



Multifunction Meters

Transducers & Isolators

Temperature Controllers

Converters & Recorders

Digital Panel Meters

Current Transformers

Analogue Panel Meters

Shunts

Digital Multimeters

Clamp Meters

Insulation Testers

N43 MULTIFUNCTION METER (ALPHA SERIES)

User Manual - Issue 1.0

SUBJECT TO CHANGE WITHOUT NOTICE

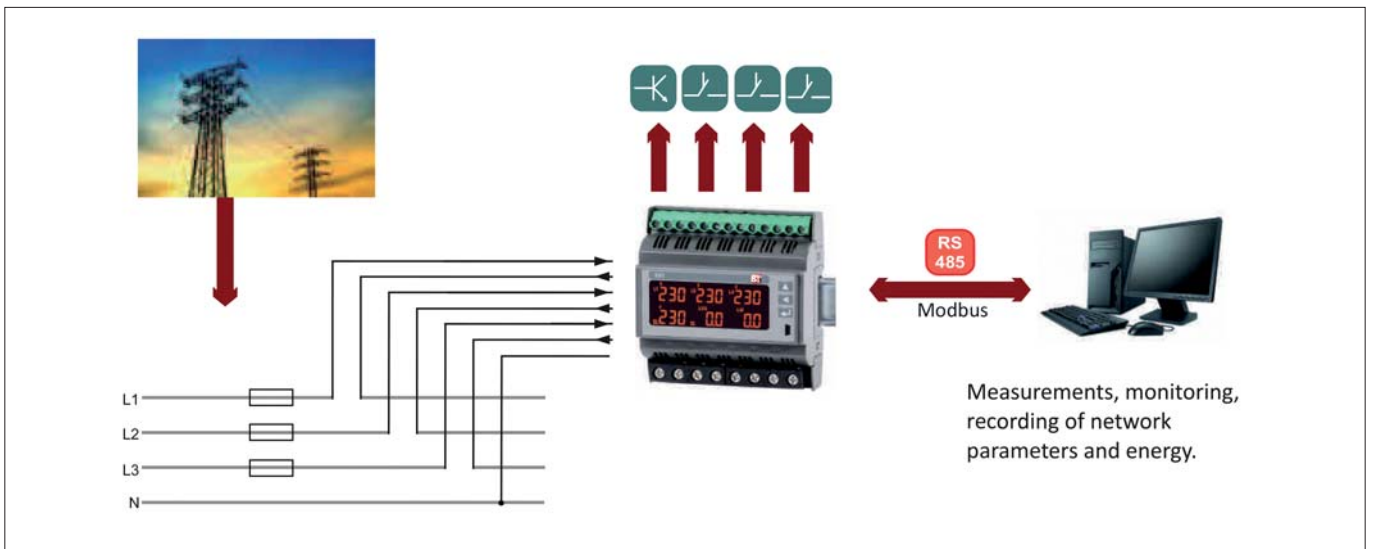
This manual superseded all previous versions – please keep for future reference

Features

- Indications considering values of programmed ratios
- Programmable current and voltage ratios
- 12 programmable screens/pages
- Backlit LCD display
- Digital transmission to the master system through the RS-485 interface with ModBus protocol
- Configurable alarm outputs
- The pulse output for monitoring of 3-phase active energy
- USB for configuration by using free eCon software
- Implemented function for software updating
- Modern design allows for installation of the meter in modular switchgear in accordance with EN 62208, (meter has a width of 6 modules) on 35mm rail
- External dimensions: 105 x 110 x 60mm



2. Example of Application



3. Measured Quantities and Measured Ranges

Measured value	Measuring Range	L1	L2	L3	S	Basic Error**
Current in 1 A/5A 1 A ~ 5 A ~ 63 A ~	0.002...1.20 A or kA * 0.010...6.00 A or kA * 0.10...76.0A~	•	•	•		±0.5%
Voltage L-N 57,7 V ~ 230 V ~ 290 V ~	2.80 ...70.0 V or kV* 10.0 ... 276 V~ 14.0 ... 348 V~	•	•	•		±0.5%
Voltage L-L 100 V ~ 400 V ~ 500 V ~	5.00 ... 120 V or kV* 20.0 ... 480 V~ 25.0 ... 600 V~	•	•	•		±1%
Frequency	47.0 ... 63.0 Hz				•	±0.5%
Active power /import or export/	0.00 ... 999 W,kW or MW	•	•	•	•	±1%
Reactive power /capacitive or inductive indication	0.00 ... 999 VAR, kVAR or MVAR	•	•	•	•	±1%
Apparent power	0.00 ... 999 VA, kVA or MVA	•	•	•	•	±1%
Active energy /import or export/	0.0 ... 999999.9 kWh or MWh				•	±1%
Reactive energy /capacitive or inductive indication	0.0 ... 999999.9 kVARh or MVARh				•	±1%
Power factor PF	-1 ... 0 ... 1	•	•	•	•	±1%
Tangent	+1.2 ... 1 ... 1.2	•	•	•	•	±1%

