HIGHLIGHTS:

- Supports both current and light sensing.
- AQ-110P connects to up to 12 point sensors and AQ-110F to 3 fiber sensors.
- Supports also Rogowski sensors, offering superior flexibility and ease of installation, especially for retrofit projects.
- Connects to Arcteq's arc quenching devices for ultra-fast arc flash mitigation.
- Features Modbus RTU communication allowing integration of the arc flash protection system into SCADA/DCS.
- Has a superior isolation level against external disturbances – tested at the highest EMC classes.
- Has complete system self-supervision covering all internal system functions and external connections.

AQ-110x Arc Flash Protection Device (Main unit)

READ MORE

The AQ-110x arc flash protection device supports both current and light sensing. Acting as the main unit of the arc flash protection system, the AQ-110x detects overcurrent in the incoming feeder and a light signal from a sub-unit, or from a light detection sensor connected to the device itself. It then trips the circuit breaker that is the source of the fault current, thereby significantly reducing the damage caused by an arcing fault (arc flash).

The AQ-110x devices also support Rogowski sensors, offering superior flexibility and ease of installation, especially for retrofit projects. This feature also enables the expansion of arc flash protection to parts of the switchgear that are not covered by current transformers.

This multipurpose arc flash protection device is suitable for a variety of applications, from stand-alone devices to a main unit of a more complex arc protection system. The Modbus RTU communication enables integration of the arc flash protection system into a SCADA/DCS system directly, or via an AQ 250 protection and control device. This enables transferring all data about the alarms, sensors and input/output signals available locally on the HMI of the arc protection device to the SCADA/DCS system e.g. according to IEC 61850 standard.

PROTECTION

Overcurrent and light (50Arc)
Earth fault and light (50NArc)
Light only
Light and pressure (AQ-110P only)
Circuit breaker failure protection (50BF/52BF)
Total trip time: 7 ms

APPLICABLE SENSORS

AQ-01 light point sensor (AQ-110P only)
AQ-02 light and pressure point sensor (AQ-110P only)
AQ-06 plastic fiber sensor (3...40 m)
AQ-07 glass fiber sensor (3...50 m)
AQ-08 high-temperature glass fiber sensor (3...15 m)
Rogowski sensor support

I/O

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

Binary output (BO1)
Number of outputs: 1
Rated voltage: +24 V DC

Binary inputs (BI1, BI2)
Number of inputs: 2
Threshold voltage: 24 V DC
Rated voltage: 250 V

Power supply
Auxiliary power supply: 92…265 V AC/DC
Auxiliary power supply: 18…72 V DC (optional)

HMI

20 indication LEDs (AQ-110P)
19 indication LEDs (AQ-110F)
Multifunction push button (SET)
- Autoconfiguration
- Indication reset
- System check

SELF-SUPERVISION

Complete system self-supervision:
- Internal functions (configurations and device health)
- External connections (binary inputs and arc sensors)

ORDER CODE AQ-110P- X X X A X

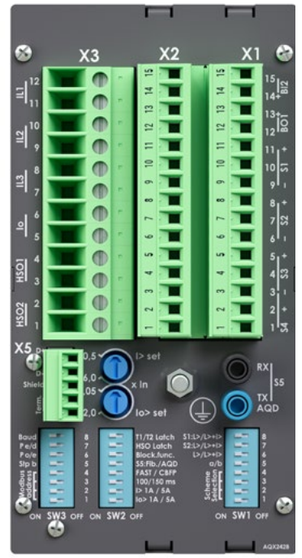
Auxiliary power supply
A 92...265 V AC/DC
B 18...72 V DC

T3 trip relay setting
A Normally open (NO)
B Normally closed (NC) or electronic lock-out

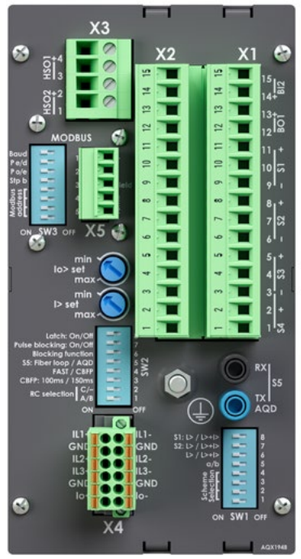
S5 sensor channels settings
A None
B Fiber optic sensor channel / AQD control

Binary input threshold voltage
A 24 V DC

Current inputs / Communication
A Standard inputs
B Standard inputs + Modbus
C Rogowski inputs
D Rogowski inputs + Modbus



Rear of AQ-110P with CT inputs and Modbus connector.



Rear of AQ-110P with Rogowski inputs and Modbus connector.

ORDER CODE AQ-110F- X X X A X

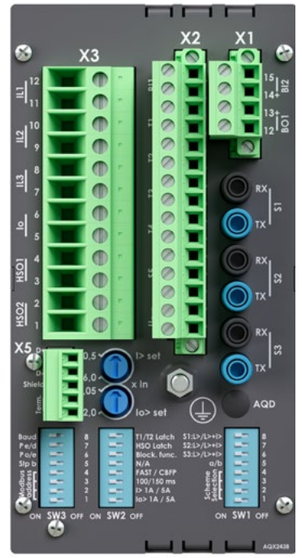
Auxiliary power supply
A 92...265 V AC/DC
B 18...72 V DC

T3 trip relay setting
A Normally open (NO)
B Normally closed (NC) or electronic lock-out

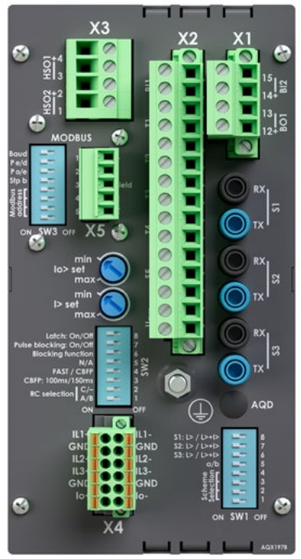
Additional channel options
A None
B AQD control
C Low fiber input sensitivity (S1–S3) + AQD control

Binary input threshold voltage
A 24 V DC

Current inputs / Communication
A Standard inputs
B Standard inputs + Modbus
C Rogowski inputs
D Rogowski inputs + Modbus



Rear of AQ-110F with CT inputs and Modbus connector.



Rear of AQ-110F with Rogowski inputs and Modbus connector.