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NP40PORTABLE POWER QUALITY ANALYZER

NP40 power quality analyzer is the professional portable device to measure and analyze the power system quality, supply the harmonics analysis and power quality data analysis, also provide big memory for the data storage, which is used to make the long term logger measuring to power system. The PC software can simply upload the data to PC for full analysis.

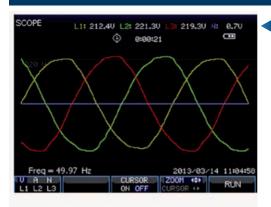




- 5,6" TFT color screen, 320 x 240 pixel.
- Waveform real-time display (4 voltages/4 currents).
- · Half cycle RMS measurement (voltage and current).
- Measurement of TRMS currents up tp 3000 A (with standard probes mode).
- Measurement in 1-phase and 3-phase systems (3 and 4-wire).
- Measurement of voltage, current, harmonics, power, energy, inrush current, flicker and other.
- Graphical presentation of data in a waveform and vector diagram.
- · Record of events: dips, swells, overvoltages.
- · Power quality according to EN-50160 standard or user-defined limit.
- Internal memory for data logging needs (continuous registration from 2 hours to 7 days).
- The registration frequency from 1 second up to 60 minutes.
- · Built-in 8G memory card.
- Ethernet interface for remote operation of the analyzer.
- USB Host to move archive data and screenshots to an external USB memory.
- Safety standards: EN 61010-1, CAT III 1000V / CAT IV 600V.
- The analyser set: analyzer, flexible probes mode 3000A (4x), voltage tests leads aligator clips (5x), DC power adapter, CD with software, user's manual.

NP40 - PORTABLE POWER QUALITY ANALYZER

MEASUREMENTS MODES

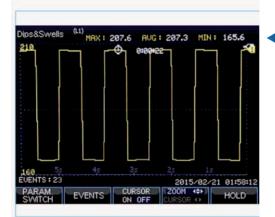


View the voltage/current waveform and readings.
Cursor Zoom function.

2 Voltage/Current/Frequency

Measure voltage/current/ frequency and crest factor.

olts/Amps/H	lertz			
		© 0:00:0	96	
		L2		N
Urms	238.7	238.7	238.7	4.842
Upk	315.2	315.2	315.2	8.518
CF	1.32	1.32	1.32	1.76
		L2		N
Irms	43.60	6.335	6.346	0.814
Ipk	60.33	7.630	7.901	1.113
CF	1.38	1.20	1.25	1.37
Freq = 50	.00 Hz		2015/	03/09 22:18:
WIRE			TREND	HOLD

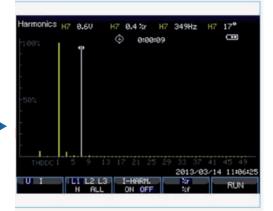


Dips & Swells

Capture the abnormal event, such as swells, dips, interruption and rapid voltage change.

4 Harmonics

Harmonics and interharmonics measurement up to the 50th, parameter DC component, THD, K-factor.



Power & Energy 8 0 0:01:32 P(kW) 3.311 1.472 1.482 6.265 S(kVA) 10.39 1.501 1.500 13.39 Q(kvar) 9.845 0.293 0.234 10.37 0.32 0.98 0.99 0.47 0.123 kWh 0.048 0.037 0.038 KVAh 0.262 0.038 0.038 0.338 **KVARh** 0.248 0.008 0.006 0.000 0:01:32

Power and energy

Full power parameters measurement including Vrms/ Arms/KW/KVA/KVAR/TPF/ DPF and energy data KWh/ kVAh/kVARh.

6 Flicker

Support measure the parameters Pst (<10 min), Plt (<2 hrs), also Pst (1 min) for quick feedback and instant flicker pinst in trend.



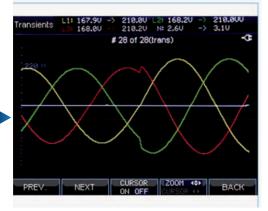


Unbalance 7

Check the unbalance in 3 phases based on EN 61000-4-30 standard.

8 Transients

Capture waveform at high-resolustion during a variety of disturbances, maximum 100 events, sample rate 20Ks/s.



NP40 - PORTABLE POWER QUALITY ANALYZER



MEASUREMENTS MODES





Record the measuring data as selectable parameters and interval, duration. The saved data in TF card, which can be downloaded to PC by USB and check by Power View software.