* depending on set current ratio:

- tr_U ration (ratio of the voltage transformer: 0.1 ... 4000.0)

- tr_I ratio (ratio of the current transformer: 1 ... 10000)

** calculated for the nominal range I_n, U_n

4. Outputs

Kind of outputs	Properties
Relay output	3 x programmable output, normally open voltageless contacts, load capacity 250 V~/0.5 A~
Pulse output	1 x pulse output, OC type, passive (for monitoring of active energy)

5. Digital Interface

Type of interface	Transmission protocol	Mode	Rate
RS-485 Modbus	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

6. External Features

Readout field	LCD display, monochromal c with backlit	
Weight	< 0.3 kg	
Overall dimensions	105 ´ 110 ´ 60 mm	
Protection grade (acc. to EN 60529)	from housing side: IP50	from terminal side: IP00

7. Rated Operation Conditions

Supply voltage	85...253 V a.c., 90...300 V d.c. 20...40 V a.c., 20...60 V d.c.	
Temperature	ambient: -10 ... 23 ... 55°C	
Relative humidity	0 ... 95%	inadmissible condensation
Operating System	any	
External magnetic field	0 ... 40 ... 400 A/m	
Short duration overload	voltage inputs (5 sec): 2 Un	Current inputs: - 1 sec. 50 A (for version in 1 A/ 5A) - 1 sec. 630 A (for version in 63 A)
Power consumption	- in the supply circuits ≤ 4 VA - in the voltage and current circuits ≤ 2 VA	

8. Safety and Compatibility Requirements

Electromagnetic compatibility	noise immunity noise emissions	acc. to EN 61000-6-2 acc. to EN 61000-6-4
Safety requirements		acc. to EN 61010-1

9. Electrical Connections

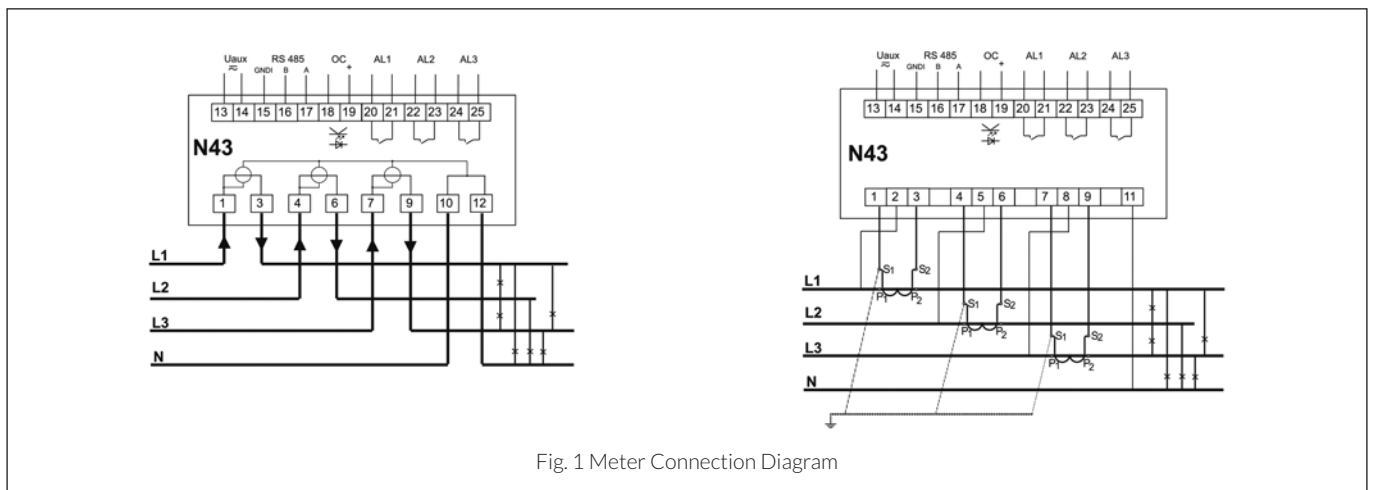


Fig. 1 Meter Connection Diagram

10. Ordering Information

Rail MOUNTed Network Meter N43	X	X	X	XX	X	X
Current input in						
1 A/5 A (X/1; X/5)	1					
63 A	2					
Voltage input (phase/phase-to-phase) Un						
3 x 57.7/100 V		1				
3 x 230/400 V		2				
3 x 290/500 V		3				
Auxiliary supply						
85...253 V AC, 90...300 V DC			1			
20...40 V AC., 20...60 V DC			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 **N43 22 1 -- E 0** means:

N43 - meter of network parameters of N43 type

2 - current input: 63 A

2 - input voltage (phase/phase-to-phase) Un = 3 x 230 V / 400 V

1 - auxiliary supply: 85...253 V a.c., 90...300 V d.c.

00 - standard version

E - all descriptions and users's manual in English

0 - without extra quality requirements

Contact



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