

# N43 RAIL MOUNTED POWER NETWORK METER

## FEATURES:

- MOD BUS**
- P, Q C/L L/C**
- eCon**
- THD**

## INPUT:

- up to 63 A**

## OUTPUTS:

- 3x**
- USB**

## GALVANIC ISOLATION:

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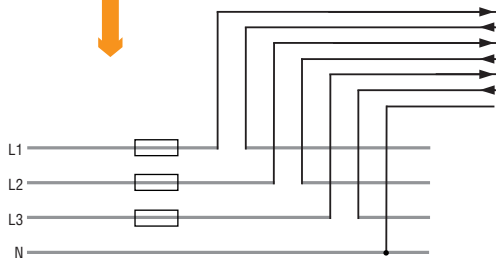
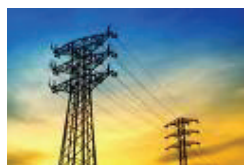
**Export department:**  
+48 68 45 75 139 / 305 / 321/ 368  
Fax: +48 68 32 54 091  
e-mail: export@lumel.com.pl

LUMEL S.A.  
ul. Stubicka 1  
65-127 Zielona Góra  
POLAND  
[WWW.LUMEL.COM.PL](http://WWW.LUMEL.COM.PL)



- For direct (up to 63A) and indirect measurement, in 3 phase 4 wire/ 3 wire balanced and unbalanced systems.
- The measurement of: rms values of voltage and current, active, reactive and apparent power, active, reactive energy, power factors, frequency, THD.
- Indications considering values of programmed ratios.
- Programmable display pages.
- 3 programmable alarm outputs and 1 pulse output in standard version.
- Pulse output for monitoring of 3-phase active energy.
- Analog outputs after adding S4AO module.
- Digital transmission to the master system through the RS-485 interface (MODBUS).
- USB for configuration by using free eCon software.
- Modern design allows for installation of the meter in modular switchgear in accordance with EN 62208 (meter has a width of 6 modules) on 35 mm rail.

## EXAMPLE OF APPLICATION



Measurements, monitoring, recording of network parameters and energy.

## MEASURED QUANTITIES AND MEASURING RANGES

Measured value	Measuring range	L1	L2	L3	Σ	Basic error**
Current In 1A/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 φ	+1.2 ... 1 ...1.2	•	•	•	•	±1%

\* depending on set current ratio:  
- tr\_U ratio (ratio of the voltage transformer: 0.1...4000.0)  
- tr\_I ratio (ratio of the current transformer: 1...10000)  
\*\* calculated for the nominal range In, Un

## OUTPUTS

Kind of output	Properties
Relay output	• 3x programmable relay 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)

### 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

### EXTERNAL FEATURES

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

### RATED OPERATING 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 position	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/ 5 A) - 1 sec. 630 A (for version In 63 A)
Power consumption	- in the supply circuit ≤ 4 VA, - in the voltage and current circuits ≤ 2 VA	

### SAFETY AND COMPATIBILITY REQUIREMENTS

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

### ELECTRIC CONNECTIONS

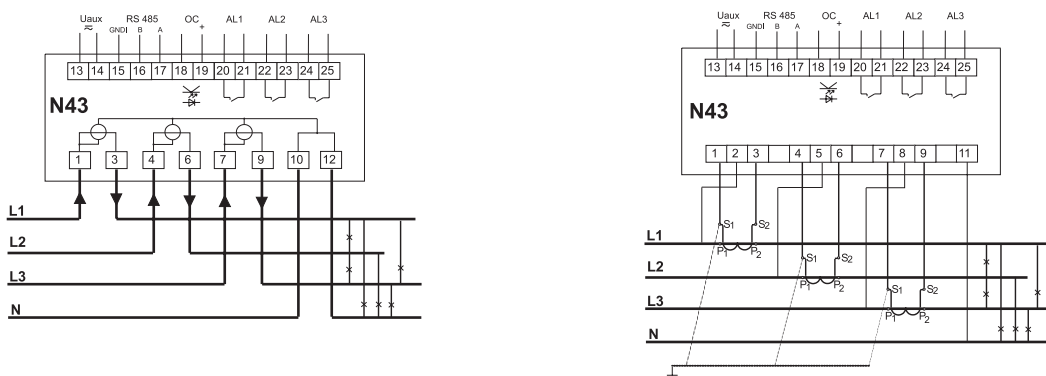


Fig 1. Meter connection diagrams.

### ORDERING

RAIL-MOUNTED NETWORK METER N43 -	X	X	X	XX	X	X
<b>Current input In:</b>						
1 A/5 A (X/1; X/5)		1				
63 A		2				
<b>Voltage input (phase/ phase-to-phase) Un:</b>						
3 x 57.7/100 V			1			
3 x 230/400 V			2			
3 x 290/500 V			3			
<b>Auxiliary supply:</b>						
85...253 V a.c., 90...300 V d.c.				1		
20...40 V a.c., 20...60 V d.c.				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 request*						X

\* - after agreeing with the manufacturer

#### EXAMPLE OF ORDER:

The code **N43 - 2 2 1 00 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 user's manual in English
- 0** - without extra quality requirements.

### SEE ALSO:



Free eCon program for programming LUMEL's products.



S4AO - module of 4 analog outputs



ND20 - power network meter.



P43 - three-phase transducer of power network parameters.

For more information about LUMEL's products please visit our website: [www.lumel.com.pl](http://www.lumel.com.pl)

#### Export department:

+48 68 45 75 139 / 305 / 321 / 368  
 Fax: +48 68 32 54 091  
 e-mail: [export@lumel.com.pl](mailto:export@lumel.com.pl)

LUMEL S.A.  
 ul. Słubicka 1  
 65-127 Zielona Góra  
 POLAND  
[WWW.LUMEL.COM.PL](http://WWW.LUMEL.COM.PL)

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