

MTAF1-32 Manual Instruction

Arc Fault Detection Device



Shanghai Matis Electric Co., Ltd.

MTAF1-32 Arc fault Detection Device

Product overview

MTAF1-32 Arc fault Detection Devices consist of a small circuit breaker, tripping mechanism, and arc detection module. MTAF1-32 Arc Fault Detection Devices have the function of short circuit protection, overload protection, and arc fault protection. It detects the arc fault through the chip detection program, and if it is confirmed as the fault arc, it will disconnect the power supply and provide arc fault protection. According to statistics, the proportion of total fire in electric fire is increasing year by year. In addition, seventy percent of electrical fires are caused by faulty arcs. MTAF1-32 Arc Fault Protection Devices can effectively avoid fire caused by fault arcs.

Product usage

MTAF1-32 Arc fault Detection Devices are widely used in rated current 32A and the following household and similar communication circuits.

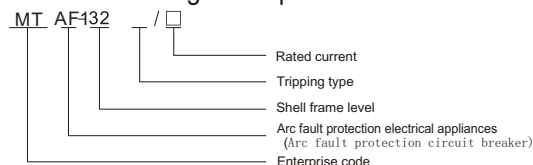
Arc fault protection unit of MTAF1-32 Arc fault Detection Devices can detect and identify series arc faults, parallel arc faults, and ground arc faults. For example: the old and damaged insulation layer of the line, wet air can cause arc fault phenomena. When Arc fault Detection Devices detect that there is an arc fault, it would be automatically tripping and cut off the power supply.

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Main technical parameters of the product

- 1) Rated working voltage : AC 230V
- 2) Rated working frequency: 50Hz \pm 2%
- 3) Rated insulation voltage: 400V
- 4) Rated impact withstand voltage: 4kV
- 5) Rated current : 6A, 10A, 16A, 20A, 25A, 32A.
- 6) Number of poles: 1P+N
- 7) Type of Instantaneous trip: B, C
- 8) Short circuit capability: 6kA

Model and meaning of the product.



Product classification

- ◆ Rated current (A) 6A 10A 16A 20A 25A 32A
- ◆ Type of Instantaneous trip: B, C

Normal operating condition

The surrounding temperature is -5 or +40
Average daily maximum temperature: +35°C. The elevation is not more than 2000m. Relative humidity: maximum 50% at 40 °C, 90% at 20°C.

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Product characteristics

MTAF1-32 Arc fault Detection Device has the function of arc fault protection, overload protection, and short circuit protection.

The rated voltage is 230V. The limit of action discrimination is as follows:

Test arc current (Valid values)	3 A	6 A	13 A	20 A	40 A	63 A
Maximum section time	1s	0.5s	0.25s	0.15s	0.12s	0.12s
The test arc current is the expected current in the test circuit.						

Table 1

The small arc current below 63A runs down the limit value of the MTAF1-32

MTAF1-32 arc fault Detection Device has the overcurrent protection function of arc fault protection appliance. When the circuit current exceeds the rated current of the product, the MTAF1-32 bending deformation of the thermal tripping system drives the main contact from the closed position to the disconnection position so that the current is switched off. The characteristics of overcurrent trip of MTAF1-32 arc fault protection appliance is shown in table 3.

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No.	Tripping device type	Rated current of the tripper. (InA)	Initial state	Test current xin	Tripping time (t)	The expected results	Remark
1	B,C	≤ 32	Cold	1.13	≤ 1h	No Tripping	-
2			After the first experiment.	1.45	< 1h	Tripping	The current rises steadily to the regular value in the 5s.
3				2.55	1s < t < 60s	Tripping	-
4	B		Cold	3	≤ 0.1 s	No Tripping	Turn off the auxiliary switch turn on the current
5				5	< 0.1s	Tripping	Turn off the auxiliary switch turn on the current
6	C			5	≤ 0.1 s	No Tripping	Turn off the auxiliary switch turn on the current
7				10	< 0.1s	Tripping	Turn off the auxiliary switch turn on the current

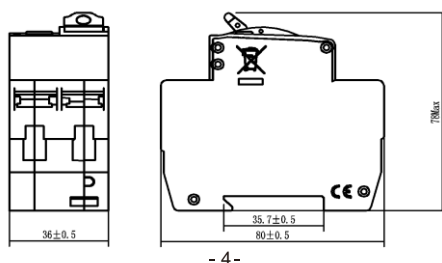
Cold state: refers to the temperature of the reference calibration, without load before the test.

Table 3: the characteristics of overcurrent trip.

The product wiring mode and indicator light function are shown in the attached drawing.

Product installation

- ◆ Dimensions and mounting dimensions pls see picture 1.



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- ◆ MTAf1-32 Arc Fault Detection Device needs to Check before installation. Confirm intact, Flexible, and the sign corresponds with the use requirement so that can be installed.
- ◆ In addition to the distribution box, for single installation installation of MTAf1-32 Arc Fault Detection Device should be installed by a piece of ground metal (or insulating material) to prevent electric shock.
- ◆ The characteristics of MTAf1-32 Arc Fault Detection Device has been adjusted and stabilized before delivery. Users are not allowed to adjust in use.

Custody and maintenance

In transportation and custody of MTAf1-32 Arc Fault Detection Device cannot be affected by rain and should be stored in air circulation. The relative humidity is not greater than 90% (when surrounding temperature is at +25°C), Temperature is not higher than + 40 °C or not less than 25 °C in the warehouse.

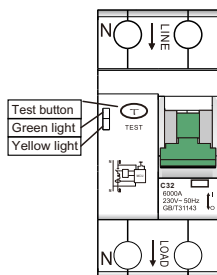
MTAf1-32 Arc Fault Detection Device should be periodic checked in the operation. Remove dust and dirt from incoming line and product surface. The power should be cut off when checking.

Ordering Instructions

Attention must be paid when ordering MTAf1-32 Arc Fault Protection Device:

- Product name and model number;
- rated current of MTAf1-32 Arc Fault Protection Device;
- Tripping device type: B/C;
- Order quantity;

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LED Warnings

- 1) With power connected and the switch in the off position, The green and yellow LED are not lit. When you move the switch to the on position, the green LED is on, which shows the product is working.
- 2) Test button---With power connected and the switch on, push the test button, the product will trip, green LED does not illuminate, yellow LED will flash once. If the device does not trip or yellow LED not flash consult a qualified Electrician
- 3) Arc fault ---If the product trips, the causes are either overload or Arc fault. Disconnect any equipment on this circuit and switch the device on. If the yellow LED flashes 5 or 6 times that indicates an arc fault. If the fault is still present the device will trip, DO NOT Reset the device again. If the yellow LED doesn't flash, that indicates the problem is an overload or short circuit. Switch the device to the OFF position and consult a qualified Electrician.
- 4) If the device trips for any reason, please consult a qualified electrician

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Users who purchase this model shall enjoy a 24-month warranty period from the date of purchase. During the warranty period, the product itself is affected by the quality of the problem and normal use, can enjoy free repair and replacement. Non-recoverable damage caused by improper use, drops, and installation wiring errors may be repaired or replaced for a fee during the warranty period. If you remove the modification yourself, you will not be covered by the warranty. If you have any questions about the operation or failure of the equipment, please contact Matis Technical Support Services.

Notice

- The information provided in this manual may be modified without prior notice.
- Shanghai Matismart Electric Co., Ltd. reserves the right to interpret the information.

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