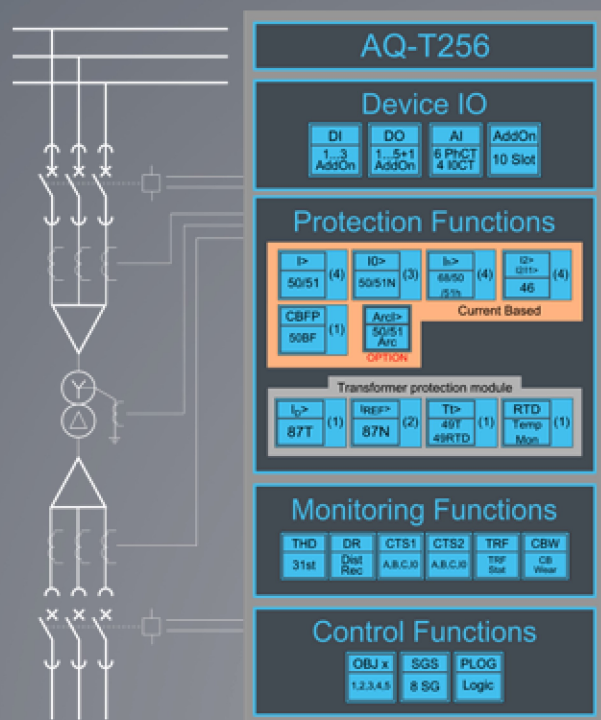# AQ-T256 Transformer protection IED

AQ-T256 is a transformer protection IED with sophisticated and easy to use differential protection function. The AQ-T256 transformer protection IED provides for both low and high side overcurrent, earth-fault, negative sequence and two independent restricted earth-fault instances. Up to 10 optional I/O or communication cards are available for extensive monitoring and control applications. The AQ-T256 communicates using various protocols including IEC 61850 substation communication standard.

- **Large I/O capability**
- **Predifined or custom connection group selection**
- **2nd and 5th harmonic blocking**

- **Automatic verification of connection group and nominal value settings**
- **Through fault and overloading statistics for preventive maintenance**

PROTECTION FUNCTIONS
- 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 con ductor, 2+2 stages INST, DT or IDMT (46/46R/46L)
- Breaker failure protection (50BF/52BF)
- Arc protection (option) (50ARC/50NARC)

MEASURING AND MONITORING
- Phase and residual currents (IL1, IL2, IL3, I01, I02)
- Current THD and harmonics (up to 31st)
- Frequency (f)
- Circuit breaker wear (CBW)
- Disturbance recorder (3.2 kHz)
- Current transformer supervision (CTS), 2 instances
- Trip circuit supervision (TCS)

CONTROL
- Controllable objects: 10
- 8 setting groups

HARDWARE
- Current inputs: 10
- Digital Inputs: 3 (standard)
- Output relays: 5+1 (standard)

OPTIONS (10 SLOTS)
- Digital inputs optional: +8/16/24/32/40/48/56/64/72/80
- Digital outputs optional: +5/10/15/20/25
- Arc protection (12 sensors +2xHSO +BI)
- 2xmA in + 4xRTD in OR 8xRTD in
- 4xmA out+1xmA in
- Communication media (specified below)

EVENT RECORDING
- Non-volatile disturbance records: 100
- Non-volatile event records: 15000

COMMUNICATION MEDIA
- 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 STANDARD
- IEC 61850
- IEC 60870-5-103/101/104
- Modbus RTU, Modbus TCP/IP
- DNP 3.0, DNP 3.0 over TCP/IP
- SPA