

# LUMEL

## N30H DIGITAL PANEL METER

### FEATURES:

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

### INPUTS:



### OUTPUTS:

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

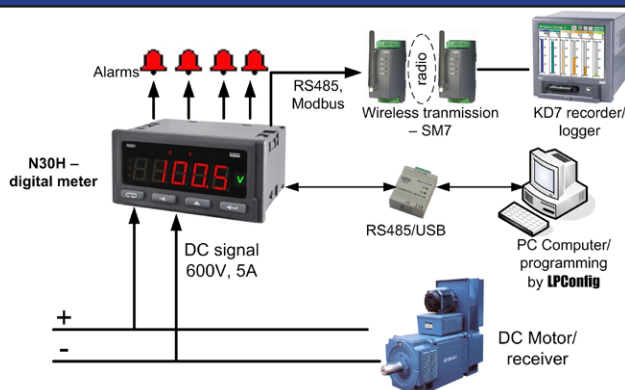
### GALVANIC ISOLATION:

- 
- 
- 
- 
- RS 485**



- ✓ Programmable digital panel meter destined for measurements of d.c. voltage or d.c. current,
- ✓ The meter enables the indication of the current time.
- ✓ Readout field is a LED display, which allows the exposition of results in colours: red, green and orange.
- ✓ Measured input signal can be arbitrary converted by means of a 21-point individual characteristic

### EXAMPLES OF APPLICATION



Monitoring and visualization of DC motor current/voltage parameters. Measured data is transmitted to the recorder/data logger via radio modules.

### INPUTS

Input kind	Measuring range	Class
+/- 500 V d.c.	-600..600 V d.c.	0.1
+/- 100 V d.c.	-200..200 V d.c.	0.1
+/- 5 A d.c.	-6..6 A d.c.	0.1
+/- 1 A d.c.	-2..2 A d.c.	0.1
Current time	00.00..23,59	0.5 seconds/h

### 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> <li>• Error of output: 0,2% of the set range</li> </ul>	optional <b>Additional error</b> from temperature change : 50% of the class / 10K
OC output	<ul style="list-style-type: none"> <li>• OC type, passive npn, 30V d.c./30mA</li> </ul>	optional
Auxiliary supply	<ul style="list-style-type: none"> <li>• 24 V d.c./ 30mA</li> </ul>	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

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## 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 analog input signals for remaining circuits: 50V	
Altitude above sea level	<2000 m	

## CONNECTION DIAGRAMS

- 1 A, 5 A – connectors for current measurement on the range 1 A or 5 A
- 100 V, 500 V – connectors for voltage measurement on the range 100 V or 500 V

An example of the N30H meter connection to current measurement is presented on the fig. 2.

However, an example of the meter connection in the configuration for voltage measurement is presented on the fig. 3.

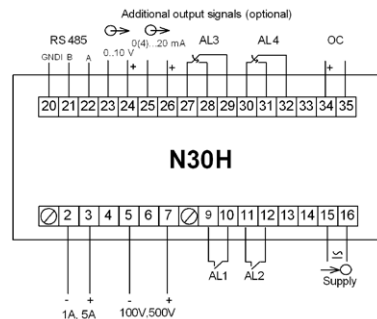


Fig. 1. Description of signals on connection strips

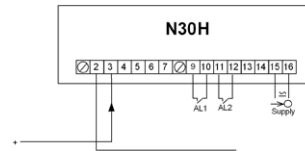


Fig. 2. Meter connection in the configuration for current measurement

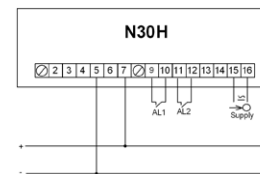


Fig. 3. Meter connection in the configuration for voltage measurement

## 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 switched-over relay outputs AL3, AL4		2			
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 acc. to customer's agreements					7 X

\* - the code will be established by the manufacturer

### Order example:

The code **N30P - 1 0 01 00 8** means  
**N30P** - programmable N30P panel digital meter  
**1** - supply: 85..253 V AC/DC  
**0** - lack of additional outputs  
**01** - unit "V" 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	m <sup>3</sup> /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	m <sup>3</sup> /h
15	MVA	35	l	55	kg/h
16	kWh	36	s	56	l/h
17	MWh	37	h		
18	kvarh	38	m <sup>3</sup>	XX	on order*
19	Mvarh	39	obr		

\* - the code will be established by the manufacturer

SEE ALSO:



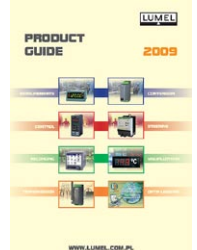
Free LPConfig software for easy programming of LUMEL's products. Available on our website



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



SM7 communication module for RS485 interface. Enables wireless connection on distance up to 300 meters. Check MODULES catalogue.



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

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