

B+ Type RCCB EKL6-100B+

Residual Current Circuit Breaker



Voltage: 240/415V AC systems (50/60Hz)

Electro-magnetic type

Current range: 16A to 100A

B+ type

Rated residual current: 30, 100, 300mA

Bidirectional wiring capability

Breaking capacity: 10kA

Ground fault indication

Protects against leakage faults

RCCB according to IEC/EN 61008-1, VDE 0064-400

Applications



EV Charging Stations



Photovoltaic (PV) Systems



UPS Systems

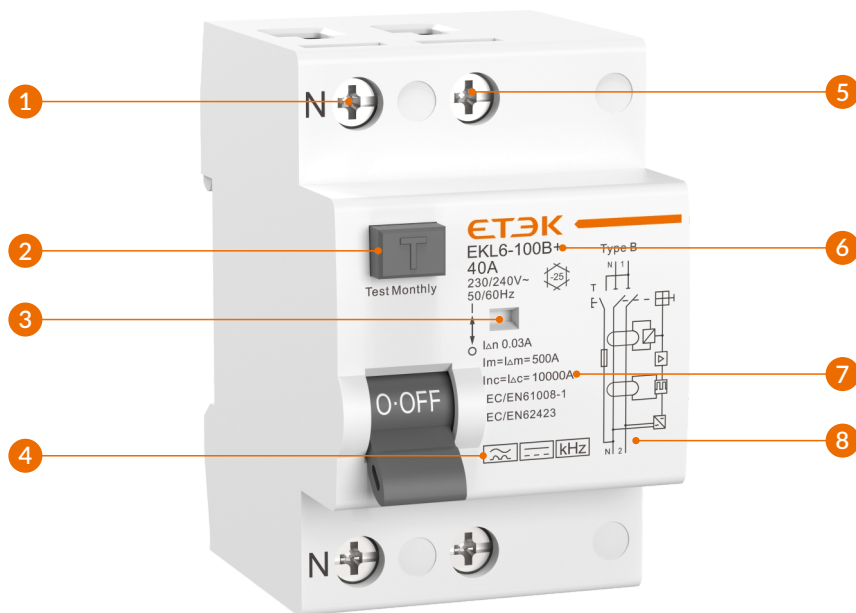


Industrial Welding Equipment

Overview

EKL6-100B+ Type B+ Residual Current Circuit Breaker (RCCB) suitable for 230/240V (1P+N) or 400/415V (3P+N) power systems, with a rated current up to 100A. Designed to detect AC leakage currents, pulsating DC leakage currents, smooth DC leakage currents, composite waveform leakage currents, and high-frequency leakage currents up to 20 kHz with a maximum tripping threshold of 420 mA. The switches therefore provide better fire protection.

Product Tips



- | | |
|--------------------------------------|--|
| 1 Neutral line interface | 5 Live line interface |
| 2 Test button | 6 Product model EKL6-100B+ |
| 3 Ground fault indicator window | 7 Rated short circuit breaking capacity 10kA |
| 4 Sensitivity to residual current B+ | 8 Wiring diagram |

Technical Data

Standard	IEC/EN 61008-1, VDE 0064-400
Protection	Ground fault
Type of trip	Thermo-magnetic
Residual current type	B+ Type - residual AC, pulsating and smooth DC current, high frequency ($\leq 20\text{kHz}$)
Time characteristic	Insensitivity
No. of poles	1P+N, 3P+N
Neutral	Switched, N pole on the left
Insulation voltage (U_i)	500V
Rated voltage (U_e)	1P+N: 230/240V~; 3P+N: 400/415V~
Rated currents (I_n)	1P+N: 16, 25, 40, 63A, 80, 100A (3 modules); 3P+N: 16, 25, 40, 63, 80, 100A
Rated sensitivity currents ($I_{\Delta n}$)	30, 100, 300mA
Residual current off-time under ($I_{\Delta n}$)	$\leq 0.1\text{s}$
Rated residual making and breaking capacity ($I_{\Delta m}$)	500A ($I_n \leq 50\text{A}$), 10In ($I_n > 50\text{A}$)
Rated frequency	50/60Hz
Rated short-circuit capacity (I_{cn})	10kA
Rated conditional residual short-circuit current ($I_{\Delta c}$)	10kA
Rated impulse withstand voltage (U_{imp}) (1.2/50 μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Fire resistance (glow-wire test)	960 $\pm 15^\circ\text{C}$ (Enclosure), 650 $\pm 10^\circ\text{C}$ (Handle)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF/ red ON
Ground fault indicator	White: Normal; Red: Leakage fault
Protection degree	IP20
Ambient temperature	-25 $^\circ\text{C}$ ~ +40 $^\circ\text{C}$
Storage temperature	-30 $^\circ\text{C}$ ~ +70 $^\circ\text{C}$
Terminal connection type	Cable/ Pin-type/ Fork-type busbar
Max. terminal size for cable	35mm ²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-directional

