

## AQ-F213B Feeder Protection IED



The AQ-F213 IED provides optimal performance for main medium voltage or back-up high voltage protection, control and monitoring applications. The AQ-F213 integrates protection, control, monitoring, measuring, communication and extensive diagnostics information in one compact package. Fully modular hardware construction gives a high level of flexibility; additional I/O or communication cards can be simply plugged in according to application needs.

The AQ-F213 is developed using the latest available technologies providing a totally new dimension and options to protection engineers. Maximum usability of the IED is guaranteed by features such as graphical interfaces, highly customizable HMI, storage of pdf or other supportive documents and extensive user log information. Easy to use and powerful configuration and setting software tools are provided free of charge.

## Technical Data

### PROTECTION

Non-directional overcurrent ( $I >$ ; 50/51) - 4 stages (INST, DT or IDMT)

Non-directional earth fault ( $I_0 >$ ; 50N/51N) - 4 stages (INST, DT or IDMT)

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

Arc protection ( $I_{Arc} >$ / $I_{0Arc} >$ ; 50Arc/50NArc) (optional)

### CONTROL

Number of objects to control and monitor: 5

Number of setting groups: 8

Cold load pick-up

## MEASURING & MONITORING

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

Current transformer supervision

Disturbance recorder (max. 15 000 permanent event records)

Circuit breaker wear monitoring

## I/O

Current inputs: 5

Short-circuit withstand: 40 kA for one 1 s

Digital inputs: +8/16/24

## COMMUNICATION

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

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

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

IEC 61850

IEC 60870-5-101/104

Modbus/RTU and Modbus/TCP

SPA

