

# NA2 DIGITAL METERS WITH BARGRAPH

## FEATURES:

**MOD BUS** Password protection

Linear char. **IP50**

## INPUTS:

**DC**

**0...20 mA**

**60 mV** Password protection

**0..10 V**

## OUTPUTS:

**0..20 mA** **0..10 V**

**2x** **RS 485**

## GALVANIC ISOLATION:

**Supply** **RS 485**

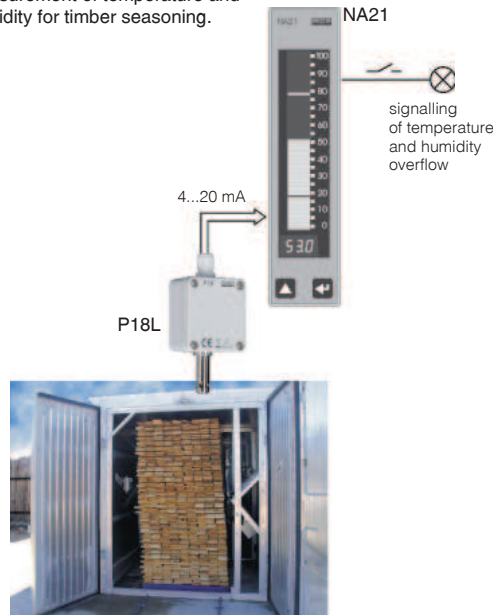
Lack of galvanic isolation between channels



- Universal input with range of temperature sensors.
- Measurement of d.c. voltage or d.c. current.
- High resolution of bargraphs: 100 segments (NA21), 64 segments (NA22).
- Conversion of measured values into a standard current or voltage signal.
- Communication in SCADA systems (interfejs RS485/Modbus),
- Signalling of set alarm quantity overflow.

## EXAMPLE OF APPLICATION

Measurement of temperature and humidity for timber seasoning.



## INPUTS

Kind of input/measuring range	Basic error in % of range ± 1 digit	Code
0...60 mV	0.2%	<b>01</b>
0...150 mV		<b>02</b>
0...200 mV		<b>03</b>
0...300 mV		<b>04</b>
0...1 V		<b>05</b>
0...2 V		<b>06</b>
0...10 V		<b>07</b>
0...20 V		<b>08</b>
0...200 V		<b>09</b>
0...20 mA		<b>10</b>
0...200 mA		<b>11</b>
0...2 A		<b>12</b>
Pt100 (-200...850)°C	0.1%	Programmed ranges by means of meter push-buttons. Write code <b>00</b> in order.
Ni100 (-60...180)°C	0.2%	
Ni100 (-50...180)°C	0.2%	
J (Fe-CuNi) -20...999°C	0.1%	
K (NiCr-NiAl) -50...999°C	0.1%	
N (NiCrSi-NiSi) -50...999°C	0.1%	
E (NiCr-CuNi) -20...800°C	0.1%	
R (PtRh13-Pt) -50...999°C	0.5%	
S (PtRh10-Pt) -50...999°C	0.5%	
-5...60 mV, measuring of voltage	0.1%	
0...400 Ω, pot. transmitter	0.1%	

## OUTPUTS

Kind of output	Features
Relay output	<ul style="list-style-type: none"> <li>• electromagnetic relay; NOC voltageless contacts, maximal load-carrying capacity:                             <ul style="list-style-type: none"> <li>- voltage: 250 V a.c. or 220 V d.c.</li> <li>- current: 1 A d.c., a.c.</li> <li>- resistance load: 125 VA, 60 W</li> </ul> </li> </ul>
Programmable analog output	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
Digital	<ul style="list-style-type: none"> <li>• <b>interface type:</b> RS-485; <b>transmission protocol:</b> MODBUS; <b>baud rate:</b> 2400, 4800, 9600 bit/s.</li> </ul>
Additional supply output	<ul style="list-style-type: none"> <li>• 24 V d.c., maximal load 30 mA</li> </ul>

