

AQ-T215 Voltage regulating IED



AQ-T215 is a voltage regulating IED. It comes with current and voltage based protection functions as well making it suitable for combined transformer voltage regulation and back-up protection. Transformer monitoring module included as a standard feature provides for statistical information for preventive maintenance purposes. The AQ-T215 communicates using various protocols including IEC 61850 substation communication standard.

Highlights

- Automatic / manual voltage regulating (AVR)
- Transformer back-up protection
- Through fault and overloading statistics for preventive maintenance

Technical Data

PROTECTION

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)

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

Undervoltage, 4 stages INST, DT or IDMT (27)

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)

Volts per hertz (24)

Breaker failure protection (50BF/52BF)

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

CONTROL

Automatic voltage regulator (90)

Controllable objects: 5

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)

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

I/O

Current inputs: 5

Voltage inputs: 4

Digital inputs: 3 (standard)

Output relays: 5+1 (standard)

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42technology AG (Ltd.)
Bützbergstrasse 2c
CH-4912 Aarwangen
Tel: +41 (0) 62-923 79 93
www.42technology.ch
info@42technology.ch

Options (3 slots)

Digital inputs optional: +8/16/24

Digital outputs optional: +5/10/15

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

