



Instruction Manual

PMD02

Digital manometer



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SECTION A - Model without limit switch

A 1.0 Installation and Commissioning

The pressure tapping points should be prepared in accordance with the indications given for the sockets. For more details, see e.g. regulation VDE/VDI 3511 and 3512, sheet 3, also DIN 837-1/2. Suitable for sealing are sealing washers to DIN 16258. The correct tightening torque is depending on material and shape of the used seal. It should not exceed 80 Nm. The mounting position should not be subject to strong vibration and radiation heat. The transmitters with digital display are immediately ready for service after the pressure and electrical connections have been made.

A 2.0 Electrical Connection

Electrical connection is made by shielded cable and means of the cable box. Precise wiring schemes can be seen in the drawings. In addition, wiring details and required power supply are given on the rating plate.

Significance of applied terminal designations:

Ub+ / 0V	supply voltage
S+ / S-	output signal
Protection / PE	cable shield

A 2.1 Current Output

Output signal:	4 ... 20 mA / 2 wire system 0 ... 20 mA / 3 wire system
Power supply:	Ub = 17 ... 30 V DC
Maximum load:	Ra = (Ub - 17V) / 20 mA

If current output not used, please connect terminal 2 and 3.

A 2.2 Voltage Output

Output signal:	0 ... 10 V / 3 wire system
Power Supply:	Ub = 17 ... 30 V DC
Maximum load:	Ra ≥ 10 kΩ

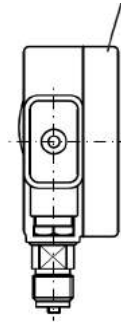
A 3.0 Service and Maintenance

The transmitter with digital display described hereunder is maintenance free. It incorporates no components which have to be repaired or replaced on the site. Repairs will exclusively be carried out at the factory. Depending on working conditions, the pressure transmitter should be checked about once a year to ensure that they are within their specifications and be adjusted if necessary. The calibration procedure is as follows: As reference for checking and adjusting the measuring span, an adequately accurate pressure standard is required.

- For readjustment, loosen, with a left-hand rotation, the cam ring (bayonet type), and remove from casing with the window.
- Set zero point by potentiometer „ZERO“.
- Set span by potentiometer „SPAN“.

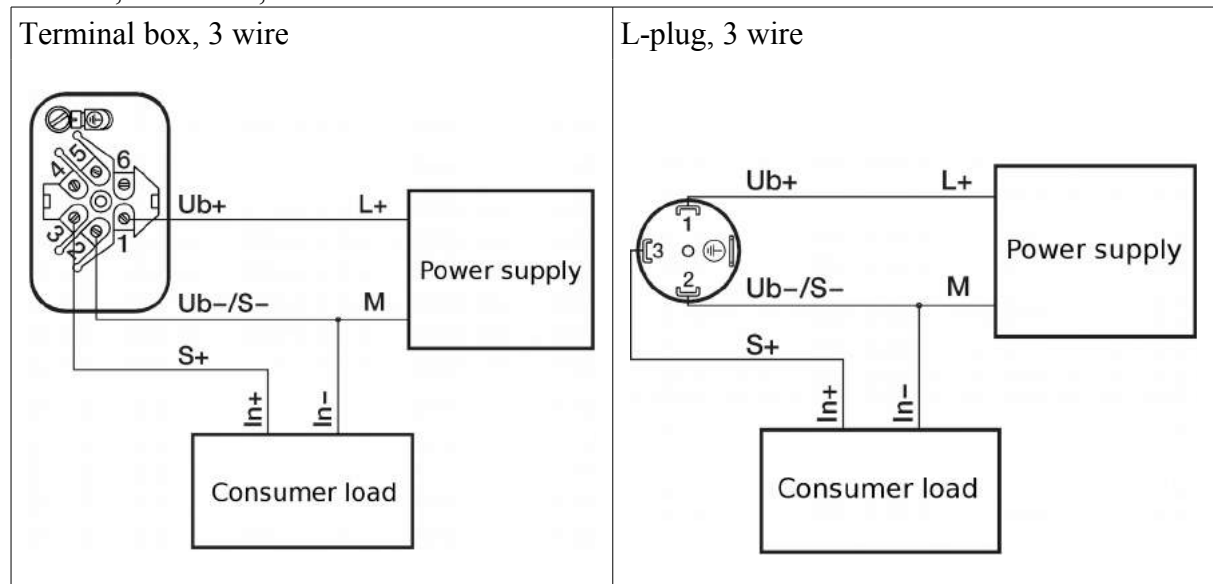
- After having carried out service and maintenance work, lock tightly the instrument with the cam ring (bayonet type), the window and the sealing.

