Digital Indicator pem-ps

General Description

By means of its film-sealed front panel key pad the processor controlled digital indicator pem-ps can be set to an ammeter, voltmeter or Pt100 input and also offers the possibility of selecting two alarm outputs. The display can be freely adjusted to the selected input. As an option further units can be operated from the freely adjustable analog output. (pem-ps-sa)

All functions and settings can be changed by the operator via the front panel key. Due to its variable inputs this display replaces a variety of conventional digital indicators, thus saving on inventory costs for differing types. The 4 1/2 digit red 7-segment display of the pem-ps is housed in a DIN case and protected by a splashproof film-sealed key pad.

Indicator pem-ps

Features

- two relay alarm outputs
- 4 1/2 digits display
- all functions freely adjustable
- all settings saved on loss of power
- unit plate replaceable
- MAX/MIN hold
- plug-in terminal block connections
- 0/4-20mA analog output (option -sa)

Specification

Style	panel mount case	96x48x130mm
	panel cutout	92,5x45mm tol. -0,5mm
Protection code	front/rear	IP65/IP20
Ambient	operating temp.	0...+50°C
	shelf temp.	-20...+70°C
	humidity	0...95% no condensate
Inputs	Pt100	4-wire, range -100...+600°C
	0/4-20mA	R_i=50Ω, range 0...±22mA
	0-10V	R_i>1MΩ, range 0...±11V
Display	7-segment LED red	-19999...+19999, 13mm tall
Accuracy		0,1% ±1 digit, 15 Bit resolution+sign
	temperature drift	<0,003%/K of input range
Alarm outputs	2 alarms	250V/3A AC double throw switch
Sensor supply	short-circuit-proof	approx. 20V max. 25mA
Supply	AC	230V AC 50Hz app. 7VA, 115V AC, 24V AC
	DC	24V DC ±10% max. 0,3A
Options		
Analog output -sa	0/4-20mA	12Bit resolution, max. 500Ω burden
		accuracy 0,15% of max. output signal

Fig.1 2-wire input transducer

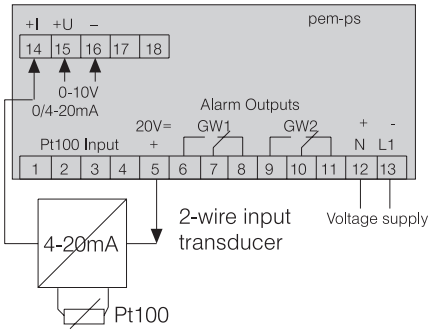


Fig.2 Pt100 connection

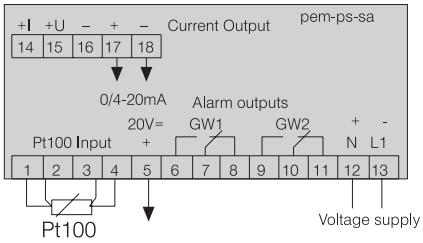
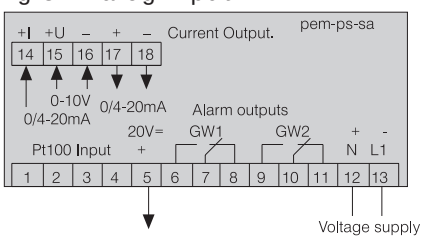


Fig.3 Analog input



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Order Code

Style / Supply	24V AC	115V AC	230V AC	24V DC
Standard	pem-ps 24VAC	pem-ps 115VAC	pem-ps 230VAC	pem-ps 24VDC
With analog output 0/4-20mA	pem-ps-sa 24VAC	pem-ps-sa 115VAC	pem-ps-sa 230VAC	pem-ps-sa 24VDC

Menu (Display Mode Function)

Holding grey background keys pressed. In display mode the following keys produce the following functions:

GW1	display alarm output 1
GW2	display alarm output 2
P	display unit version
P	restore to basic adjustments after 3s (if selected)
<	display MIN value
>	display MAX value
< + P	delete MIN value
> + P	delete MAX value
P +2x GW1	edit mode alarm output 1
P +2x GW2	edit mode alarm output 2
P + GW1 +2x GW2	edit mode basic settings

Key Functions In Edit Mode

GW2	scroll forward to next setting
GW1	scroll back to previous setting
<	select digit (flashing) to be changed
>	counts flashing digits UP
P	store settings, END edit mode

If no entry within two minutes, display returns to the display mode!

