

# LUMEL

## N30U DIGITAL PANEL METER

### FEATURES:

- 3-colour display**
- LPConfig compatible**
- MOD BUS**
- RS 485**
- Multipoint Individual characteristic**
- RTC**
- Password protection**

### INPUTS:

- 10..10 V**
- 20..20 mA**
- 60 mV**

### OUTPUTS:

- 0..20 mA**
- 0..10 V**
- 2x**
- 2x**

### GALVANIC ISOLATION:

- Sup.**
- RS 485**

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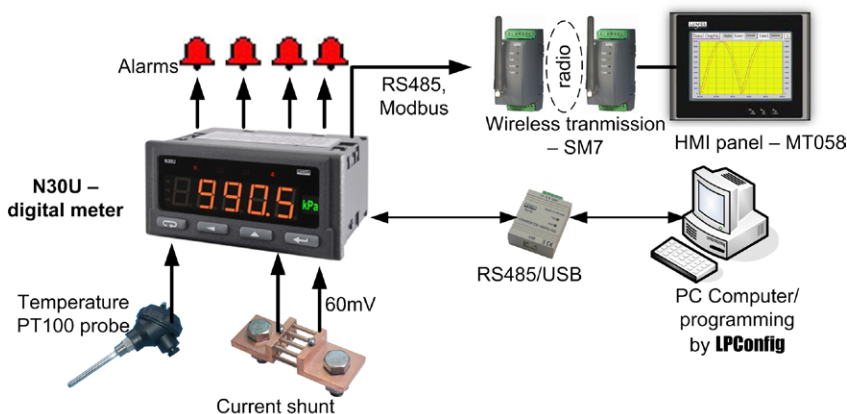
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- ✓ display colour individually programmed in three ranges,
- ✓ 2 x NO relay alarms operating in 6 modes,
- ✓ 2 x switched relay alarms with a switching contact operating in 6 modes (option),
- ✓ signaling of measuring range overflow,
- ✓ real-time clock with the function of the clock supply support in case of the meter supply decay,
- ✓ signaling of alarm operation – switching the alarm on causes the backlight of the output number,
- ✓ programming of alarm and analog outputs with the reaction on the chosen input quantity (main or auxiliary input),

### EXAMPLES OF APPLICATION



Monitoring and visualization of standard analog signals like: Pt100, TC, 20mA, 60mV, 10V. Measured data is transmitted to the HMI operating panel via radio modules.

### INPUTS

Input kind	Measuring range	Class	Additional error
Pt100	-205..855°C	0.1	Additional error • of thermocouple cold junction temperature compensation: <b>1% of measuring range</b> • of wire resistance compensation: <b>0.1% of the 400 Ω range</b>
Pt500			
Pt1000			
400 Ω	0..410 Ω		
4000 Ω	0..4100 Ω		
Thermocouple of J type	-220..1210°C		
Thermocouple of K type	-280..1382°C		
Thermocouple of N type	-250..1310°C		
Thermocouple of E type	-280..1010°C		
Thermocouple of R type	-55..1775°C		
Thermocouple of S type	-55..1775°C		
Voltage input 0..10V	-13..13 V	0.5 sec/ 24h	
Current input	-24..24 mA		
Voltage input	-10..63 mV		
Current time	00.00..23.59		

### OUTPUTS

Output kind	Properties	Remarks
Relay output	<ul style="list-style-type: none"> <li>• 2 x relays, voltageless NO contacts load-carrying capacity 250 V a.c./ 0,5 A a.c.</li> <li>• 2 x relays, voltageless switched contacts load-carrying capacity 250 V a.c./ 0,5 A a.c.</li> </ul>	position 2 optional
Analog output	<ul style="list-style-type: none"> <li>• current programmable 0/4..20mA, load resistance ≤ 500 Ω</li> <li>• voltage programmable 0..10V load resistance ≥ 500 Ω</li> </ul>	optional Error of analogue output: <b>0.2% of the set range</b> Additional error from temperature changes: <b>50% of the class/10K</b>
OC output	• OC type, passive npn, 30V d.c./30mA	optional
Auxiliary supply	• 24 V d.c./ 30mA	optional

### DIGITAL INTERFACE

Interface type	transmission protocol	modes	baud rates
RS-485	MODBUS RTU	8N2, 8E1, 8O1, 8N1	4.8, 9.6, 19.2, 38.4 kbit/s

## EXTERNAL FEATURES

Readout field	5 digit LED display - indication range -19999..99999 digit height: 14 mm	three-colour display (colour changes depending on displayed value): red, green, orange
Weight	< 0.2 kg	
Dimensions	96 x 48 x 93 mm	Panel cut out: 92 <sup>+0,6</sup> x 45 <sup>+0,6</sup> mm
Protection level (acc. to EN 60529)	from frontal side: IP65	from rear side: IP10