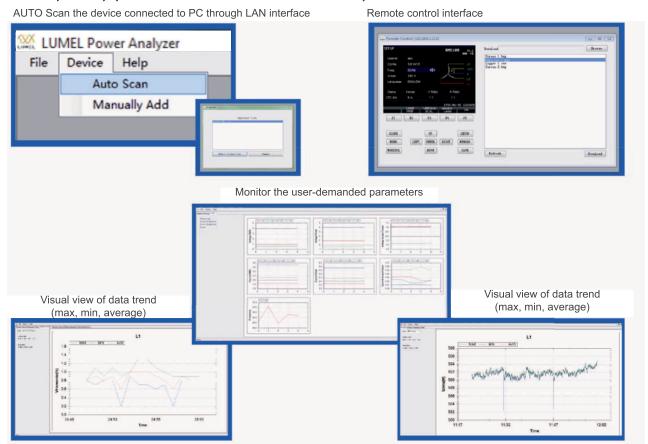
Monitor

Measure all the parameter Vrms, Arms, harmonics, flicker, dip, swell, rapid voltage change, interruption, unbalance, frequency at the same time, checkwhether meet the requirements limited by users or default standards EN50160.

The monitoring time lasts from 2 hours to 7 days.

LUMEL POWER ANALYZER SOFTWARE

LUMEL Power Analyser is easy operation software to make the remote control to analyzer and view the download data.



NP40 - PORTABLE POWER QUALITY ANALYZER

TECHNICAL DATA

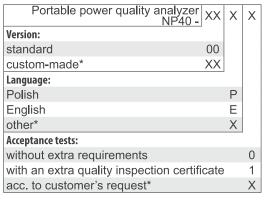
▶ INPUTS

VOLTAGE INPUTS	
Input Channels	4 (3-phase + neutral)
Max. input voltage	1000 Vrms
Range of nominal voltage	50500V
Max pulse peak voltage	6kV
Bandwidth	>3kHz
Input impedance	4MΩ/5pF
CURRENT INPUT	
Number of input	4 (3-phase+ neutral) DC coupling
Туре	clamp current sensor with mV output
Input range	13000 Arms with supplied current clamp
Input Impedance	50 kΩ
Bandwidth	>3kHz
SAMPLING SYSTEM	
Resolution	8 channels 16 bits AD
Sampling rate	20kS/s for each channel, 8 channels sample synchronously
RMS sampling	5000 points for 10/12 cycles (according to EN 61000-4-30)
PLL synchronization	4096 points for 10/12 cycles (according to EN 61000-4-7)

► MEASUREMENT

LOGGER	
Recording	user-definded parameters for 4 phases at the same time
Memory	data stored in TF card, 8GB
Duration time	2 hrs to 1 year
Interval	1s to 1 hr

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NP15TRUE RMS DIGITAL MULTIMETER

with data logger & view function

Functions and features of the multimeter:

- ✓ Voltage measurement of AC, DC and AC / DC up to 1000V,
- Current measurement of AC, DC and AC / DC up to 10A,
- ✓ Low input impedance,
- → Measurement of TRMS effective,
- → Data logging & View function (up to 32000 readings),
- → 100 kHz bandwidth for voltage measurement,
- → Resistance measurement,
- Frequency and duty cycle measurement,
- → Temperature measurement with J, K, Pt100 & Pt1000 sensors,
- Capacitance measurement,
- ✓ Automatic / manual measuring range selection,
- ✓ Low-pass filter mode with a cutoff frequency of 1kHz.

The NP15-2, NP15-3, NP15-5, NP15-6 series of new multimeters is made for professional use that offers safety, high resolution, large range count, reliability, ruggedness, a complete tool for test automation and is equipped with more than 30 different measuring functions.

- Voltage noise measurement and suppression (dB)
- Square wave signal generator
- Continuity test and Diode test
- Function: backlight, relative / zero, Auto Hold, min / max / avg
- Acoustic signal indicating the overrange (Go / NoGo)

- Information on dangerous voltage at the terminals
- External power supply
- Fuse 16 A for all current measurement ranges to protect the device
- Tool for automation, Plug&Play USB connectivity with PC (optional)
- · Auto Power OFF with adjustable timing

