

AQ-E215 Energy management IED



AQ-E215 is an energy management IED that integrates kWh metering with billing-level accuracy and the fault location functionality in one single equipment. The combination of highly accurate measurement technology and fault detection algorithms allows AQ-E215 to be applied for various applications: volt/VAR optimization, power loss tracking, and the reduction of power outages via accurate fault locating. AQ-E215 communicates to SCADA and DMS systems with various standard protocols, which makes your power distribution grids smarter while the cost remains affordable.

Highlights

- kWh metering at billing-level accuracy (class 0.2S)
- Input for volt/VAR optimization
- Directional and non-directional overcurrent and earth fault detection for accurate fault locating
- Intermittent/transient earth fault detection
- Impedance calculation for short-circuit fault locating
- Detection of voltage presence
- Disturbance recorder for fault analysis
- A full set of communication protocols

Technical Data

PROTECTION FUNCTIONS

Voltage memory

Fault indicating functions

Non-directional overcurrent ($I>$; 50/51)

Non-directional earth fault ($I0>$; 50N/51N)

Directional overcurrent ($I_{dir}>$; 67)

Directional earth fault (I0dir>; 67N/32N)

Intermittent earth fault (I0int>; 67NT)

Undervoltage (U>; 27)

Neutral overvoltage (U0>; 59N)

Fault locator (21FL)

CONTROL

Number of objects to control and monitor: 10

Number of indicators to monitor: 5

Number of setting groups: 8

MEASURING AND MONITORING

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

Phase, sequence and residual voltages (UL1, UL2, UL3, U12, U23, U31, U0)

Power and energy class 0.5

Power and energy class 0.2S (optional)

Current transformer supervision

Voltage transformer supervision (60)

Disturbance recorder (max. 15 000 permanent event records)

Total harmonic distortion

Frequency (f)

Power (P, Q, S, pf) and Energy (E+, E-, Eq+, Eq-)

Measurement recorder

Measurement value recorder

HARDWARE

Current inputs: 5

Voltage inputs: 4

Digital inputs (fixed): 3

Digital outputs (fixed): 5

Options (3 slots)

Digital inputs: +8/16/24

Digital outputs: +5/10

RTD & mA input module (8 RTD inputs OR 4 RTD inputs + 2 mA inputs)

Milliampere I/O module (4 mA outputs + 1 mA input)

Communication media (specified in the "Communication" tab)

COMMUNICATION

RJ-45 100 Mbps Ethernet (front panel, fixed)

RJ-45 100 Mbps Ethernet and RS-485 (rear panel, fixed)

Double LC 100 Mbps Ethernet (PRP/HSR) (optional)

RS-232 & serial fibre (PP/PG/GP/GG) (optional)

Communication protocols

IEC 61850

IEC 60870-5-101/104

IEC 60870-5-103

Modbus/RTU and Modbus/TCP

DNP3

SPA

Application Drawing

