

# N27P METER OF NETWORK PARAMETERS

## Feature

Ep-|Ep+  
EqL|EqC

eCon  
Program

RTC

MOD  
BUS



- Measurement of 1-phase network parameters: U, I, f, P, Q, S, PF, tg φ, φ, Ep, Eq.
- Universal measuring input:
  - 1 / 5 A, 100/ 400 V or
  - 32/63 A, 100/400 V.
- Programmable analog output 0/4...20 mA.
- RS485 Modbus RTU Slave interface.
- Programmable current and voltage transformer ratios.
- Meter configuration using button or eCon software (through USB).
- Modern graphical display in OLED technology.

## Inputs

AC

1/5 A 32/63 A

## Outputs

0/4...20 mA

RS 485

USB

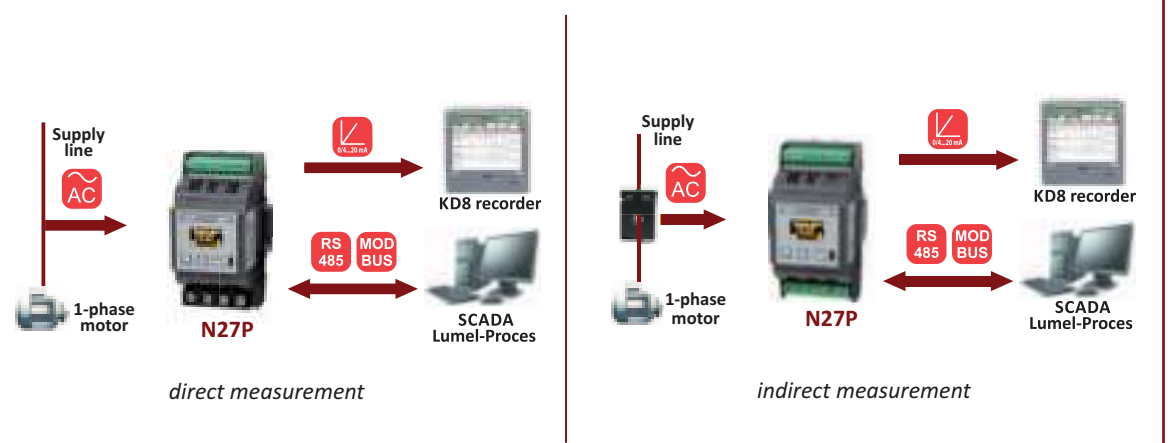
ALARM

## Galvanic Isolation

Supply

RS 485

## EXAMPLE OF APPLICATION



Conversion and recording of current engine load and energy consumption.  
Monitoring of single-phase network parameters.

## MEASURED VALUES & RANGES

Measured value	Range	Basic error
Current In 1 A 5 A 32 A* 63 A*	0.005 ... 1.200 A~ 0.025 ... 6.000 A~ 0.160 ... 38.40 A~ 0.315 ... 75.60 A~	±0.2%
Voltage L-N 100 V 400 V	5 ... 120 V 20 ... 480 V	±0.2%
Frequency (f)	45.0...66.0...100 Hz	±0.2%
Active power (P) version 1/5 A version 32/63 A	-2.88 kW ...1.00 W ... 2.88 kW -32.29 kW ...1.00 W ... 32.29 kW	±0.5%
Reactive power (Q) version 1/5 A version 32/63 A	-2.88 kvar ...1.00 var ... 2.88 kvar -32.29 kvar ...1.00 var ... 32.29 kvar	±0.5%
Apparent power (S) version 1/5 A version 32/63 A	1.40 VA ... 2.88 kVA 1.40 VA ... 32.29 kVA	±0.5%
PF	-1...0...1	±0.5%
Tangens φ	-1.2...0...1.2	±1%
φ	0...359	±1%
Active energy (Ep)	0 ... 999 999.9 kWh or 9 999.999 MWh	±0.5%
Reactive energy (Eq)	0 ... 999 999.9 kvarh or 9 999.999 Mvarh	±0.5%

\* - concerns the version for direct measurement

## OUTPUTS

Output type	Properties
Relay	1-2 x (depending on the meter version) programmable relay output, NOC, load capacity 250 V~/0.5 A~, number of cycles 1 x 10 <sup>5</sup>
Analog	lack or 1 x (depending on the meter version) programmable analog output 0/4...20 mA, R <sub>load</sub> = 0...250 Ω

