

AQ-101 Arc flash protection



AQ-101 is a sophisticated microprocessor-based arc flash protection unit for arc light detection. It is designed to minimize the damage caused by an arcing fault (arc flash) by tripping the circuit breaker that sources the fault current. The complete system self-supervision function of AQ-101 provides the highest level of dependability by continuously monitoring all internal system functions as well as external connections.

AQ-101 can be used as a stand-alone unit or as a part of a more complex arc protection system via a binary bus.

Features:

- A wide range for the power supply (18...72 V DC or 92...265 V AC/DC)
- A maximum of 12 arc light point sensors (3 point sensors per channel)
- A maximum of 1 fiber loop sensor (optional)
- 4 trip relays (with 7 ms trip time)
- 1 system failure relay
- 1 fast binary output
- 2 fast binary inputs
- 1 multifunction push button
- Non-volatile memory
- 12 indication LEDs

Technical Data

PROTECTION

Light (L>)

Light and pressure (L> / P>)

Circuit breaker failure protection (50BF/52BF)

Trip time when using mechanical trip relays: 7 ms*

Reset time (arc light stage): 2 ms

Protection operational after power up: 88 ms

*) total trip time when using arc light (L>) or when using arc light (L>) and phase/earth overcurrent (I>) from an AQ-110x unit

I/O

Applicable sensors

AQ-01 light sensor*

AQ-02 light and pressure sensor*

AQ-06 plastic fiber sensor (3...40 m) (optional)

AQ-07 glass fiber sensor (3-50 m length) (optional)

AQ-08 glass fiber sensor (3...15 m) (optional)

*) activation threshold options: 8.000 lx, 25.000 lx, 50.000 lx

Trip relays (T1, T2, T3, T4)

3 NO + 1 NC or 4 NO

Rated voltage: 250 V AC/DC

Continuous carry: 5 A

Make-and-carry for 3 s: 16 A

Make-and-carry for 0.5 s: 30 A

Breaking capacity DC (when L/R = 40 ms): 40 W; 0.36 A at 110 V DC

Contact material: AgNi 90/10

Binary output (BO1)

Number of outputs: 1

Rated voltage: +24 V DC

Maximum rated current: 20 mA

Binary inputs (BI1, BI2)

Number of inputs: 2

Threshold voltage: 24/110/220 V DC

Rated voltage: 250 V AC/DC

Rated current: 3 mA

Power supply

Auxiliary power supply: 92...265 V AC/DC

Auxiliary power supply: 18...72 V DC (optional)

Maximum interruption: 100 ms

Maximum power consumption: 5 W

Standby current: 90 mA

HMI

12 indication LEDs

Multifunction push button (SET)

Autoconfiguration

Indication reset

System check

SELF-SUPERVISION

Sensors and wiring

Binary I/O

Trip coil

Power supply

Internal voltages

Settings

SYSTEM CONNECTIVITY

AQ-200 series

AQ-300 series

AQ-100 series

ACCESSORIES

AX016 Wall mounting bracket

Application Drawing

