

NPT916

Transformer protection IED



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

NPT916 is a transformer protection IED with sophisticated and easy to use differential protection function. The NPT916 transformer protection IED provides for both low and high side overcurrent, earth-fault, negative sequence and two independent restricted earth-fault instances. The NPT916 can be applied for generator and motor differential protection as well.

The NPT916 communicates using various protocols including IEC 61850 substation communication standard.



- Predefined or custom connection group selection
- 2nd and 5th harmonic blocking
- Automatic verification of connection group and nominal value settings
- Through fault and overloading statistics for preventive maintenance

ANSI CODES

87T/87M /87G	87N	49T	50/51	50N /51N	50H/51H /68H	46/46R /46L	50BF /52BF	99
74TC	68	86						

OUR TRADEMARKS



CHARACTERISTICS

Protection functions

- Differential protection (2 winding transformer, generator, motor) [87T/87M/87G]
- Low impedance restricted earth fault / cable end differential [87N]
- Transformer thermal overload [49T]
- Three-phase overcurrent, 4 stages INST, DT or IDMT [50/51]
- Earth-fault (sensitive), 4 stages INST, DT or IDMT [50N/51N]
- 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]
- Breaker failure protection [50BF/52BF]
- Programmable functions [99]
- Arc protection (option) [50Arc/50NArc]

Measuring and monitoring

- Phase and residual currents (IL1, IL2, IL3, IO1, IO2)
- Current THD and harmonics (up to 31st)
- Frequency (f)
- Circuit breaker wear (CBW)
- Disturbance recorder: from 400 Hz to 3.2 kHz (8 to 64 samples per cycle)
- Disturbance recorder (3.2 kHz)
- Current transformer supervision (CTS), 2 instances
- Trip circuit supervision [74TC]

Control

- Controllable objects: 5
- Cold-load pick-up block [68]
- Lock out relay [86]
- 8 setting groups

Hardware

- Current inputs: 10
- Digital inputs: 2 or 3 (standard)
- Output relays: 5+1 (standard)

Options (2 slots)

- Digital inputs optional: +8 per card
- Digital outputs optional: +5 per card (2cards max.)
- Arc protection (12 sensors +2xHSO +BI)
- RTD inputs: +8 per card
- mA analog measures (1 input + 4 outputs)
- Communication medias (specified below)

Event recording

- Non-volatile disturbance records: 100
- Non-volatile event records: 10,000

Communication medias

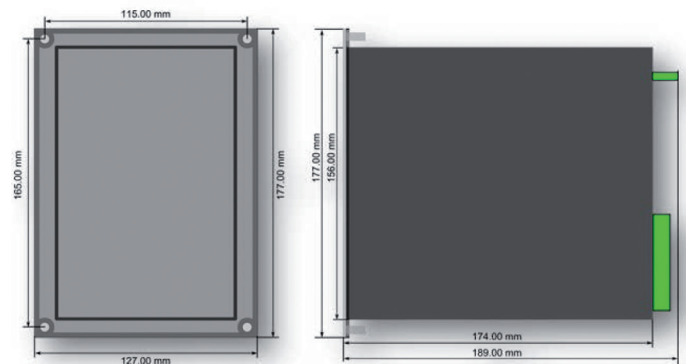
- RJ45 Ethernet 100Mb (rear port) + RS485
- Double LC fibre Ethernet 100Mb HSR/PRP (rear port)
- Double Ethernet RJ45 - 100 Mb HSR/PRP (rear port)
- RS232 + serial fibre PP/PG/GP/GG (option)
- Double RJ45 Ethernet 100Mb (rear port)
- Double ST fibre Ethernet 100Mb (rear port)

Communication protocols standard

- IEC 61850 (including HSR & PRP)
- IEC 60870-5-103/101/104
- Modbus RTU, Modbus TCP/IP
- DNP 3.0, DNP 3.0 over TCP/IP
- SPA

Case (dimensions without protection gasket)

- 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
- Removable protection gasket width 3 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 (connection from RJ45 Ethernet 100Mb front and rear port).

