/0.03	002061114	EFIP2R A 80/0.03	002061464	EFIP2 AC 80/0.03	002061214	190	1/54
100		/	/	/	EFIP2R A 100/0.03	002061465	/	/	184
125	/	/	/	EFIP2R A 125/0.03	002061466	/	/	184	1/54
16	0.1	EFIP2 A 16/0.1	002061120	EFIP2R A 16/0.1	002061470	EFIP2 AC 16/0.1	002061220	175	1/54
25		EFIP2 A 25/0.1	002061121	EFIP2R A 25/0.1	002061471	EFIP2 AC 25/0.1	002061221	175	1/54
40		EFIP2 A 40/0.1	002061122	EFIP2R A 40/0.1	002061472	EFIP2 AC 40/0.1	002061222	175	1/54
63		EFIP2 A 63/0.1	002061123	EFIP2R A 63/0.1	002061473	EFIP2 AC 63/0.1	002061223	190	1/54
80		EFIP2 A 80/0.1	002061124	EFIP2R A 80/0.1	002061474	EFIP2 AC 80/0.1	002061224	190	1/54
100		/	/	/	EFIP2R A 100/0.1	002061475	/	/	184
125	/	/	/	EFIP2R A 125/0.1	002061476	/	/	184	1/54
16	0.3	EFIP2 A 16/0.3	002061130	EFIP2R A 16/0.3	002061480	EFIP2 AC 16/0.3	002061230	175	1/54
25		EFIP2 A 25/0.3	002061131	EFIP2R A 25/0.3	002061481	EFIP2 AC 25/0.3	002061231	175	1/54
40		EFIP2 A 40/0.3	002061132	EFIP2R A 40/0.3	002061482	EFIP2 AC 40/0.3	002061232	175	1/54
63		EFIP2 A 63/0.3	002061133	EFIP2R A 63/0.3	002061483	EFIP2 AC 63/0.3	002061233	190	1/54
80		EFIP2 A 80/0.3	002061134	EFIP2R A 80/0.3	002061484	EFIP2 AC 80/0.3	002061234	190	1/54
100		/	/	/	EFIP2R A 100/0.3	002061485	/	/	184
125	/	/	/	EFIP2R A 125/0.3	002061486	/	/	184	1/54
16	0.5	EFIP2 A 16/0.5	002061140	EFIP2R A 16/0.5	002061490	EFIP2 AC 16/0.5	002061240	175	1/54
25		EFIP2 A 25/0.5	002061141	EFIP2R A 25/0.5	002061491	EFIP2 AC 25/0.5	002061241	175	1/54
40		EFIP2 A 40/0.5	002061142	EFIP2R A 40/0.5	002061492	EFIP2 AC 40/0.5	002061242	175	1/54
63		EFIP2 A 63/0.5	002061143	EFIP2R A 63/0.5	002061493	EFIP2 AC 63/0.5	002061243	190	1/54
80		EFIP2 A 80/0.5	002061144	EFIP2R A 80/0.5	002061494	EFIP2 AC 80/0.5	002061244	190	1/54
100		/	/	/	EFIP2R A 100/0.5	002061495	/	/	184
125	/	/	/	EFIP2R A 125/0.5	002061496	/	/	184	1/54



16 - 80 A



100, 125A