

# AV



# AVERES

**TECHNICAL MANUAL**

**Miniature**

**circuit breakers**

**AV-125 EKF AVERES**



## 1 DESCRIPTION

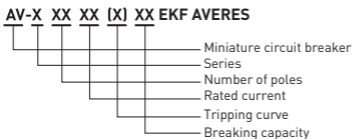
Miniature circuit breakers AV-125 EKF AVERES are electromechanical switching devices used in AC electrical circuits for local control switching and protection against overload and short-circuit currents in residential and commercial buildings. AVERES miniature circuit breakers comply with IEC 60947-2.

A number of advanced engineering solutions have been incorporated into the design of AVERES miniature circuit breakers. They feature instant switch technology. It enables instant switching of the power contacts, regardless of the operating handle actuation speed. This translates into the lower contact wear, lower power dissipation at the contacts, and lower levels of heat generated by miniature circuit breakers.

Screw shields block the space behind screw terminals, preventing incorrect conductor connections.

Miniature circuit breakers are equipped with a comfortable operating handle to ensure reliable operation. The front panel of the MCB features a contact position indicator.

### TYPE CODE



## 2 TECHNICAL DATA

Table 1

Characteristics	Value
Rated voltage $U_n$ , V	230 / 400
Rated frequency $f$ , Hz	50 / 60
Number of poles	1, 2, 3, 4
Rated current $I_n$ , A	63, 80, 100, 125
Rated breaking capacity, kA	10
Rated impulse withstand voltage $U_{imp}$ , kV	6
Tripping curve	C, D
Mechanical life, cycles	10 000

Table 1 continued

<b>Characteristics</b>	<b>Value</b>
Electrical life, cycles	8 000
Operating temperature, °C	-25 to +60
Maximum cross-section of stranded conductors, mm <sup>2</sup>	35
Maximum cross section of solid conductors, mm <sup>2</sup>	50
Tightening torque, N•m	3
Degree of protection	IP20

### 3 TRIPPING CHARACTERISTICS

Table 2

<b>Rated current, A</b>	<b>Voltage drop, mV</b>	<b>Power consumption, W</b>
63	83	5,2
80	68	5,5
100	86	8,6
125	96	12

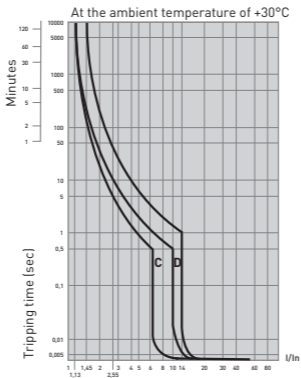


Fig. 1 - Tripping curves

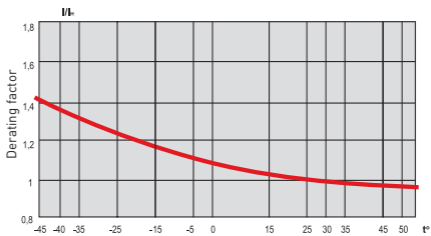


Fig. 2 - MCB temperature derating chart

#### 4 OVERALL DIMENSIONS

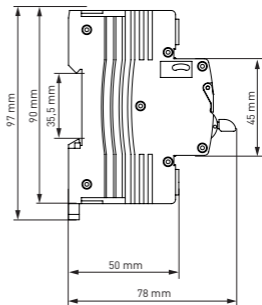
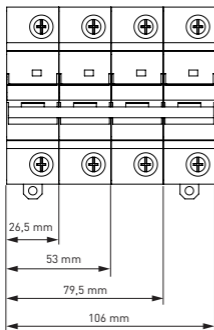


Fig. 3

#### 5 INSTALLATION AND CONNECTION

Miniature circuit breakers shall be installed and connected only by qualified electrical personnel.

Both copper and aluminum wire connections are supported. Do not connect copper and aluminum wires concurrently to the same terminal. Incoming supply can be connected both from terminals 1, 3, 5, 7 and from terminals 2, 4, 6, 8.

Miniature circuit breakers shall be mounted onto 35 mm DIN rail.

Tightening torque: max. 3 N•m for copper wires; max. 2,2 N•m for aluminum alloy series 8000 wires.

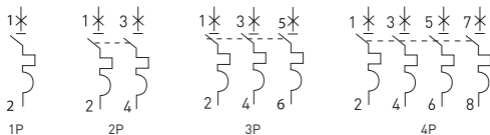


Fig. 4 - Wiring diagram

## **6 OPERATION CONDITIONS**

Operating temperature: from  $-25^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ .

Max. altitude above sea level: 2000 m.

Position in space: vertical or horizontal on a vertical plane. If installed vertically, the upper operating handle position shall correspond to the MCB ON status, while the lower handle position shall correspond to the MCB OFF status as per IEC 60447 requirements. If installed horizontally, the right operating handle position shall correspond to the MCB ON status, while the left handle position shall correspond to the MCB OFF status.

## **7 DELIVERY SCOPE**

Miniature circuit breakers AV-125 are supplied in a group 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 miniature circuit breakers with visible mechanical damage.

Miniature circuit breakers conform to IEC 61140 Class 0 for protection against electrical shock and must be installed in distribution enclosures with Class 1 protection or higher.

## **9 MAINTENANCE**

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

Under normal operating conditions, visually inspect MCBs, check ON/OFF operations, and tighten screw terminals every 6 months.

Do not operate miniature circuit breakers with visibly damaged housing.

## **10 TRANSPORTATION AND STORAGE**

Miniature circuit breakers can be transported by any means of enclosed transport that ensures protection of packed products from impact damage and weather exposure.

Miniature circuit breakers shall be stored indoors, in their original packaging, at the ambient temperatures from  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  and relative humidity of max. 80% at  $+25^{\circ}\text{C}$ .

## 11 DISPOSAL

Life-expired and failed miniature circuit breakers shall be disposed of in compliance with the effective national and local laws and regulations.

To dispose of the product, send it to an authorized company for recycling in compliance with the effective national and local laws and regulations.

## 12 MANUFACTURER'S WARRANTY

The manufacturer guarantees the miniature circuit breaker's compliance with the declared characteristics, provided that the consumer follows the operation, transportation and storage requirements.

Warranty period: 10 years from the sale date.

Shelf life: 10 years from the date of manufacture specified on the product package or housing.

Service life: 25 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:**

OOO «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:**

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

## 13 CERTIFICATE OF ACCEPTANCE

Miniature circuit breakers AV-125 EKF AVERES have been approved for operation.

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

Quality control stamp



**EAC**



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