NP15 - TRUE RMS DIGITAL MULTIMETER

Model Wise Functional Overview

Functions/Features	NP15-2	NP15-3	NP15-5	NP15-6
Voltage VDC (Ri>9MΩ)	•	•	•	•
Voltage VAC TRMS (Ri>9MΩ)	•	•	•	•
Voltage LoZ VAC TRMS (Ri=1MΩ)		•	•	•
Voltage VAC TRMS (Ri>9MΩ) LPF 1kHz		•	•	•
Voltage LoZ VAC TRMS (Ri=1MΩ) LPF 1kHz		•	•	•
Voltage VACDC (Ri>9MΩ)	•	•	•	•
High impedance, high bandwidth mV measurement	600mV	60mV/ 600mV	60mV/600mV	60mV/600mV
Bandwidth VAC & mV ACDC	10kHz	10kHz	10kHz	100 kHz
Frequency Measurement			_	
Duty cycle %			•	•
Voltage level measurement dB,dBu,dBm		•	•	•
Resistance	•	•	•	•
Conductance measurement	•	•	•	•
Continuity test (I const = 1 mA)	•	•	•	•
Diode measurement (I const = 1 mA)	•	•	•	•
Temperature measurement (TYP J,TYP K)		•	•	•
Temperature measurement (PT100,PT1000)	•		•	•
Capacitance measurement			•	•
Current ADC	600mA	6 A/16 A (20 A)	600 µA/6 mA 60 mA/600 mA	600 µA/6 mA
Current AAC+DC TRMS	OOOIIIA			60 mA/600 mA
Current AAC TRMS			6 A/10 A (16 A)	6 A/10 A (16 A)
Bandwidth @ AAC+DC or AAC 10 kHz	•	•	•	•
Measurement with Clamp Sensor	•	•	•	•
Data Logging / Viewing Function			•	•
Protective rubber holster	•	•	•	•
Fuse 16A / 1000V	1.6A		•	•
0-20mA / 4-20mA percentage scale			•	•
Square wave Out			•	•
Self battery voltage measurement	•	•	•	•
MIN/MAX/AVG and Auto Hold functions	•	•	•	•
Dangerous contact voltage indication	•	•	•	•
REL/Zero function	•	•	•	•
USB IR-interface			Ontional	
External power supply adapter			Optional	
Measuring Category	1000 V CAT III 600 V CAT IV	1000 V CAT I 600V CAT II	1000 V CAT III 600 V CAT IV	1000 V CAT III 600 V CAT IV

Environmental Condition

Operating temperature	-10 to +50°C
Storage temperature	- 25 to +70°C
Relative humidity	<75% non condensing.
IP	IP 50 for Housing, IP20 for terminals.
Altitude	Up to 2000 m

NP15 - TRUE RMS DIGITAL MULTIMETER



Applicable Regulations & Standards

EMC	EN 61000-6-2, EN 61000-6-4
Immunity	EN 61000-4-2: 8 kV atmosphere discharge, 4 kV contact discharge
	EN 61000-4-3: 3 V/m
Safety	EN 61010-1
IP for water & dust	EN 60529: IP 50 for case and IP20 for terminals
Pollution degree:	2
Installation category:	1000 V CATIII / 600 V CATIV, 600V CATII for NP15-3
High Voltage Test	7.4 kV (EN 61010-1), 3.5kV for NP15-3

Accessories For Operation at a PC

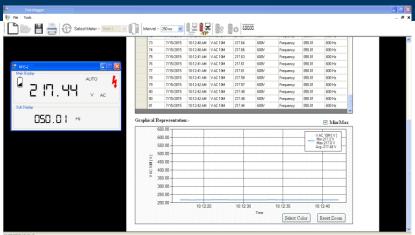
Interface Adapter For USB Communication

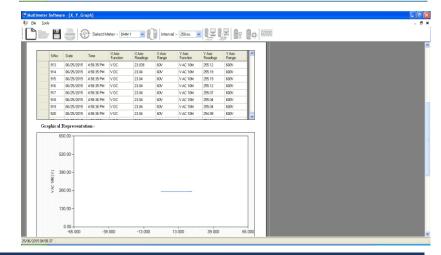


Communication: Bi-Directional

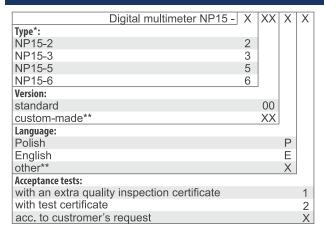
Baud Rate: 9600
Data Bit: 8
Stop Bit: 1
Flow Control: None

A CD ROM is included which contains current drivers for Windows operating systems, Installation Guide and Datalogger User Manual.