## DIGITAL INTERFACE

Interface type	Transmission protocol	Mode	Baud rate
RS-485	MODBUS RTU	8N2, 8E1, 8O1, 8N1	4.8; 9.6; 19.2; 38.4; 57.6; 115.2 kbit/s
USB 1.1/ 2.0 (for meter configuration)	MODBUS RTU	8N2	9.6 kbit/s

## EXTERNAL FEATURES

Readout field	OLED display	
Overall dimensions	53 x 110 x 60 mm	mounting on a 35mm DIN rail
Weight	0.2 kg	
Protection grade	for housing: IP40	for terminals: IP00

## RATED OPERATING CONDITIONS

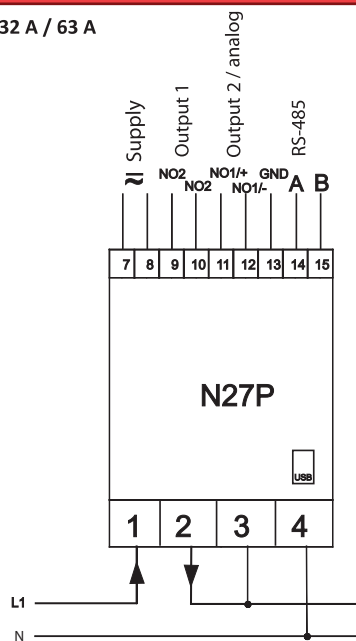
Power supply	85...253 V a.c. 40...400 Hz; / 90...300 V d.c.	Power consumption: in supply circuit $\leq 5$ VA in voltage circuit $\leq 0.2$ VA in current circuit: for indirect meas. $\leq 0.05$ VA, for direct meas. $\leq 2.5$ VA
Temperature	ambient: -10...23...55°C	storage: -30...70°C
Relative humidity	25 ... 95%	inadmissible condensation
Working position	vertical	
Standard conversion time	1.2 s	
Maximal conversion time	2.2 s	
Preheating time	15 min	
External magnetic field	0...40... 400 A/m	
Short duration overload (1 s)	voltage input: 2 $U_N$ (max. 1000 V)	current input: 10 $I_N$
Sustained overload	voltage: 1,2 $U_N$	current: 1,2 $I_N$

## SAFETY AND COMPATIBILITY REQUIREMENTS

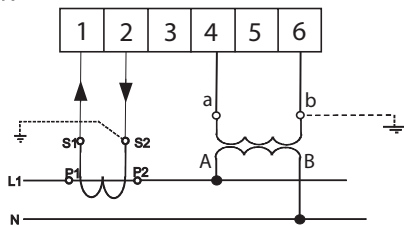
Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Isolation between circuits	basic	
Pollution level	2	
Installation category	III (for voltages above 300 V – category II)	
Maximal phase-to-earth working voltage	- for supply circuits 300 V - for measuring input 600 V – cat. II (300 V – cat. III) - for other circuits 50 V	acc. to EN 61010-1
Altitude above sea level	< 2000 m	

## CONNECTION DIAGRAM

range 32 A / 63 A



range 1 A / 5 A



## ORDERING

Rail Mounted -1 Phase Network Meter - RN27P	X	X	XX	X	X
1 A / 5 A AC	1				
32 A / 63 A AC	2				
<b>Outputs:</b>					
2 relays	1				
1 relay and 1 analog 0/4...20mA	2				
<b>Version:</b>					
Standard		00			
Custom-made*			XX		
<b>Language:</b>					
Polish				P	
English					E
Other*					X
<b>Acceptance tests:</b>					
Without extra quality requirements					0
With an Extra quality inspection certificate					1
Acc. to customer's requirements*					X

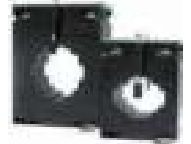
\* after agreeing with the manufacturer

### Example of order:

The code: **N27P - 1 1 00 E 0** means:

- N27P** - meter of network parameters N27P type
- 1** - version for indirect measurement for the range 1A/5A
- 1** - with 2 relay outputs
- 00** - standard version
- E** - user's manual in English
- 0** - without extra quality requirements.

## See Also



Current transformers LCT.



Digital meter mounted on a DIN rail N27D.



Meter of network parameters N43.