



sifam tinsley
PRECISION INSTRUMENTATION

N27P
MULTIFUNCTION METER
Alpha Series
www.sifamtinsley.co.uk



Multifunction Meters

Transducers & Isolators

Temperature Controllers

Converters & Recorders

Digital Panel Meters

Current Transformers

Analogue Panel Meters

Shunts

Digital Multimeters

Clamp Meters

Insulation Testers

N27P MULTIFUNCTION METER (ALPHA SERIES)

User Manual - Issue 1.0

SUBJECT TO CHANGE WITHOUT NOTICE

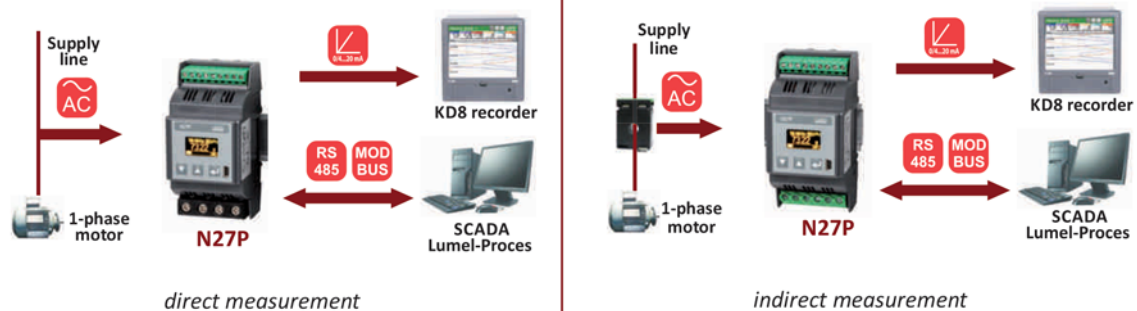
This manual superseded all previous versions – please keep for future reference

Features

- Measurement of 1-phase network parameters: U, I, f, P, Q, S, PF, tg 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 on eCon software (through USB)
- Modern graphical display in OLED technology



2. Example of Application



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

3. Measured Quantities and Measured 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 400V	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 ,	-1.2...0...1.2	±1%
,	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

4. Outputs

Output type	Properties
Relay	1-2 x (depending on the meter version) programmable relay outputs, NOC, load capacity 250 V~/0.5 A~, number of cycles 1 x 150
Analogue	lack or 1 x (depending on the meter version) programmable analogue output 0/4..20 mA, Rload = 0...250 Ω

5. Digital Interface

Type of interface	Transmission protocol	Mode	Baud Rate
RS-485	MODBUS RTU	8N2, 8E1, 8O1, 8N1	4.8; 9.6; 19.2; 38.4 kbit/s
USB 1.1/2.0	MODBUS RTU	8N2	9.6 kbit/s

(for meter configuration)

6. External Features

Readout field	OLED display		
Weight	0.2 kg		
Overall dimensions	53 x 110 x 60 mm	Mounting on a 35mm DIN rail	
Protection grade	from housing side: IP40	from terminal side: IP00	

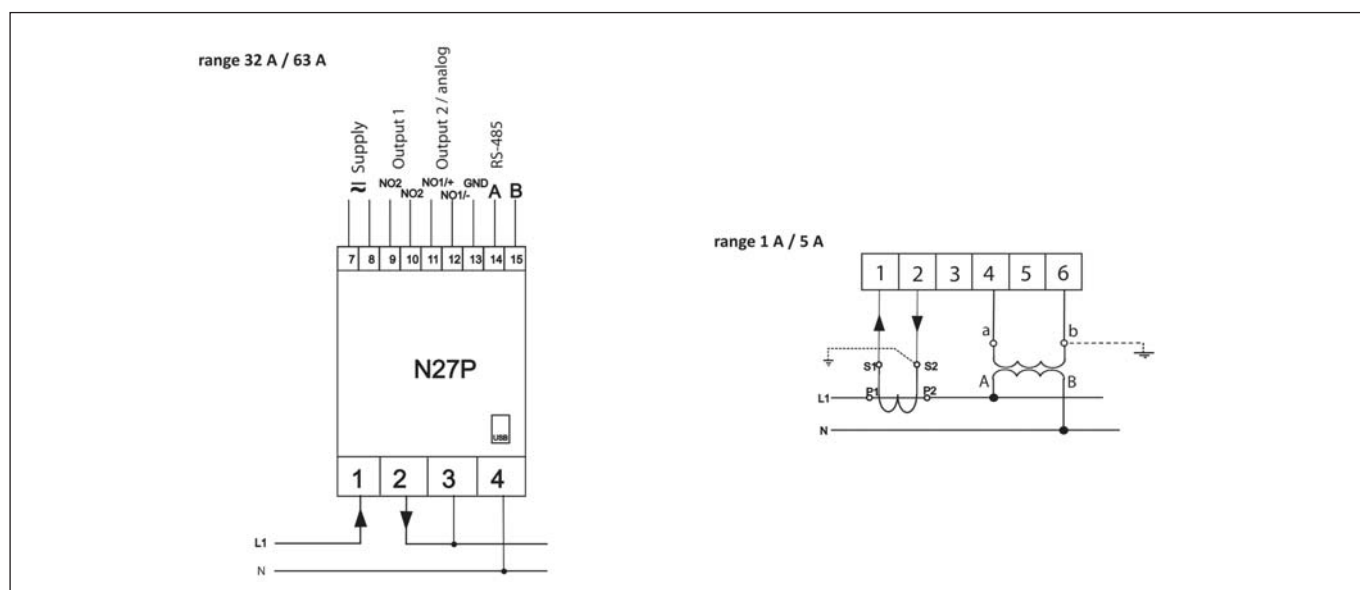
7. Rated Operation Conditions

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 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	1.2s	
Maximal conversion time	2.2s	
Preheating time	15 mins	
External magnetic field	0...40...400 A/m	
Short duration overload (1s)	voltage input: 2 UN (max. 1000 V)	Current input: 10 IN
Sustained overload	voltage: 1,2 UN	Current: 1,2 IN

8. Safety and Compatibility Requirements

Electromagnetic compatibility	noise immunity noise emissions	acc. to EN 61000-6-2 acc. to EN 61000-6-4
Isolation between circuits	basic	
Pollution level	2	
Installation category	III (for voltage 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	< 2000m	

9. Electrical Connections



10. Ordering Information

Rail Mounted -1 Phase Network Meter - RN27P	X	X	XX	X	X
Current input in					
1 A/5 A AC	1				
32 A/63 A AC	2				
Outputs					
2 relays		1			
1 relay and 1 analogue 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 request*					X

* - after agreeing with the manufacturer

EXAMPLE OF ORDER

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

N27P - meter of network parameters of N27P type

1 - version for indirect measurement for the range 1A/5A

1 - with 2 relay outputs

00 - standard version

E - all descriptions and users's manual in English

0 - without extra quality requirements

Contact



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