



TECHNICAL MANUAL

Residual current circuit breaker VD-100N PROXIMA EKF

1 DESCRIPTION

Residual current circuit breakers VD-100N PROXIMA EKF are used in 50/60 Hz AC electrical circuits.

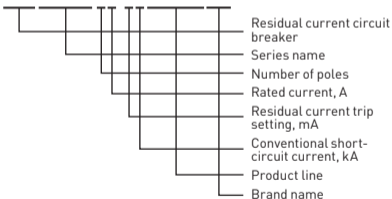
Residual current circuit breakers (RCCB) are designed to:

- protect persons against electric shock by accidental indirect contact with exposed conductive parts of electrical installation;
- protect electrical installations in case of damaged insulation and faults;
- protect equipment against fires and inflammations set by leakage currents and subsequent short circuits, housing or ground faults.

Residual current circuit breakers VD-100N PROXIMA EKF correspond to IEC 61008-2-1, IEC 61008-1.

TYPE CODE

RCCB VD-100N XX/XX PROXIMA EKF



2 TECHNICAL DATA

Table 1 - Main characteristics

Characteristics	Values
Number of poles	1P+N; 3P+N
Rated operating voltage U_e , V AC	1P+N: 220/230/240; 3P+N: 380/400/415
Rated current I_n , A	10,16, 25, 32, 40, 50, 63, 80, 100
Rated breaking residual current $I_{\Delta n}$, mA	10,30,100,300
Frequency, Hz	50 / 60
Rated conventional short-circuit current I_{nc} , A	4500; 6000
Residual current trip type	A, AC
Type by time delay	S (type AC)
Rated residual non-operating current $I_{\Delta no}$, mA	0,5 $I_{\Delta n}$
Residual current protection type	Electronic & electromagnetic (voltage independent)
Mechanical endurance, O-C cycles	10 000
Electrical endurance, O-C cycles	2500
Cross-section of connected wires, mm ²	25 (for 63A) 35 (for 100A)
Degree of protection	IP20
Operating temperature, °C	from -40 to +55
Max. tightening torque, N•m	3
Max. weight, g	0,438

3 TRIPPING CHARACTERISTICS

Table 2 - Trip /non-trip time limits for alternating residual current, VD-100N, types AC and A.

Type	In,A	IΔn, mA	Trip /non-trip time limits for alternating residual current, VDT-100N, types AC and A, sec.				
			IΔn	2IΔn	5IΔn	500A	Note
Non-selective	Any value	< 30	0,3	0,15	0,04	0,04	Max. trip time
		30					
		> 30					
Selective	≥ 25	> 30	0,5	0,20	0,15	0,15	Min. non-trip time
		> 30	0,13	0,06	0,05	0,04	

Table 3 - Maximum trip time for half-wave pulse residual current, VD-100N type A.

Type	In,A	IΔn, mA	Maximum trip time for RCCB type A for half-wave pulse residual current, sec.							
			1,4 IΔn	2 IΔn	2,8 IΔn	4 IΔn	7 IΔn	0,35 A	0,5 A	350 A
Non-selective	Any value	< 30	-	0,3	-	0,15	-	-	0,04	0,04
		30	0,3	-	0,15	-	-	0,04	-	0,04
		> 30	0,3	-	0,15	-	0,04	-	-	0,04
Selective	≥ 25	> 30	0,5	-	0,2	-	0,15	-	-	0,15

4 OVERALL DIMENSIONS

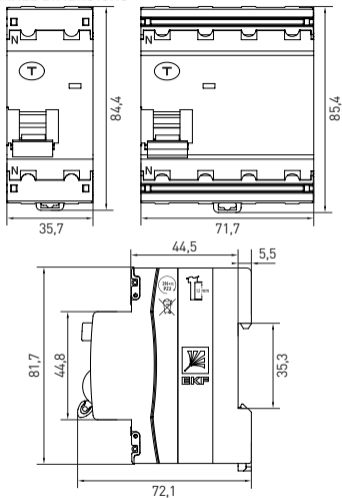


Fig. 1

5 INSTALLATION AND CONNECTION

RCCB shall be installed and connected by qualified electrical personnel.

