Digital panelmeter DP 4824A

Voltage - current - resistance - Pt100 - Pt1000

all in one

Features

- Multipurpose input
  0/4 ... 20mA, 0 ... 2.5V, 0/2 ... 10V DC
  and potentiometer
- Measuring input for RTD sensors
  Pt100 -100.0 ... 199.9 / 0...600°C switch selectable
  Pt1000 -50.0 ... 100.0°C
- Adjustable display range (multipurpose type only)
  -1999 ... +1999
  (no extern signal source necessary !)
- Decimal point switch selectable
- Display LED red or green 7.6mm
- 20-turn adjustable trimmer for initial value and span
- Supply voltage 10.8 ... 30V DC and 17 ... 30V AC
  with isolation.
- Front protection IP54 (IP65 optional)
- Plug-in screw terminals

General information

Digital panelmeter DP4824A can be used for measurement applications in process technology and automation. The small cases are suitable for installation in control units and panel boards. The universal conception of the multipurpose input allows indication of all physical dimensions, which can be converted to 0...20mA, 4...20mA, 0...10V or 2...10V DC. The display range can be adjusted without an external signal source. Other models of the DP4824A are for temperature measurement with Pt100 and Pt1000 sensors. The input-configuration is switch selectable from the side, without opening the case.
Input and supply voltage are isolated.

Technical data

Power supply

Supply voltage	:	10.8 ... 30V DC, 17 ... 30V AC /47-63Hz
Power consumption	:	ca. 1.2VA
Working temperature	:	-10 ... +60°C
Test voltage	:	500V DC input / supply voltage
CE - conformity	:	EN 50081-1, EN 50082-2

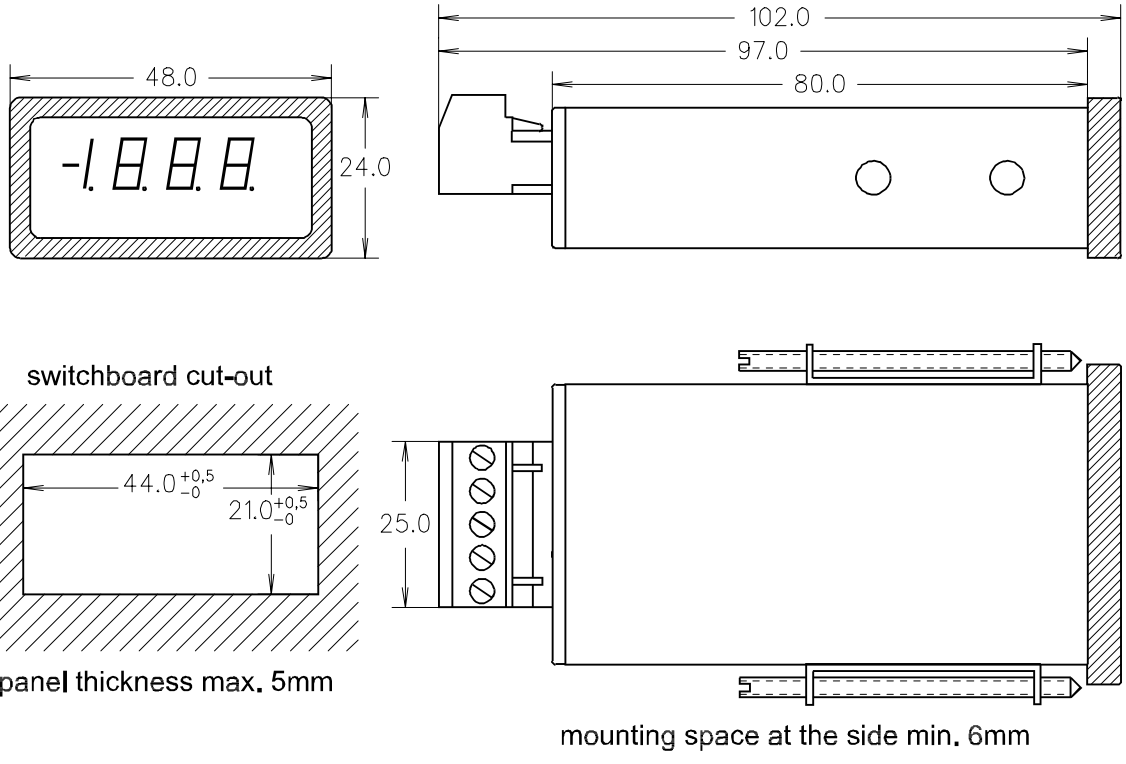
Input data (multipurpose device)

