

# AQ-101 Arc flash protection device



## Description

The AQ-101 arc flash protection device 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.

The AQ-101 arc flash protection device 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.

***Learn more about how different protection techniques affect the consequences of an arc flash:***

“Arc flash comparison” by Arcteq Relays ([https://youtu.be/EUIZ\\_a\\_rclg](https://youtu.be/EUIZ_a_rclg))

## Technical data

### PROTECTION

- Light (L>)
- Light and pressure (L> / P>)
- Circuit breaker failure protection (50BF/52BF)
- Total trip time when using mechanical trip relays: 7 ms (only arc light signal from an AQ-110x device)
- Total trip time when using mechanical trip relays: 7 ms (both overcurrent and arc light signal from an AQ-110x device)
- Reset time (arc light stage): 2 ms

## INPUTS AND OUTPUTS

### Applicable sensors

- AQ-01 light sensor (activation thresholds: 8 klx, 15 klx, 50 klx)
- AQ-02 light and pressure sensor (activation thresholds: 8 klx, 15 klx, 50 klx)
- 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)

### 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 (B01)

- 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

## INTERFACE

- 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 100 series
- AQ 200 series
- AQ 300 series

## ACCESSORIES

- AX016 Wall mounting bracket

# Application Drawing

