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.

Safety valve

signalling of pressure overflow in the pipeline

signalling of a too low pressure

pipeline

4...20 mA

PLC

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# TECHNICAL DATA

## FEATURES

- **MODBUS**
- **RTC**
- **IP50**
- **eCon**

## INPUTS

<table>
<thead>
<tr>
<th>Input type</th>
<th>Measurement range</th>
<th>Basic error</th>
<th>Additional error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt100</td>
<td>-200...850°C</td>
<td>0.1%</td>
<td>compensation of temperature changes of reference welds ( \leq \pm 1°C )</td>
</tr>
<tr>
<td>Pt500</td>
<td>-200...850°C</td>
<td>0.1%</td>
<td>compensation of cable resistance changes ( \leq \pm 0.5°C )</td>
</tr>
<tr>
<td>Pt1000</td>
<td>-200...850°C</td>
<td>0.1%</td>
<td>change in ambient temperature ( \leq \pm 0.1% ) of the range</td>
</tr>
<tr>
<td>J(Fe-CuNi)</td>
<td>-100...1100°C</td>
<td>0.1%</td>
<td>brand name of the weld ( \leq \pm 1°C )</td>
</tr>
<tr>
<td>K(NiCr-NiA)</td>
<td>-100...1370°C</td>
<td>0.1%</td>
<td>brand name of the weld ( \leq \pm 1°C )</td>
</tr>
<tr>
<td>N(Ni55-NiSi)</td>
<td>-100...1300°C</td>
<td>0.1%</td>
<td>brand name of the weld ( \leq \pm 1°C )</td>
</tr>
<tr>
<td>E(NiCr-CuNi)</td>
<td>-100...850°C</td>
<td>0.1%</td>
<td>brand name of the weld ( \leq \pm 1°C )</td>
</tr>
<tr>
<td>R(FeCr13-PK)</td>
<td>0...1760°C</td>
<td>0.1%</td>
<td>brand name of the weld ( \leq \pm 1°C )</td>
</tr>
<tr>
<td>S(FeCr10-PK)</td>
<td>0...1760°C</td>
<td>0.1%</td>
<td>brand name of the weld ( \leq \pm 1°C )</td>
</tr>
<tr>
<td>T(Cu-CuNi)</td>
<td>-50...400°C</td>
<td>0.1%</td>
<td>brand name of the weld ( \leq \pm 1°C )</td>
</tr>
</tbody>
</table>

## OUTPUTS

### Current analog output
1 or 2 programmable 0/4...20 mA; load resistance \( \leq 500 \Omega \)

### Voltage analog output
1 or 2 programmable 0-10 V; load resistance \( \geq 500 \Omega \)

### Relay output
4 relays, NO contact resistance, maximal load:
- voltage: 250 V a.c., 150 V d.c.
- current: 5 A 30 V d.c., 250 V a.c.

### Open collector (OC) type
8 outputs of OC type:
- voltage: 5...30 V d.c.
- current: 25 mA d.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

### Additional supply output
24 V d.c., maximal load 10 mA

## GALVANIC ISOLATION

- **RS 485**
- **Supply**

## EXTERNAL FEATURE

- **Readout field**
  - 4-digits LED display
  - 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 kg

### 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...50 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: acc. to EN 61000-6-2
- Noise emissions: 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

### Altitude above sea level
< 2000 m
NA5 PLUS - DIGITAL METER WITH BARGRAPH

ELECTRICAL CONNECTIONS

Fig. 1 Description of the terminal strip.

Fig. 2 Connection way of input signals.

Fig. 3 Connection way of output signals depending on the execution code.
**NA5PLUS** - **DIGITAL METER WITH BARGRAPH**

### ORDERING

<table>
<thead>
<tr>
<th>NA5plus</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

**Bargraph colour:**
- 3-colour (R, G, R+G) T
- 7-colour (R, G, B, R+G, R+R, R+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...10V 2
- 2 x 0/4...20mA 3
- 2 x 0...10V 4
- 1 x 0/4...20mA, 1 x 0...10V 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...40V a.c., 20...60V 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

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**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
  - 00 - standard version
  - E - English version
  - 0 - without extra requirements

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