Nokeval

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2081 Panelmeter for BCD, Gray and Binary inputs

- 5-digit display
- BCD, Gray and Binary inputs selectable
- Red or green display
- Configuration easy via front panel keys
- Easily changeable for other sensor inputs
- Power supply 85..240 VAC or 12..32VDC/ 24 VAC
- Front panel protection IP65

The panelmeter 2081 is designed for BCD, Gray, and Binary code inputs. Input selection is easy via front panel keys. There are two power supply alternatives, 85..240 VAC and 12..32 VDC or 24 VAC, both galvanically isolated from inputs. The panelmeter generates power supply of 24 VDC, 100 mA for e.g. the closing contacts of the PLC. Brightness of the display is selectable. Front panel protection is IP65.
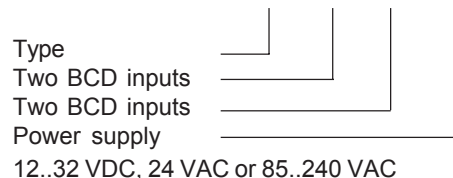
The panelmeter series 2000 is very flexible and easy to modify by changing input cards for different kinds of sensors, such as temperature sensors, pulse sensors, serial inputs etc. The modification does not require any calibration. The optional cards are the same for all the instruments in this product family. Each panelmeter type has its own datasheet.

Technical specifications:

Display:	BCD code	5 digits
	Gray code	0..65535
	Binary code	0..65535
Display colour	bright red (or green) LED, brightness selectable	
Digit height	14.5 mm	

Input	1 = 5-24 VDC, 0 = <1V
Input resistance	>10kΩ
Operating temp.	-10..+60 °C
Terminals	removable, 1,5 mm²
Supply for input loop	24 VDC, max 150 mA
Power supply	85..240 VAC or 12..32 VDC/ 24 VAC
Front panel protection	IP65, with a rubber gasket
Weight	240 g

How to order: **2081-BCD-BCD-24VDC**

Type
Two BCD inputs
Two BCD inputs
Power supply
12..32 VDC, 24 VAC or 85..240 VAC

The basic panelmeter has 1 BCD code or a 4-bit Gray or Binary input. More inputs with optional cards, two in each. The example above has 5 BCD inputs.

Optional cards:
Two BCD-inputs   2000-BCD
(When ordering a panelmeter, the "2000" of the card is left out.)

The panelmeter is also available with a green LED display: please specify 2081GR in the order code.

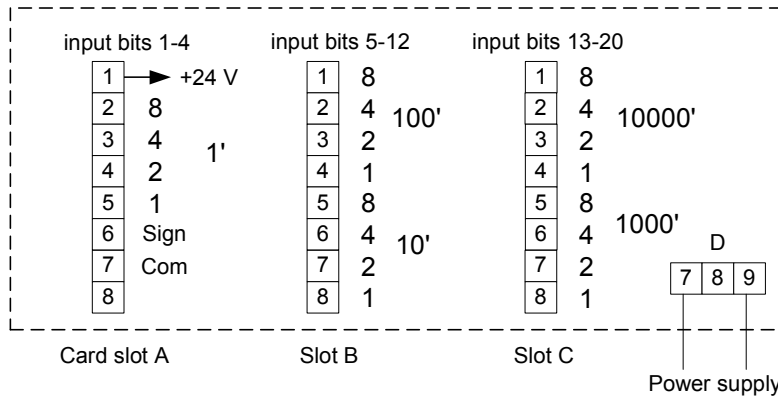| Dec.	4-bit Binary	4-bit Gray Code	Display
0	MSB 0 0 0 0 LSB	MSB 0 0 0 0 LSB	0
1	0 0 0 1	0 0 0 1	1
2	0 0 1 0	0 0 1 1	2
3	0 0 1 1	0 0 1 0	3
4	0 1 0 0	0 1 1 0	4
5	0 1 0 1	0 1 1 1	5
6	0 1 1 0	0 1 0 1	6
7	0 1 1 1	0 1 0 0	7

Applications:
Binary code is simple to use from PLC I/O-lines. Gray code changes only one bit at a time. The most common Gray code application is angle sensors (aerials etc.)

