N30U DIGITAL PANEL METER

FEATURES:

three-colour display
eCon
MOD BUS
RTC
21 points charact.
Password protection
IP65

INPUTS:

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

OUTPUTS:

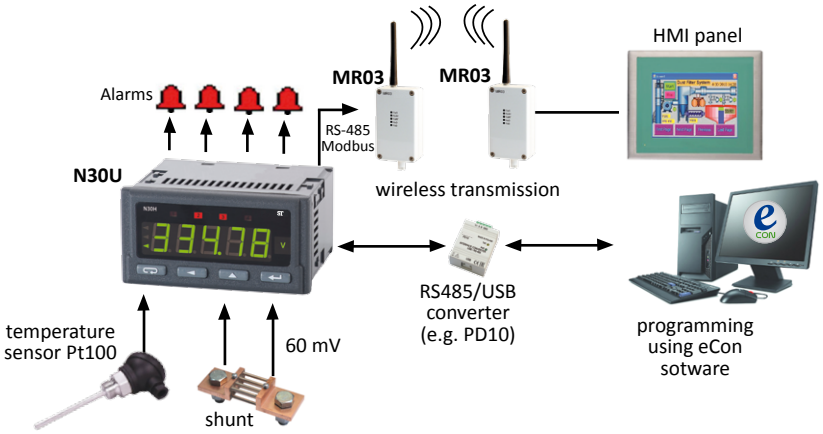
0 .. 20 mA
0..10 V
2x
2x
RS 485

GALVANIC ISOLATION:

Supply
RS 485

- 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 ≤ 1°C - due to automatic compensation of the cable resistance for thermoresistors ≤ 0,5°C - due to automatic compensation of the cables for resistance measurement ≤ 0,2Ω - from temperature changes 100 % of the class / 10 K
Pt500			
Pt1000			
400 Ω	0...410 Ω (0...400 Ω)		
4000 Ω	0...4010 Ω (0...4000 Ω)		
Thermocouple of J type	-200..1200 °C (-100..1200 °C)		
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)		
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	• 2 x relays, voltageless NOC contacts load-carrying capacity 250 V a.c./ 0.5 A a.c. • 2 x relays, voltageless switched contacts load-carrying capacity 250 V a.c./ 0.5 A a.c.	
Analog output	• current programmable 0/4..20mA, load resistance ≤ 500 Ω • voltage programmable 0...10 V load resistance ≥ 500 Ω	Error of analog output: **0.2% of the set range** Additional error from temperature changes: **50% of the class/10K**
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

Sifam Tinsley Instrumentation Ltd
Unit 1 Warner Drive,
Springwood Industrial Estate
Braintree, Essex, UK, CM72YW
E-mail: sales@sifamtinsley.com
Web: www.sifamtinsley.com/uk
Contact: +44(0)1803615139

Sifam Tinsley Instrumentation Inc.
3105, Creekside Village Drive,
Suite No. 801, Kennesaw,
Georgia 30144 (USA)
E-mail Id : psk@sifamtinsley.com
Web: www.sifamtinsley.com
Contact No.: +1 404 736 4903

N30U DIGITAL PANEL METER

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: $92^{+0,6} \times 45^{+0,6}$ 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

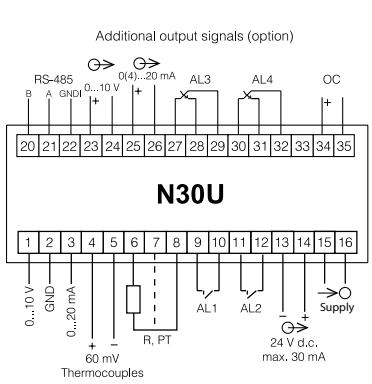


Fig. 1 Description of signals on connection strips.

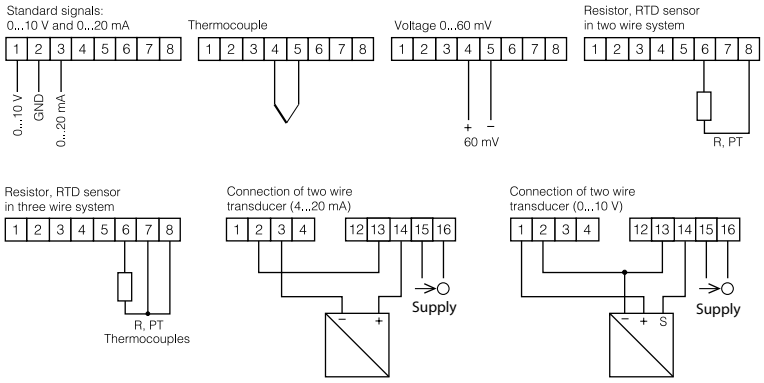


Fig. 2 Ways of the meter connection.

Ordering

Table 1. Ordering codes:

N30U	X	X	XX	XX	X	X
Supply:						
85...253 V a.c./d.c.	1					
20...40 V a.c., 20...60 V d.c.	2					
Additional outputs:						
lack		0				
OC output, RS-485, analog outputs		1				
OC output, RS-485, analog outputs switched-over relay outputs		2				
Unit:						
unit code acc. to the table 2			XX			
Version:						
standard				00		
custom-made*				XX		
Language:						
Polish					P	
English					E	
other*					X	
Acceptance tests:						
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

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	m^3/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^3/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	m^3		
19	Mvarh	39	obroty		

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

* - after agreeing with the manufacturer

Sifam Tinsley Instrumentation Ltd
Unit 1 Warner Drive,
Springwood Industrial Estate
Braintree, Essex, UK, CM72YW
E-mail: sales@sifamtinsley.com
Web: www.sifamtinsley.com/uk
Contact: +44(0)1803615139

Sifam Tinsley Instrumentation Inc.
3105, Creekside Village Drive,
Suite No. 801, Kennesaw,
Georgia 30144 (USA)
E-mail Id : psk@sifamtinsley.com
Web: www.sifamtinsley.com
Contact No.: +1 404 736 4903