Cam ring (bayonet type)



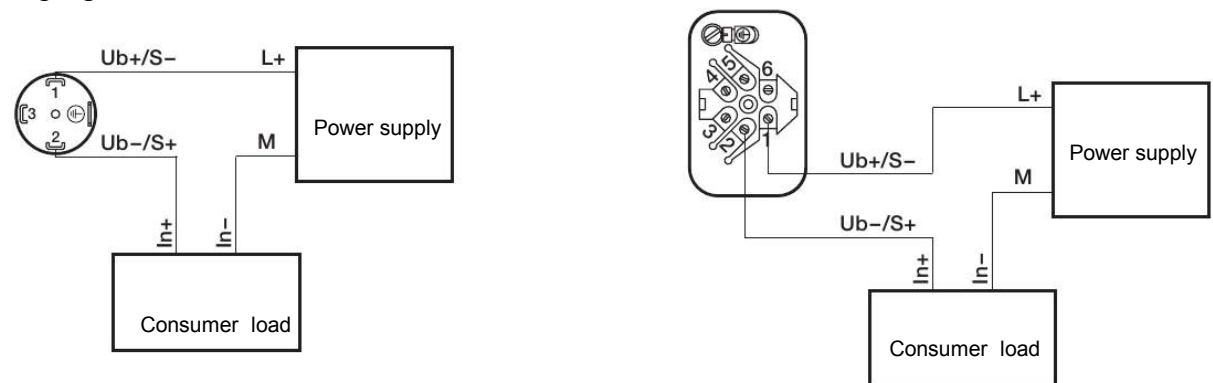
A 4.0 Wiring and Pin Layout

0...10 V, 0...20 mA, LED versions



4...20 mA, LCD version

L-plug, 2 wire



SECTION B - Model with rechargeable battery

B 1.0 Installation and Commissioning

The pressure tapping points should be prepared in accordance with the indications given for the sockets. For more details, see e.g. regulation VDE/VDI 3511 and 3512, sheet 3, also DIN 837-1/2. Suitable for sealing are sealing washers to DIN 16258. The correct tightening torque is depending on material and shape of the used seal. It should not exceed 80 Nm. The mounting position should not be subject to strong vibration and radiation heat. The transmitters with digital display are immediately ready for service after the pressure and electrical connections have been made.

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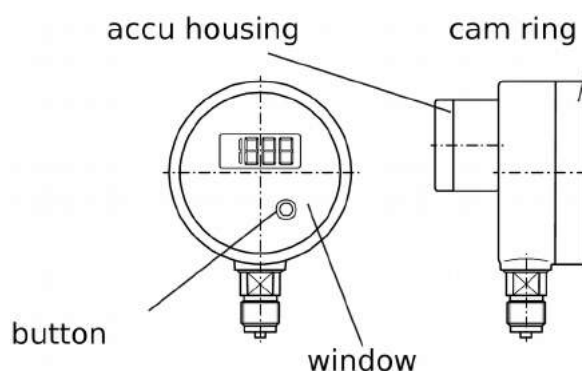
- For readjustment, loosen, with a left-hand rotation, the cam ring (bayonet type), and remove from casing with the window.
- Set zero point by potentiometer „ZERO“.
- Set span by potentiometer „SPAN“.
- After having carried out service and maintenance work, lock tightly the instrument with the cam ring (bayonet type), the window and the sealing.

B 2.1 Power Supply

The rechargeable battery, Order -No.: PMD02-E.EB, has a service life off approx. 500 active hours. In case the display shows "lowbat" continuously, the battery has to be replaced.

B 2.2 Operation

After activating the key, the measured value is displayed during 70 sec.



1.4 Wiring schemes

Ub+ / Ub-	Power supply
S+ / S-	Analogue output signal
L1 / L2, K1, K2	Limit signals 1 und 2
L3 / L4, K3, K4	Limit signals 3 und 4
RxD, TxD, SGND	Serial interface RS232
A, B, SGND	Serial interface RS485 half-duplex
-RxD, +RxD, -TxD,	
+TxD, SGND	Serial interface RS485 full-duplex
PE	earth of thread / flange connection


Analogue input signal:

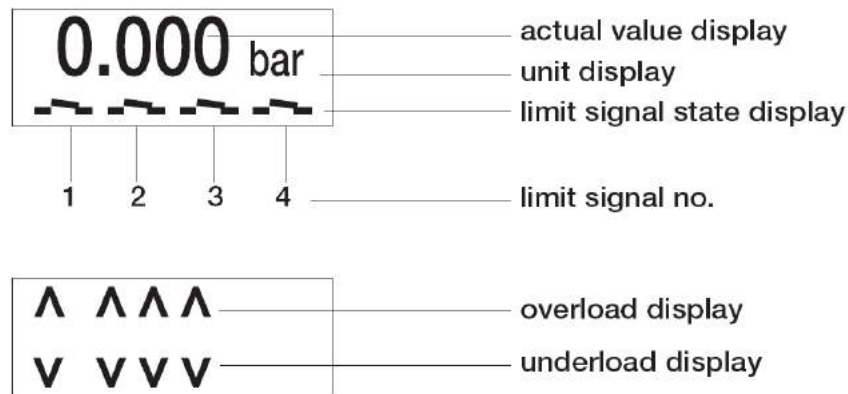
mA+ / mA-	[I] Current
V+ / V-	[U] Voltage

Round Connector		D Sub Connector			
PIN	Signal	PIN	RS232	RS485 Half-Duplex	RS485 Full-Duplex
1	Ub+	1			
2	Ub- / S-	2	TxD		
3	S+	3	RxD	A	+ TxD
4	V+ / mA +	4			+ RxD
5	V- / mA-	5	SGND	SGND	SGND
6		6			
7	L1 / L2	7			
8	Out K1	8		B	- TxD
9	Out K2	9			+ RxD
10	L3 / L4				
11	Out K3				
12	Out K4				
13					
14	PE				

1.5 System start-up

The measuring instrument is immediately ready for service after its installation into the measuring point and after the electrical connections have been made. At the first commissioning, the display, in a pressureless state, indicates on the last digit 0, 0.0, 0.00 or 0.000, ± 1 .

