

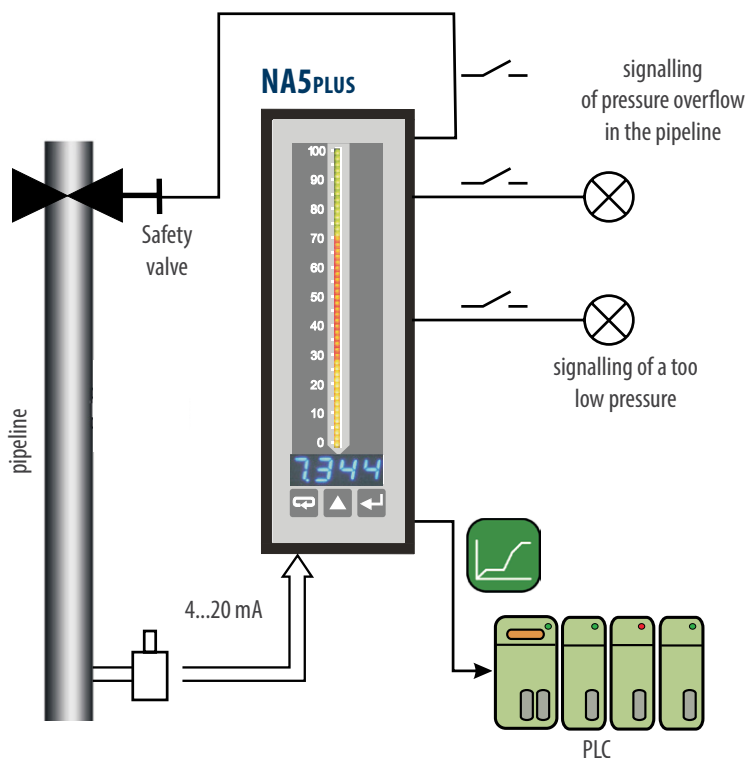
NA5PLUS - DIGITAL METER WITH BARGRAPH

- 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 $\leq \pm 1^\circ\text{C}$ compensation of cable resistance changes - when changing the resistance of wires $< 10\Omega$ the error is $\leq \pm 0.5^\circ\text{C}$ - when changing the resistance of wires $< 20\Omega$ the error is $\leq \pm 1^\circ\text{C}$	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.
J (Fe-CuNi)	-100...1100°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	0.2%	change in ambient temperature $\leq \pm 0.1\%$ of the range	Additional supply output	24 V d.c., maximal load 30 mA
E (NiCr-CuNi)	-100...850°C				
R (PtRh13-Pt)	0...1760°C	0.1%	change in ambient temperature $\leq \pm 0.1\%$ of the range		
S (PtRh10-Pt)	0...1760°C				
T (Cu-CuNi)	-50...400°C				
Resistance	0...10 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: $< 400\text{ }\mu\text{A}$
 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

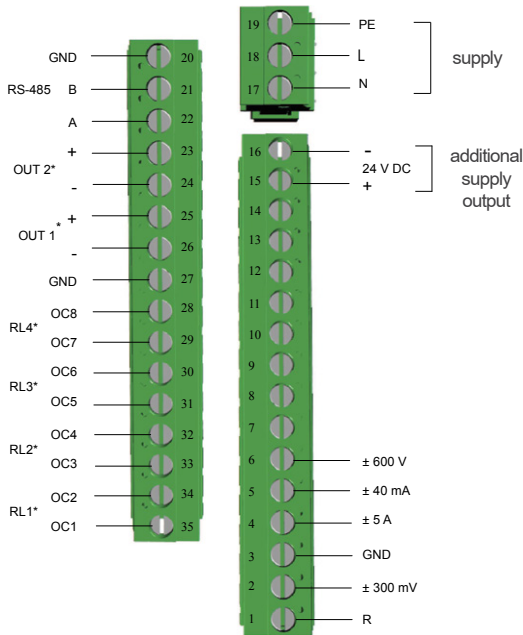
RATED OPERATING CONDITIONS

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: $-10...23...55^\circ\text{C}$	storage: $-25...85^\circ\text{C}$
Relative humidity	$< 95\%$	Condensation inadmissible

SAFETY AND COMPATIBILITY REQUIREMENTS

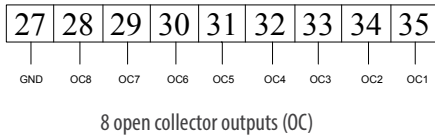
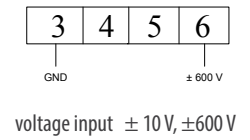
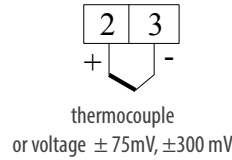
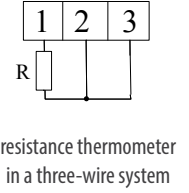
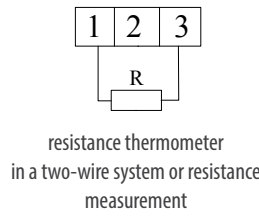
Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Pollution grade	2	acc. to EN 61010-1
Installation category	III	
Maximal phase-to-earth operating voltage	<ul style="list-style-type: none"> for input circuit: 600 V for supply circuit: 300 V for other circuits: 50 V 	
Altitude above sea level	$< 2000\text{ m}$	

ELECTRICAL CONNECTIONS

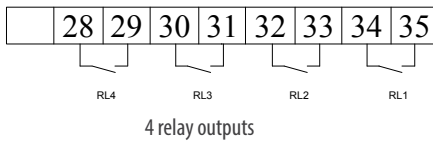


*-optional elements depend on the meter's version

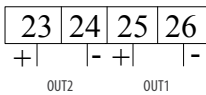
Fig. 1 Description of the terminal strip.



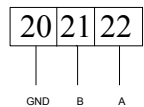
8 open collector outputs (OC)



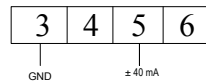
4 relay outputs



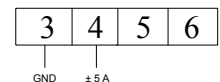
analog outputs (voltage/ current)



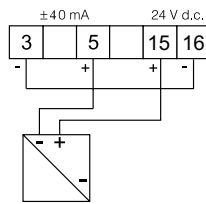
interface RS-485 (Modbus)



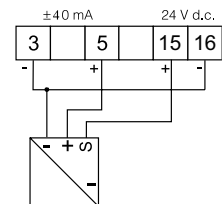
current input ± 40 mA



current input ± 5 A



two-wire object transducer



three-wire object transducer

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
Bargraph colour:										
3-colour (R, G, R+G)	T									
7-colour (R, G, B, R+G, R+B, G+B, R+G+B)	M									
Display colour:										
red	R									
green	G									
custom-made*	X									
Input signal:										
universal input		U								
custom-made*		X								
Analog output:										
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						
Additional output:										
lack				0						
4 relays				4						
8 outputs of OC type				8						
Supply voltage:										
95...253 V a.c./d.c.				2						
20...40 V a.c., 20...60 V d.c.				4						
Kind of terminals:										
screwed plug-in sockets				0						
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
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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NA5Plus19_en



LUMEL
EVERYTHING COUNTS

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