

AQ-G357 Generator protection IED



AQ-G357 is a generator protection IED for synchronized machines of all sizes. It integrates a full range of generator protection functions as well as a variety of additional functions for control, measurement, monitoring and communications.

Highlights

- Generator/motor differential protection
- Distance protection and loss of excitation protection
- Overexcitation protection

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)

Voltage-restrained overcurrent ($Iv>$; 51V)

Distance protection

Power swing block

Inrush detection and blocking

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

Thermal overload ($T>$; 49)

Generator differential (87G)

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

Residual overvoltage ($U0>$; 59N)

Harmonic overvoltage (64H)

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

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

Volts-per-hertz overexcitation ($V/Hz>$; 24)

Over-, under- and reverse power (32)

Loss of excitation (40)

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

Pole slip (78) (optional)

Distributed busbar protection (sub-unit) (optional)

CONTROL

Common function

Trip logic (94)

Voltage variation

Dead line detection

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

MEASURING AND 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

Disturbance 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)

Voltage measurement module

Current measurement module (2 instances)

Number of empty slots: 5

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

