NPG915

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 NPG915 generator protection IED is well suited for machines requiring complete generator protections. It can be combined with NPT916 to protect larger machines requiring differential protection and greater protection redundancy.

The NPG915 communicates using various protocols including IEC 61850 substation communication standard.

- Cost efficient synchronous machine protection

ANSI CODES

50/51	50N /51N(S)	50H/51H /68H	46R/46L /46	67
67N	59	27	59N	59P/27P /47
81O/81U	81R	40	55	51V
64S	32/37 /32R	49M	21	24
78	50BF /52BF			
60	74TC	25		

Our energy at your service

ice
Protection & Control

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]
- Directional overcurrent, 4 stages INST, DT or IDMT [67]
- Directional (sensitive) earth-fault, 4 stages INST, DT or IDMT [67N]
- 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, 4 stages INST or DT [81O/81U]
- Rate of change of frequency, 4 stages INST or DT or IDMT [81R]
- Loss of field [40]
- Power factor [55]
- Voltage restrained overcurrent [51V]
- Field ground / 100% stator earth-fault [64S]
- Over/Under/Reverse power [32/37/32R]
- Generator thermal overload [49M]
- Under impedance [21]
- Overexcitation protection [24]
- Vector jump [78]
- Breaker failure protection [50BF/52BF]
- Arc protection (option) [50ARC]

Measuring and monitoring
- Phase and residual currents (IL1, IL2, IL3, I01, I02)
- Voltage measurements (UL1-UL3, U12-U31, U0, SS)
- 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]
- 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
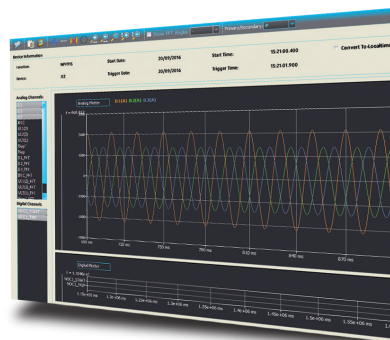- Modbus RTU, Modbus TCP/IP
- DNP 3.0, DNP 3.0 over TCP/IP
- SPA

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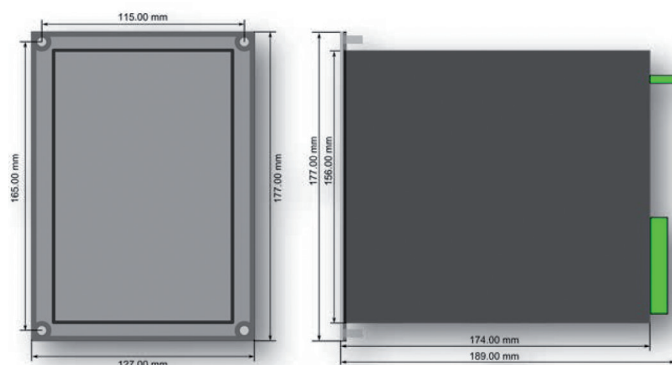
SMART9 - integrated software
Our user friendly SMART9 (Setting, Measurement, Analysis, Recording, Time-saving) configuration software helps the user get the best from NP900 series relays.