## RATED OPERATING CONDITIONS

Supply voltage	85..253 V a.c./d.c. (40..400Hz) or 20..40 V a.c./d.c. (40..400Hz)	
Temperature	ambient: -25..23..55 °C	storage: -33..70 °C
Relative humidity	25..95%	condensation inadmissible
Working position	any	
External magnetic field	0..40..400 A/m	

## SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	Noise immunity	acc. to EN 61000-6-2
	Noise emission	acc. to EN 61000-6-4
Insulation between circuits	basic	acc. to EN 61010-1
Pollution degree	2	
Installation category	III	
Maximal phase-to-earth working voltage	for the supply circuit: 300V for remaining circuits: 50V	
Altitude above sea level	<2000 m	

## CONNECTION DIAGRAMS

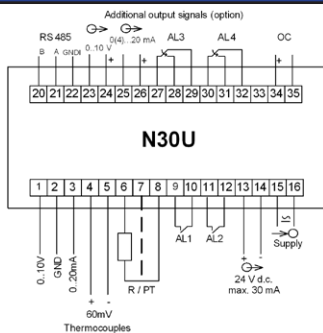


Fig. 1. Description of signals on connection strips

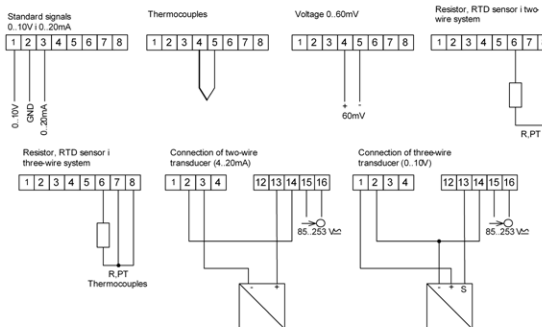


Fig. 2. Ways of the meter connection

## ORDERING

TABLE 1. ORDERING CODES:

	N30P	-	X	X	XX	XX	X
Supply voltage:							
85..253 V a.c./d.c.			1				
20..40 V a.c./d.c.			2				
Additional outputs:							
lack					0		
pulse output, RS-485, analog outputs					1		
pulse output, RS-485, analog outputs					2		
switched-over relay outputs AL3, AL4							
Unit							
unit code acc. to the table 2						XX	
Kind of execution:							
standard							00
custom-made*							XX
Acceptance tests:							
without extra requirements							8
with an extra quality inspection certificate							7
acc. to customer's agreements							X

\* - the code will be established by the manufacturer

**Order example:**

The code **N30U - 1 0 09 00 8** means  
**N30U** - programmable N30U panel digital meter  
**1** - supply: 85..253 V a.c./d.c.  
**0** - lack of additional outputs  
**01** - unit "°C" acc. to codes tabel  
**00** - standard execution  
**8** - without extra requirements

TABLE 2. CODES OF HIGHLIGHTED UNIT:

Code	Unit	Code	Unit	Code	Unit
00	lack of unit	20	kVAh	40	pcs
01	V	21	MVAh	41	imp
02	A	22	Hz	42	rps
03	mV	23	kHz	43	m/s
04	kV	24	Ω	44	l/s
05	mA	25	kΩ	45	turns/min
06	kA	26	°C	46	rpm
07	W	27	°F	47	mm/min
08	kW	28	K	48	m/min
09	MW	29	%	49	l/min
10	var	30	%RH	50	m³/min
11	kvar	31	pH	51	pcs/h
12	Mvar	32	kg	52	m/h
13	VA	33	bar	53	km/h
14	kVA	34	m	54	m³/h
15	MVA	35	l	55	kg/h
16	kWh	36	s	56	l/h
17	MWh	37	h		
18	kvarh	38	m³	XX	on order*
19	Mvarh	39	obr		

\* - the code will be established by the manufacturer

SEE ALSO:



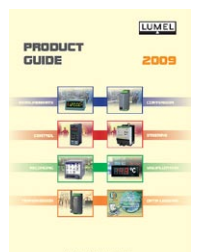
Free LPConfig software for easy programming of LUMEL's products. Available on our website



KD7 recorder with MODBUS master protocol for recording data measured by N30H meter. Check RECORDERS catalogue.



Shunts for measurement DC current from 5A up to 15 kA. For more details check ANALOG METERS catalogue.



For more information about products check Product Guide 2009 catalogue or visit our website.

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