

# NPV911

## Busbar 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.

The NPV911 offers a modular voltage protection solution for substations. Voltage and frequency protection with optional cards (I/O, communication...) and powerful logic programming possibility make NPV911 optimal for demanding load shedding or automatic transfer applications.

The NPV911 communicates using various protocols including IEC 61850 substation communication standard.



- 8 frequency stages and 8 setting groups for load shedding
- Synchrocheck for up to three circuit breakers



RE and Data Centre recommended.

### ANSI CODES

59	27	59N	47/27P /59NP	78	81O/81U	81R	50BF /52BF	99
60	74TC	25	86					

#### OUR TRADEMARKS



TECHNIREL



## CHARACTERISTICS

### Protection functions

- 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 [47/27P/59NP]
- Vector jump [78]
- Over/under frequency, 8 stages INST or DT [810/81U]
- Rate of change of frequency, 8 stages INST or DT or IDMT [81R]
- Breaker failure protection [50BF/52BF]
- Programmable functions [99]

### Measuring and monitoring

- Voltage measurements (UL1-UL3, U12-U31, U0, SS)
- Voltage harmonics (up to 31st)
- Disturbance recorder: from 400 Hz to 3.2 kHz (8 to 64 samples per cycle)
- Fuse failure (VTS)
- Trip circuit supervision [74TC]

### Control

- Controllable objects: 5
- Synchrocheck [25]
- Lock out relay [86]
- 8 setting groups

### Hardware

- Voltage inputs: 4
- Digital inputs: 2 or 3 (standard)
- Output relays: 5+1 (standard)

### Options (5 slots)

- Digital inputs optional: +8 per card
- Digital outputs optional: +5 per card (2 cards max.)
- 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

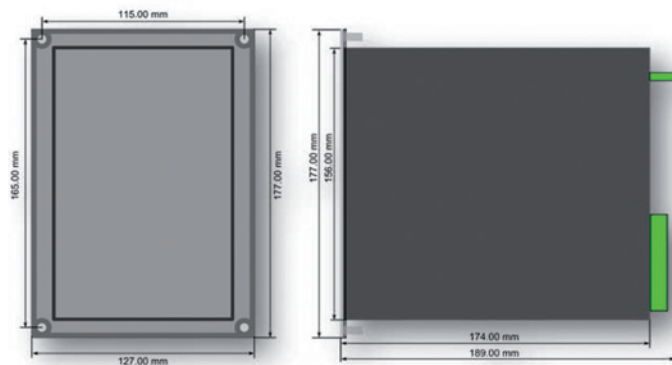
- RJ45 Ethernet 100Mb (rear port) + RS485
- Double LC fibre Ethernet 100Mb HSR/PRP (rear port)
- Double Ethernet RJ45 - 100 Mb HSR/PRP (rear port)
- RS232 + serial fibre PP/PG/GP/GG (option)
- Double RJ45 Ethernet 100Mb (rear port)
- Double ST fibre Ethernet 100Mb (rear port)

### 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).



GENERATION



TRANSMISSION



DISTRIBUTION



RAILWAY



INDUSTRY

