

GENERATION & NETWORK

Feeder Protection IED



NPF915

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 NPF915 offers a modular feeder protection and control solution for applications requiring both current and voltage based protections along with complete measurements. Optional cards (I/O, communication...) are available for more comprehensive monitoring and control applications.

The NPF915 communicates using various protocols including IEC 61850 substation communication standard.



ANSI CODES

50/51	50N /51N(S)	67	67N	50H/51H /68H
46R/46L /46	87N	49L	59	27
59N	59P/27P /47	81O/81U	81R	78
32/37 /32R	50BF /52BF			
21FL	60	74TC	25	79
68				

- Double busbar control
- Directional and voltage protection
- Cable end differential protection
- Low-impedance REF protection
- Harmonics protection and control
- 5-shot scheme controlled autorecloser
- Energy and Power measurement accuracy better than Class 1 S

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)]
- Directional overcurrent, 4 stages INST, DT or IDMT [67]
- Directional earth-fault, 4 stages INST, DT or IDMT [67N]
- Harmonic overcurrent, 4 stages INST, DT or IDMT [50H/51H/68H]
- Current unbalance, 4 stages INST, DT or IDMT [46/46R/46L]
- Low impedance restricted earth fault / cable end differential [87N]
- Cable thermal protection [49L]
- 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]
- Positive sequence under/overvoltage, negative sequence overvoltage, 4 stages INST, DT or IDMT [59P/27P/47]
- Over/under frequency, 8 stages INST or DT [810/81U]
- Rate of change of frequency, 8 stages INST or DT or IDMT [81R]
- Vector jump [78]
- Over/Under/Reverse power [32/37/32R]
- Breaker failure protection [50BF/52BF]
- Arc protection (option) [50ARC]

Measuring and monitoring

- Phase and residual currents (IL1, IL2, IL3, IO1, IO2)
- Voltage measurements (UL1-UL3, U12-U31, U0, SS)
- Fault locator [21FL]
- Current and voltage harmonics (up to 31st)
- Current THD
- 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 [74TC]

Control

- Controllable objects: 5
- Synchrocheck [25]
- Autorecloser [79]
- Cold-load pick-up block [68]
- Switch onto fault logic
- 8 setting groups

Hardware

- Current inputs: 5
- Voltage inputs: 4
- Digital inputs: 3 (standard)
- Output relays: 5+1 (standard)

Options (3 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

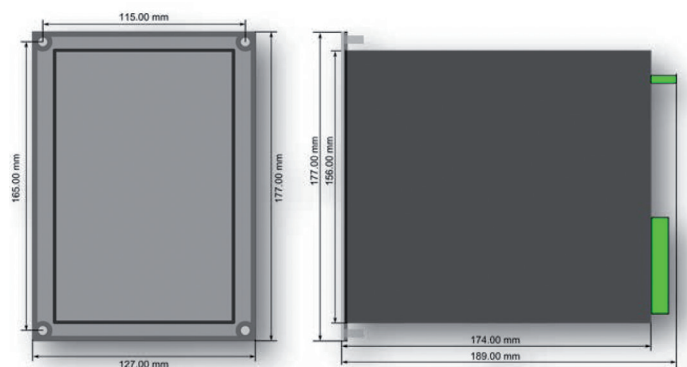
- RJ 45 Ethernet 100Mb (front standard)
- Double LC Ethernet 100Mb (option)
- RS232 + serial fibre PP/PG/GP/GG (option)

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 ¼ 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.



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