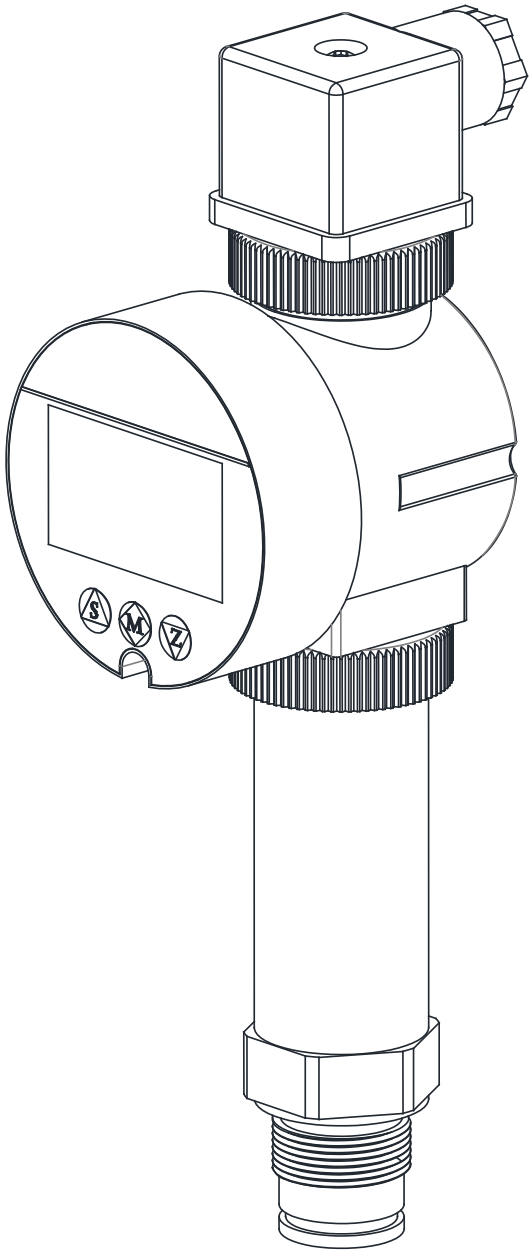
KPT

Miniature Pressure Transmitters



technical documentation EN Rev. of 14/05/2024

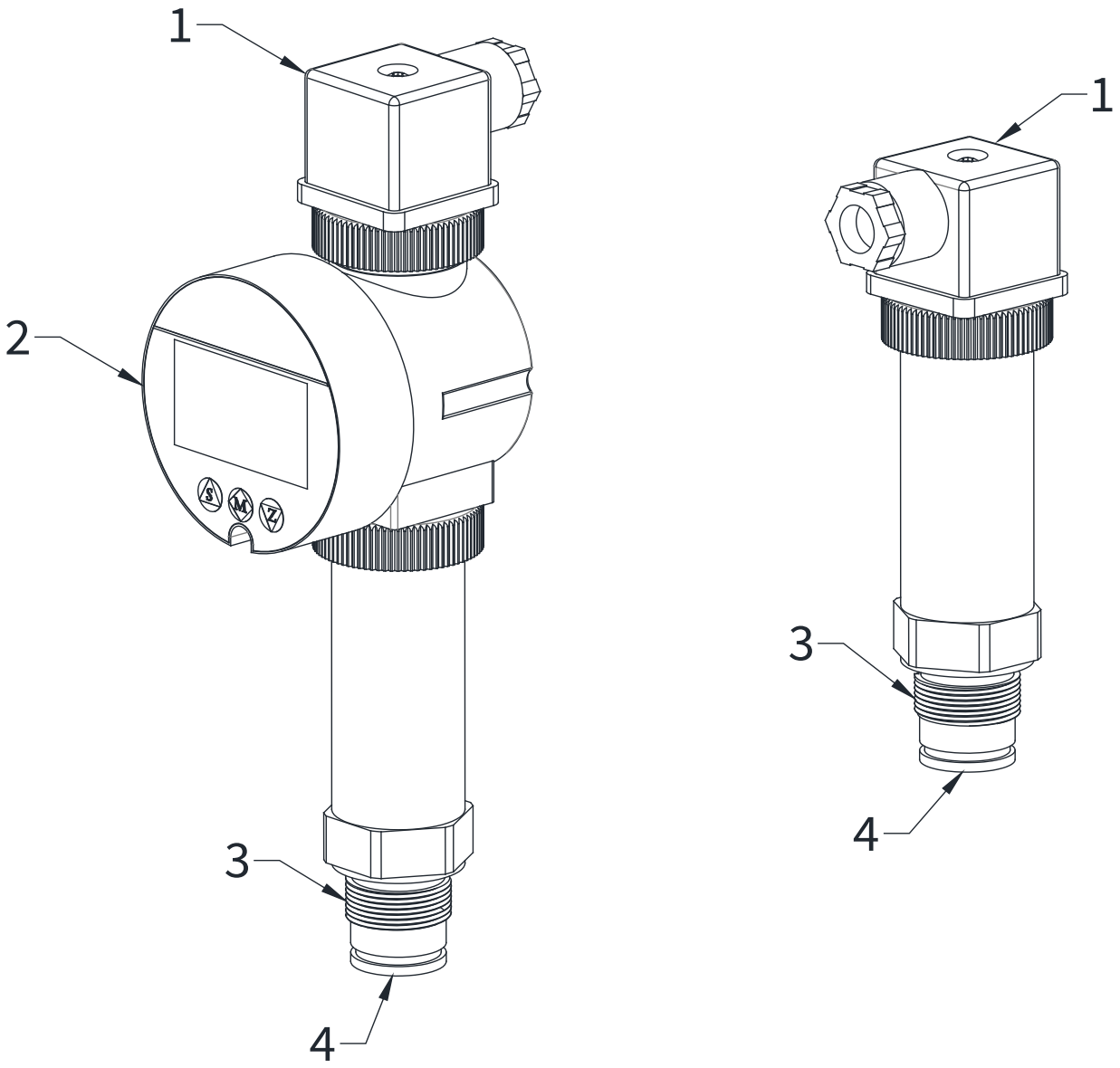
sgm lektra

CONTENTS

1-WARRANTY

Products supplied by SGM LEKTRA are guaranteed for a period of 12 (twelve) months from delivery date according to the conditions specified in our sale conditions document.
SGM LEKTRA can choose to repair or replace the Product.
If the Product is repaired it will maintain the original term of guarantee, whereas if the Product is replaced it will have 12 (twelve) months of guarantee.
The warranty will be null if the Client modifies, repair or uses the Products for other purposes than the normal conditions foreseen by instructions or Contract.
In no circumstances shall SGM LEKTRA be liable for direct, indirect or consequential or other loss or damage whether caused by negligence on the part of the company or its employees or otherwise howsoever arising out of defective goods

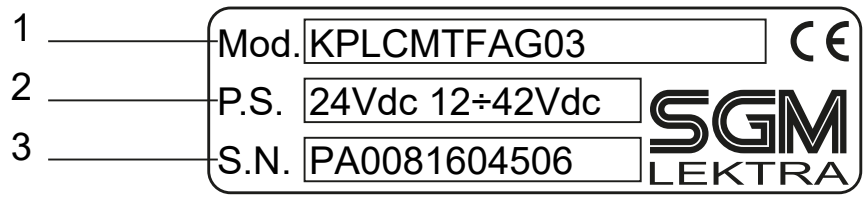
2- PRODUCT



1. connector
2. Display (opt.)
3. Process connection
