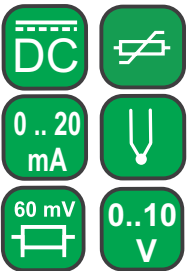


# NA6 DIGITAL METER WITH BARGRAPH

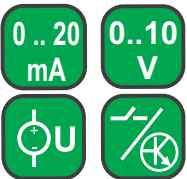
## FEATURES:



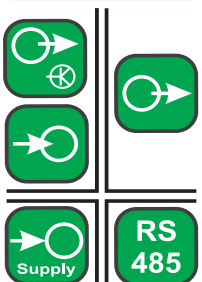
## INPUTS:



## OUTPUTS:



## GALVANIC ISOLATION:



Lack of galvanic isolation between channels

**Export department:**  
+48 68 45 75 139 / 305 / 321 / 386  
**Fax:** +48 68 32 54 091  
**e-mail:** export@lumel.com.pl

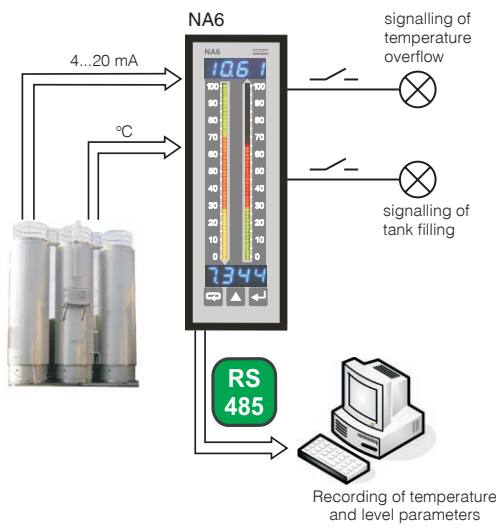
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ul. Słubicka 1  
65-127 Zielona Góra  
POLAND  
**WWW.LUMEL.COM.PL**



- 2 independent measuring channels with an universal input,
- 3 or 7-colour bargraph with programmable colour switching over,
- Recording of 750 measuring segments, released temporary,
- Programmable indication characteristic and bargraph magnifier,
- Up to 8 programmable alarm outputs,
- Mathematical operations on channels,
- Communication in SCADA systems (RS485/Modbus interface),
- Conversion of measured quantity into an analog standard signal for automation systems.

## EXAMPLE OF APPLICATION

Measurement of level and temperature in a tank



## INPUTS

| Kind of input   | Measuring range                                       | Measurement subrange   |
|-----------------|---|--|
| 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<br>± 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<br>± 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:<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...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 20 mA   |

## EXTERNAL FEATURES

|                                     |                           |   |
|-------------------------------------|---------------------------|---|
| Readout field                       | <b>2 × 4 LED displays</b> | 7-segment digits of 7 mm high, measuring range -1999...9999   |
|                                     | <b>bargraph</b>           | bargraph of 88 mm length:<br>- 48 segments in three-colour version<br>- 27 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.,<br>20...40 V a.c./d.c. | Power consumption < 13 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:

|   |   |    |   |   |   |   |   |   |    |    |
|---|---|----|---|---|---|---|---|---|----|----|
| NA6 -   | X | XX | X | X | X | X | X | X | XX | X  |
| <b>Bargraph colour:</b>                         |   |    |   |   |   |   |   |   |    |    |
| three-colour (R, G, R+G)                        |   | T  |   |   |   |   |   |   |    |    |
| seven-colour (R, G, B, R+G, R+B, G+B, R+G+B)    |   | M  |   |   |   |   |   |   |    |    |
| <b>Display colour on channels 1 and 2:</b>      |   |    |   |   |   |   |   |   |    |    |
| without display*                                |   | 00 |   |   |   |   |   |   |    |    |
| red-red   |   | RR |   |   |   |   |   |   |    |    |
| red-green                                       |   | RG |   |   |   |   |   |   |    |    |
| red-blue  |   | RB |   |   |   |   |   |   |    |    |
| green-red                                       |   | GR |   |   |   |   |   |   |    |    |
| green-green                                     |   | GG |   |   |   |   |   |   |    |    |
| green-blue                                      |   | GB |   |   |   |   |   |   |    |    |
| blue-red  |   | BR |   |   |   |   |   |   |    |    |
| blue-green                                      |   | BG |   |   |   |   |   |   |    |    |
| blue-blue                                       |   | BB |   |   |   |   |   |   |    |    |
| <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 output signal                            |   |    |   |   |   |   |   |   |    | 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: **NA6 - M GB U 1 1 4 1 0 0 8** means:  
**NA6** - digital meter with bargraph of NA6 type,  
**M** - with a seven-color bargraph,  
**GB** - green-blue display color on channel 1 and 2,  
**U** - with an universal input signal,  
**1** - analog programmable output signal: 0/4...20 mA,  
**1** - RS-485 output signal,  
**4** - with additional 4 relays digital output signal,  
**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

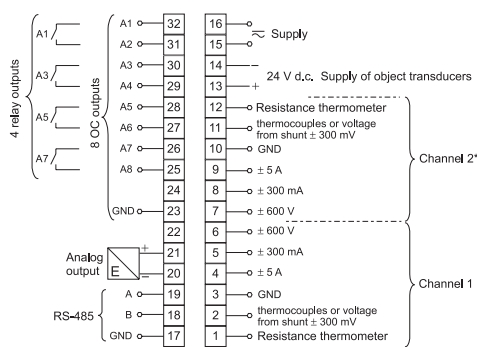


Fig. 1 Description of the terminal strip.

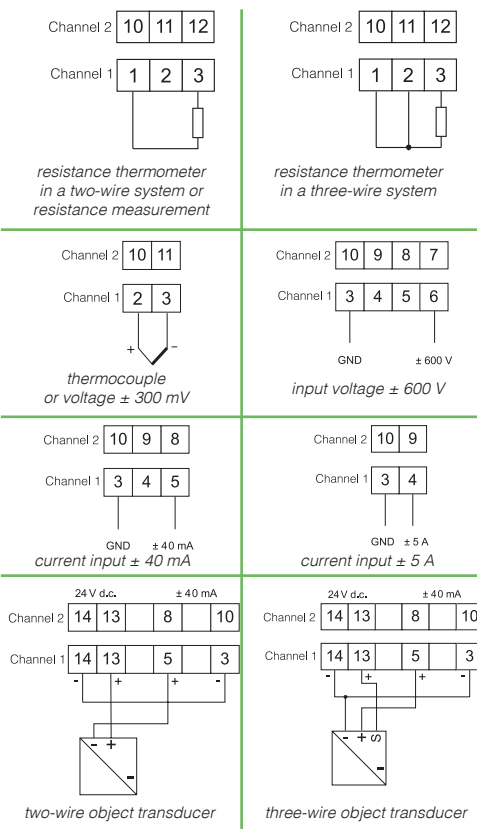


Fig. 2 Connection way of input signals.

### SEE ALSO:



Temperature and humidity transducers P18 i P18L types.



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



Visualization programs enabling to build distributed control and measuring systems like: LUMEL-CONTROL, LUMEL-PROCES, LUMEL3000.



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**Export department:**  
 +48 68 45 75 139 /305/  
 321 / 386

**Fax:** +48 68 32 54 091  
**e-mail:** [export@lumel.com.pl](mailto:export@lumel.com.pl)

LUMEL S.A.  
 ul. Słubicka 1  
 65-127 Zielona Góra  
 POLAND  
[WWW.LUMEL.COM.PL](http://WWW.LUMEL.COM.PL)