

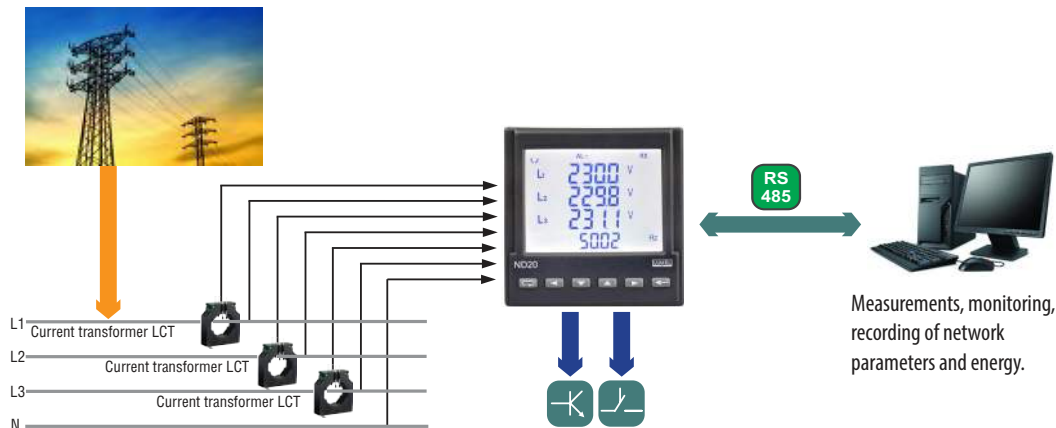


## ND20<sup>LITE</sup> METER OF NETWORK PARAMETERS

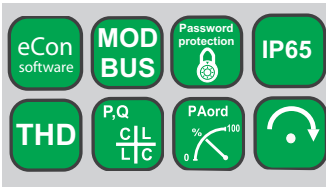
- Measurement of power network parameters in 2,3 or 4- wire balanced and unbalanced systems.
- High accuracy class.
- Indications considering values of programmed ratios.
- THD.
- Backlit LCD 3.5" screen.
- Protection grade from the frontal side: IP65.
- Digital transmission to the master system through the RS-485 interface (MODBUS).
- Configurable alarm and pulse outputs (energy).
- Configuration of displayed pages.



### EXAMPLE OF APPLICATION



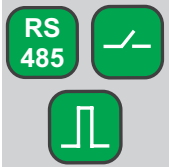
#### FEATURES



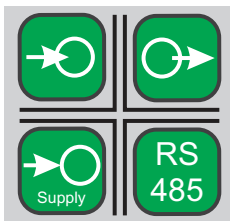
#### INPUT



#### OUTPUTS



#### GALVANIC ISOLATION



#### MEASURED QUANTITIES AND MEASURING RANGES

Measured value	Indication range*	Measuring range	L1	L2	L3	Σ	Basic error
Current In 1 A 5 A	0.00 ... 12 kA 0.00 ... 60 kA	0.002 ... 1.200 A~ 0.010 ... 6.000 A~	•	•	•		±0.2% r
Voltage L-N 57,7 V 230 V	0.0 ... 280 kV 0.0 ... 1.104 MV	2.8 ... 70.0 V~ 11.5 ... 276 V~	•	•	•		±0.2% r
Voltage L-L 100 V 400 V	0.0 ... 480 kV 0.0 ... 1.92 MV	5 ... 120 V~ 20 ... 480 V~	•	•	•		±0.5% r
Frequency	47.0 ... 63.0 Hz	47.0 ... 63.0 Hz	•	•	•		±0.2% mv
Active power	-9999 MW ... 0.00W ... 9999 MW	-1.65 kW ... 1.4 W ... 1.65 kW	•	•	•	•	±0.5% r
Reactive power	-9999 Mvar ... 0.00 var ... 9999 Mvar	-1.65 kvar ... 1.4 var ... 1.65 kvar	•	•	•	•	±0.5% r
Apparent power	0.00 VA ... 9999 MVA	1.4 VA ... 1.65 kVA	•	•	•	•	±0.5% r
Power factor PF	-1 ... 0 ... 1	-1 ... 0 ... 1	•	•	•	•	±1% r
Tangent φ	-1.2 ... 0 ... 1.2	-1.2 ... 0 ... 1.2	•	•	•	•	±1% r
Cosinus φ	-1 ... 1	-1 ... 1	•	•	•	•	±1% r
φ	-180 ... 180	-180 ... 180	•	•	•		±0.5% r
Imported active energy	0 ... 99 999 999.9 kWh					•	±0.5% r
Exported active energy	0 ... 99 999 999.9 kWh					•	±0.5% r
Reactive inductive energy	0 ... 99 999 999.9 kvarh					•	±0.5%
Reactive capacitive energy	0 ... 99 999 999.9 kvarh					•	±0.5%
Energia aparente	0 ... 99 999 999.9 kvah					•	
THD	0 ... 100%	0 ... 100%	•	•	•		±5%

