AQ 100 series – The efficient arc protection system

AQ 100 series offers a complete solution to arc flash protection. The AQ 100 is designed utilizing the most modern technology with a focus on simplicity while maintaining both flexibility and function. It is built to meet the growing demands in both LV and MV switchgear and controlgear applications ranging from basic stand-alone to more complex system solutions.

The AQ 100 series is designed and tested according to the latest protection relay standards and is hence suitable for installations in any environment, such as utility, power plant, wind-power, off shore, marine, oil and gas, mining, steel or any other heavy industry application and as well commercial and institutional electrical systems. The AQ 100 modular design makes it an excellent candidate for both new and retrofit installations.

AQ 100 Benefits

Speed

- As fast as 2ms trip time
- Connectivity to arc quenching system type AQ 2000 for rapid arc extinguishing

Flexibility

- Easy adaptation to any switchgear and trip scheme
- Variety of arc sensors available
- Long distance possible between units
- Practically an unlimited number of units can be interconnected in one system

Reliability

- Standard hard-wiring practice for communication between units
- Superior isolation level for external disturbances - tested at the highest EMC classes
- Selectable binary input threshold voltages
- Full self-supervision of all system components and interconnections

Simplicity

- AQ 100 Standard Arc Scheme (AQ-SAS™) approach for fast engineering and simple setting
- Auto-configuration feature with one push-button operation
- Installation downtime often limited to hours

Cost effectiveness

- Careful component selection optimizes the AQ 100 cost structure
- Use of standard cables for interconnection and sensor wiring
- Quick install of sensors and wires
- Cables can be cut to length on site

AQ 100 Standard Arc Schemes (AQ-SAS™)

- **Reduction in engineering cost**
- **Quick and simple commissioning**
- **Less after sales costs**

AQ-SAS™ is a fully tested and documented standard arc protection solution library. Application descriptions, connection drawings and dipswitch settings are detailed in product literature reducing the required engineering effort and after sales cost significantly.

ARCTEQ

RELAYABLE POWER

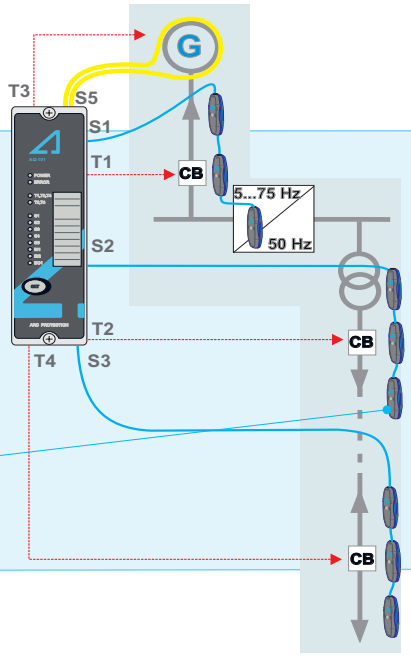
Features	AQ 110F	AQ 110P	AQ 102	AQ 101
Wide range power supply (18-72Vdc or 80-265Vac/dc)	✓	✓	✓	✓
3 phase current detection (1/5A)	✓	✓		
Residual current detection (1/5A)	✓	✓		
Max number of point sensors		12		12
Max number of fiber loop sensors	3	1 (option)	3	1 (option)
Connectivity to AQ 2000 arc quenching system	✓	✓		
High Speed Outputs (2ms trip time)	2	2		
Number of trip relays (7ms trip time)	4*	4*	4*	4*
System failure relay	1	1	1	1
Binary outputs (24Vdc)	1	1	1	1
Binary inputs (24/110/220Vdc)	2	2	2	2
Push button	✓	✓	✓	✓
Non-volatile memory	✓	✓	✓	✓
Indication LEDs	20	20	12	12

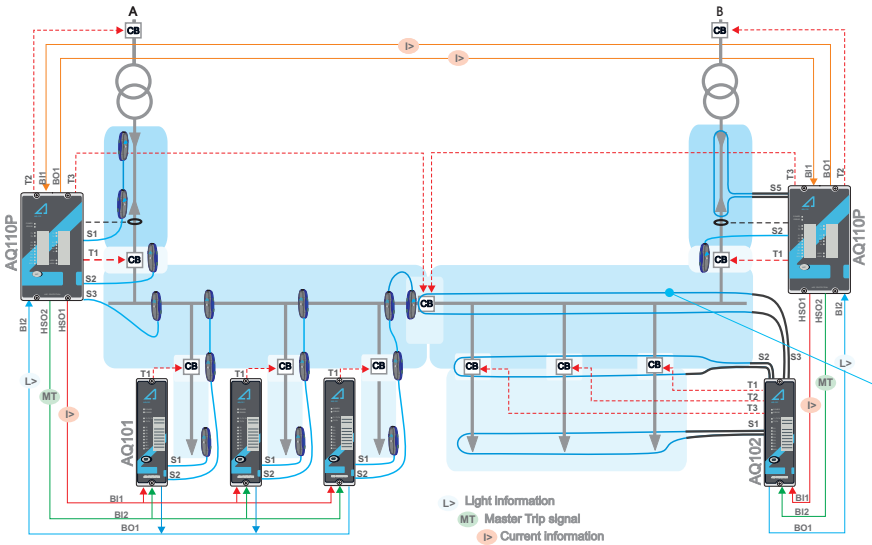
*Optionally one normally closed electronic lock-out/trip relay available

Stand-alone application example

Any AQ 100 unit can be used as stand-alone arc protection relay. AQ 101 provides complete wind power turbine arc protection.

✓ **AQ01** has a fixed 8000 Lux activation level with detection radius of 180 degrees and is IP 61 and vibration rated. Typically one AQ 01 sensor is installed in each closed compartment. Maximum 3 sensors may be series connected to one channel. Plug-in type cable connectors enable quick installation and reduce cost.





System application example

AQ 100 units can be flexibly applied in a system to even most complex switchgear layouts providing fully selective tripping and complete circuit breaker failure protection (CBFP). Use of Standard Arc Schemes (AQ-SAS) guarantees smooth project implementation.

✓ **AQ07** is an industrial grade flexible glass fiber loop sensor. It has a fixed 8000 Lux activation level with detection radius of 360 degrees and comes in lengths of 10 to up to 50 meters.

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