## EXTERNAL FEATURES

	NA21	NA22
Readout field	<b>fluorescent display;</b> digits of 5 mm high, indication range -199...999 <b>bargraph</b> of 84 mm long (100 segments) green-blue, bargraph accuracy: ± 1 segment	<b>2 displays with 3 LED digit each;</b> digits of 7.6 mm high, indication range -199...999 <b>2 bargraphs</b> of 92 mm long (64 segments), red, green or red-green; bargraph accuracy: ± 1 segment
Weight	< 0.7 kg	
Overall dimensions	36 × 144 × 130 mm	panel cut-out: 34 <sup>+0.6</sup> × 137 <sup>+1</sup> mm
Protection grade (acc. to EN 60529)	IP50 from frontal side	IP20 from terminal side

**Export department:**  
**English:** +48 68 32 95 302 / 321 / 276 / 386 / 233  
**German:** +48 68 32 95 305  
**French:** +48 68 32 95 304  
**Russian:** +48 68 32 95 321  
**Fax:** +48 68 32 54 091  
**e-mail:** export@lumel.com.pl  
 LUMEL S.A.  
 ul. Sulechowska 1  
 65-022 Zielona Góra  
 POLAND  
**WWW.LUMEL.COM.PL**

### RATED OPERATING CONDITIONS

Supply voltage	95...253 V a.c./d.c., 20...40 V a.c./d.c.	Power consumption < 10 VA
Temperature	ambient: -10...23...55°C	Storage: -20...70°C
Relative humidity	< 75%	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	300 V	

### CONNECTION DIAGRAMS

**NA21 meter**

**NA22 meter**

**Way of input signal connection**

Description of the terminal strip

thermocouple  
or -5...60 mV

resistance thermometer  
in a two-wire system

resistance thermometer  
in a three-wire system

potentiometric  
transmitter

**TABLE 1. EXECUTION CODE:**

NA2 -	XX	X	XX	X	X	X	X
<b>Number of channels and display colour:</b>							
one channel <sup>1)</sup> - blue-green	1B						
two channels <sup>1)</sup> - green	2G						
two channels <sup>1)</sup> - red	2R						
two channels <sup>1)</sup> - red+ green	2D						
<b>Input:</b>							
d.c. current		I					
d.c. voltage		U					
temperature		T					
<b>Measuring range:</b>							
write the range code from the „INPUTS“ table on order <sup>2)</sup>	XX						
	99						
<b>Alarm output:</b>							
1 relay per channel				1			
2 relays per channel				2			
<b>Output:</b>							
without output				0			
current analog output (0/4...20 mA)				1			
voltage analog output (0...10 V)				2			
RS-485 interface (LUMBUS transmission protocol)				3			
RS-485 interface (MODBUS transmission protocol)				4			
<b>Supply:</b>							
95...253 V a.c./d.c.				1			
20...40 V a.c./d.c.				2			
<b>Acceptance tests:</b>							
without an extra quality inspection certificate						8	
with an extra quality inspection certificate						7	
acc. to customer's request <sup>2)</sup>						X	

1) - One channel - fluorescent display, two-channel-LED displays  
2) - after agreeing with the manufacturer

#### Ordering Example:

The code: **NA2 - 1B U 01 1 2 1 8** means:  
**NA2** - digital meter with bargraph of NA2 type,  
**1B** - one-channel meter with a blue-green display,  
**U** - input: d.c. voltage,  
**01** - measuring range: 0...60 mV,  
**1** - alarm output: 1 relay per channel,  
**2** - output: voltage analog output (0...10 V),  
**1** - supply voltage: 95...253 V a.c./d.c.,  
**8** - without an extra quality inspection certificate.

#### SEE ALSO:



Temperature and humidity transducers P18 i P18L types.



Programmable transducer of temperature, resistance, voltage from shunt and standard signals - P20



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



For more information about LUMEL's products please visit our website:  
[www.lumel.com.pl](http://www.lumel.com.pl)

#### Export department:

**English:** +48 68 32 95  
 302 / 321 / 276 / 386 / 233  
**German:** +48 68 32 95 305  
**French:** +48 68 32 95 304  
**Russian:** +48 68 32 95 321  
**Fax:** +48 68 32 54 091  
**e-mail:** export@lumel.com.pl

LUMEL S.A.  
 ul. Sulechowska 1  
 65-022 Zielona Góra  
 POLAND  
**WWW.LUMEL.COM.PL**