



TECHNICAL MANUAL

Residual current
circuit breaker VD-100
EKF PROXIMA

1 DESCRIPTION

The residual current circuit breakers VD-100 EKF PROXIMA are used in 50Hz 230V/400V AC electrical circuits.

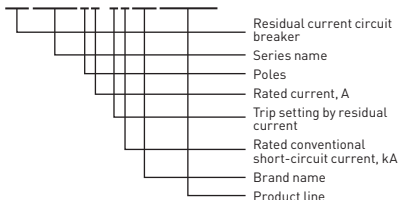
The residual current circuit breakers (RCCB) are designed to:

- 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.

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

Type code

RCCB VD-100 XX / XX EKF PROXIMA



2 TECHNICAL DATA

Table 1 - Main characteristics

Parameter	Value
Number of poles	2,4
Rated voltage U_e , V	230/400
Rated current I_n , A	16, 20, 25, 32, 40, 63, 80, 100
Rated breaking residual current $I\Delta n$, mA	10,30,100,300
Frequency f_n , Hz	50 / 60
Rated breaking capacity I_{cn} , A	4500 / 6000
Type	A, AC, S
Rated residual non-operating current $I\Delta n_o$, mA	0,5 $I\Delta n$
Leakage protection type	Voltage dependent / independent (electronic and electromagnetic)
Mechanical endurance, O-C cycles	10000
Electrical endurance, O-C cycles	2500
Cross-section of connected wires, mm ²	from 1 to 25
Degree of protection	IP20
Operating temperature	-25 to +55°C
Max. tightening torque, N·m	2,5
Max. weight, kg	0,38

3 TRIPPING CHARACTERISTICS

Table 2 – Tripping /non-tripping time limits for VD-100
EKF PROXIMA types AC and A in case of alternating residual current

Type	I_n , A	$I\Delta n$, mA	Tripping /non-tripping time limits for VD-100 EKF PROXIMA types AC and A in case of alternating residual current, s				
			$I\Delta n$	$2I\Delta n$	$5I\Delta n$	500A	Note
General	Any value	max. 30	0,3	0,15	0,04	0,04	Maximum tripping time
		30					
		> 30					
Selective	≥ 25	> 30	0,5	0,20	0,15	0,15	Minimum non- tripping time
		> 30	0,13	0,06	0,05	0,04	

Table 3 – Maximum tripping time for VD-100 type A EKF PROXIMA in case of half-wave pulse residual current

Type	In, A	IΔn, mA	Maximum tripping time for RCCB type A in case of 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
General	Any value	max. 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

RCCB VD-100 2P (version 1)

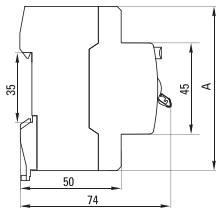
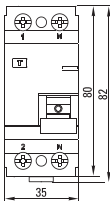


Fig. 2

RCCB VD-100 4P

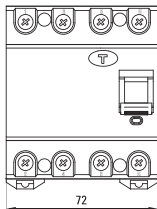


Fig. 1

Table 4

	A (height), mm
< 100 A	81
> 100 A	71

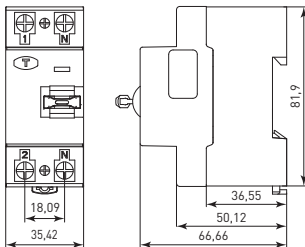


Fig. 3

5 INSTALLATION AND CONNECTION

The residual current circuit breakers shall be installed and connected by qualified electrical personnel.

Before installation, make sure that:

- the 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.

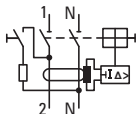
RCCB power supply shall be connected on the top from terminals 1, N and 1, 3, 5, N. The RCCBs shall be mounted onto 35mm DIN rail. Tightening torque: max. 2,5 N·m for copper wires; max. 2,2 N·m for aluminum-alloy wires, series 8000.

Make sure that the neutral operating conductor N is not connected to earthed elements and the protective earthing conductor PE in the protection area of the RCCB, when installing the device.

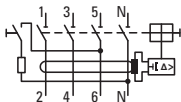
RCCB Wiring diagram

RCCB (electromagnetic)

RCCB VD-100 2P

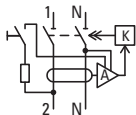


RCCB VD-100 4P

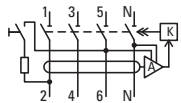


RCCB (electronic)

RCCB VD-100 2P



RCCB VD-100 4P



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

If vertically installed, the upper position of the operating handle shall refer to the RCCB «ON» status, while the handle lower position shall refer 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: -25°C to +55°C. Altitude above sea level: max. 2000m.

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

7 DELIVERY SCOPE

The residual current circuit breakers are supplied in the 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 the RCCB with visual mechanical damage.

By protection method against electric shock, RCCBs belong to protection class «0» according to IEC 61140 and shall be installed in distribution enclosures with protection class «1» and 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 the RCCB housing is found.

10 TRANSPORTATION AND STORAGE

RCCBs can be transported by any means of enclosed transport that ensures protection of packed products from mechanical and atmospheric impacts.

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

11 DISPOSAL

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

12 MANUFACTURER'S WARRANTY

The manufacturer guarantees the products comply with the declared characteristics, provided that the consumer follows the 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: for information, refer to the product package.

Importer and EKF trademark service representative:

EKF ELECTRICAL SOLUTION – FZCO, Dubai Silicon Oasis, DDP, Building A2, Dubai, United Arab Emirates.

**Importer and EKF trademark service representative
on the territory of the Russian Federation:**

ООО «Electroresheniya», Otravnaya st., 2b bld. 9, 5th floor,
127273, Moscow, Russia.
Tel.: +7 (495) 788-88-15.

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

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

13 CERTIFICATE OF ACCEPTANCE

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

Date of manufacture:

For information, refer to the product package.

Quality control stamp



EAC

v3



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EFK