Before installation, make sure that:

- Device characteristics (RCCB marking) meet the required values.
- The device has no visible damage.
- The mechanism properly operates by turning the handle a few times and pressing the «T» button when the input terminals are powered.

Copper and aluminum wire connections are supported. Do not connect copper and aluminum wires to one terminal concurrently.

RCCB power supply is connected as follows:

- 1P+N: on the top from terminals N & 1; and on the bottom from terminals N & 2.

- 3P+N: on the top from terminals N, 1, 3 & 5; and on the bottom from terminals 2, 4, 6 & N.

RCCB is mounted onto 35mm DIN rail.

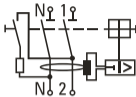
Tightening torque: max. 3 N·m for copper wires; max. 3 N·m for aluminum-alloy wires, series 8000.

Make sure that neutral operating conductor N is connected neither to earthed elements nor to protective earthing conductor PE in the RCCB protection, when installing the device.

If the RCCB trips (the handle moves to the OFF position), troubleshoot the causes and then switch on the RCCB.

RCCB Wiring diagram (electromagnetic)

RCCB VD-100N 1P+N



RCCB VD-100N 3P+N

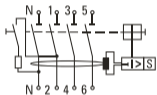
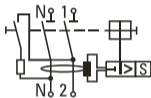
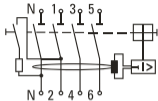


Fig. 2

If vertically installed, upper position of the operating handle shall correspond to the RCCB ON status, while the handle lower position shall correspond to the RCCB OFF status in compliance with IEC 60447. If horizontally installed, the handle right position shall correspond to the RCCB ON status, while the handle left position shall correspond to the RCCB OFF status.

6 OPERATION CONDITIONS

Operating temperature: from -40°C to $+55^{\circ}\text{C}$.

Max. altitude above sea level: 2000 m.

RCCBs shall be operated in non-explosive environment free of gases, liquids, or dust, impairing device operation.

7 DELIVERY SCOPE

Residual current circuit breakers are supplied in an individual package. For all available documentation, scan the QR-code on the insert or on the inside of the package.

8 SAFETY REQUIREMENTS

Do not operate RCCB with visible mechanical damage.

RCCBs conform to IEC 61140 Class 0 for protection against electrical shock and shall be installed in distribution enclosures with Class 1 protection or higher.

9 MAINTENANCE

For maintenance, follow national safety rules for operation of electrical installations.

Under normal operating conditions: test RCCB operation with the Test button every month; visually inspect the device and tighten screw terminals every 6 months. Do not operate the RCCB, if visual damage to its housing is found.

10 TRANSPORTATION AND STORAGE

Residual current circuit breakers can be transported by any means of enclosed transport that ensures protection of packed products from mechanical and weather impacts.

RCCBs shall be stored indoors in the original package at the ambient temperature from -40°C to $+55^{\circ}\text{C}$ and relative humidity of max. 80% at $+25^{\circ}\text{C}$.

11 DISPOSAL

Life-expired and failed products shall be disposed of in compliance with national and local laws and regulations in force. To dispose of the product, send it to an authorized company for recycling in compliance with national and local laws and regulations in force.

12 MANUFACTURER'S WARRANTY

The manufacturer guarantees the products comply with the declared characteristics, provided that consumers follow operation, transportation and storage conditions.

Warranty period: 7 years from the date of sale specified in the sales receipt.

Shelf life: 7 years from the date of manufacture specified on the product package or housing.

Service life: 20 years.

Manufacturer: OOO Electroresheniya, Otravnaya st., 2b/9, 127273, Moscow, Russia, tel. +7 (495) 788-88-15.

MEA regional headquarters: EKF ELECTRICAL SOLUTION FZCO, Office 249, Techno Hub-2, Dubai Silicon Oasis, P.O. box 341079, Dubai, United Arab Emirates, tel. +9 (714) 547-06-18.

Importer and EKF trademark service representative on the territory of the Republic of Kazakhstan:

TOO «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

13 CERTIFICATE OF ACCEPTANCE

The residual current circuit breaker VD-100N PROXIMA EKF has been approved for operation.

Date of manufacture:
for information, refer to the product package.

Quality control stamp



EAC



v3

ekfgroup.com

EFVEE