The four limit switches are open (). The limit signal numbering 1 - 4 is defined from the left to the right.



2.0 Parameter display and input

Display or input of a parameter are made by the four keys below the display. When the device is switched on, actual value and switching states of the limit signal are displayed (= open, = closed).

By pressing the correspondent button one of the following menus can be started:

Key	Function in the actual value display
	start menu help
	start display menu limit signals
	start input menu
	-

The key functions overview is called up via help menu.

The display menu indicates in succession the lower and upper switching points of the limit signal.

The parameters are set via input menu.

In the display and input menu, the lower quarter of the display shows the menu text. By the keys, the desired parameter is selected as follows:

Key	Function in the actual value display
	to the previous menu point
	to the next menu point
	submenu / start parameter input
	end submenu

The selected parameter is displayed in the upper part of the display. the digit/sign, which can be changed, is presented in inverse order (cursor). When entering the parameters, the key function is as follows:

Key	Function in the actual value display
	change cursor position
	change parameter at cursor position
	take over parameter / end input
	reject parameter / end input

Parameter display or input will be ended by activating key once or repeatedly, or automatically 20s after the last activation of one of the four keys.





Example:

The maximum limit value of limit switch 2 is to be changed


Key	Value	Menu text	Menu
	XX.XX bar	(limit switch display)	actual value display
		display min./max.	1
2x		adjust limit switch	3
	0000 PIN	adjust limit switch	input
	XXX X PIN	adjust limit switch	input
		adjust 1. limit switch	3.1
		adjust 2. limit switch	3.2
		limit switch enable	3.2.1
3x		high limit	3.2.4
	X X.XX bar	high limit	input
	XX.X X bar	high limit	input
		high limit	3.2.4
		adjust 2. limit switch	3.2
		adjust limit switch	3
	XX.XX bar	(limit switch display)	actual value display

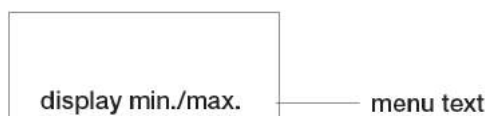
Menu layout and parameter range




Menu	Parameter
1	display min./max. value
1.1	display min. value
1.2	display max. value
2	delete min./max. value
3	adjust limit switch
3.1	adjust 1st limit switch
3.2	adjust 2nd limit switch
3.3	adjust 3rd limit switch
3.4	adjust 4th limit switch

Menu	Parameter
3.x.1	limit switch enable:  contact always open;  contact is switching
3.x.2	contact function:  maximum opens circuit;  maximum closes circuit
3.x.3	low limit: -9999 ... 9999
3.x.4	upper limit: -9999 ... 9999
3.x.5	low limit delay: 00,0 ... 19,9 s
3.x.6	upper limit delay: 00,0 ... 19,9 s
4	integration time
	00,0 ... 19,9 s
5	datalogger
5.1	interval: 1 s ... 24 h
5.2	year: 2000 ... 2099
5.3	date: 01.01 ... 31.12.
5.4	time: 00:00 ... 23:59
6	display unit
6.1	choose unit: mbar, bar, Pa, hPa, kPa, at, kg/cm ² , kp/cm ² , mmH ₂ O, mH ₂ O, mmWs, atm, mWs, Torr, mmHg, mmQs, psi, lb/in ² , inH ₂ O, ftH ₂ O, inHg, or customized unit
6.2	unit input: (customized unit)
6.2.1	text input: 2 x 5 characters
6.2.2	decimal point position: 9.999 ... 9999
6.2.3	zero input: -9999 ... 9999
6.2.4	endpoint input: -9999 ... 9999
7	adjust output
7.1	range zero: -9999 ... 9999
7.2	range endpoint: -9999 ... 9999
8	Serial interface
8.1	baud rate: 1200, 2400, 4800, 9600, 19200, 38400 oder 76800
8.2	data bits: 7 or 8
8.3	parity: - (none), 0, EVEN or ODD
8.4	stop bits: 1 or 2
9	change language
	German, English or French
10	sensor calibration
10.1	decimal point position: 9.999 ... 9999
10.2	zero input: -9999 ... 9999
10.3	endpoint input: -9999 ... 9999
10.4	calibrate zero
10.5	calibrate endpoint
11	calibrate analogue output
11.1	unit input: V or mA
11.2	zero input: 00.00 ... 99.99
11.3	endpoint input: 00.00 ... 99.99
11.4	minimum input: 00.00 ... 99.99
11.5	maximum input: 00.00 ... 99.99
11.6	calibrate zero: 0000 ... 9999
11.7	calibrate endpoint: 0000 ... 9999
12	change PIN
12.1	delete min./max.: 0000 ... 9999
12.2	adjust limit switch: 0000 ... 9999
12.3	integration time: 0000 ... 9999
12.4	Datalogger: 0000 ... 9999
12.5	display unit: 0000 ... 9999
12.6	adjust output: 0000 ... 9999
12.7	serial interface: 0000 ... 9999
12.8	change language: 0000 ... 9999
12.9	calibrate sensor: 0001 ... 9999
12.10	calibrate output: 0001 ... 9999




3.0 Input menu

The input menu is being started by pressing key . Instead of the limit signal state, the display is showing the menu text. The upper part of the display is empty.



