

# NA5 DIGITAL METER WITH BARGRAPH

## FEATURES:

- MOD BUS
- RTC
- Linear char.
- Password protection
- IP50**

## INPUT:

- DC
- 0...20 mA
- 60 mV
- 0...10 V
- RS 485

## OUTPUTS:

- 0...20 mA
- 0...10 V
- RS 485

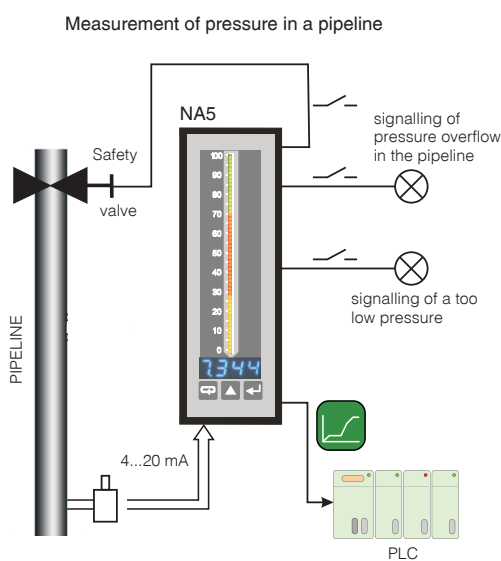
## GALVANIC ISOLATION:

- Supply
- RS 485



- 3 or 7-colour bargraph with programmable colour switching over,
- Recording of 750 measuring segments, released temporary,
- Universal input,
- Programmable indication characteristic and bargraph magnifier,
- Up to 8 programmable alarm outputs,
- Communication in SCADA systems (RS485/Modbus interface),
- Conversion of measured quantity into an analog standard signal for automation systems.

## EXAMPLE OF APPLICATION



## INPUTS

Kind of input	Measuring range	Measurement sub-range
Pt100	-200...850°C	320°C
Pt500	-200...850°C	230°C
Pt1000	-200...850°C	290°C
J (Fe-CuNi)	-100...1100°C	350°C, 700°C
K (NiCr-NiAl)	-100...1370°C	450°C, 950°C
N (NiCrSi-NiSi)	-100...1300°C	550°C, 1000°C
E (NiCr-CuNi)	-100...850°C	250°C, 520°C
R (PtRh13-Pt)	0...1760°C	
S (PtRh10-Pt)	0...1760°C	
T (Cu-CuNi)	-50...400°C	
Resistance	0...10 kΩ	110 Ω, 220 Ω, 460 Ω, 950 Ω, 2100 Ω, 5000 Ω,
Voltage	± 300 mV, Rinp. > 9 MΩ ± 0...600 V, Rinp. > 4.2 MΩ	19 mV, 35 mV, 75 mV, 155 mV, 5 V, 11 V, 22 V, 45 V, 90 V, 180 V, 360 V
Current	± 40 mA, Rinp. < 4 Ω ± 5 A, Rinp. = 10 mΩ ± 10%	5 mA, 11 mA, 23 mA, 1.8 A, 3.8 A

Intensity of current flowing through the resistance thermometer: < 400 μA  
Resistance of wires connecting the resistance thermometer with the meter: < 20 Ω/1 wire

## OUTPUTS

Kind of output	Features
Analog output	• galvanically isolated with resolution 0.025% of range; current programmable 0/4...20 mA, load resistance ≤ 500 Ω or voltage programmable 0...10 V, load resistance ≥ 500 Ω, output response time: 100 ms.
Relay output	• 4 electromagnetic relays; NOC voltageless contacts, maximal load-carrying capacity: - voltage: 250 V a.c., 150 V d.c. - current: 5 A 30 V d.c., 250 V a.c. - resistance load: 1250 VA, 150 W
Open collector (OC) type	• voltageless of OC type with npn transistor, maximal load: 25 mA, range of appended voltages: 5...30 V d.c.
Digital	• <b>interface type:</b> RS-485; <b>transmission protocol:</b> MODBUS ASCII (8N1, 7E1, 7O1), RTU (8N2, 8E1, 8O1, 8N1); <b>baud rate:</b> 2400, 4800, 9600 bit/s
Additional supply output	• 24 V d.c., maximal load 30 mA

## EXTERNAL FEATURES

Readout field	<b>4 LED displays</b>	7-segment digits of 7 mm high, measuring range -1999...9999
	<b>bargraph</b>	bargraph of 88 mm length: - 55 segments in three-colour version - 29 segments in seven-colour version Bargraph resolution: programmable Bargraph accuracy: ± 0.5 segment
Weight	< 0.4 kg	
Overall dimensions	48 × 144 × 100 mm	panel cut-out: 44 <sup>+0.5</sup> × 137.5 <sup>+0.5</sup> mm
Protection grade (acc. to EN 60529)	IP50 from frontal side	IP20 from terminal side