\* Depending on the set tr\_U ratio (ratio of the voltage transformer: 0.1...4000.0) and tr\_I ratio (ratio of the current transformer: 1...10000)

r - of the range mv - of the measured value

# ND20LITE - METER OF NETWORK PARAMETERS



OUTPUTS			
Relay output	programmable relay output, normally open voltageless contacts, 250 V~/0.5 A~		
Pulse output of active or reactive energy	1 x OC type, passive		
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 kbit/s
EXTERNAL FEATURES			
Readout field	LCD 3.5" screen, specialized, monochromatic with backlight		
Weight	< 0.3 kg		
Overall dimensions	96 x 96 x 77 mm	panel cut-out: 92.5 <sup>+0.6</sup> x 92.5 <sup>+0.6</sup> mm	
Protection grade (acc. to EN 60529)	from frontal side: IP65	from terminal side: IP20	
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: -25...23...55°C	storage: -30...70°C	
Relative humidity	25...95%	inadmissible condensation	
Operating position	any		
External magnetic field	0...40...400 A/m		
Short duration overload (1 s)	voltage input: 2Un (max. 1000 V)	current input: 10 In	
Power consumption	- in the supply circuit < 6 VA, - in the voltage and current circuits < 0.05 VA		
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		
Installation category	III		
Pollution level	2		
Maximal phase-to-earth voltage	- for supply and mesuring circuits: 300V - for other circuits: 50V		
Altitude a.s.l.	< 2000m		
ELECTRIC CONNECTIONS			
<b>Meter connection diagrams in a 4-wire network.</b>			
<p><b>Connections:</b></p> <ul style="list-style-type: none"> <li>- direct, semi-indirect and indirect one-phase measurement,</li> <li>- direct measurement in a 3-wire network,</li> <li>- semi-indirect measurement in a 3-wire network,</li> <li>- indirect measurement with the use of 3 current transformers and 2 or 3 voltage transformers in a 3-wire network,</li> <li>- direct measurement in a 4-wire network,</li> <li>- semi-indirect measurement in a 4-wire network,</li> <li>- indirect measurement with the use of 3 current transformers and 2 or 3 voltage transformers in a 4-wire network</li> </ul>			



Free eCon program for programming LUMEL's products. Available on our internet website.



Current transformers.



P43 - three-phase transducer of power network parameters.

For more information about DITEL products please visit our website:

[www.ditel.es](http://www.ditel.es)



ORDERING						
ANALYSER OF NETWORK PARAMETER ND20L -	X	X	X	XX	X	X
<b>Current input In:</b>						
1 A (X/1)	1					
5 A (X/5)	2					
<b>Voltage input (phase/ phase-to-phase) Un:</b>						
3 x 57.7/100 V		1				
3 x 230/400 V		2				
<b>Supply voltage:</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>						
Spanish						S
English						E
French						F
<b>Acceptance tests:</b>						
without extra quality requirements						0
with an extra quality inspection certificate						1
acc. to customer's request*						X

#### EXAMPLE OF ORDER:

The code **ND20L - 2 2 1 00 E 0** means:  
 ND20L - meter of network parameters of ND20LITE type  
 2 - current input: 5A (X/5)  
 2 - input voltage (phase/phase-to-phase)  
 Un = 3 x 230V/ 400 V  
 1 - supply voltage: 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.

\* - after agreeing with the manufacturer



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