The starting point for the selection of a parameter in the description hereunder is the actual value display. Some of the measuring instrument functions are optional. The indications concerning multiple activations of a key (e.g. 5x ) refer to instruments with all options. Menus 2 to 10 are protected through a four-digit PIN each (see menu 11 „enter PIN“). After selection of the menu, the PIN is to be confirmed. The upper part of the display shows value „0000“ followed by „PIN“. The digit that can be changed by activating key , is marked by the cursor (inverse display). The cursor position is shifted to the left by 1 digit by key .








Enter PIN by pressing buttons  and, and  acknowledge by pressing button .

(In the event the existing PIN = „0000“, this inquiry is not applicable).
A parameter is displayed and input in the same way as the PIN.

3.1 Menu 1, Display min./max. value (maximum pointer function)

The instrument features a maximum pointer function. The minimum and maximum value are displayed.

Key	Value	Menu text
		display min./max.
	XX . XX bar	minimum
	XX . XX bar	maximum
		display min./max.
	(actual value display)	(limit signal display)

3.2 Menu 2, Delete min./max. value (maximum pointer function)

Instrument features a maximum pointer function. The minimum and maximum values are set onto the actual value.

Key	Value	Menu text
		display min./max.
		display min./max.
	0000 PIN	delete min./max. *)
enter PIN by and *)		
		min./max. erased
		delete min./max.
	(actual value display)	(limit signal display)

*) If the PIN for this menu = „0000“, no request is made

3.3 Menu 3, Adjust limit switch

The measuring instrument features 4 limit switches. For each limit switch, the following parameters can be defined:

Key	Value	Menu text
		display min./max.
2x		adjust limit switch
	0000 PIN	adjust limit switch *)
enter PIN by and *)		
		adjust 1. limit switch
select limit signal by		
		limit switch enable
	■	limit switch enable
by turn release on or off		
		limit switch enable
		contact function
		contact function
by select close or open circuit		
		contact function
		lower limit
	00.00 bar	upper limit
by and enter switching point		

Key	Value	Menu text
		lower limit
		upper limit
	00.00 bar	upper limit
by and enter switching point		
		upper limit
		lower limit delay
	00.0 s	lower limit delay
by and enter time		
		lower limit delay
		upper limit delay
	00.0 s	upper limit delay
by and enter time		
		upper limit delay
3x	(actual value display)	(limit switch display)

*) If the PIN for this menu = „0000“, no request is made

3.4 Menu 4, Integration time (damping)

The measuring instrument features a damping function. The mean value will be obtained during the integration time, displayed as actual value and interpreted for the output signal. Setting on delivery 0.0 (damping off).

Key	Value	Menu text
		display min./max.
3x		integration time
	0000 PIN	integration time *)
enter PIN by and *)		
	00.0 s	integration time
by and enter time		
		integration time
	(actual value display)	(limit switch display)

*) If the PIN for this menu = „0000“, no request is made

3.5 Menu 5, Datalogger

By means of the data logger function, the measuring value will be stored in an adjustable time interval. The stored measuring values can be read-out via PC. Date, hour, mean value, minimum and maximum values of the measuring value evaluated during the time interval,

are displayed for each time interval. Date and hour are set on the actual time at the time of delivery. Attention: After missing power supply you have to adjust the real time clock again.

Key	Value	Menu text
		display min./max.
4x		data logger / clock
	0000 PIN	data logger / clock *)
by and enter PIN *)		
		interval
	XXXX s	choose intervall unit
by select unit s, min or h		
		interval
		interval
	XX:XX X	time
by and set up measuring interval; 0 = event control		
		interval
		time
	XX:XX	time
by and set up time		
		time
		date
	XX.XX	date
by and set up date		
		date
		year
	20XX	year
by and set up year		
		year
2x	(actual value display)	(limit signal display)

*) If the PIN for this menu = „0000“, no request is made

3.6 Menu 6, Display unit

For displaying the measuring value, units such as SI, ANSI, BS and technical units are on hand, as well as a unit to be defined by the user (see 3.6.2).

3.6.1 Select unit














Key	Value	Menu text
		display min./max.
5x		display unit
	0000 PIN	display unit *)
by and enter PIN *)		
		display unit
	XX.XX	choose unit
by select unit		
		choose unit
2x	(actual value display)	(limit signal display)

*) If the PIN for this menu = „0000“, no request is made

3.6.2 Establish custom unit

The measured value can be converted into other dimensions. For the conversion, the unit with 2 x 5 signs maximum has to be entered, as well as those values that correspond to the zero point and the end point of the measuring range (see menu 9). Setting on delivery is 0.0 to 100.0 %.

















