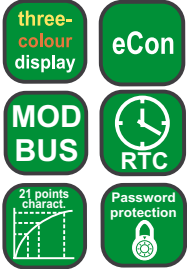


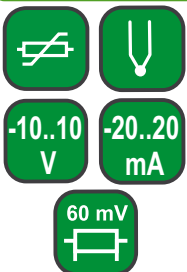
# N30U DIGITAL PANEL METER

## FEATURES:

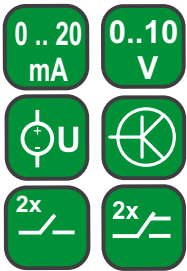


IP65

## INPUTS:

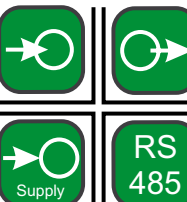


## OUTPUTS:



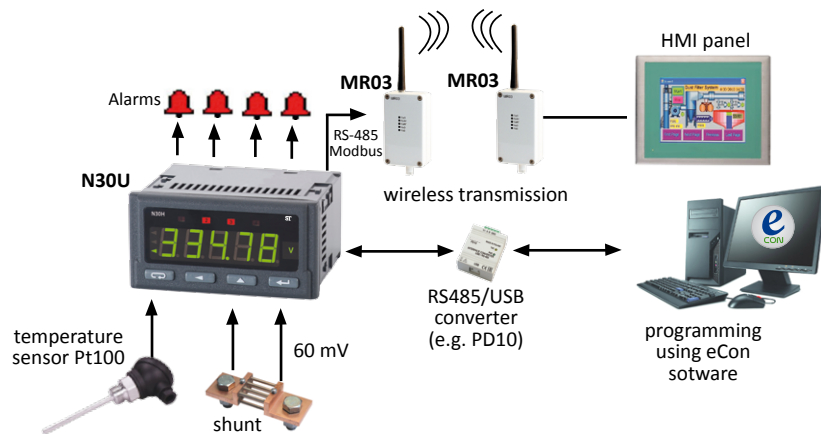
RS 485

## GALVANIC ISOLATION:



- Measurement: temperature, resistance, standard signals.
- 3-colour display (14 mm high), programmable in 3 ranges of the measured value.
- Meter programming from keyboard or through the RS-485 interface by means of the free eCon software.
- 4 alarm outputs with signalling on LED diodes, working in 6 different modes.
- Conversion of any measured value into an analog signal 0/4...20 mA or 0...10 V.
- Storage of minimal and maximal values for all measured quantities.
- Supply of object transducers (ver. N30U-1XXXXXXX).
- 21-point individual characteristic for the measured value.

## EXAMPLE OF APPLICATION



Measurement and visualization of analog standard signals: Pt100, TC, 20 mA, 60 mV, 10 V. Measured parameters are transmitted to the HMI operator panel through radio modules.

## INPUT

Input kind	Maximal measuring range	Class	Additional error
Pt100	-205...855°C (-200...850°C)	0.1	- due to automatic compensation of the reference junction temperature $\leq 1^\circ\text{C}$
Pt500			
Pt1000			
400 $\Omega$	0...410 $\Omega$ (0...400 $\Omega$ )		- due to automatic compensation of the cable resistance for thermoresistors $\leq 0,5^\circ\text{C}$
4000 $\Omega$	0...4010 $\Omega$ (0...4000 $\Omega$ )		
Thermocouple of J type	-200...1200 °C (-100...1200 °C)		- due to automatic compensation of the cables for resistance measurement $\leq 0,2\Omega$
Thermocouple of K type	-200...1370 °C (-100...1370 °C)		
Thermocouple of N type	-200...1300 °C (-100...1300 °C)		
Thermocouple of E type	-200...1000 °C (-100...1000 °C)		
Thermocouple of R type	-50...1768 °C (-50...1760 °C)		
Thermocouple of S type	-50...1768 °C (-50...1760 °C)		
Voltage input 0...10 V	-13...13 V (-10...10 V)	- from temperature changes 100 % of the class / 10 K	
Current input	-24...24 mA (-20...20 mA)		
Voltage input	-10...63 mV (0...60 mV)		
Current time	00.00...23.59	0.5 sec./ 24h	

