

## AQ-T257 Transformer protection IED



AQ-T257 is a transformer protection IED with differential protection function and integrated AVR function. The AQ-T257 transformer protection IED provides also for complete current and voltage based protection functions and full measurements. Up to 9 optional I/O or communication cards are available for extensive monitoring and control applications. The AQ-T257 communicates using various protocols including IEC 61850 substation communication standard.

### Highlight

- Large I/O capability 2nd and 5th harmonic blocking
- Automatic / manual voltage regulating (AVR)
- Complete transformer protection
- 2nd and 5th harmonic blocking
- Automatic verification of connection group and nominal value settings
- Through fault and overloading statistics for preventive maintenance
- Up to class 0.2S power and energy measuring

## Technical Data

### PROTECTION

2 winding transformer differential (87T)

High/low impedance restricted earth fault / cable end differential \* (87N1, 87N2)

Transformer thermal overload (49T/49RTD)

Three-phase overcurrent, 2+2 stages INST, DT or IDMT (50/51)

Earth-fault (sensitive), 3 stages INST, DT or IDMT (50/51N)

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

Current unbalance / broken conductor, 2+2 stages INST, DT or IDMT (46/46R/46L)

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

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

Overvoltage, 2 stages INST, DT or IDMT (59)

Undervoltage, 2 stages INST, DT or IDMT (27)

Zero sequence overvoltage, 2 stages INST, DT or IDMT (59N)

Positive/Negative sequence overvoltage, 2 stages INST, DT or IDMT (59N/47)

Over/under frequency, 4 stages INST or DT (81O/81U)

Rate of change of frequency, 4 stages INST or DT or IDMT (81R)

Volts per hertz (24)

Breaker failure protection (50BF/52BF)

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

## CONTROL

Controllable objects: 10

Synchro-check (25)

8 setting groups

## MEASURING & MONITORING

### Event recording

Non-volatile disturbance records: 100

Non-volatile event records: 15000

## I/O

Current inputs: 10

Voltage inputs: 4

Digital inputs: 3 (standard)

Output relays: 5+1 (standard)

### Options (9 slots)

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

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

Arc protection (12 sensors +2xHSO +BI)

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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

