METERS AND ANALYZERS OF POWER NETWORK PARAMETERS

COMMING SOON! (ND30)   **NEW!** (N100)   **COMMING SOON!** (ND40)

Type	N43	N14	ND10	ND20	ND30	N100	ND1	ND40
Measurement	voltage: phase , mean 3-phase, phase-to-phase, mean phase-to-phase current: phase, mean 3-phase, in neutral wire power: active, reactive, apparent 3-phase power, power factor, angle, tg φ, frequency, 15-min. active power (30, 60 min. - ND30, N100, ND40) **4-quandrats power and energy measurement** (except N43)							
	3-phase active and reactive energy				3-phase active, reactive and apparent energy			
	-	-	-	-	-	-	energy tarrifs (4)	-
	THD U, I	-	THD U, I					
	-	-	-	harmonics up to 21st	harmonics up to 51st			
	-	-	-	-	-	-	voltage dips and swells	voltage dips, swells and overvoltages
	-	-	-	-	-	-	voltage asymmetry	
Input	1 A/ 5 A or 63 A 57.7/100 V or 230/ 400 V or 290/ 500 V	1 A or 5 A 57.7/100 V or 230/400 V or 400/690 V	1 A or 5 A 57.7/100 V or 230/400 V or 290/500 V	1 A or 5 A 57.7/100 V or 230/400 V	1/5 A 57.7/ 100 V 230/ 400 V or 110/190 V 400/690 V	1 A or 5 A 57.7/100 V or 230/400 V or 400/690 V pulse 0/12…36 V	1 A or 5 A 57.7/100 V or 230/400 V or 400/690 V 12 x logic	1 A /5 A 230/400 V 6 x logic - option
Output	3 x relay 1 x pulse	1 x relay 1 x pulse	2 x relays 1 x pulse	1 x 0/4…20 mA (option) 1 x relay 1 x pulse	1 x 0/4… 20 mA; 2 x relay	1 x pulse, 1 x 0/4…20 mA + 3 x relay or 3 x -20…0…20 mA + 1 x relay	4 x 0/4…20 mA 6 x relays 2 x supplying outputs	3 x 0/4…20 mA; or 8 x relay
Interface	RS-485 Modbus Slave - standard	RS-485 Modbus Slave - standard	RS-485 Modbus Slave - option	RS-485 Modbus Slave - standard	RS-485 Modbus - standard **Ethernet** 10/100 Base-T Modbus TCP, www, FTP - option	RS-485 Modbus Slave - standard **Ethernet** 10/100 Base-T Modbus TCP, www, FTP - option	RS-485 Modbus 1 x Master, 1 x Slave **Ethernet** (www, NTP, FTP, Modbus TCP), USB	RS-485 Modbus Slave, **Ethernet** 100 Base-T (Modbus TCP Serwer), USB Device & Host
Display	LCD 4 x 3 digits + 1 x 7 digts	LED 3 x 3 digits (14 mm)	3.5" LCD 3 x 4 digits (16 mm)	3.5" LCD 3 x 4 (11 mm) + 1 x 5 digits (9 mm)	3.5" colour TFT LCD 320x240 pixel	LED 4 x 4 ½ digit, backlight unit, 2-colour display (red, green) (14 mm)	5.7" TFT touch screen, 320x240 pixel 256 colours	5.6" LCD TFT colour touch screen 640 x 480 pixel
Supply voltage	85…253 V a.c./ 90…300 V d.c. or 20…40 V a.c./ 20…60 V d.c.	85..253 V a.c./d.c.	50…64 V a.c. or 195… 253 V a.c. or 246… 300 V a.c.	85…253 V a.c./ 90…300 V d.c. or 20…40 V a.c./ 20…60 V d.c.	85…253 V a.c. / 90…300 V d.c.		85..253 V a.c./d.c.	85 V..240 V a.c. / 90 V..320 V d.c.
Protection rating	IP50	IP40	IP65			IP40	IP65	
External dimensions	105 x 110 x 60 mm	96 x 96x 70.5 mm	96 x 96 x 77 mm			144 x 144 x 77 mm	144 x 144 x 155 mm	144 x 144 x 104 mm
Program-ming	free eCon software (using miniUSB) or using buttons	free LPCon software (using RS-485) or using buttons	free LPCon/ eCon software (using RS-485) or using buttons		free eCon software, (using RS-485 or Ethernet) or using buttons	free eCon software, (using RS-485 or Ethernet) or using buttons	NDSetup program (using USB or CF card) or using touch screen	dedicated software or using touch screen
Additional functions	–	• galvanic isolation of current inputs	• memory 9000 samples samples for mean power • galvanic isolation of current inputs		• selection of displayed quantities on each of the 12 programmable pages • temperature measurement - 2 x input Pt100, • galvanic isolation between input,output, supply and interface • data archiving in the internal memory 8 GB	• selection of displayed quantities on each of the 20 program-mable pages • galvanic isolation of current and voltage inputs • data archiving in the internal memory 8 GB	• measurement and logging of energy quality acc. to EN50160 • memory - CF card 4GB • oscilloscope • galvanic isolation of current and voltage inputs	• **measurement class A** • measurement and logging of energy quality acc. to EN 50160, EN 61000-4-30, EN 6100-4-7 • oscilloscope • galvanic isolation of me-asuring current and voltage inputs • data archiving on SD card

COMMING SOON!

Type

	NP40
Measurement	voltage: phase , mean 3-phase, phase-to-phase, mean phase-to-phase current: phase, mean 3-phase, in neutral wire power: active, reactive, apparent 3-phase power, power factor, angle, tg φ, frequency, 15-min. active power 3-phase active, reactive and apparent energy THD U, I harmonics up to 50th voltage dips and swells
Input	1..1000Vrms 1..1400Vpk 1..1000/3000A 1...100A 1...4000Apk
Output	-
Interface	USB LAN
Display	5,6"TFT colour LCD; 320x240 pixel
Supply voltage	90...264 V a.c. (adapter input)
Protection rating	IP00 (from terminal side)
External dimensions	262 x 173 x 66 mm
Programming	dedicated software
Additional functions	• portable meter • memory of 8GB • oscilloscope • galvanic isolation of measuring circuits

Type

	KS31	KS32
Input	100.0 V (Ku=1) 110.0 V (Ku=1) 240.0 V (Ku=1) 400.0 V (Ku=1)	
Output	2 x relays	
Interface	RS-485 Modbus - option	
Display	4 x 5 digits LED (14 mm), red colour	synchronoscope: circle with 72 diodes; differential voltage and frequency: bargraph with zero in the middle (68 diodes)
Supply voltage	85...253 V a.c./d.c. or 20...40 V a.c./d.c.	
Protection rating	IP40	
External dimensions	144 x 144 x 77 mm	
Additional functions	• signalling of synchronizing condition (AL1) • signalling of any network voltage range exceeding beyond 80-120% of the rated value (AL2)	• programmable para-meters • measurement of min. and max. values of voltage and frequency

MEASUREMENT

www.lumel.com.pl

Measurement and displaying of network parameters and energy of 3-phase machines.

APPLICATION EXAMPLES

ALARM   ALARM   ALARM

N30o

20 mA

Analog transmitting 0/4-20 mA

500

0   100%

3x

1 x 0...20 mA

Ethernet www/ ftp

Ethernet TCP IP

RS-485

SCADA

http://we

N100

Flow meter (gas, water)