BCD-Code		
Number	Code	Example
1	8, 4, 2, 1	0001= 1
2	8, 4, 2, 1	0010= 2
3	8, 4, 2, 1	0011= 3
4	8, 4, 2, 1	0100= 4
5	8, 4, 2, 1	0101= 5
6	8, 4, 2, 1	0110= 6

Number 9 in BCD code is selected as 1001
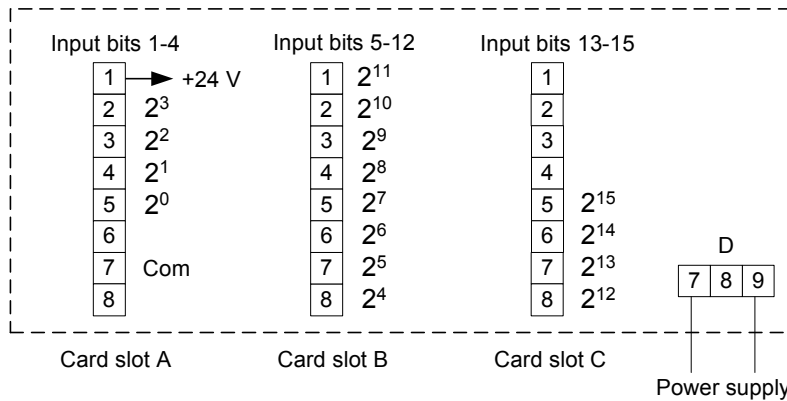**i.e. 1001 = 8 + _ + _ + 1 = 9**

Terminal connections:

BCD code connection

input bits 1-4		input bits 5-12		input bits 13-20	
1	→ +24 V	1	8	1	8
2	8	2	4	2	4
3	4	3	2	3	2
4	2	4	1	4	1
5	1	5	8	5	8
6	Sign	6	4	6	4
7	Com	7	2	7	2
8		8	1	8	1

1' (for input bits 1-4)
100' and 10' (for input bits 5-12)
10000' and 1000' (for input bits 13-20)

Card slot A   Slot B   Slot C

D
| 7 | 8 | 9 |

Power supply

A number is displayed by connecting voltage (+24 V) to the appropriate terminals. For example the reading 123 appears by connecting 24 V to terminals A5, A4, B7 and B4. Voltage supply 24 V, max 100mA, terminals 1(+) and 7 (-).

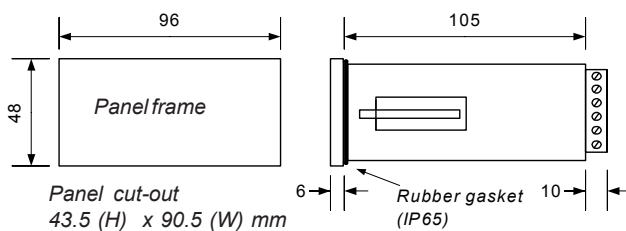*Power supply 85..240 VAC or 12..32 VDC / 24VAC. No polarity.*

Binary and Gray code connection

Input bits 1-4		Input bits 5-12		Input bits 13-15	
1	→ +24 V	1	2^{11}	1	
2	2^3	2	2^{10}	2	
3	2^2	3	2^9	3	
4	2^1	4	2^8	4	
5	2^0	5	2^7	5	2^{15}
6		6	2^6	6	2^{14}
7	Com	7	2^5	7	2^{13}
8		8	2^4	8	2^{12}

Card slot A   Card slot B   Card slot C

D
| 7 | 8 | 9 |

Power supply

The bit is '1' when voltage is 5-24V and '0' when voltage is 0V. For example binary value 123 is selected by connecting '1' to connectors A5, A4, A2, B7, B6, B7 and B8. Voltage supply 24 V, max 100mA, terminals 1(+) and 7 (-).

Power supply 85..240 VAC or 12..32 VDC / 24VAC. No polarity.

Dimensions:

96

48

Panel frame

Panel cut-out 43.5 (H) x 90.5 (W) mm

105

6

Rubber gasket (IP65)

10

Card slot A is for sensor inputs and slots B and C for optional cards.

Adding optional cards is fast and simple without any tools.

Push down and pull

A   B   C

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