

AQ-F255 Feeder protection IED



The AQ-F255 offers a modular feeder protection and control solution for applications requiring large I/O capacity. Up to 11 optional I/O or communication cards are available for extensive monitoring and control applications. The AQ-F255 communicates using various protocols including IEC 61850 substation communication standard.

Highlights

- Large I/O capability
- Directional and voltage protection
- Cable end differential protection
- Low-impedance REF protection
- Harmonics protection and control
- 5-shot scheme controlled autorecloser
- Up to class 0.2S power and energy measurement

Technical Data

PROTECTION

Three-phase overcurrent, 4 stages INST, DT or IDMT (50/51)

Earth-fault (sensitive), 4 stages INST, DT or IDMT (50/51N)

Directional overcurrent, 4 stages INST, DT or IDMT (67)

Directional earth-fault, 4 stages INST, DT or IDMT (67N)

Transient earth-fault (67NT)

Harmonic overcurrent / inrush blocking, 4 stages INST, DT or IDMT (50/51H, 68)

Current unbalance / broken conductor, 4 stages INST, DT or IDMT 46/46R/46L)

High/low impedance restricted earth fault / cable end differential * (87N)

Cable thermal protection (49L)

Overvoltage, 4 stages INST, DT or IDMT (59)

Zero sequence overvoltage, 4 stages INST, DT or IDMT (59N)

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Negative/positive sequence overvoltage, 4 stages INST, DT or IDMT (47)

Vector jump, 1 stage (78) Over/ under frequency, 8 stages INST or DT (810/81U)

Rate of change of frequency, 8 stages INST or DT or IDMT (81R)

Over/Under/Reverse power (32/37/32R)

Breaker failure protection (50BF/52BF)

Arc protection (option) (50ARC/50NARC)

CONTROL

Controllable objects: 10

Synchro-check (25)

Autorecloser (79)

Cold-load pick-up block

Switch onto fault logic

8 setting groups

MEASURING & MONITORING

Phase and residual currents (IL1, IL2, IL3, I01, I02)

Voltage measurements (UL1-UL3, U12-U31, U0, SS)

Current and voltage THD and harmonics (up to 31st)

Frequency (f)

Power (P, Q, S, pf)

Energy (E+, E-, Eq+, Eq-)

Circuit breaker wear (CBW)

Energy (E+, E-, Eq+, Eq-)

Disturbance recorder (3.2 kHz)

Current transformer supervision (CTS)

Fuse failure (VTS)

Trip circuit supervision (TCS)

Event recording

Non-volatile disturbance records: 100

Non-volatile event records: 15000

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I/O

Current inputs: 5

Voltage inputs: 4

Digital inputs: 3 (standard)

Output relays: 5+1 (standard)

Options (11 slots)

Digital inputs optional: +8/16/24/32/40/48/56/64/72/80/88

Digital outputs optional: +5/10/15/20/25

Arc protection (12 sensors +2xHSO +BI)

2 x mA input + 6-8 x RTD input

Communication media (specified below)

COMMUNICATION

RJ 45 Ethernet 100Mb (front standard)

RJ 45 Ethernet 100Mb and RS 485 (rear standard)

Double LC Ethernet 100Mb (option)

RS232 + serial fibre PP/PG/GP/GG (option)

Communication protocols

IEC 61850

IEC 60870-5-103/101/104

Modbus RTU, Modbus TCP/IP

DNP 3.0, DNP 3.0 over TCP/IP

SPA

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Application Drawing

