



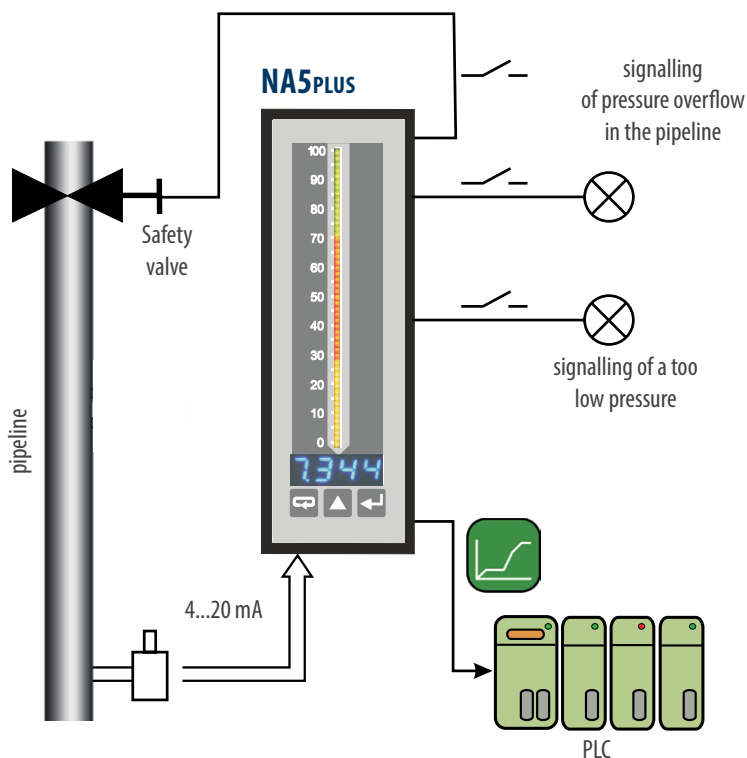
## NA5PLUS - DIGITAL METER WITH BARGRAPH

- 3 or 7-colour bargraph with programmable colour switching over.
- Logging of the measured signal in programmed time intervals (800 samples).
- Universal measuring input.
- Programmable indication characteristic (21-point rescaling) and bargraph magnifier.
- Up to 8 programmable alarm outputs.
- Alarm triggered by the rate of change of the measured signal over time.
- Arithmetical functions  $x^2$ ,  $\sqrt{x}$ .
- Communication in SCADA systems (RS485/Modbus interfaces).
- Conversion of any measured value into a current or voltage analog signal.



### EXAMPLE OF APPLICATION

Measurement of pressure in a pipeline.



