VKL11F TypeF RCCB

VKL11F RCCB 2P

VKL11F RCCB 4P

Application

The VKL11F Type F Residual Current Circuit Breaker provides residual-current protection for AC 50/60 Hz electrical installations incorporating single-phase frequency converters and electronically controlled equipment.
It detects sinusoidal AC, pulsating DC and composite residual currents with mixed frequencies up to 1 kHz, where a conventional Type A RCCB may not provide adequate protection.
The device maintains normal operation in the presence of superimposed smooth DC residual currents up to 10 mA and offers increased immunity to transient leakage currents and power surges.
Suitable for residential, commercial and industrial installations with rated voltages up to 230/240 V for 2P and 400/415 V for 4P, and rated currents up to 100 A.
Typical applications include washing machines, dishwashers, heat pumps, air conditioners, lighting ballasts, power tools and welding equipment. The RCCB must be used together with suitable overload and short-circuit protection.

Product Features

- Designed according to IEC/EN 62423 and IEC/EN 61008-1, with 2P and 4P configurations from 16 A to 100 A.
- Detects sinusoidal AC, pulsating DC and mixed-frequency residual currents up to 1 kHz.
- Voltage-independent magnetic operation with short-time delay and 3 kA surge-current immunity.
- Available in 30, 100 and 300 mA sensitivities, with a 10 kA rated conditional short-circuit current.

Ordering Code

MODEL CONFIGURATION REFERENCE

V	KL	11	F	63	30	4P
VIOX Enterprise Identification	RCCB Product Family Code	Design Serial Number	Residual Current Type	Rated Current	Rated Residual Operating Current	Number of Poles
V	KL	11	F	16, 25, 32, 40, 63, 80, 100 A	30, 100, 300 mA	2P, 4P

Technical Specifications

Item	Specification
Product Type	Type F RCCB
Applicable Standards	IEC/EN 62423, IEC/EN 61008-1, OVE E8601
Number of Poles	2P, 4P
Rated Voltage (Un)	2P: 230/240 V AC; 4P: 400/415 V AC
Rated Frequency	50/60 Hz
Mode of Operation	Voltage independent
Test Circuit Voltage Range	2P: 184–264 V AC; 4P: 184–440 V AC
Rated Current (In)	16, 25, 32, 40, 63, 80, 100 A
Rated Residual Operating Current (IΔn)	30, 100, 300 mA
Time Characteristic	K short-time delayed (G/ASi)
Residual-Current Sensitivity	AC, pulsating DC and mixed-frequency residual currents up to 1 kHz
Superimposed Smooth DC	Normal functionality maintained up to 10 mA
Rated Insulation Voltage (Ui)	500 V
Rated Impulse Withstand Voltage (Uimp)	4 kV (1.2/50 µs)
Rated Conditional Short-Circuit Current (Inc)	10 kA
Rated Making and Breaking Capacity (Im)	1,500 A
Peak Withstand Current	3 kA (8/20 µs), surge-current proof
Electrical Isolation	Contact gap greater than 4 mm
Maximum Backup Fuse	100 A gG/gL
Electrical Endurance	≥2,000 operating cycles
Mechanical Endurance	≥4,000 operating cycles
Terminal Type	Open/lift terminals
Terminal Capacity	1–25 mm²
Terminal Tightening Torque	2–2.5 N·m
Busbar Thickness	0.8–2 mm
Operating Temperature	–25°C to +55°C
Storage and Transport Temperature	–40°C to +70°C
Climatic Resistance	According to IEC/EN 61008
Contact Position Indicator	Mechanical red/green indicator

RESIDUAL-CURRENT DETECTION CHARACTERISTICS

Residual-Current Waveform	VKL11F Type F
Sinusoidal AC residual current	Detected
Pulsating DC residual current	Detected
Composite or mixed-frequency residual current	Detected up to 1 kHz
Superimposed smooth DC residual current	Normal functionality maintained up to 10 mA
Smooth DC fault current	Not detected
Tripping Characteristic	Short-time delayed
Surge-Current Immunity	Up to 3 kA

TRIPPING SENSITIVITY SELECTION

Sensitivity	Recommended Application
30 mA	Additional protection against electric shock
100 mA	Protection against indirect contact when coordinated with the earthing system
300 mA	Protection against indirect contact and fire risks caused by insulation faults

Outline and Installation Dimension (mm)