N27P METER OF NETWORK PARAMETERS

FEATURES:

Ep- Ep+ EqL EqC | eCon Program | RTC | MOD BUS

INPUT:

AC | 1/5 A | 32/63 A

OUTPUTS:

0/4...20 mA | RS 485 | USB | ALARM

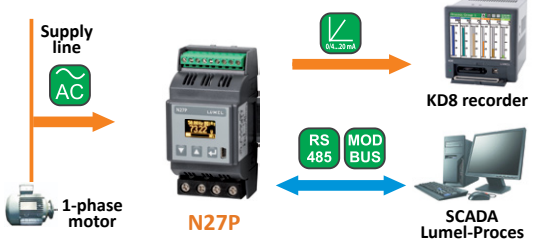
GALVANIC ISOLATION:

Supply | RS 485

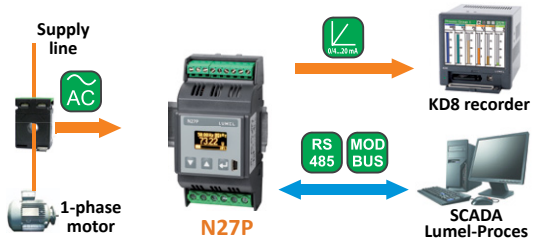


- Measurement of 1-phase network parameters: U, I, f, P, Q, S, PF, tg φ , φ , Ep, Eq.
- Universal measuring input:
  - 1 /5 A, 100/ 400 V or
  - 32/63 A, 100/400 V.
- Programmable analog output 0/4...20 mA.
- RS485 Modbus RTU Slave interface.
- Programmable current and voltage transformer ratios.
- Meter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

EXAMPLE OF APPLICATION



direct measurement



indirect measurement

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

MEASURED VALUES AND 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 10^5
Analog	lack or 1 x (depending on the meter version) programmable analog output 0/4..20 mA, R_{load} = 0...250 Ω

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N27P METER OF NETWORK PARAMETERS

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 × 110 × 60 mm	mounting on a 35mm DIN rail
Weight	0.2 kg	
Protection grade	for housing: IP40	for terminals: IP00

RATED OPERATING CONDITIONS

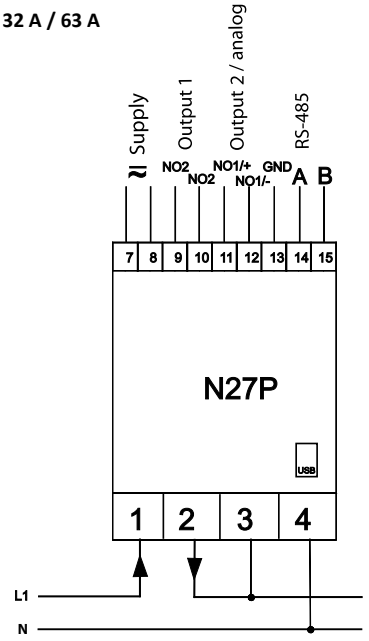
Power supply	85...253 V a.c. 40...400 Hz; / 90...300 V d.c.	Power consumption: in supply circuit ≤ 5 VA in voltage circuit ≤ 0.2 VA in current circuit: for undirect meas. ≤ 0.05 VA, for direct meas. ≤ 2.5 VA
Temperature	ambient: -10...23...55°C	storage: -30...70°C
Relative humidity	25 ... 95%	inadmissible 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

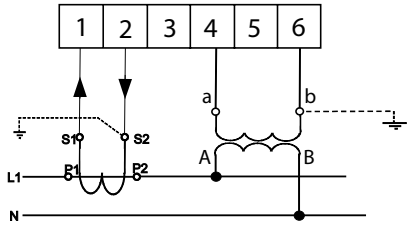
Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Isolation between circuits	basic	acc. to EN 61010-1
Pollution level	2	
Installation category	III (for voltages above 300 V – category II)	
Maximal phase-to-earth working voltage	- for supply circuits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

CONNECTION DIAGRAM

range 32 A / 63 A



range 1 A / 5 A



ORDERING

N27P -	X	X	XX	X	X	
Current measuring range:						
1 A / 5 A a.c	1					
32 A /63 A a.c.	2					
Outputs:						
2 relays		1				
1 relay and 1 analog 0/4...20mA		2				
Version:						
standard			00			
custom-made*			XX			
Language:						
Polish				P		
English				E		
other*				X		
Acceptance tests:						
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 measureent for the range 1A/5A
1 - with 2 relay outputs
00 - standard version
E - user's manual in English
0 - without extra quality requirements.

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