FEATURES	INPUTS	OUTPUTS	GALVANIC ISOLATION

## TECHNICAL DATA

INPUTS				OUTPUTS			
Input type	Measurement range	Basic error	Additional error	Output type	Features		
Pt100	-200...850°C	0.1%	compensation of temperature changes of reference welds $\leq \pm 1^\circ\text{C}$	Current analog output	1 or 2 programmable 0/4...20 mA; load resistance $\leq 500 \Omega$		
Pt500	-200...850°C			Voltage analog output	1 or 2 programmable 0-10 V; load resistance $\geq 500 \Omega$		
Pt1000	-200...850°C			Relay output	4 relays; NOC voltageless contacts, maximal load: - voltage: 250 V a.c., 150 V d.c. - current: 5 A 30 V d.c., 250 V a.c. - resistive load: 1250 VA, 150 W		
J (Fe-CuNi)	-100...1100°C			0.2%	compensation of cable resistance changes - when changing the resistance of wires $< 10 \Omega$ the error is $\leq \pm 0.5^\circ\text{C}$	Open collector (OC) type	8 outputs of OC type: maximal load: - voltage: 5...30V d.c. - current: 25mA d.c.
K (NiCr-NiAl)	-100...1370°C					Digital interface	interface type: RS-485; transmission protocol: MODBUS, RTU (8N2, 8E1, 8O1, 8N1) baud rate: 2400, 4800, 9600, 19200, 57600, 115200 b/s
N (NiCrSi-NiSi)	-100...1300°C					Additional supply output	24 V d.c., maximal load 30 mA
E (NiCr-CuNi)	-100...850°C	0.1%	- when changing the resistance of wires $< 20 \Omega$ the error is $\leq \pm 1^\circ\text{C}$				
R (PtRh13-Pt)	0...1760°C						
S (PtRh10-Pt)	0...1760°C						
T (Cu-CuNi)	-50...400°C		change in ambient temperature $\leq \pm 0.1\%$ of the range				
Resistance	0...5 kΩ						
Voltage	$\pm 75 \text{ mV}$ , $R_{\text{imp.}} > 100 \text{ k}\Omega$ $\pm 300 \text{ mV}$ , $R_{\text{imp.}} > 100 \text{ k}\Omega$ $\pm 0...600 \text{ V}$ , $R_{\text{imp.}} > 3.5 \text{ M}\Omega$						
Current	$\pm 40 \text{ mA}$ , $R_{\text{imp.}} < 4 \Omega$ $\pm 5 \text{ A}$ , $R_{\text{imp.}} = 10 \text{ m}\Omega \pm 10\%$						

Intensity of current flowing through the resistance thermometer:  $< 400 \mu\text{A}$   
Resistance of wires connecting the resistance thermometer with the meter:  $< 20 \Omega/1 \text{ wire}$

### EXTERNAL FEATURE

Readout field	4 - digits LED display	7-segment digits of 7 mm high, measuring range -1999...9999
	bargraph	bargraph of 100 mm length: - 55 segments in three-colour version - 28 segments in seven-colour version Bargraph resolution: programmable
Overall dimensions	48 x 144 x 100 mm	
Weight	$< 0.4 \text{ kg}$	panel cut-out: 44+0.5 x 137.5+0.5 mm
Protection grade (acc. to EN 60529)	from frontal side: IP50	from terminal side: IP20

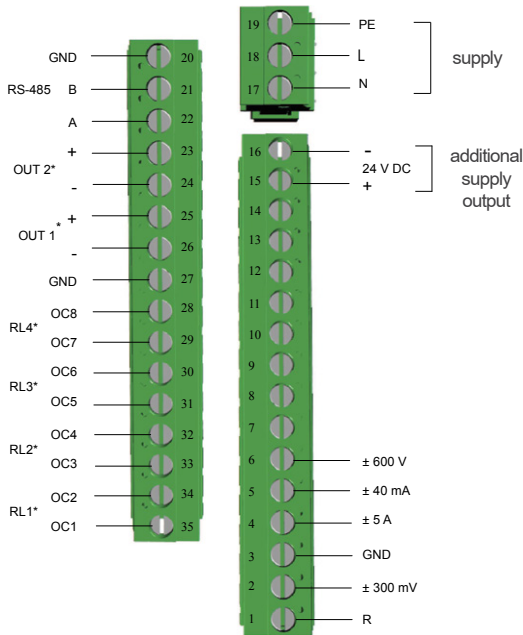
### RATED OPERATING CONDITIONS

Supply voltage	95...253 V a.c. 40...400 Hz; 90...300 V d.c. 20...40 V a.c. 40...400 Hz, 20...60 V d.c.	power consumption $\leq 13 \text{ VA}$
Temperature	ambient: -10...23...55°C	storage: -25...85°C
Relative humidity	$< 95\%$	Condensation inadmissible

### SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	noise immunity noise emissions	acc. to EN 61000-6-2 acc. to EN 61000-6-4
Pollution grade	2	
Installation category	III	
Maximal phase-to-earth operating voltage	• for input circuit: 600 V • for supply circuit: 300 V • for other circuits: 50 V	acc. to EN 61010-1
Altitude above sea level	$< 2000 \text{ m}$	

## ELECTRICAL CONNECTIONS



\*-optional elements depend on the meter's version

Fig. 1 Description of the terminal strip.