ORDERING CODE



ITEMS AVAILABLE FROM OUR STOCK: NP15 - 300E1

version: NP15-3

NP15 - 500E1 version: NP15-5

^{*} see page 8 - Model Wise Functional Overview

^{**} after agreeing with the manufacturer







NP10DIGITAL MULTIMETER

Functions and features of the multimeter:

- ✓ Direct and alternating voltages from 100 µV...1000V
- ✓ Direct and alternating currents from 10µA...10.00A
- Resistance from 100 mΩ...60.00 MΩ
- → Capacitance from 1 pF...40.00 mF with zero correction
- → Frequencies from 10.00 Hz...10MHz
- Diode measurement and continuity testing
- → HOLD measurement
- → Relative measurement
- Duty cycle (%) measurement
- Temperature measurement with K type Thermocouple
- ✓ Peak value measurement

Digital multimeters are suited for universal, general applications in the electrical and electronics radio and television service, training and education.

- Root mean square value with distorted wave form (for NP10-6 only)
- · Dual display
- Peak Hold
- MIN/MAX function
- · Indication of negative values on the analog scale
- Protection from dust and water acc. to EN 60529
- · Applicable international safety standards

- Auto Power OFF (APO)
- Relative measurement (REL)
- Automatic blocking System(ABS)
- Auto and manual ranging modes
- Backlit
- ContinuousON mode

NP10 - DIGITAL MULTIMETER



Specifications

Measuring N		1 7	12	၂ ဗို ္ဖ		Input	Digital display Inherent deviation at	Overload	capacity 1)				
Function	Range	NP10-2	NP10-3	NP10-5	NP10-6 TRMS	Resolution	Impedance	reference condition +(%rdg +digits)	Overload Values	Overload Duration			
	660.0mV	•	•	•	•	100μV	>100 MΩ // <40pF	0.7 + 5					
	6.600V	•	•	•	•	1mV	11 MΩ // <40pF	0.4 + 5]				
V(DC)	66.00V	•	•	•	•	10mV	10 MΩ // <40pF	0.4 + 5		Cont.			
	660.0V	•	•	•	•	100mV	10 MΩ // <40pF	0.4 + 5	1000 V				
	1000.0V	•	•	•	•	1V	10 MΩ // <40pF	0.4 + 5	DC AC				
	660.0mV	•	•	•	•	100µV	>100 MΩ // <40pF	1.2 + 5	eff / rms Sine wave				
	6.600V	•	•	•	•	1mV	11 MΩ // <40pF						
V(AC)	66.00V	•	•	•	•	10mV	10 MΩ // <40pF						
	660.0V	•	•	•	•	100mV	10 MΩ // <40pF	1.0 + 3					
	1000V	•	•	•	•	1V	10 MΩ // <40pF						
							Voltage Drop						
	66.00mA	•	•	•	•	10µA	66.00mV	0.8 + 5					
A(DC)	660.0mA	•	•	•	•	100µA	66.00mV	0.8 + 5	0.7A				
` ′			16A	•	•	· ·	10.00mV	1.5 + 5	12A	Cont			
	10.00A	_	-			10mA 10µA			127				
	66.0mA	•	•	•	•		66.00mV	0.8 + 5	0.7A	Cont.			
A(AC)	660.0mA	•	•	•	•	100µA	66.00mV	0.8 + 5					
	10.00A		16A	•	•	10mA	10.00mV	1.5 + 5	12A				
>C(AC)	66.00A	•	<u> </u>			10mA	66.00mV	0.8 + 5	0.7A	Cont			
70(1117)	660.0A	•				100mA	66.00mV	0.8 + 5					
							No load Voltage						
	660.0Ω	•	•	•	•	100mΩ	-3.3V	0.8 + 5					
	6.600ΚΩ	•	•	•	•	1Ω	-1.08V	0.8 + 5					
Ω	66.00ΚΩ	•	•	•	•	10Ω	-1.08V	0.8 + 5					
	660.0ΚΩ	•	•	•	•	100Ω	-1.08V	0.8 + 5					
	6.600ΜΩ	•	•	•	•	1kΩ	-1.08V -1.08V	1.0 + 5					
BUZZER	66.00MΩ 660.0Ω	•	•	•	•	10kΩ 100mΩ	-3.3V	2.0 + 5					
	2.000V	•	•	•	•	1mV	3.3V	0.8 + 5					
DIODE	6.600nF	_	+		•	101V	3.3 V	2.0 + 10					
	66.00nF				•	10pF		3.0+40					
					•	100pF		2.0+10					
F	660.0nF 6.600µF			<u> </u>		<u> </u>		2.0+10	1000 V				
	·		<u> </u>	•	•	1nF	-	2.0+10	DC AC				
	66.00µF		<u> </u>	•	•	10nF		2.0+10	eff / rms	10Sec			
	660.0µF		<u> </u>	•	•	100nF		5.0+10	Sine wave				
	6.600mF		<u> </u>	•	•	1μF		5.0+10					
	40.00mF			•	•	10µF		5.0+10					
	66.00Hz			•	•	0.01Hz							
	660.0Hz			•	•	0.1Hz	10 Hz(Fmin)						
Hz	6.600KHz			•	•	1Hz							
112	66.00KHz			•	•	10Hz		$0.2 + 2^{2}$					
	660.0KHz			•	•	100Hz	–						
	6.600MHz			•	•	1KHz							
	10.00MHz			•	•	10KHz							
%	1.098.90%			•	•	0.01%		10 Hz 1kHz ± 5 Digit ³⁾ 1 kHz 10 kHz; ± 5 Digit / kHz ³⁾					
C/F	01300°C	•	•		•	1°C		2.0+34)					

