

AQ-F350 Feeder protection IED



AQ-F350 is a feeder protection IED for the most demanding feeder protection applications. It integrates a full range of feeder protection functions as well as a variety of additional functions for control, measurement, monitoring and communications.

Highlights

- Feeder protection up to 500 kV
- Synchrocheck function
- Voltage input for a CVT (optional)

Technical Data

PROTECTION

Three-phase instantaneous/time overcurrent ($I>$; 50/51)

Residual instantaneous/time overcurrent ($I0>$; 50N/51N)

Directional three-phase overcurrent ($I_{dir}>$; 67)

Directional residual overcurrent ($I0_{dir}>$; 67N/32N)

Inrush detection and blocking

Negative sequence overcurrent/ Current unbalance ($I2>$; 46)

Thermal overload ($T>$; 49)

Over- and undervoltage ($U>/<$; 59/27)

Residual overvoltage ($U0>$; 59N)

Over- and underfrequency ($f>/<$; 81O/81U)

Rate-of-change of frequency (df/dt ; 81R)

Circuit breaker failure protection (CBFP; 50BF/52BF)

Distance protection (optional)

Distributed busbar protection (sub-unit) (optional)

CONTROL

Common function

Trip logic (94)

Voltage variation

Auto-recloser (0 → 1; 79)

Switch-on-to-fault

Disconnecter control

Dead line detection

Synchrocheck ($\Delta V/\Delta a/\Delta f$; 25)

MEASURING & MONITORING

Number of supervised trip contacts: 4

Current (IL1, IL2, IL3, I0)

Voltage (U1, U2, U3, U12, U23, U31, U0) and frequency

Power (P, Q, S, pf) and Energy (E+, E-, Eq+, Eq-)

Current transformer supervision

Voltage transformer supervision (60)

Trip circuit supervision

Switching device status monitoring

Event recorder

Event recorder (max. 10 000 permanent event records)

Circuit breaker wear monitoring

HARDWARE

CPU module (MM/ST + RJ-45)

Power supply module (PS + fault relay + 2 trips)

Number of empty slots: 6

Voltage measurement module

Current measurement module

COMMUNICATION

RJ-45 100 Mbps Ethernet + MM/ST fiber optic Ethernet

IEC 61850 (optional)

IEC 60870-5-101/104/103

Modbus/RTU and Modbus/TCP

DNP3.0

Application Drawing