4. Sensor

2.1 IDENTIFICATION

Each meter has an adhesive identifi cation plate on which are indicated the meter main data.
The following picture describes the information on the identifi cation plate.



1. Product code
2. Power supply
3. Serial number

3-FEATURES

Measurement range
- Relative Pr.: Max. 0÷400bar (0÷40Mpa) Min. 0÷0,1bar (0÷10kPa)
- Absolute Pr.: Max. 0÷25bar (0÷2,5MPa) Min. 0÷1bar (0÷100kPa)
- Negative Pr.: Max. -1÷39bar (-0.1÷3.9MPa) Min. -1÷0 (-100÷0kPa)

Power Supply
12÷42Vdc (2-wire)

Output
4÷20mA

Max. Accuracy
±0.25%FS

Typical Stability
±0.5%FS for 3 years

Ambient temperature
-20° ÷ +100°C

Medium temperature
-30° ÷ +120°C

Storage temperature
-40° ÷ +125°C

Temperature compensation range
0° ÷ +80°C

Electrical connection
Connector Type A EN 175301-803 (DIN 43650)

Connector protection
IP65

Wet part protection
IP68

Diaphragm material
AISI 316

Process connection material
AISI 316

Diaphragm fill liquid
Silicone oil

Sensor housing material
AISI 304

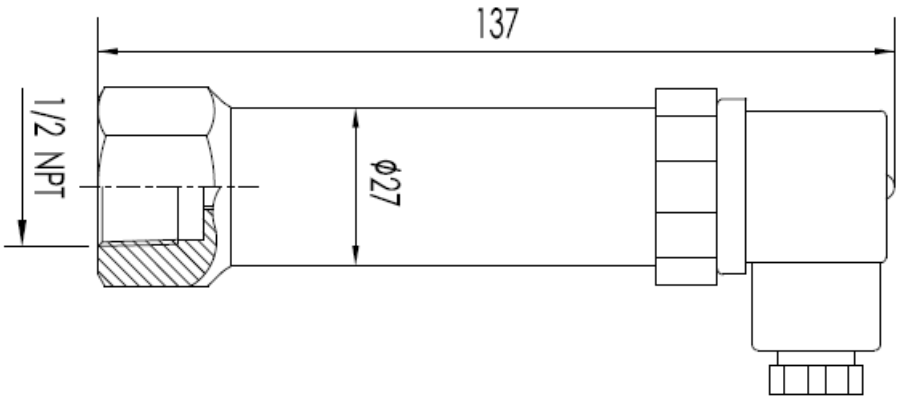
Gasket material
NBR

Overload pressure / Burst pressure:

