

NP800 Range of Numerical Relays

The optimal management of electrical networks is based on the reliability, the availability and the functionality of the devices used to control and protect the network.

The exceptional combined experience of I.C.E. and C.E.E. in the field of power system protection using both solid-state and digital relays (with more than 700,000 units installed worldwide), allowed the development of a new generation of high quality products using the most recent technological innovations.

NP 800



Adding to the PROCOM range of modular relays, the NP800 series provides protection and monitoring of electrical networks and low and medium voltage motors.

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As well as the usual protection functions, the NP800 relays include monitoring, measurement and recording of the electrical parameters of the distribution network.

The relay can be set locally, using either the keypad or the RS232 connection, or remotely using the RS485 connection.

The calculation of electrical values is achieved using Fast Fourier Transforms.

The setting, reading, measuring, and recording features are all available locally or remotely.

Features of the range

	Start inhibition	3-phase undervoltage	Undercurrent (pump un-priming)	Negative phase sequence	Too long start	Thermal overload	Instantaneous 3-phase overcurrent	Instantaneous earth-fault	IDMT 3-phase overcurrent	IDMT earth-fault	Locked rotor	3-phase overvoltage	Zero-sequence overvoltage	Number of starts	3-phase directional overcurrent	Directional earth-fault	Recloser (optional)	Under/over frequency
ANSI	5	27	37I	46	48	49	50	50N	51	51N	51L R	59	59N	66	67	67N	79	81
NPI						x	3	2	3	2							x	
NPID						x									3	2	x	
NPIH								2		2								
NPIDH																2		
NPU		2										2						2
NPUH													2					
NPM	x		x	x	x	x	x			x	x			x				

(an 'x' shows that the function is available and a number shows the number of thresholds)

General characteristics

- Auxiliary supply ranges:
19V to 70V or 85V to 255V (AC or DC)
- 2 separate setting tables
- Self-diagnostics: RAM, ROM, EEPROM, output relays, A/D converters, auxiliary supply, monitoring of software execution time.

Measurement

- Measurement of electrical values, displayed as primary values:
Mean, instantaneous and maximum values of phase and zero-sequence currents
Phase to phase and zero-sequence voltages
Frequency
Active and reactive power (instantaneous, mean and maximum)
Active and reactive energy counters
Active and reactive power (maximum values)
Power factor
- Filtering of harmonics
- Thermal overload per phase
- Disturbance recording to Comtrade standard

Features

- Alarm
- Trips according to IEC 255-4 or customisable for each threshold
- Number of operations counter and break-current (I^2) per phase counter, with alarm and maximum thresholds

- Monitoring of circuit breaker failure
- Event recording: 250 events, 1ms resolution
- Disturbance recording
- Test of wiring, rotating sense of phases and connection of currents

Optional pre configured functions

- Logic Selectivity
- Remote control: tripping or reclosing, load-shedding and reconnection

Communication

- Communication using Modbus® and CEI60870-5-103 protocols
- Remote access to measured values, counters, alarms, settings, disturbance recordings and event log

Configuration

- Configuration software under Windows® 95, 98, NT, 2000
- Configuration and setting with integrated display/keypad or laptop

Presentation

- Height 4U, width ¼ 19"
- Frame for 19" rack mounting
- User interface with access to all the functions
- 2 * 16 character display
- 3 or 7 user configurable output relays
- 4 or 8 user configurable logic inputs
- 1 fault LED
- 4 user configurable signalling LEDs