¹⁾ At 0 °C ... + 40 °C 3) For <10 Khz ,Square wave, Bipolar inputs 2) At input \geq 3.5Vrms ,Square wave, Bipolar inputs. 4) Without sensor

NP10 - DIGITAL MULTIMETER

ORDERING CODE

	Digital multimeter NP10 -	Χ	XX	Χ	Χ
Type*:					
NP10-2		2			
NP10-3		3			
NP10-5		5			
NP10-6		6			
Version:			-		
standard			00		
custom-made*			XX		
Language:					
Polish				Р	
English				Ε	
other*				Χ	
Acceptance tests:					
with an extra quality	inspection certificate				1
with test certificate					2
acc. to custromer's	request				X

^{*} see specifications page 11

ITEMS AVAILABLE FROM OUR STOCK:

NP10 - 300E1 version: NP10-3

NP10 - 500E1 version: NP10-5

^{**} after agreeing with the manufacturer







NT10 INSULATION METER

Functions and features of the meter:

- → Selectable test voltages 50V/100V/250V/500V/1000V.
- Measurement of DC and AC voltage in the range of 30 mV...1000 V.
- ✓ Measurement of DC and AC current in the range of 300 µA...300 mA.
- \checkmark Resistance measurement 30 Ω ...30 M Ω .
- ✓ Capacity measurement 30nF...30µF.
- ✓ Frequency measurement 300 Hz...100 kHz.
- ✓ Measuring the fill factor (%).
- ▼ Temperature measurement in the range of -200...800°C / Pt100/ Pt1000.

NT10 is analog digital multimeter with insulation resistance measurement, which measures VAC, VDC, VAC+DC, frequency, mA DC, mA AC+DC, resistance, continuity, diode, Farad, AC current measurement with clip-on sensor and insulation resistance measurement.

- Route mean square value with distorted wave form
- AC Current measurement with clip-on sensor
- Min/Max function
- Auto Power Off
- Continuity test
- AUTO and MANUAL ranging modes
- · Indication of negative values on the analog scale
- · Protection from dust and water
- Applicable international safety standards
- · Signaling in the case of a blown fuse

- Automatic blocking socket (ABS)
- RS-232 interface
- · Analog scale
- · Continuous On mode
- DATA HOLD function
- NULL ZERO correction for resistance
- NULL ZERO correction for capacitance
- · Diode measurement
- · Display with backlit

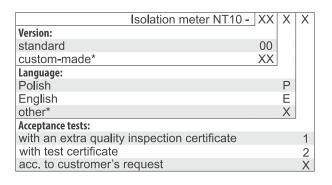
NT10 - INSULATION METER

Reference conditions for Accuracy:

Reference temperature Relative Humidity Waveform of measured quantity Input frequency Battery Voltage

23°C ± 2 45%...55% RH Sinusoidal 50 or 60 Hz ±2% 8 V ± 0.1 V

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* after agreeing with the manufacturer

ITEMS AVAILABLE FROM OUR STOCK: NT.10 - 00E1





NC14 AC/DC POWER CLAMP-ON METER 1000 A/ 400A

- ✓ Three phase power measurement.
- → AC & DC voltage measurement up to 1000 V.
- AC & DC current measurement in the range of 1000 A / 400 A.
- ✓ Inrush/peak value measurement
- ✓ Active, reactive and apparent power measurement.
- → Power measurement in KM.
- ✓ Energy consumption measurement in kWh.
- ✓ Measurement up to 49th harmonics.
- ✓ Phase angle measurement.
- → TRMS measurement.
- → THD measurement.
- → DF measurement.
- ✔ Power factor /PF/ measurement.
- ✓ Low pass filter (LPF) mode.

