



VKL22 RCBO 2P



VKL22-40 RCBO 4P

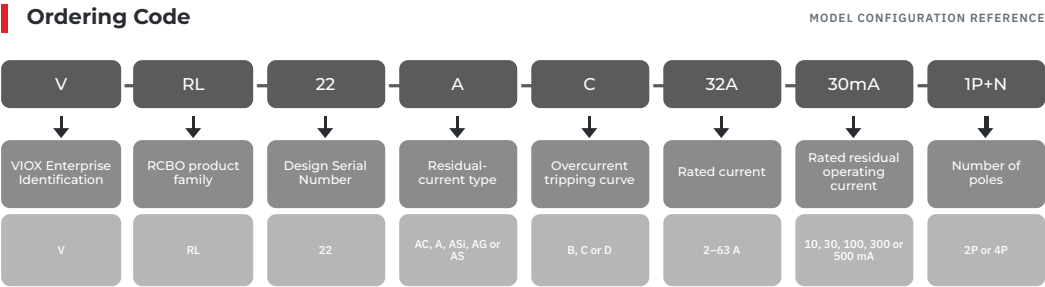


VKL22-63 RCBO 4P

Application

The VRL22 Residual Current Circuit Breaker with Overcurrent Protection (RCBO) provides residual-current, overload and short-circuit protection for AC 50/60 Hz electrical circuits. It is suitable for 230/240 V AC single-phase circuits and 400/415 V AC three-phase circuits, with rated currents from 2 A to 63 A. Available in Type AC, Type A, Type ASi, Type A G short-time-delayed and Type A S selective versions to meet different residual-current protection requirements. Designed for residential, commercial and light industrial distribution systems, including distribution boards in houses, commercial buildings and industrial installations. The RCBO may also be used for infrequent circuit switching under normal operating conditions.

- Product Features**
- Designed according to IEC/EN 61009-1 and AS/NZS 61009.1; Type A G versions additionally reference OVE E 8601.
 - Electromagnetic, voltage-independent operation providing residual-current, overload and short-circuit protection.
 - Rated from 2 A to 63 A with B, C and D tripping curves, 1P+N and 3P+N configurations, and 6 or 10 kA breaking capacity.
 - Residual-current sensitivities from 10 mA to 500 mA, with 4 kV impulse withstand voltage, 5,000-cycle endurance and top or bottom power entry.



Basic Parameters

Item	Specification
Applicable standards	IEC/EN 61009-1; AS/NZS 61009.1; OVE E 8601 for Type A G short-time-delayed versions
Model designation	VRL22 (1P+N, up to 63 A); VRL22-40 (3P+N, up to 40 A); VRL22-63 (3P+N, up to 63 A)
Operating principle	Electromagnetic, voltage-independent
Rated frame current	63 A
Rated current (In)	2, 4, 5, 6, 8, 10, 13, 15, 16, 20, 25, 30, 32, 35, 40, 45, 50, 60, 63 A
Tripping curve	B: 3-5 In; C: 5-10 In; D: 10-20 In
Number of poles	1P+N; 3P+N
Residual-current type	Type AC; Type A; Type ASi; Type A G (short-time delayed); Type A S (selective)
Rated voltage (Ue)	1P+N: 230/240 V AC; 3P+N: 400/415 V AC
Rated frequency	50/60 Hz
Rated residual operating current (IΔn)	10 mA (1P+N, up to 32 A only); 30, 100, 300, 500 mA
Rated residual non-operating current (IΔno)	5 mA (1P+N, up to 32 A only); 15, 50, 150, 250 mA
Rated short-circuit breaking capacity (Icn)	6 kA or 10 kA; energy-limiting class 3 for B and C curves
Rated residual making and breaking capacity (IΔm)	3,000 A
Electrical endurance	5,000 operating cycles
Mechanical endurance	5,000 operating cycles
Rated impulse withstand voltage (Uimp)	4 kV
Power entry	Top or bottom

VRL22 RCBO - Residual-Current Breaking Times

Rated Current In (A)	Rated Residual Operating Current IΔn (A)	At IΔn (s)	At 2 IΔn (s)	At 5 IΔn (s)	At 5, 10, 20, 50, 100, 200 or 500 A (s) (a)	At IΔt (s) (b)
2-63	0.01, 0.03, 0.1, 0.3, 0.5	0.1	0.05	0.04	0.04	0.04

(a) For tests at 5, 10, 20, 50, 100, 200 and 500 A, current values above the lower limit of instantaneous overcurrent tripping are not tested.

(b) Tests are performed with IΔt equal to the lower limit of the instantaneous overcurrent tripping current for B and C curves.

VRL22 RCBO - Overcurrent Protection Characteristics

No.	Rated Current In (A)	Initial State	Test Current	Specified Time	Expected Result	Remarks
a	2-63	Cold state	1.13 In	t ≥ 1 h	Non-tripping	
b	2-63	Immediately after test a	1.45 In	t < 1 h	Tripping	Increase to the specified current within 5 s after test a.
c	2-63	Cold state	2.55 In	1 s < t < 60 s	Tripping	
d	2-63	Cold state	3 In	t ≥ 0.1 s	Non-tripping	Curve B
d	2-63	Cold state	5 In	t < 0.1 s	Tripping	Curve B
d	2-63	Cold state	5 In	t ≥ 0.1 s	Non-tripping	Curve C
d	2-63	Cold state	10 In	t < 0.1 s	Tripping	Curve C

Note: The source basic-parameter table lists B, C and D curves; the supplied overcurrent test table provides instantaneous criteria only for B and C curves.