Voltage input	:	Ri = 40kΩ (max. 48V)
Current input	:	Ri = 125Ω (max. 60mA)
Pt100 measuring current	:	approx. 1mA (no self heating)
Pt1000 measuring current	:	approx. 0.2mA (no self heating)

Accuracy (standard device)

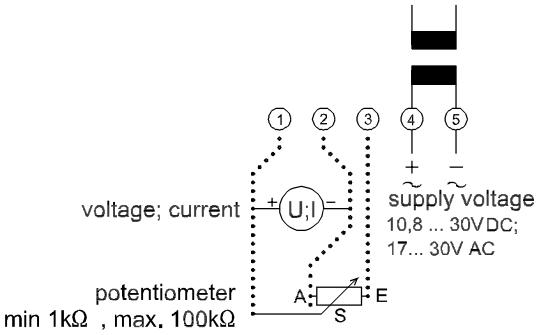
Indication error	:	< 0.05% +/- 1 digit
Temperature coefficient	:	< 50ppm/K
Display	:	3½ digit, red or green 7.6mm
Conversion rate	:	approx. 2/s
Range	:	3999 digit
Decimal point	:	switch selectable
Overflow indicator	:	flashing “1" with pos. / neg. sign
Case		slide-in unit according to DIN 43700 of Noryl GFN 2 SE 1
Weight	:	0.1kg
Connection	:	plug-in screw terminals, max 1.5mm², wire
Protection	:	Front IP54 (optional IP65), terminal IP20 finger safe, acc. German VBG4.

Dimensions

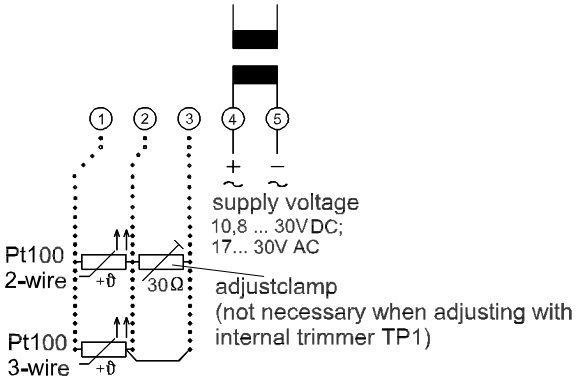


Connection diagram

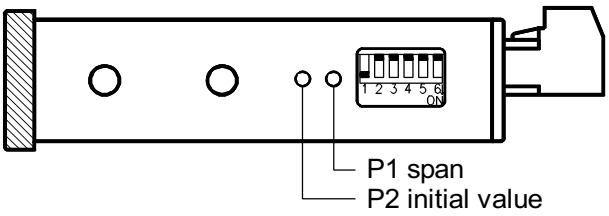
Multipurpose device



Pt100/Pt1000 device



Side view



DIP-switch function S4...S6
S1...S3 look at chart input configuration
S4 ON 4. Decimal point *(1.888)*
S5 ON 3. Decimal point *(18.88)*
S6 ON 2. Decimal point *(188.8)*

Input configuration (multipurpose device)

Input	S1	S2	S3
0 ... 2.5V DC	OFF	OFF	OFF
2 ... 10V DC	ON	OFF	ON
0 ... 10V DC	ON	OFF	OFF
4 ... 20mA	OFF	ON	ON
0 ... 20mA	OFF	ON	OFF
0 ... 1/100kΩ	OFF	OFF	OFF

Input configuration (Pt100 type)

Measuring range (°C)	S1	S2	S6
-100.0 ... 199.9	ON	OFF	ON
0 ... 600	OFF	ON	OFF
switch S3, S4, S5 off			

Adjustment-range

	Multipurpose	Temperature (Pt100/Pt1000)
Final value	-1999...1999 Digit	± 10 / 5°C
Span	3999	90 ... 110%

A special adjust-instruction for the multipurpose device is a part of delivery.

Order code

	1.		2.		3.		4.
DP 4824A -		**-**		**-**		**-**	

1.

Display
1: LED 7.6mm red
2: LED 7.6mm green

2.

Measuring range	adjustment range
10: multi purpose device DIP-switch for: 0 ... 10V DC, 2 ... 10V DC, 0 ... 2.5V DC, 0 ... 20mA, 4 ... 20mA or Potentiometer min. 1kΩ, max. 100kΩ	display : initial value and span adjustable by customer.*
50: Pt100 device DIP-switch for range: -100.0...199.9°C or 0...600°C	display: initial adjust ± 10°C final adjust 90-110%
55: Pt1000 device -50.0...100.0°C	display: initial adjust ± 5°C final adjust 90-110%
*Custom measuring ranges and factory adjustment without any charge on request	

3.

