

TECHNICAL MANUAL

**Residual current circuit breakers
with overcurrent protection
AVDT-63M EKF PROXIMA**

1 DESCRIPTION

The residual current circuit breakers with overcurrent protection AVDT-63M EKF PROXIMA are used in 50Hz and 230V AC electrical circuits.

The residual current circuit breakers with overcurrent protection (RCBO) 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;
- Auto disconnect circuit sections in case of overload or short-circuit currents.

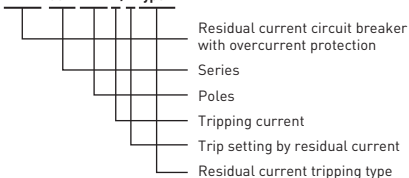
RCBO AVDT-63M type AC trips on alternating sinusoidal residual current, suddenly applied or smoothly increasing.

RCBO AVDT-63M type A trips on alternating sinusoidal residual current and on residual pulsating direct current, suddenly applied or smoothly increasing.

The residual current circuit breakers with overcurrent protection AVDT-63M EKF PROXIMA comply with IEC 61009-1.

TYPE CODE

AVDT-63M X+N X/X type X



2 TECHNICAL DATA

Table 1 - Main characteristics

Parameter	Value
Poles	1P+N
Rated voltage U_e , V	230
Rated current I_n , A	6, 10, 16, 20, 25, 32
Rated breaking residual current $I_{\Delta n}$, mA	10, 30, 100
Frequency f_n , Hz	50 / 60
Rated breaking capacity I_{cn} , A	6000
Tripping curve	B, C (fig.1)
Residual current tripping type	A, AC
Type by time delay	no time delay
Rated residual non-operating current $I_{\Delta no}$, mA	$0,5I_{\Delta n}$
Leakage protection type	Voltage dependent (electronic) RCBO
Mechanical endurance, O-C cycles	10000
Electrical endurance, O-C cycles	4000
Cross-section of connected wires, mm^2	from 1 to 16
Degree of protection	IP20
Operating temperature	from -25 to 55°C
Max. tightening torque, N•m	1,2
Max. weight, kg	0,2

3 TRIPPING CHARACTERISTICS

At the ambient temperature of +30°C

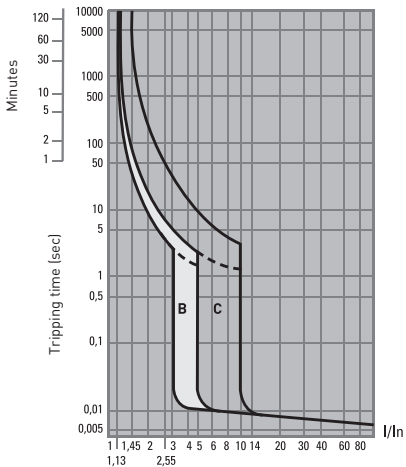


Fig.1 – Electromagnetic protection tripping curves

At the ambient temperature of +30°C

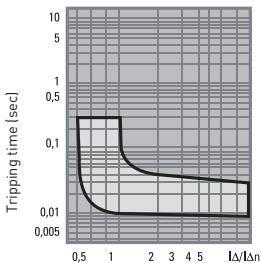


Fig. 2 – Residual current protection tripping curves

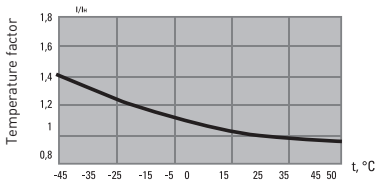


Fig. 3 – Derating factor depending on ambient temperature

4 OVERALL DIMENSIONS

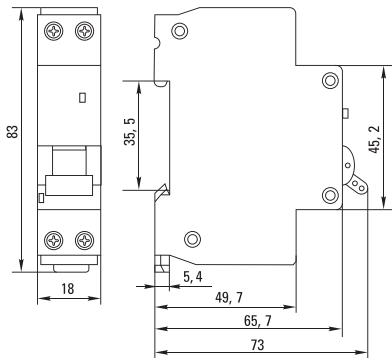


Fig. 4 – AVDT-63M Overall dimensions

5 INSTALLATION AND CONNECTION

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

Before installation, make sure that:

- The device characteristics (RCBO 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.

RCBO power supply shall be connected on the top from terminals 1, N. The RCBOs shall be mounted onto 35mm DIN rail.

Tightening torque: max. 1.2 N•m

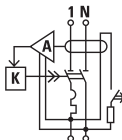


Fig. 5 – Wiring diagrams

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 RCBO, when installing the device.

Test the device operation with the Test (T) button monthly. The device operates properly, if it trips instantly.

After the RCBO trips by residual current (the operating handle switches to the «OFF» position and the button next to the handle is released), carefully inspect the insulation of wires and devices in the protected circuit and troubleshoot the causes of current leakage. Press the button indicating the device trip and turn the operating handle to the «ON» position to close the device.

6 OPERATION CONDITIONS

Operating temperature: -25°C to $+55^{\circ}\text{C}$.

Attitude above sea level: max. 2000 m.

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

7 DELIVERY SCOPE

The RCBOs 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 devices with visual mechanical damage.

By protection method against electric shock, RCBOs 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 the RCBO operation with the Test button every month; visually inspect the device and tighten screw terminals every 6 months.

Do not operate RCBO, if visual damage to the RCBO housing is found.

10 STORAGE AND TRANSPORTATION

The residual current circuit breakers with overcurrent protection can be transported by any means of enclosed transport that ensures protection of packed products from mechanical and atmospheric impacts.

The residual current circuit breakers with overcurrent protection 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 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», Otradnaya 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 with overcurrent protection AVDT-63M EKF PROXIMA complies with the requirements of IEC 61009-1 and has been approved for operation.

For information, refer to the product package.

Quality control stamp



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