

AQ-103 Point sensor unit with Modbus

AQ-103 is a sophisticated microprocessor-based arc flash protection unit with arc light detection. It acts as a sub-unit to an AQ-110P unit in an AQ 100 arc protection system. It can also function as a standalone unit in light-only systems. AQ-103 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-103 provides the highest level of dependability by continuously monitoring all internal system functions as well as external connections. AQ-103 provides communication through Modbus protocol.



ORDER CODE

AQ-103 - X X X A X

Auxiliary power supply

- A 92...265 V AC/DC
- B 18...72 V DC

T3 trip relay setting

- A Normally open (NO)
- B Normally closed (NC), or Electronic lock-out

S5 sensor channel setting

- A None
- B Fiber optic sensor channel / AQD control

Binary input threshold voltage

- A 24 V DC

Communication

- A None
- B RS-485 Modbus

- Connects to a maximum of 14 point sensors and 1 fiber sensor.
- Has a variant with Modbus communication.

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>) and phase/residual 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) (optional)
- AQ-08 glass fiber sensor (3...15 m) (optional)

**) Activation threshold options: 8,000/25,000/50,000 lx

Trip relays (T1, T2, T3, T4)

- Number: 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 (B11, B12)

- Number of inputs: 2
- Threshold voltage: 24 V DC
- Rated voltage: 250 V
- 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

- 25 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



AQ-103 rear view, Modbus variant