Key	Value	Menu text
		display min./max.
5x		display unit
	0000 PIN	display unit *)
by and enter PIN *)		
		choose unit
		input unit
		input text
	XX.XX	input text
by and enter unit text		
		input text
		decimal point position
	99.99 xxxxx	decimal point position

Key	Value	Menu text
by  set position of decimal point		
		decimal point position
		input zero
	000.0 xxxxx	input zero
by  and  enter zero point		
		input zero
		input finish
	100.0 xxxxx	input finish
by  and  enter endpoint		
		input finish
3x 	(actual value display)	(limit signal display)

*) If the PIN for this menu = „0000“, no request is made

3.7 Menu 7, Setting of the analog output

By means of this menu, the relation between the analog output and the measuring range is defined. For that, one measuring point each is assigned to the zero point and endpoint of the analog output (see menu 11). On delivery range of analogue and measuring range are equal.

Key	Value	Menu text
		display min./max.
6x 		adjust output
	0000 PIN	adjust output *)
by  and  PIN eingeben *)		
		measuring range zero
	xx.XX bar	measuring range zero
by  and  enter value for range zero		
		measuring range zero
		measuring range finish
	xx.XX bar	measuring range finish
by  and  enter value for endpoint		
		measuring range finish
2x 	(actual value display)	(limit signal display)

*) If the PIN for this menu = „0000“, no request is made

3.8 Menue 8, Serial interface

This menu defines the data transmission format of the serial interface. Set-up on delivery: 1200 baud, 8 data bits, no parity, and 1 stop bit. The display value is sent as ASCII characters two times per second.

Key	Value	Menu text
		display min./max.
7x		serial interface
	0000 PIN	serial interface *)
by and enter pin *)		
		baudrate
	1200	baudrate
by select baudrate		
		baudrate
		parity
	■	parity
by select parity		
		parity
		stopbits
	1	stopbits
by select stopbits		
		stopbits
2x	(actual value display)	(limit signal display)

*) If the PIN for this menu = „0000“, no request is made

3.9 Menu 9, Changing the language

The menu text can optionally be displayed in German, English or French. Display setup on delivery is German language.

Key	Value	Menu text
		display min./max.
8x		change language
	0000 PIN	change language *)
by and enter PIN *)		
		deutsch
by select language, German, English, French		

Key	Value	Menu text
		change language
	(actual value display)	(limit switch display)

*) If the PIN for this menu = „0000“, no request is made

3.10 Menu 10, *Calibrating the sensor*

By means of this menu, the measuring range of the sensor will be adjusted, and the output signal of the sensor at the zero and endpoint of the range will be measured and setup. The settings will be made at the factory by using appropriate pressure standards. Wrong inputs into this menu cause malfunctions of the measuring instrument.

Key	Value	Menu text
		display min./max.
9x		calibrate sensor
	0000 PIN	calibrate sensor *)
by and enter PIN *)		
		decimal point position
	99.99 bar	decimal point position
by enter position of decimal point		
		decimal point position
		input zero
	0.00 bar	input zero
by and enter zero point of sensor		
		input zero
		input finish
	10.00 bar	input finish
by and enter endpoint of sensor		
		input finish
		calibrate zero
	0.00 bar	calibrate zero
Connect the measuring instrument to a sufficiently precise pressure standard. At the measuring point, generate the value shown in the display of the instrument and store by .		
		calibrate zero
		calibrate finish
	10.00 bar	calibrate finish
Connect the measuring instrument to a sufficiently precise pressure standard. At the measuring point, generate the value shown in the display of the instrument and store by .		








Key	Value	Menu text
		calibrate finish
2x	(actual value display)	(limit switch display)

*) A PIN of "0000" is not allowed hier, to change see 3.12

3.11 Menu 11, Calibrating the analog output (optional)

Via this menu, zero point, end point, minimum and maximum value of the analog output are being input, and the output signal will be set on zero and end point input. The settings will be made at the factory by using appropriate pressure standards.

Key	Value	Menu text
		display min./max.
10x		calibrate output
	0000 PIN	calibrate output *)
by and enter PIN *)		
		input unit
		input unit
by select unit V or mA **)		
		input unit
		input zero
	04.00 mA	input zero
by and enter output zero point, see rating plate		
		input zero
		input finish
	20.00 mA	input finish
by and enter output endpoint, see rating plate		
		input finish
		input minimum
	02.00 mA	input minimum
by and enter minimum output value		
		input minimum
		input maximum
	22.00 mA	input maximum
by and enter maximum output value		
		input maximum

Key	Value	Menu text
		calibrate zero
	0000 mA	calibrate zero
Connect the analog output to a sufficiently precise pressure standard. Type in the number in such a way that the pressure standard shows the value indicated for the zero point.		
		calibrate zero
		calibrate finish
	0000 mA	calibrate finish
Connect the analog output to a sufficiently precise pressure standard. Type in the number in such a way that the pressure standard shows the value indicated for the endpoint.		
		calibrate finish
2x 	(actual value display)	(limit signal display)

*) A PIN of "0000" is not allowed hier, to change see 3.12

***) According to factory setting, see rating plate

3.12 Menu 12, setting up PINs

Menus 2 to 10 are protected by means of a 4-digit PIN each.