Alarm Output Edit Mode

Key combination P +2x GW1 (alarm output 1)

scroll	display	setting	range
GW2 / GW1	S1. S	switchpoint	-19999...+19999
	S1. H	hysteresis	1...19999 Digit
	S1.An	delayed ON	0...999,9s
	S1.Ab	delayed OFF	0...999,9s

Key combination P +2x GW2 (alarm output 2) settings see above

Adjustment Of The Indicator

1. Key combination P + GW1 +2x GW2 , to go to the settings of the edit modus.
2. With the keys GW1 or GW2 select the menu point.
3. With the keys < or > change the value.
4. To store the settings push P button.

Sample 1 Temperature Measurement With 2-wire Transducer (fig. 1)

Sensor will be supplied by the indicator, terminal clamp 5 (+20VDC)

Adjustment for input 4-20mA = 0...100,0°C

Menu	Adjustment	Explaination
SE. b	1	Signal input current
SE.An	4,00	Signal input low 4,00mA
SE.En	20,00	Signal input high 20,00mA
A. dP	1111.1	Decimal point
A. An	0,0	Display low 0,0
A. En	100,0	Display high 100,0%

Basic Settings In Edit Mode

Key combination P + GW1 +2x GW2

	Anzeige	Einstellpunkt	Bereich
GW2 / GW1	SE. b	signal input	0=Pt100 input
			1=current input mA
			2=voltage input (V)
	SE.An	signal low	1=-22,00...+22,00mA
			2=-11,00...+11,00V
	SE.En	signal high	1=-22,00...+22,00mA
			2=-11,00...+11,00V
	A. dp	dezimal point	non, 1.-2.- 3. place
	A. An	display low	-19999...+19999 (opt.sa)
	A. En	display high	-19999...+19999 (opt.sa)
	SA.An	current output low	0...22,00mA (option sa)
	SA.En	current output high	0...22,00mA (option sa)
	S. bA	alarm output mode	0=independent outputs
			1=window function
			2=3-step controller
	S1.SF	funktion alarm output1	0=Min,1=Max
			2=Min inverted
			3=Max inverted
	S1.tF	time funktion output 1	0=switching
			1=wiping
	S2.SF	funktion alarm output 2	0=Min,1=Max
			2=Min inverted
			3=Max inverted
	S2.tF	time function output 2	0=switching
			1=wiping

Alarm Displays

F.unt	range low underflow
F. üb	range high overflow

Sample 2 Pt100-Temperature Measurement (fig. 2)

Adjustment for input Pt100 and current output 4-20mA = 0...100°C

Menu	Adjustment	Explanation
SE. b	0	Input Pt100
A. An	0,0	Display low 0,0
A. En	100,0	Display high 100,0%
SA.An	4,00	Current output low 4,00mA
SA.En	20,00	Current output high 20,00mA

Sample 3 Analog Input (siehe Bild 3)

Adjustment for input 0-10V = 100,00l/h.

Current output range 50,00...100,00 l/h = 4-20mA.

Menu	Adjustment	Explanation
SE. b	2	Signal input voltage
SE.An	5,000	Signal input low 5,000V
SE.En	10,000	Signal input high 10,000V
A. dP	111.11	Decimal point
A. An	50,00	Display low if output 4,00mA
A. En	100,00	Display high if output 20,00mA
A.cor	0,00	Offset not needed
SA.An	4,00	Current output low 4,00mA
SA.En	20,00	Current output high 20,00mA

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