

# NA3 DIGITAL METER WITH BARGRAPH

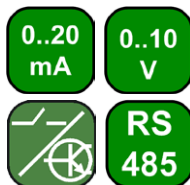
## FEATURES:



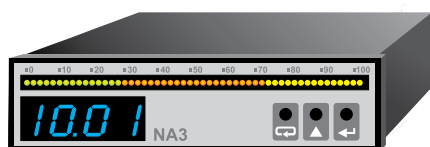
## INPUT:



## OUTPUTS:

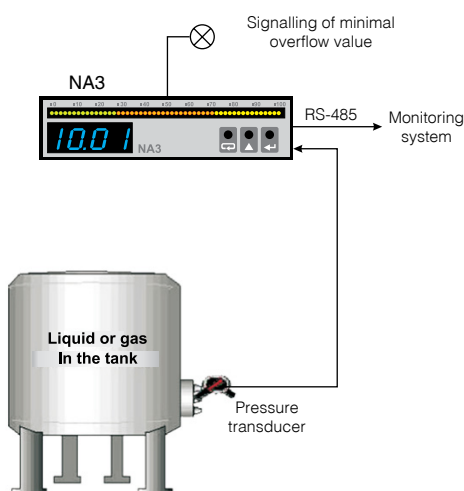


## GALVANIC ISOLATION:



- Universal input for the measurement of d.c. current, d.c. voltage and temperature,
- 3 or 7-colour bargraph,
- Programming of bargraph colour depending on the measured quantity value,
- Signalling of set alarm value overflow,
- Storage of measured signal in programmed time segments (750 samples),
- Current or voltage analog output,
- Communication in SCADA systems (RS485/Modbus interface RTU and ASCII).

## EXAMPLE OF APPLICATION



## INPUTS

| Kind of input   | Measuring range                                                                                                                  |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------|
| Pt100           | -200...850°C                                                                                                                     |
| Pt500           | -200...850°C                                                                                                                     |
| Pt1000          | -200...850°C                                                                                                                     |
| J (Fe-CuNi)     | -30...1100°C                                                                                                                     |
| K (NiCr-NiAl)   | -50...1370°C                                                                                                                     |
| N (NiCrSi-NiSi) | -100...1300°C                                                                                                                    |
| E (NiCr-CuNi)   | -20...850°C                                                                                                                      |
| R (PtRh13-Pt)   | 0...1760°C                                                                                                                       |
| S (PtRh10-Pt)   | 0...1760°C                                                                                                                       |
| T (Cu-CuNi)     | -50...400°C                                                                                                                      |
| Resistance      | 0...400 Ω, 0...4000 Ω                                                                                                            |
| Voltage         | 0...60 mV, Rinp. > 9 MΩ<br>0...3 V, Rinp. > 4 MΩ<br>0...10 V, Rinp. > 4 MΩ<br>0...200 V, Rinp. > 4 MΩ<br>0...600 V, Rinp. > 4 MΩ |
| Current         | 0...5 mA, Rinp. = 4 Ω<br>0...20 mA, Rinp. = 4 Ω<br>0...2 A, Rinp. = 10 mΩ ± 10%<br>0...5 A, Rinp. = 10 mΩ ± 10%                  |

## OUTPUTS

| Kind of output           | Features                                                                                                                                                                                                 |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analog output            | • galvanic isolation 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             | • 1 or 2 relays; NOC voltageless contacts, maximal load-carrying capacity:<br>- voltage: 250 V a.c., 150 V d.c.<br>- current: 5 A 30 V d.c., 250 V a.c.<br>- 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...24 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.                                         |

## EXTERNAL FEATURES

|                                     |                        |                                                                                                                                                                                                       |
|-------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Readout field                       | NA3-F                  | 4 LED displays with 7 segments, digits of 7 mm high, indication range -1999...9999<br>multicoloured bargraph of 82 mm long, 45 segments in a 3-colour version or with 25 segments in 7-colour version |
| Weight                              | < 0.3 kg               |                                                                                                                                                                                                       |
| Overall dimensions                  | 96 × 24 × 125 mm       | panel cut-out: 92 <sup>+0,5</sup> × 22.2 <sup>+0,5</sup> mm                                                                                                                                           |
| Protection grade (acc. to EN 60529) | IP40 from frontal side | IP20 from terminal side                                                                                                                                                                               |