On delivery the values will be set as follows:

Key	PIN	Menu text
2		delete min./max.
3		adjust limit switch
4		integration time
5		Datalogger
6		display unit
7		adjust output
8		serial interface
9		change language
10		calibrate sensor
11		calibrate output

Menus 2...8: PIN "0000" will not be requested

Menus 9...10: A PIN of "0000" is not allowed to change these parameters

Each PIN can be set individually via menu „enter PIN“. The menu call-up is made by the following key combination:

Key	Value	Menu text
		display min./max.

Key	Value	Menu text
11x		change PIN
	PIN	change PIN
change PIN to next PIN to previous PIN escape from PIN menu		
		change PIN
	(actual value display)	(limit signal display)

After selecting the menu, the existing PIN has to be confirmed. In the upper part of the display the value „0000“ is indicated followed by „PIN“. The place that can be changed by key is marked by the cursor (inverse display). By key , the cursor position is shifted to the left by one digit.



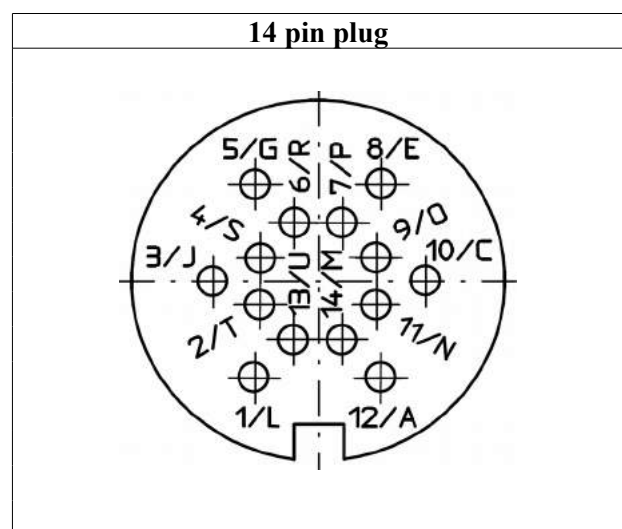
Type the existing PIN by keys and and confirm by . In the case of "0000" this confirmation is omitted. In the upper part of the display, the value „0000“ is shown followed by „new PIN“.



Type the desired new PIN by pressing the keys and and confirm by .

4.0 Wiring and Pin Layout

pin	signal direction and wiring
1	⇐ Ub +
2	⇐ Ub - / S -
3	⇒ S +
4	
5	
6	
7	⇐ L1 / L2
8	⇒ K1 output
9	⇒ K2 output
10	⇐ L3 / L4
11	⇒ K3 output
12	⇒ K4 output
13	
14	⇐ PE



PMD02

Digital Manometer

- nominal size 100 mm
- LED display with 14 mm digit height
- Measuring range from 0..2,5 mbar to 0..2500 bar
- Stainless steel sensor also for aggressive media
- indicated units
- Trailing pointer function for MIN/MAX memory
- User adjustable units
- Up to 4 alarm contacts
- Analogue output and interfaces for RS232, RS485, HART
- Datalogger function



Description:

The digital manometers type PMD02 are for all purpose use. Regardless if only equipped with rechargeable battery to show the actual pressure or as a digital data station with bus output and integrated datalogger, these digital pressure gauges PMD02 can be applied in nearly all branches of industry and plant engineering. A ceramic or thin film type measuring cell transforms the pressure of the medium to an electrical signal which is visualized on the display in user adjustable units. The use of stainless steel sensors gives the PMD02 the capability to withstand also aggressive media. A variety of options for output signals, analogue or digital by interfaces systems allow the usage also in complex production plants in chemical industry. The datalogger function with its wide range of adjustment from 1 second to 24 hours opens further areas of utilization for these pressure gauges.

Applications:

These digital manometers are suitable especially for:

- Mechanical engineering
- Plant engineering
- Hydraulic and pneumatic systems
- Monitoring of measurement devices
- Chemical industry

Models:








Materials: Housing stainless steel 1.4301

Model K: Sensor ceramic, nylon, Silicone, aluminium; piezoresistive

Model E: Sensor up to 2,5 bar: SS 1.4435; piezoresistive
Sensor from 4 bar on: SS 1.4568; thin film strain gauge

Process connection: G 1/4 B; G 1/4 NPT
G 1/2 B; G 1/2 NPT

Measuring ranges:

