



Series FP Type B - Type F - RCCBs



Universal current sensitive RCCBs B type and F type.
Ultimate protection of people and equipment.

Advantages

Type B

In addition to release residual current waveforms of type A, B type RCCBs are used to detect smooth DC residual currents. B Type RCCBs are recommended for use with EV Charge and drives and inverters for supplying motors for pumps, lifts, textile machines, machine tools... since they recognise a continuous fault current with low level ripple.

Type F

Offer the same range of protection and functionality as a Type A RCD; this means that release with sinusoidal AC currents as well as pulsating DC currents. In addition to this, they are capable of detecting residual currents from mixed frequencies of up to 1000 Hz, which can often occur on the outgoing feeder side of single-phase frequency converters.

This prevents undesirable interruptions to the electrical supply if, for example, pulsed leakage currents of up to ten milliseconds occur at activation of filter capacitors.

Type A-Ai: Release with sinusoidal currents and also with pulsating direct current which occur suddenly or slowly rise in magnitude.

Type S-Si (type A-Ai): Time delay release with sinusoidal currents and also with pulsating direct current which occur suddenly or slowly rise in magnitude.

Type AC: Release with sinusoidal currents which occur suddenly or slowly rise in magnitude.

[Where To Buy](#)

[Product Selector](#)

Publications

[Brochures](#)

[Catalogs and Buyers Guides](#)

[Drawings - CAD - 3D](#)

[Installation and Instruction](#)

Other People protection

[Compact electronic RCCBs with Overcurrent Protection](#)

[Series Unibus DPC - RCCBs](#)

[Series DP - RCCBs with Overcurrent Protection](#)

[Series DM - RCBOs with overcurrent protection](#)

[Series BP/BD - RCCBs](#)
[Series DME - Electronic RCBO](#)

[Serie FPAUL - RCCBs](#)

[Series DPA100 UL approval - RCCBs](#)

[Diff-o-Click - Add-on RCCBs](#)

[RCBOs with overcurrent protection](#)

[Diff-o-Jump - RCCBs](#)

[Series FP - RCD selective](#)

[Series GRDT+TOP / TOR - Residential earth leakage relay](#)

[TeleREC 2 - TeleREC Top - Automatic reclosing system](#)

Waveform definition	Current waveform	Type AC	Type A-Ai	Type F	Type B	Tripping current
						
Sine wave		✓	✓	✓	✓	0,5 to 1 I _{Δn}
Pulsating half wave		X	✓	✓	✓	0,35 to 1,4 I _{Δn}
Pulsating 90°/135° wave		X	✓	✓	✓	Current delay angle 90°: 0,25 to 1,4 I _{Δn}
		X	✓	✓	✓	Current delay angle 135°: 0,11 to 1,4 I _{Δn}
Pulsating Half wave + direct current (6mA)		X	✓	✓	✓	max. 1,4 I _{Δn} +6mA
Pulsating Half wave + direct current (10mA)		X	X	✓	✓	max. 1,4 I _{Δn} +10mA
Composite wave		X	X	✓	✓	0,5 to 1,4 I _{Δn}
High frequency (up to 1KHz)		X	X	✓	✓	Current Frequency 150Hz 0,5 to 2,4 I _{Δn}
		X	X	✓	✓	Current Frequency 400Hz 0,5 to 6 I _{Δn}
		X	X	✓	✓	Current Frequency 1000Hz 1 to 14 I _{Δn}
Two phase rectified full wave		X	X	X	✓	0,5 to 2 I _{Δn}
Three phase rectified full wave						
Direct current						

Applications

- Controllers and variable speed drives
- Battery chargers and inverters
- Frequency converters
- Photovoltaic systems, a.c side
- Charging stations for Electric Vehicles
- Variable speed machine tools
- UPS, Computer Data Centers
- Elevator controls
- Cranes of all kinds
- Test set-ups in laboratories
- Backed-up power supplies

Performance

	SERIES FP TYPE B	SERIES FP TYPE F
Rated current I _{nn} (A)	16, 25, 40, 63, 80	25, 40, 63, 80
Residual current I _Δ (mA)	30, 100, 300, 500	30
Rated Voltage AC U _n (V)	2P: 230, 4P: 230/400	2P: 240, 4P: 240/415
Minimum operating voltage U _{min}	30 mA (V)	2P: 176, 4P: 306
	100,300,500 mA (V)	2P: 117, 4P: 205
Mechanical/electrical endurance	20.000/10.000	20.000/10.000
Tropicalisation acc. to EN/IEC 60068-2-28/2-30 and DIN 40046	95%RH at 55°C	95%RH at 55°C
Terminal capacity flexible/rigid cable	1,5-50 (1,5 - 35)	1,5-50 (1,5-35)
Poles	2, 4	2, 4 (4)
Nuisance tripping resistance	3000A 8/20 μs	3000A 8/20 μs
Ambient temperature (°C)	-25 up to 40	-25 up to 40
Weight (g)	2P: 340, 4P: 420	2P: 220, 4P: 385

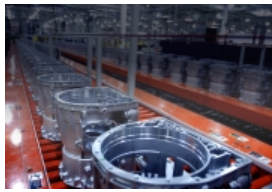
Related Industries



Data Center



Commercial



Industrial

Related Products



AF-70 LP – Micro AC
Variable Speed Drives



AF-6 Series - Drives



Inverters