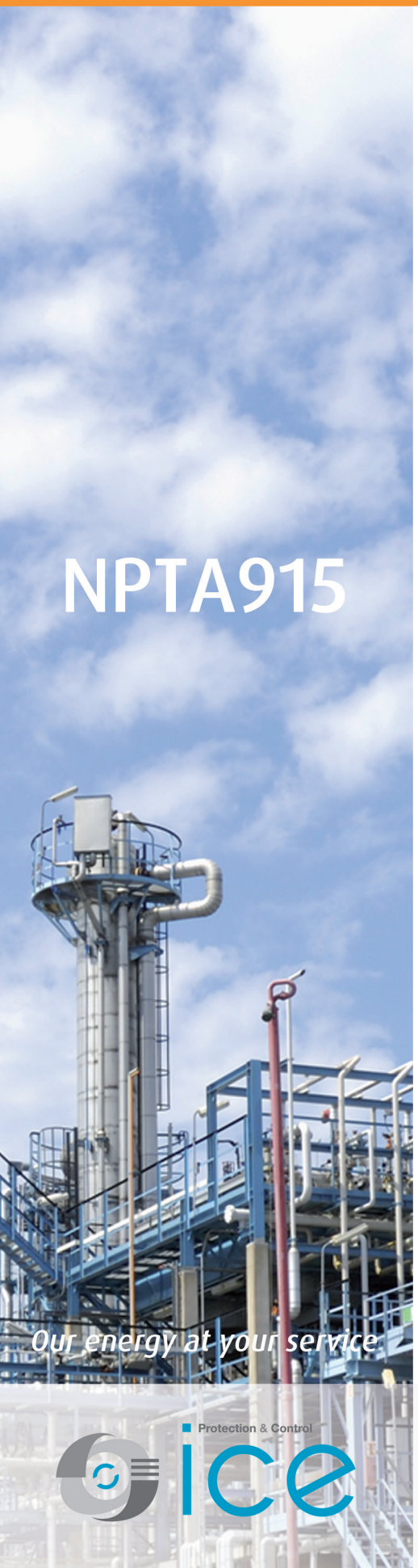
GENERATION & NETWORK
Voltage Regulating IED

NPTA915



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

NPTA915 is a voltage regulating IED. It comes with current and voltage based protection functions as well making it suitable for combined transformer voltage regulation and back-up protection.
Transformer monitoring module included as a standard feature provides statistical information for preventive maintenance purposes.

The NPTA915 communicates using various protocols including IEC 61850 substation communication standard.

ANSI CODES

49T	50/51	50N /51N	67	67N
50H/51H /68H	46/46R /46L	87N	59	27
59N	47/27P /59NP	81O/81U	81R	78
32/37 /32R	21	24	50BF /52BF	99
21FL	60	74TC	90	68
25	86			

- Automatic / manual voltage regulating (AVR)
- Transformer back-up protection
- Through fault and overloading statistics for preventive maintenance

Protection & Control
ice

CHARACTERISTICS

Protection functions

- 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]
- Directional overcurrent, 4 stages INST, DT or IDMT [67]
- Directional earth-fault, 4 stages INST, DT or IDMT [67N]
- 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]
- Restricted earth fault protection (low-imp) / Cable-end differential protection [87N]
- 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]
- Over/under frequency, 8 stages INST or DT [81O/81U]
- Rate of change of frequency, 8 stages INST or DT or IDMT [81R]
- Over/Under/Reverse power [32/37/32R]
- Positive sequence under/overvoltage, negative sequence overvoltage, 4 stages INST, DT or IDMT [47/27P/59NP]
- Under impedance [21]
- Overexcitation protection [24]
- Vector jump [78]
- Breaker failure protection [50BF/52BF]
- Programmable functions [99]
- Arc protection (option) [50Arc/50NArc]

Measuring and monitoring

- Phase and residual currents (IL1, IL2, IL3, I01, I02)
- 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-)
- Disturbance recorder: from 400 Hz to 3.2 kHz (8 to 64 samples per cycle)
- Current transformer supervision (CTS)
- Fuse failure (VTS)
- Trip circuit supervision [74TC]

Control

- Automatic voltage regulator [90]
- Controllable objects: 5
- Synchrocheck [25]
- Cold-load pick-up block [68]
- Lock out relay [86]
- 8 setting groups

Hardware

- Current inputs: 5
- Voltage inputs: 4
- Digital inputs: 2 or 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)
- 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

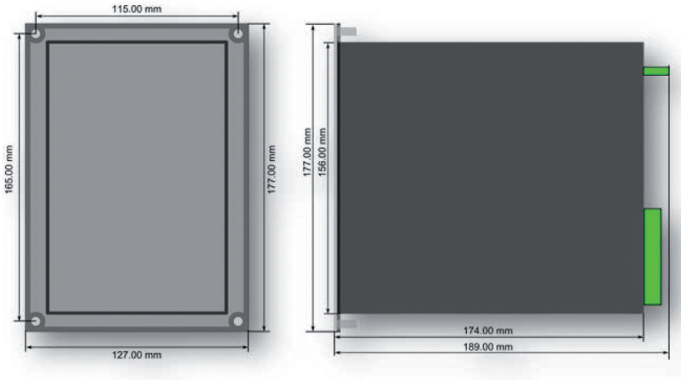
- RJ45 Ethernet 100Mb (rear port) + RS485
- Double LC fibre Ethernet 100Mb (rear port)
- RS232 + serial fibre PP/PG/GP/GG (option)
- Double RJ45 Ethernet 100Mb (rear port)
- Double ST fibre Ethernet 100Mb (rear port)

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

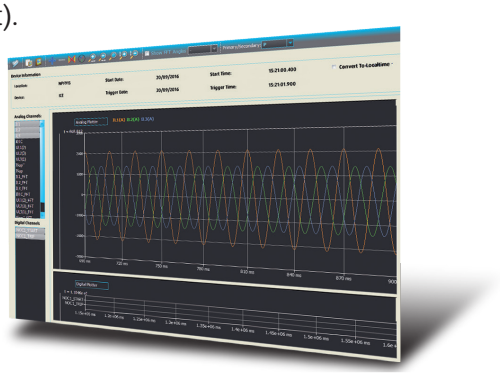
Case (dimensions without protection gasket)

- 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).



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