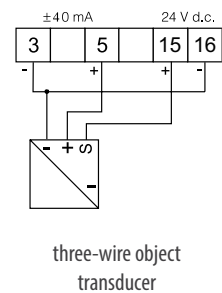
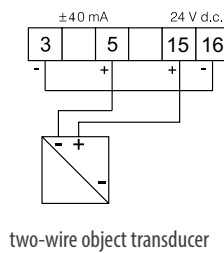
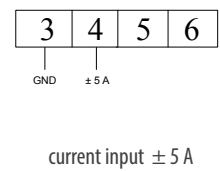
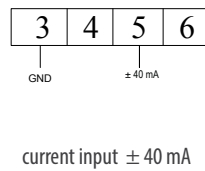
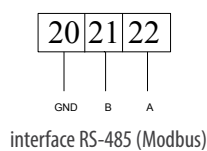
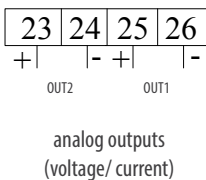
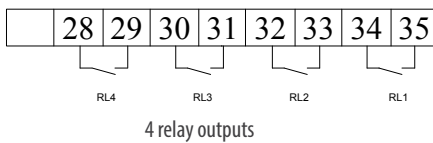
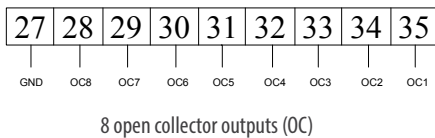
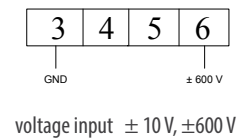
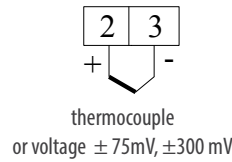
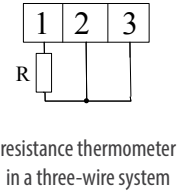
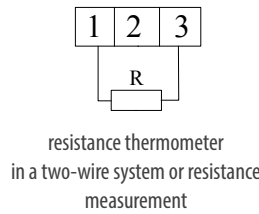


Fig.3. Connection way of output signals depending on the execution code.

Fig. 2 Connection way of input signals.

## ORDERING

NA5PLUS -	X	X	X	X	X	X	X	XX	X	X
<b>Bargraph colour:</b>										
3-colour (R, G, R+G)	T									
7-colour (R, G, B, R+G, R+B, G+B, R+G+B)	M									
<b>Display colour:</b>										
red	R									
green	G									
custom-made*	X									
<b>Input signal:</b>										
universal input		U								
custom-made*		X								
<b>Analog output:</b>										
lack				0						
0/4...20mA				1						
0...10 V				2						
2 x 0/4...20 mA				3						
2 x 0...10 V				4						
1 x 0/4...20 mA, 1 x 0...10 V				5						
<b>Additional output:</b>										
lack				0						
4 relays				4						
8 outputs of OC type				8						
<b>Supply voltage:</b>										
95...253 V a.c./d.c.				2						
20...40 V a.c., 20...60 V d.c.				4						
<b>Kind of terminals:</b>										
screwed plug-in sockets				0						
<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
acc. to customer's request										X

\* - after agreeing with the manufacturer

### Ordering example:

The code **NA5PLUS-TGU18200E0** means:

- NA5PLUS** - NA5PLUS meter
- T** - bargraph RG
- G** - green display colour
- U** - universal inputs
- 1** - current output 0/4...20 mA
- 8** - 8 outputs of OC type
- 2** - supply 95...253V a.c./ 90...300 V d.c.
- 00** - standard version
- E** - english version
- 0** - without extra requirements

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please visit our website:

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**LUMEL**  
EVERYTHING COUNTS

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