NC14 1000A/400A measures, calculate and displays important electrical parameters of single phase or three phase power system. It also features resistance, continuity, diode and non contact voltage detection.

- · Unique design
- · Large jaw opening
- DATA Hold function
- MIN,MAX function
- Backlit
- Non contact voltage detection

- Dual display
- Auto Power OFF
- Continuous ON mode
- Low battery indication
- Double molded cover for soft touch and firm grip of the instrument

NC14 - AC/DC POWER CLAMP-ON METER 1000 A/400 A

Reference conditions for Accuracy

Reference temperature Relative Humidity Input frequency Power Factor Battery Voltage 23°C ± 2°C 45%...55% RH 50 or 60 Hz 0.5L....1....0.5C 8 V ± 0.1 V

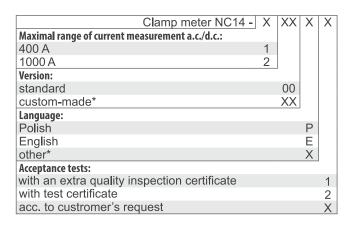
Protection from dust and water

IP20 for terminals as per EN 60529

Applicable International Safety standards

600 V CAT IV/1000V CAT III as per International Safety standard EN 61010-1

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* after agreeing with the manufacturer

ITEMS AVAILABLE FROM OUR STOCK:

NC14 - 100E1 version: 400A

NC14 - 200E1 version: 1000A





NC12 AC/DC CLAMP-ON METER 1000 A/ 300 A

- Current measurement of AC & DC in the range of 1000 A / 300 A,
- Voltage measurement of AC & DC up to 1000 V,
- Voltage Measurement of DC and AC in the range of 30 mV...1000 V,
- Measuring the resistance of 30 Ω ...30M Ω ,
- · Measuring the capacity of 30 nF...30 uF,
- Measuring the frequency of 300 Hz -100 kHz,
- Duty cycle (%) measurement,
- Temperature measurement with Pt100 and Pt1000 sensors.

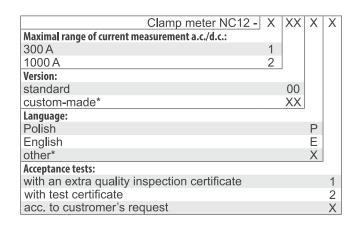
NC12 measures important electrical parameters like AC current, DC current, AC voltage, and DC voltage. It also features capacitance, Ohm & continuity, frequency, and duty cycle and temperature measurement.

- Large jaw opening
- High accuracy for low current measurement
- User selectable backlit: (optional)
- AUTO POWER OFF
- Analog scale
- ContinuousON mode
- DATA HOLD function
- · MIN,MAX function

- NULL ZERO correction for resistance
- NULL ZERO correction for capacitance
- AUTO and MANUAL ranging modes
- Diode measurement
- · Protection from dust and water
- Applicable international safety standards
- Double molded cover for soft touch and firm grip of the instrument

NC12- AC/DC CLAMP-ON METER 1000 A/300 A

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^{*} after agreeing with the manufacturer

ITEMS AVAILABLE FROM OUR STOCK: NC12 - 100E1

version: 300A

NC12 - 200E1 version: 1000A





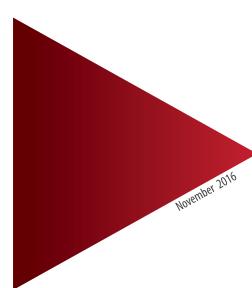
We are one of leading European manufacturers of electrical devices for automation and high pressure aluminium castings. We have been on the market since 1953. We have achieved our high position on the market due to continuous development policy, competence of our employees and modern equipment for research, design and production.

LUMEL S.A. is focused on 4 main activity fields:

- production of automatic devices for measurement, conversion, control and recording, transmission and visualization of various industrial processes;
- production and machining of high pressure castings and manufacturing of moulds and tools;
- design and manufacturing of control and measuring systems,
- SMT assembly, precision engineering and production of plastics parts.

We provide comprehensive solutions for various branches of industry: power industry, chemical industry, metallurgy, food industry,light industry, automotive industry, white industry and mining.

We have been working according to: ISO 9001:2008, ISO 14001:2004 and ISO/TS 16949.



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