Front protection
1: IP54
2: IP65

4.

Unity dimension on the front panel
e.g. °C
°F
µS/cm
min^{-1}
bar
hPa
ppm
%
A
V

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Adjustment instruction Digital Panelmeter DP 4824A and DP4848A
(multi purpose device)

To adjust the DP4824A you don´t need any measuring instrument or simulator. Only a 2mm-screwdriver is necessary.
There are two kinds of measurement ranges to adjust:

1. Display initial value = 0 ⇒ please proceed to the item A).
2. Display initial value ≠ 0 ⇒ please proceed to the item B).

A). Display initial value = 0

① Disconnect signal wiring from terminal 1... 3.
Connect supply voltage and Power up.

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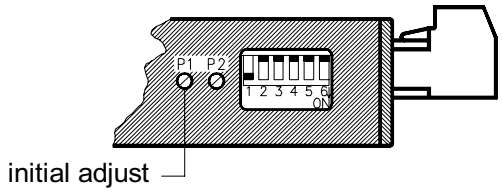
② Display zero adjust

Input configuration

S1	S2	S3
ON	OFF	OFF

Adjust display with P1 to 000.



initial adjust

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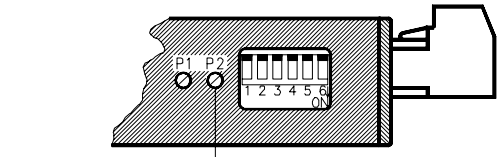
③ Display final value (span) adjust

Input configuration

S1	S2	S3
OFF	OFF	OFF

Link between terminal 1 and 3.
Adjust display with P2 to final value.



span adjust

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④ Configurate input with DIP-switch S1 ... S3 to the wanted signal (see table)
Activate decimal point with DIP-switch S4 ... S6 (if needed)
Connect the wires to terminals 1... 3

Input	S1	S2	S3
0...2.5V DC	OFF	OFF	OFF
2...10V DC	ON	OFF	ON
0...10V DC	ON	OFF	OFF
4...20mA	OFF	ON	ON
0...20mA	OFF	ON	OFF
0...1/100kΩ	OFF	OFF	OFF

Function of DIP-switch S4-S6
S4=ON ⇒ display 1.888
S5=ON ⇒ display 18.88
S6=ON ⇒ display 188.8

⑤ End of adjustment.

B). Display initial value ≠ 0

① See page 1

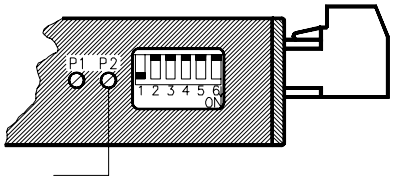
② See page 1

③ Adjust display range

Input configuration

S1	S2	S3
ON	OFF	OFF

Link between terminal 1 and 3.
Adjust display with P2 to ¼ of the span
(see example).

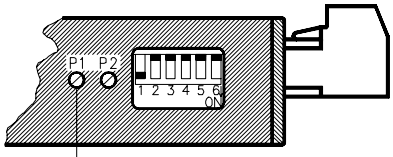


adjust ¼ of the span

Example: Display range -120.0 ... +180.0 ⇒ span = 3000 digit ⇒
adjust ¼ of the span = 3000/4 = 750 digit

④ Adjust initial value

Input configuration as point 3
remove link from clamp 1 and 3
adjust display with P1 to initial value
(for example -1200 digit).



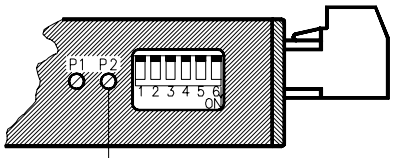
initial value adjust

⑤ Check display final value

input configuration

S1	S2	S3
OFF	OFF	OFF

link between terminal 1 and 3
check final value (for example 1800)
and if necessary fine adjust with P2 .



span adjust

⑥ Repeat step ④ and ⑤ until no more correction is necessary.

⑦ Configurate input with DIP-switch S1 ... S3 to the wanted input signal (see chart page 1)
activate decimal point with DIP-switch S4 ... S6 (if needed)
connect the wires to terminal 1... 3

⑧ End of adjustment