

# AQ 1000 – Arc Quenching Device

AQ 1000 arc quenching device is used to extinguish arcing faults in systems with rated voltage of up to 690V. The AQ 1000 arc quenching device operates in less than 4ms in order to minimize or even eliminate the arcing fault thermal and pressure damaging effects. In most applications this will result in a calorie/cm<sup>2</sup> energy release of less than 1. The AQ 1000 is fully reusable allowing for full system testing at site.

The AQ 1000 is utilized in conjunction with the AQ 100 arc protection system. In case of an arc fault the AQ 100 detects the fault, triggers the AQ 1000 arc quenching device and simultaneously trips the fault feeding circuit breaker(s). The AQ 1000 creates a three-phase low-impedance parallel path for fault current to flow thus extinguishing the arc fault.

## AQ 1000 BENEFITS

### PERSONNEL SAFETY

- Reduce risk of injury during operations and maintenance
- Protection active even in open door situations
- Lower personal protection equipment (PPE) requirements

### EQUIPMENT SAFETY

- Minimized damage to equipment
- Less repair costs
- Shorter power outages

### APPLICABLE FOR NEW OR RETROFIT INSTALLATION

- Applicable for any type of new switchgear configuration
- Can be easily retrofitted to existing installations

### REDUCED TOTAL SWITCHGEAR AND BUILDING COST AND FOOTPRINT

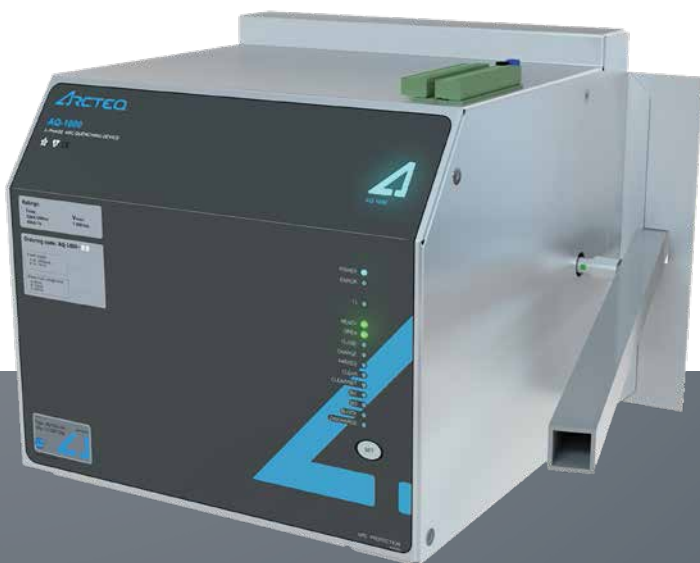
- “Arc resistant” characteristics with metal clad switchgear designs
- Option to arc resistant switchgear applications  
No arc flash energy release beyond switchgear enclosure
- Minimized pressure effect

### DEPENDABILITY

- Continuous self-supervision of the system
- Alarm on any erroneous condition
- Meets with highest EMC immunity requirements

### REUSABLE SYSTEM

- Two full load operations at fault conditions
- Practically unlimited mechanical life allows for site testing
- Easy reset mechanism



*The reusable AQ-1000 operating mechanism is based on patented and reliable Thompson coil technique.*

## TECHNICAL DATA

### AQ-1000 – ARC QUENCHING DEVICE

- ✓ Rated voltage: 690 V
- ✓ Short-circuit withstand: 50 kA for 1 s, 75 kA for 0.5 s, 100 kA for 0.2 s
- ✓ BIL: 12 kV
- ✓ Peak current: 220 kA
- ✓ Electric life: 2 operations
- ✓ Mechanical life: 100 open/close cycles
- ✓ Device closing time: <2ms

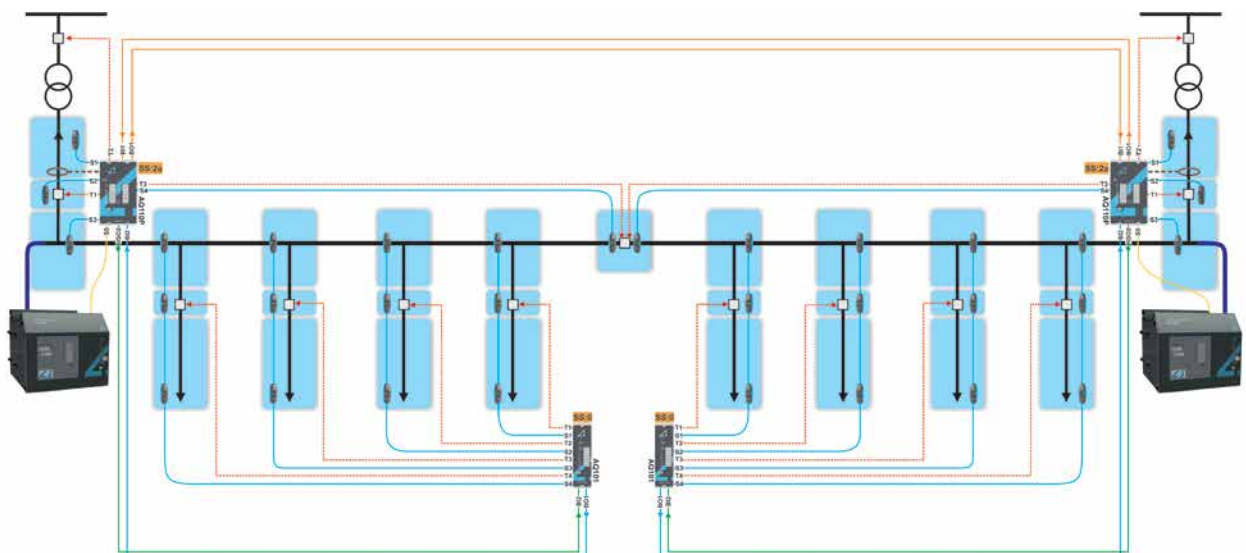
### EMBEDDED ELECTRONICS

- ✓ Power supply: 80-265Vdc or 18-70Vdc
- ✓ 13 color leds
- ✓ 4 binary inputs
- ✓ 5 relay outputs
- ✓ Self-supervision



\*from activation of trigger pulse to closing of quenching device

## APPLICATION EXAMPLE



- ✓ **AQ-100** series arc protection system is utilized for arc detection. Upon detecting an arcing fault the AQ-100 transmits signal via fiber optic cable for AQ 1000 arc quenching device to operate. Sourcing circuit breakers are tripped simultaneously.