Measuring range (bar)	K = Ceramic E = SS sensor	Order number							
									
0.. 2,5 mbar	K	A55	B55	C55	D55	E55	F55	G55	
0.. 4,0 mbar	K	A56	B56	C56	D56	E56	F56	G56	
0.. 6,0 mbar	K	A57	B57	C57	D57	E57	F57	G57	
0..10 mbar	K	A58	B58	C58	D58	E58	F58	G58	
0..16 mbar	K	A59	B59	C59	D59	E59	F59	G59	
0..25 mbar	K	A60	B60	C60	D60	E60	F60	G60	
0..40 mbar	K	A61	B61	C61	D61	E61	F61	G61	
0..60 mbar	K	A62	B62	C62	D62	E62	F62	G62	
-0,10 .. 0	E	A11	B11	C11	D11	E11	F11	G11	
-0,16 .. 0	E	A12	B12	C12	D12	E12	F12	G12	
-0,25 .. 0	E	A13	B13	C13	D13	E13	F13	G13	
-0,40 .. 0	E	A14	B14	C14	D14	E14	F14	G14	
-0,60 .. 0	E	A15	B15	C15	D15	E15	F15	G15	
-1,0 .. 0	E	A16	B16	C16	D16	E16	F16	G16	
0.. 0,1	KE	A63	B63	C63	D63	E63	F63	G63	
0.. 0,16	KE	A64	B64	C64	D64	E64	F64	G64	
0.. 0,25	KE	A65	B65	C65	D65	E65	F65	G65	
0.. 0,4	KE	A66	B66	C66	D66	E66	F66	G66	
0.. 0,6	KE	A67	B67	C67	D67	E67	F67	G67	
0.. 1,0	KE	A69	B69	C69	D69	E69	F69	G69	
0.. 1,6	KE	A70	B70	C70	D70	E70	F70	G70	
0.. 2,5	KE	A72	B72	C72	D72	E72	F72	G72	
0.. 4,0	KE	A73	B73	C73	D73	E73	F73	G73	
0.. 6,0	KE	A74	B74	C74	D74	E74	F74	G74	
0.. 10	KE	A75	B75	C75	D75	E75	F75	G75	
0.. 16	E	A76	B76	C76	D76	E76	F76	G76	
0.. 25	E	A78	B78	C78	D78	E78	F78	G78	
0.. 40	E	A79	B79	C79	D79	E79	F79	G79	
0.. 60	E	A80	B80	C80	D80	E80	F80	G80	
0.. 100	E	A81	B81	C81	D81	E81	F81	G81	
0.. 160	E	A82	B82	C82	D82	E82	F82	G82	
0.. 250	E	A84	B84	C84	D84	E84	F84	G84	
0.. 400	E	A86	B86	C86	D86	E86	F86	G86	
0.. 600	E	A87	B87	C87	D87	E87	F87	G87	
0..1000	E	A88	B88	C88	D88	E88	F88	G88	
0..1600	E	A89	B89	C89	D89	E89	F89	G89	
0..2500	E	A90	B90	C90	D90	E90	F90	G90	

Model Code:

Order number: PMD02. **K.** **15G.** **A75.** **S.** **I4.** **K2.** **0.** **0**

Digital Manometer

Sensors:

K = Ceramic sensor (to 10 bar, not for negative reading)
E = Stainless steel (from 0,1 bar)

Process connection:

08G = 1/4" AG B
15G = 1/2" AG B (standard)
08N = 1/4" AG NPT
15G = 1/2" AG NPT

Model and measuring range:

A11 ... G90 = see table „Measuring ranges“

Power supply:

S = 12...30 VDC (standard)
A = Rechargeable battery 9 V and LCD display

Output (not with rechargeable battery):

I4 = 4...20 mA
I0 = 0...20 mA
U = 0...10 V

Alarm contacts (not with rechargeable battery):

0 = Without
K2 = with 2 alarm contacts
K4 = with 4 alarm contacts

Interface (not with rechargeable battery):

0 = Without
S2 = Serial interface RS232 (only for device with limit contact)
S4 = Serial interface RS485 (only for device with limit contact)
H = HART protocol (only for device with limit contact)

Options (combinations possible):

0 = Without
H = For use with oxygen (filling halocarbon, only < 4 bar)
S = Degreased sensor element for oxygen service
P = Testing record
A = Sensing element for absolute pressure
W = L-Plug EN175301-803 (not with alarm contacts)

Technical Data:

Housing: Stainless steel 1.4301, 100 mm

Materials in contact with medium: see table „Models“

Display: 4 1/2 digit LED display, 14 mm height (with rechargeable battery: LCD)

Power supply: 12...30 VDC (without alarm contacts)
17...30 VDC (with alarm contacts)
P_{max} = 2,2 W

Electrical connection: Terminal box, L-plug EN175301-803

with alarm contacts: 14 pin plug

Datalogger: Storage interval from 1 s to 24 h

Process connection: AG 1/4, AG 1/2 BPS EN 837-1 or NPT

Accuracy: < 0,3 % FS, ± 1 Digit

Conversion rate: 2,5 cycles per second

Temperature range:

- Storage: -30 ...+80 °C
- Medium: -20 ...+80 °C
- Ambient: -20 ...+50 °C

Temperature influence: Mean TK of zero: < 0,2 % FS / 10 K
Mean TK of range: < 0,2 % FS / 10 K

