

# NA5 DIGITAL METER WITH BARGRAPH



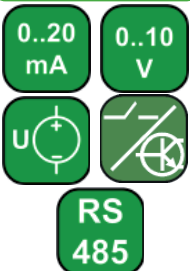
## FEATURES:



## INPUT:



## OUTPUTS:



## GALVANIC ISOLATION:



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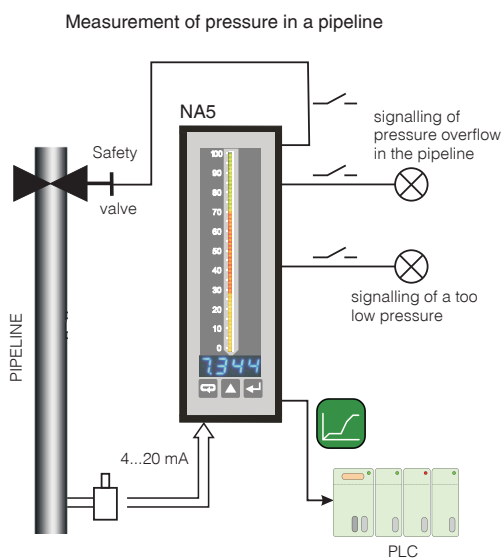
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- 3 or 7-colour bargraph with programmable colour switching over,
- Recording of 750 measuring segments, released temporary,
- Universal input,
- Programmable indication characteristic and bargraph magnifier,
- Up to 8 programmable alarm outputs,
- 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

	4 LED displays	7-segment digits of 7 mm high, measuring range -1999...9999
Readout field	<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

## 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	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

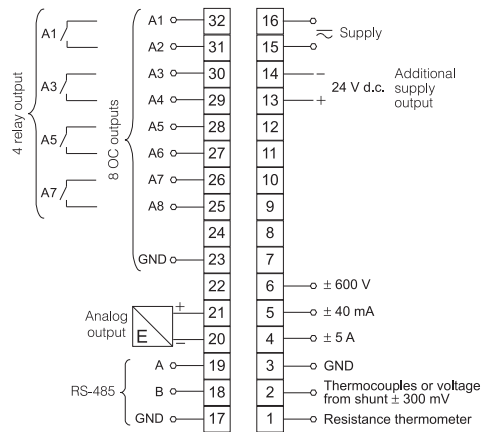


Fig. 1 Description of the terminal strip.

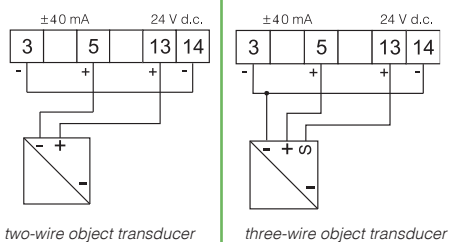
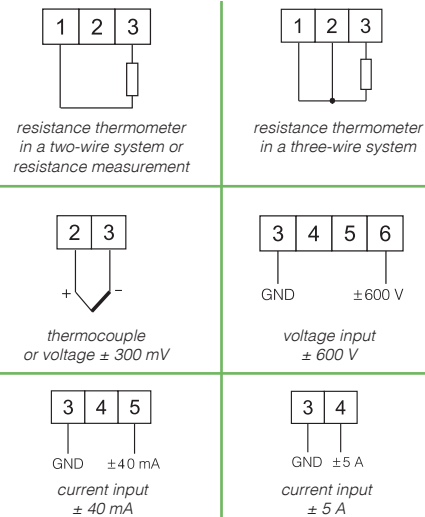


Fig. 2 Connection way of input signals.

## SEE ALSO:



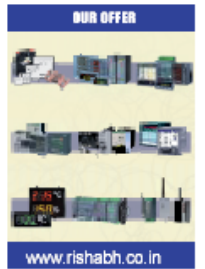
Temperature and humidity transducers P18 i P18L types.



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



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



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