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### RATED OPERATING CONDITIONS

Supply voltage	95...253 V a.c./d.c., 20...40 V a.c./d.c.	Power consumption < 12 VA
Temperature	ambient: -10...23...55°C	Storage: -25...85°C
Relative humidity	< 95%	Condensation inadmissible

### SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Pollution grade	2	acc. to EN 61010-1
Installation category	III	
Maximal phase-to-earth operating voltage	input: 600 V	
	supply: 300 V	
	relays: 300 V	
	analog output: 50 V	
	RS-485: 50 V	

TABLE 1. EXECUTION CODE:

NA5 -	X	X	X	X	X	X	X	X	X	XX	X
<b>Bargraph colour:</b>											
three-color (R, G, R+G)		T									
seven-color (R, G, B, R+G, R+B, G+B, R+G+B)		M									
<b>Display colour:</b>											
lack of display*					0						
red					R						
green					G						
blue					B						
<b>Input signal:</b>											
universal input									U		
<b>Analog output signal:</b>											
lack										0	
current programmable 0/4...20 mA										1	
voltage programmable 0...10 V										2	
<b>Digital output signal:</b>											
lack											0
RS-485 digital output											1
<b>Additional output:</b>											
lack*											0
4 relays											4
8 outputs of OC type											8
<b>Supply:</b>											
95...253 V a.c./d.c.											1
20...40 V a.c./d.c.											2
<b>Kind of terminals:</b>											
screwed plug-in sockets											0
<b>Version:</b>											
standard											00
custom-made**											XX
<b>Acceptance tests:</b>											
without an extra quality inspection certificate											8
with an extra quality inspection certificate											7
acc. to customer's request**											X

\* - in case of meters without displays, one must order an RS-485 digital output

\*\* - after agreeing with the manufacturer

### Ordering Example:

The code: **NA5 - M G U 1 1 4 1 0 00 8** means:

- NA5** - digital meter with bargraph of NA5 type,
- M** - with a seven-colour bargraph,
- G** - green display colour,
- U** - with an universal input signal,
- 1** - analog programmable output signal,
- 1** - RS-485 output current signal,
- 4** - additional digital output signal: 4 relays,
- 1** - supply voltage: 95...253 V a.c./d.c.,
- 0** - terminals of plug-in socket type,
- 00** - standard version,
- 8** - without extra quality requirements.

### CONNECTION DIAGRAMS

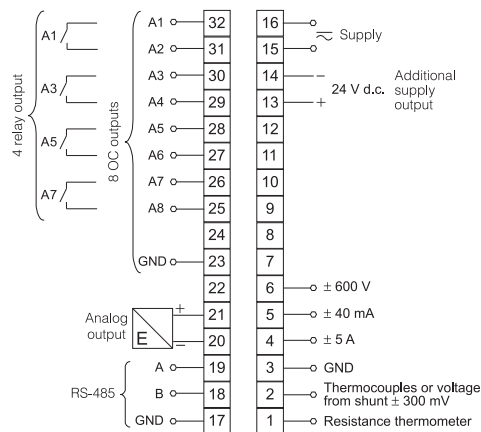


Fig. 1 Description of the terminal strip.

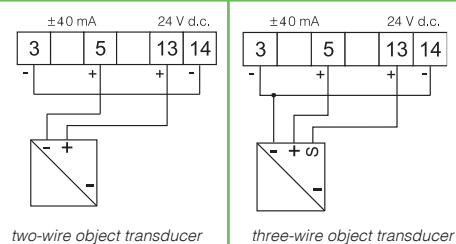
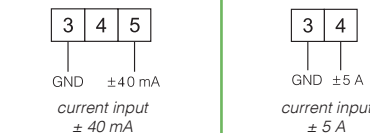
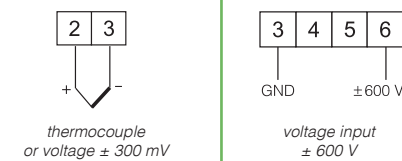
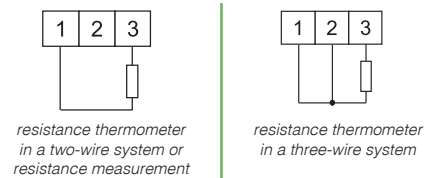


Fig. 2 Connection way of input signals.

### SEE ALSO:



Temperature and humidity transducers P18 i P18L types.



Programmable transducer of temperature, resistance, voltage from shunt and standard signals - P20



N30 digital meters with a 3-colour display and free LPConfig program.



For more information about LUMEL's products please visit our website: [www.lumel.com.pl](http://www.lumel.com.pl)

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