Protection class: IP 65

Weight: approx. 700 g

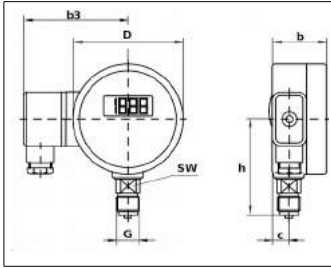


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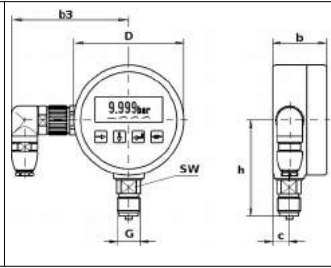
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Mounting forms:

Model without alarm contacts

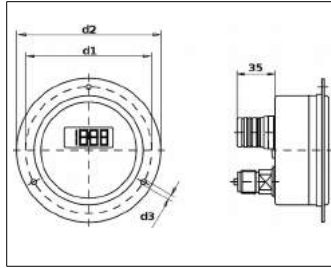


Model with alarm contacts

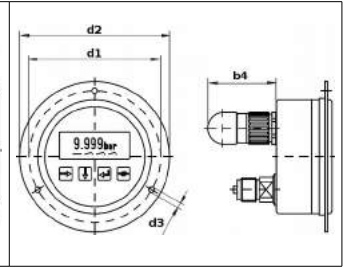


Model A: Process connection bottom
Electrical connection lateral
without mounting flange

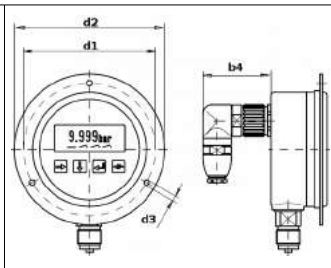
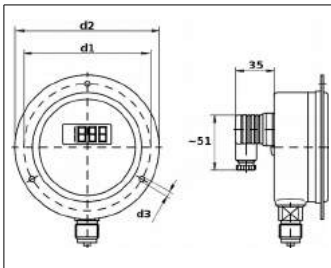
Model without alarm contacts



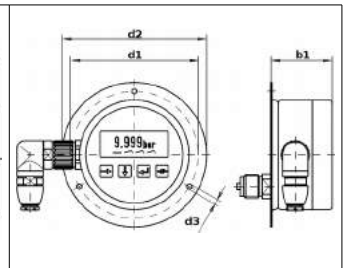
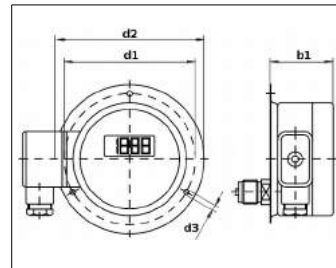
Model with alarm contacts



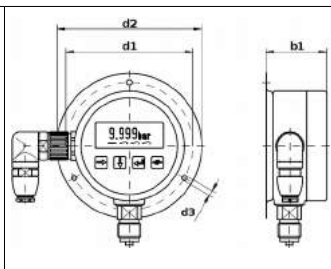
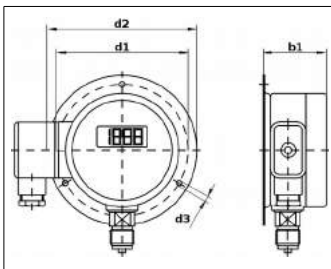
Model E: Process connection back
Electrical connection back
with panel mounting flange



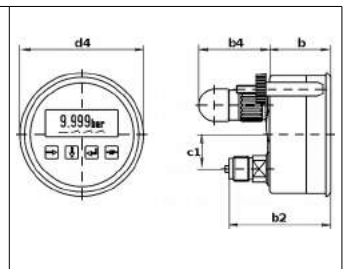
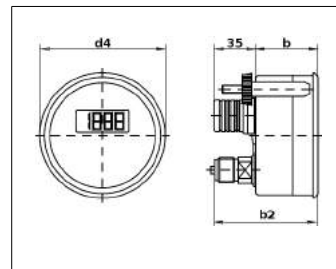
Model B: Process connection bottom
Electrical connection back
with panel mounting flange



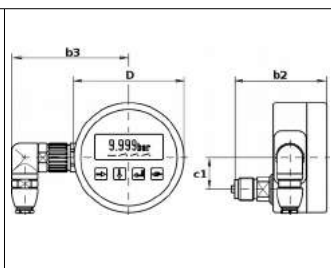
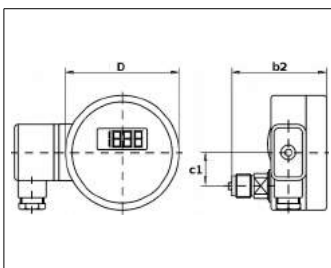
Model F: Process connection back
Electrical connection lateral
with surface mounting flange



Model C: Process connection bottom
Electrical connection lateral
with surface flange



Model G: Process connection back
Electrical connection back
with triangular bezel



Model D: Process connection back
Electrical connection lateral
without mounting flange

Dimensions:

dimension (mm)	Model without alarm contacts	Model with alarm contacts
b		50,0
b1		56,0
b2		86,5
b3	87,0	90
b4		56
c		15,0
c1		29,0
D		100,8
d1		116,0
d2		132,0
d3		4,8
d4		107,0
G		1/4"; 1/8"
h		87
SW		22
Panel cut out		105 (model G: 103)