## OUTPUTS

Output kind	Properties	Remarks
Relay output	<ul style="list-style-type: none"> <li>• 2 x relays, voltageless NOC 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...20mA, load resistance <math>\leq 500 \Omega</math></li> <li>• voltage programmable 0...10 V load resistance <math>\geq 500 \Omega</math></li> </ul>	Error of analog output: <b>0.2% of the set range</b> Additional error from temperature changes: <b>50% of the class/10K</b>
OC output	• typu OC, passive npn, 30 V d.c./30 mA	Voltageless output
Auxiliary supply	• 24 V d.c./ 30mA	only for meter version: N30U-1XXXXXXX

## 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, 57.6, 115.2 kbit/s

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## EXTERNAL FEATURES

Readout field	5 digit LED display - indication range -19999..99999 digit height: 14 mm	three-color 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 rear side: IP 10

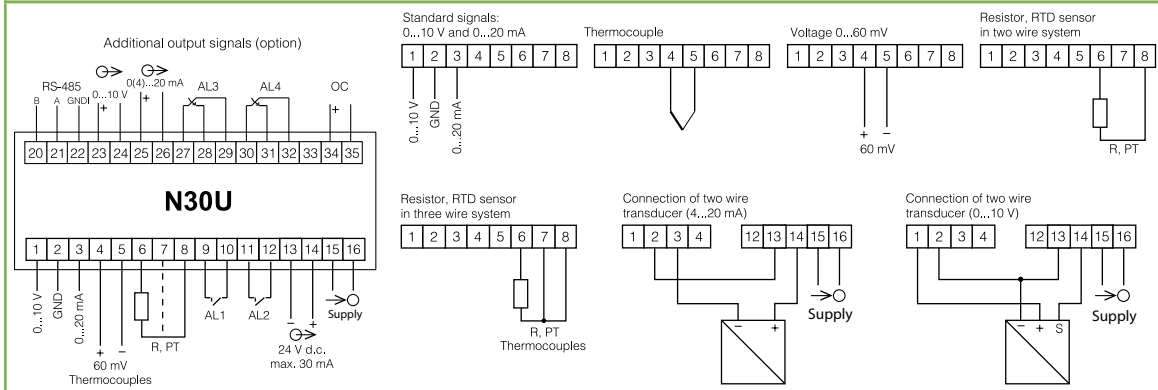
## RATED OPERATING CONDITIONS

Supply voltage	85...253 V a.c. (40...400 Hz) or d.c., 20...40 V a.c. (40...400 Hz), 20...60 V d.c.	power consumption < 6 VA
Temperature	ambient: -25...23...55°C	storage: -30...70°C
Relative humidity	25...95%	condensation inadmissible
Operating position	any	
External magnetic field	0...400 A/m	

## 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	acc. to EN 61010-1
Pollution grade	2	
Installation category	III	
Maximal phase-to-earth operating voltage	for the supply circuit: 300 V for remaining circuits: 50 V	
Altitude above sea level	< 2000 m	

## CONNECTION DIAGRAMS



## ORDERING

TABLE 1. ORDERING CODES:

	N30U	X	X	XX	XX	X	X
<b>Supply:</b>							
85...253 V a.c./d.c.		1					
20...40 V a.c., 20...60 V d.c.		2					
<b>Additional outputs:</b>							
lack		0					
OC output, RS-485, analog outputs		1					
OC output, RS-485, analog outputs switched-over relay outputs		2					
<b>Unit:</b>							
unit code acc. to the table 2				XX			
<b>Version:</b>							
standard						00	
custom-made*						XX	
<b>Language:</b>							
Polish							P
English							E
other*							X
<b>Acceptance tests:</b>							
without extra requirements							0
with an extra quality inspection certificate							1
with calibration certificate							2
with calibration and QI certificate							3
acc. to customer's request*							X

Order example: The code **N30U 102600E0** means

- N30U** - programmable N30U digital panel meter
- 1** - supply: 85...253 V a.c./d.c.
- 0** - lack of additional outputs
- 26** - unit "°C" acc. to tabel 2
- 00** - standard option
- E** - English language
- 0** - without extra requirements

TABLE 2. CODES OF HIGHLIGHTED UNIT:

Code	Unit	Code	Unit	Code	Unit
00	lack of unit	20	kVAh	40	szt.
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	obroty/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		
19	Mvarh	39	obroty	XX	on order*

\* - after agreeing with the manufacturer

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