

# N30H DIGITAL PANEL METER

## FEATURES:

- 3-colour display**
- LPConfig compatible**
- MOD BUS**
- RS 485**
- Multipoint individual characteristic**
- RTC**
- IP65**
- Password protection**

## INPUTS:



## OUTPUTS:

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

## GALVANIC ISOLATION:

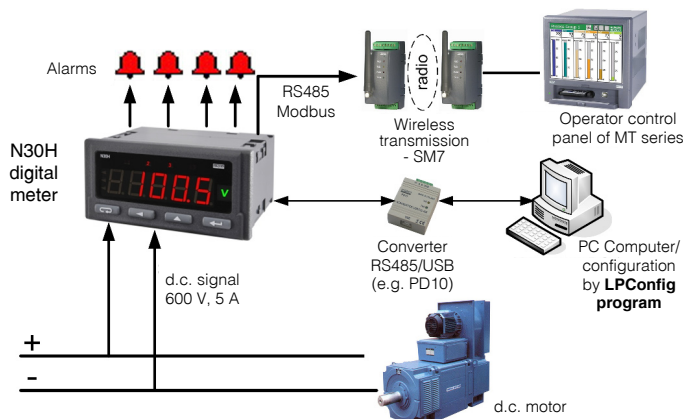
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- Sup.**
- RS 485**

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- Measurement: current and d.c. voltage up to 5 A and 600 V.
- Three-colour display (14 mm high), programmed in three intervals of the measured value.
- Meter programming from the keyboard or through the RS485 interface by means of the free delivered LPConfig program.
- Four alarm outputs with signalling by LED diodes, operating in 6 different modes.
- Conversion of any measured value into a 0/4...20 mA, or 0...10 V analog signal.
- Storage of minimal and maximal values for all measured quantities.
- 21-point individual characteristic for the measured value.

## EXAMPLE OF APPLICATION



Measurement and recording of d.c. motor voltage and current. Measured data are transmitted to the recorder via radio modules.

## INPUTS

Input kind	Maximal 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.	-1.2...+1.2 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>	
Analog output	<ul style="list-style-type: none"> <li>• current programmable 0/4...20 mA, load resistance ≤ 500 Ω</li> <li>• voltage programmable 0...10 V, load resistance ≥ 500 Ω</li> <li>• Error of output: 0.2% of the set range</li> </ul>	optional Dodatkowy błąd od zmian temperatury: <b>50% klasy/10K</b>
OC output	• OC type, passive npn, 30 V d.c./30 mA	voltage output
Auxiliary supply	• 24 V d.c./ 30mA	

## DIGITAL INTERFACES

Interface type	Transmission protocol	Modes	Baud rates
RS-485	MODBUS RTU	8N2, 8E1, 8O1, 8N1	4.8; 9.6; 19.2; 38.4, 57.6, 115.2 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 × 48 × 93 mm	Panel cut out: 92 <sup>+0.6</sup> × 45 <sup>+0.6</sup> mm
Protection grade (acc. to EN 60529)	from frontal side: IP65	from terminal side: IP 10

### RATED OPERATING CONDITIONS

Supply voltage	85...253 V a.c. (40...400 Hz) or d.c., 20...40 V a.c. (40...400 Hz) or d.c.	
Temperature	ambient: -25...23...55°C	storage: -30...70°C
Relative humidity	25...95%	condensation inadmissible
Working position	any	
External magnetic field	0...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: 300 V	
	for remaining circuit: 50 V	
Altitude above sea level	< 2000 m	

### CONNECTION DIAGRAMS

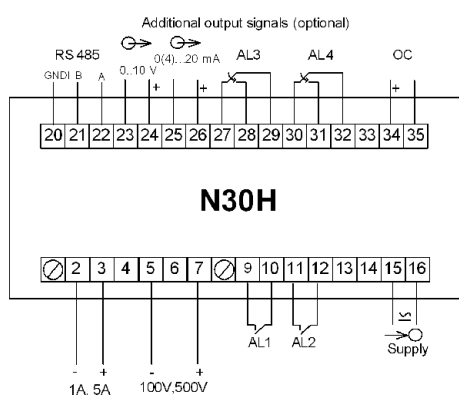


Fig. 1. Description of signals on connection strips

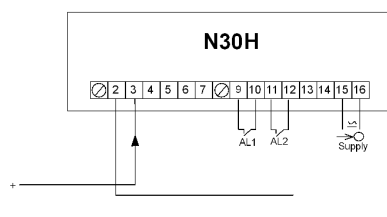


Fig. 2. Meter connection in the configuration for current measurement

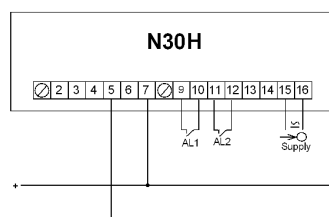


Fig. 3. Meter connection in the configuration for voltage measurement

### ORDERING

TABLE 1. ORDERING CODES:

N30H - 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      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

\* after agreement with the manufacturer  
\*\* the code will be established by the manufacturer

#### Order example:

The code **N30H - 1 0 01 00 8** means

- N30H** - programmable N30H panel digital meter
- 1** - supply: 85...253 V a.c./d.c.
- 0** - lack of additional outputs
- 01** - unit "V" acc. to the table 2
- 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	XX	on order*
18	kvarh	38	m³		
19	Mvarh	39	turns		

\* 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. See our RECORDERS catalogue.



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



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

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