

# GENERATION & NETWORK

## Feeder Protection IED



# NPF910

The optimal management of electrical power systems is based in particular on the reliability, availability and communication skills of protection, measurement and automation devices.

The NPF910 offers a modular feeder protection and control solution for non-directional overcurrent and earth-fault protection with automatic reclosing. Optional cards (I/O, communication...) are available for more comprehensive monitoring and control applications.

The NPF910 communicates using various protocols including IEC 61850 substation communication standard.



### ANSI CODES

50/51	50N /51N(S)	50H/51H /68H	46R/46L /46	49L
87N	50BF /52BF			
74TC	79	68		

- Cable end differential protection
- Low-impedance REF protection
- Harmonics protection and control
- 5-shot scheme controlled autorecloser

*Our energy at your service*

## CHARACTERISTICS

### Protection functions

- Three-phase overcurrent, 4 stages INST, DT or IDMT [50/51]
- Earth-fault (sensitive), 4 stages INST, DT or IDMT [50N/51N (S)]
- Harmonic overcurrent / inrush blocking, 4 stages INST, DT or IDMT [50H/51H/68H]
- Current unbalance / broken conductor, 4 stages INST, DT or IDMT [46/46R/46L]
- Cable thermal overload protection [49L]
- Low impedance restricted earth fault / cable end differential [87N]
- Breaker failure protection [50BF/52BF]
- Arc protection (option) [50ARC]

### Measuring and monitoring

- Phase and residual currents (IL1, IL2, IL3, IO1, IO2)
- Current THD and harmonics (up to 31st)
- Circuit breaker wear (CBW)
- Disturbance recorder (3.2 kHz)
- Current transformer supervision (CTS)
- Trip circuit supervision [74TC]

### Control

- Controllable objects: 5
- Autorecloser [79]
- Cold-load pick-up block [68]
- Switch onto fault logic
- 8 setting groups

### Hardware

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

### Options (4 slots)

- Digital inputs optional: +8 per card
- Digital outputs optional: +5 per card (2 cards max.)
- Arc protection (12 sensors +2xHSO +BI)
- 2 x mA input + 6-8 x RTD input (2 cards max.)
- Communication media (specified below)

### Event recording

- Non-volatile disturbance records: 100
- Non-volatile event records: 10000

### Communication media

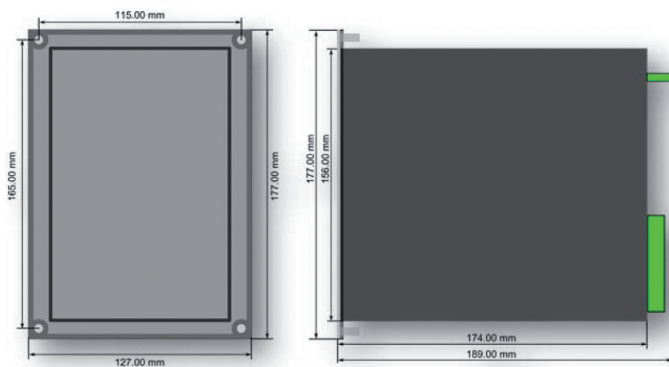
- RJ 45 Ethernet 100Mb (front standard)
- Double LC Ethernet 100Mb (option)
- RS232 + serial fibre PP/PG/GP/GG (option)

### 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

### Case

- H, W, D without terminal 177x127x174 mm
- H, W, D with terminal 177x127x189 mm (casing height 4U, width 1/4 rack, depth 210 mm)
- H, W of front plate 177x127 mm
- H, W of cut out 160x106 mm



### SMART9 - integrated software

Our user friendly SMART9 (Setting, Measurement, Analysis, Recording, Time-saving) configuration software helps the user get the best from NP900 series relays.



The specifications and drawings given are subject to change and are not binding unless confirmed by our specialists.



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