RCD Type



Type AC RCDs detect slowly increasing sinusoidal AC residual currents.



Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.



Type B+ RCDs detect all types of residual current - AC, DC, mixed, and smooth - at frequencies up to 20kHz and trip at a maximum of 420mA, offering superior fire protection.

Tripping Sensitivity

30mA

This is the most commonly used protection level in homes and commercial buildings, and is suitable for socket protection in general residential environments, offices and commercial places.

100mA

Usually used in situations where personal protection requirements are not as strict as 30mA, or for equipment protection, such as air conditioning systems, industrial equipment, etc.

300mA

Mainly used for fire protection, such as distribution boards and general protection of large electrical equipment.

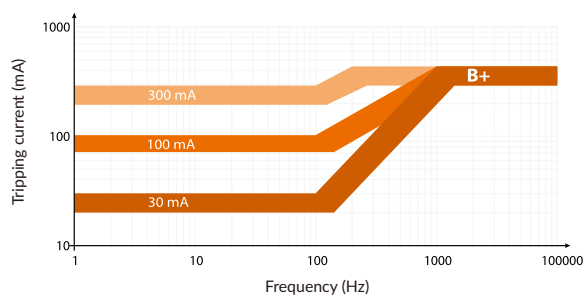
Tripping Characteristic

Type B RCDs - Standard values of break time and non-actuating time for residual direct currents which result from rectifying circuits and for residual smooth direct current.

Tripping times					
Type	Fault currents	Tripping time at			
	Alternating currents	$1 \times I_{\Delta n}$	$2 \times I_{\Delta n}$	$5 \times I_{\Delta n}$	500A
	Pulsating DC currents	$1.4 \times I_{\Delta n}$	$2 \times 1.4 \times I_{\Delta n}$	$5 \times 1.4 \times I_{\Delta n}$	500A
	Smooth DC currents	$2 \times I_{\Delta n}$	$2 \times 2 \times I_{\Delta n}$	$5 \times 2 \times I_{\Delta n}$	500A
Standard		Max. 0.3s	Max. 0.15s	Max. 0.04s	Max. 0.04s

Type B RCDs - Residual non-operating and operating current according to frequencies which differ from the rated frequency 50/60 Hz

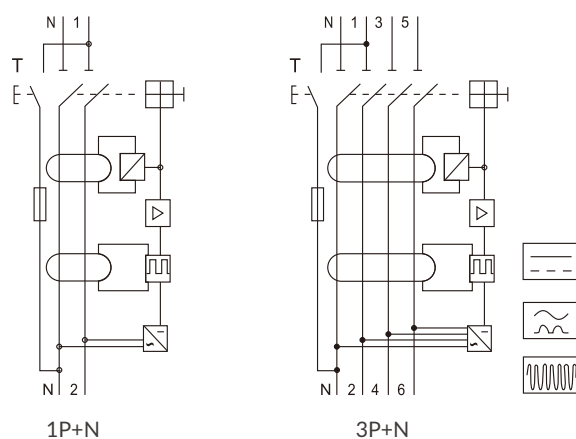
Frequency (Hz)	Residual non-operating current ($I_{\Delta n}$)	Residual operating current ($I_{\Delta n}$)
150	$0.5 I_{\Delta n}$	$2.4 I_{\Delta n}$
400	$0.5 I_{\Delta n}$	$6 I_{\Delta n}$
1000	$I_{\Delta n}$	$14 I_{\Delta n}$



Wiring Capacity

Rated current I_n (A)	Cross section area s (mm ²)	Tightening torque (N.m)
16	2.5	2.5
25	4	2.5
32	6	2.5
40	10	2.5
63	16	2.5
80	25	2.5
100	35	2.5

Wiring Diagram



Dimension (mm)