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## RATED OPERATING CONDITIONS

|                   |                                              |                           |
|-------------------|----------------------------------------------|---------------------------|
| Supply voltage    | 95...253 V a.c./d.c.,<br>20...40 V a.c./d.c. | Power consumption < 8 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 |
| Safety requirements           |                 | acc. to EN 61010-1   |

TABLE 1. EXECUTION CODE:

|                                                                                                                                                             |   |   |   |   |   |   |   |   |    |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|----|-------------|
| NA3 -                                                                                                                                                       | X | X | X | X | X | X | X | X | XX | X           |
| <b>Meter version:</b><br>with a bargraph and digital display                                                                                                | F |   |   |   |   |   |   |   |    |             |
| <b>Bargraph colour:</b><br>3-colour bargraph (R, G, R+G)<br>7-colour bargraph<br>(R, G, B, R+G, R+B, G+B, R+G+B)                                            |   | T |   |   |   |   |   |   |    |             |
| <b>Display colour:</b><br>red<br>green                                                                                                                      |   |   | R |   |   |   |   |   |    |             |
| <b>Input signal:</b><br>universal input                                                                                                                     |   |   |   | U |   |   |   |   |    |             |
| <b>Analog output signal:</b><br>lack<br>current programmable 0/4...20 mA<br>voltage programmable 0...10 V                                                   |   |   |   |   |   |   | 0 | 1 | 2  |             |
| <b>Additional output:</b><br>lack<br>RS-485 digital output + 1 relay<br>RS-485 digital output + 1 output of OC type<br>2 relays*<br>2 outputs of OC type    |   |   |   |   |   |   | 0 | 1 | 2  | 3           |
| <b>Supply:</b><br>95...253 V a.c./d.c.<br>20...40 V a.c./d.c.<br>on order *                                                                                 |   |   |   |   |   |   |   |   |    | X           |
| <b>Kind of terminals:</b><br>socket-screw plug                                                                                                              |   |   |   |   |   |   |   |   |    | 0           |
| <b>Version:</b><br>standard<br>custom-made*                                                                                                                 |   |   |   |   |   |   |   |   |    | 00<br>XX    |
| <b>Acceptance tests:</b><br>without an extra quality inspection certificate<br>with an extra quality inspection certificate<br>acc. to customers's request* |   |   |   |   |   |   |   |   |    | 8<br>7<br>X |

## CONNECTION DIAGRAMS

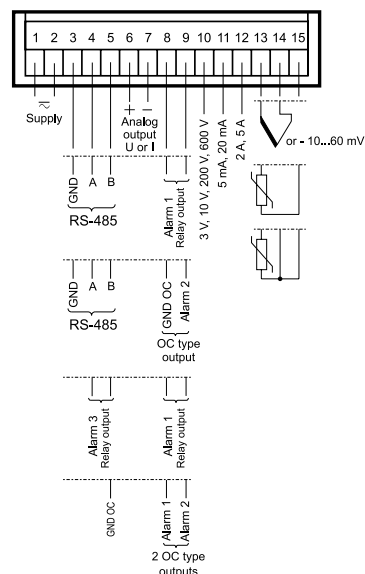


Fig. 1 External connections of the NA3 meter.

\* - after agreeing with the manufacturer

### Ordering Example:

The code: **NA3 - F T R U 0 1 1 0 00 8** means:

- NA3** - digital meter with bargraph of NA3 type,
- F** - with a bargraph and digital display,
- T** - with a 3-colour display,
- R** - red display colour,
- U** - universal input,
- 0** - lack of analog output signal,
- 1** - additional output: RS-485 digital output + 1 relay,
- 1** - supply voltage: 95...253 V a.c./d.c.,
- 0** - socket-screw plug,
- 00** - standard version,
- 8** - without extra quality requirements.

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