Range Code	Range (bar)	Overload P.	Burst P.		Range Code	Range (bar)	Overload P.	Burst P.
C1	0÷0,25 R.	10bar	20bar		C5	-1÷0 R.	10bar	20bar
C2	0÷0,4 R.	10bar	20bar		D4	-1÷0,6 R.	20bar	40bar
C3	0÷0,6 R.	10bar	20bar		D5	-1÷1,6 R.	20bar	40bar
D1	0÷1 R.	20bar	40bar		F8	-1÷3 R.	75bar	150bar
D2	0÷1,6 R.	20bar	40bar		F9	-1÷5 R.	75bar	150bar
D3	0÷2,5 R.	20bar	40bar		FA	-1÷9 R.	75bar	150bar
F1	0÷4 R.	75bar	150bar		FB	-1÷15 R.	75bar	150bar
F2	0÷6 R.	75bar	150bar		FC	-1÷24 R.	75bar	150bar
F3	0÷10 R.	75bar	150bar		FD	-1÷29 R.	75bar	150bar
F4	0÷16 R.	75bar	150bar		FE	-1÷39 R.	75bar	150bar
F5	0÷25 R.	75bar	150bar		M1	0÷1,0 A.	20bar	40bar
F6	0÷30 R.	75bar	150bar		M2	0÷1,6 A.	20bar	40bar
F7	0÷40 R.	75bar	150bar		M3	0÷2,5 A.	20bar	40bar
G1	0÷60 R.	150bar	200bar		O1	0÷4 A.	75bar	150bar
G2	0÷100 R.	150bar	200bar		O2	0÷6 A.	75bar	150bar
H1	0÷160 R.	600bar	800bar		O3	0÷10 A.	75bar	150bar
H2	0÷250 R.	600bar	800bar		O4	0÷16 A.	75bar	150bar
H3	0÷400 R.	600bar	800bar		O5	0÷25 A.	75bar	150bar
R. = Gauge Pressure - A. = Absolute Pressure								

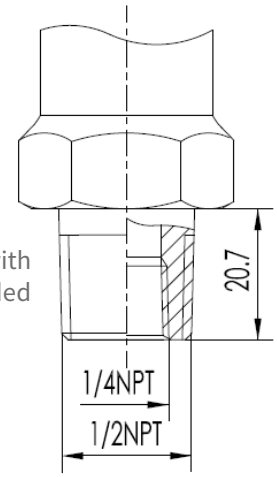
4-DIMENSIONS

4.1 MECHANICAL DIMENSIONS

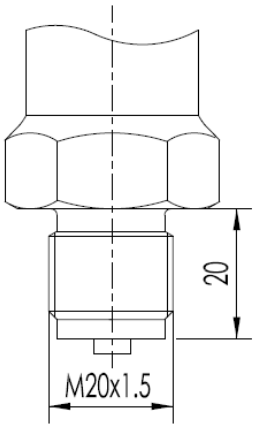


Ex. with 1/2“ NPT female thread

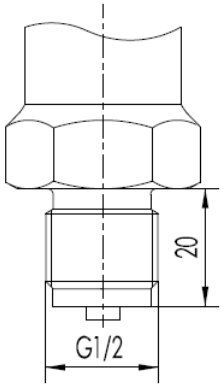
1/2“ NPT male thread with 1/4” NPT female threaded hole



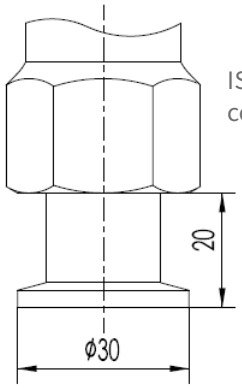
M20x1.5 male thread



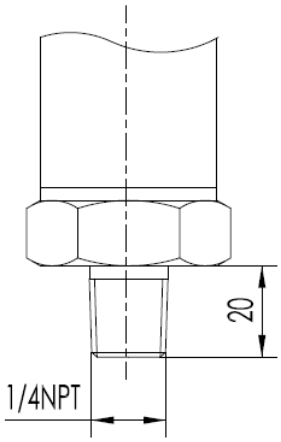
1/2”G male thread

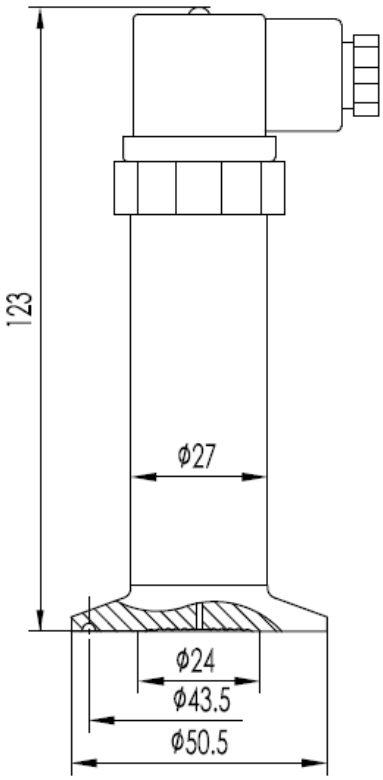


ISO 2861 vacuum connection max 2.5bar

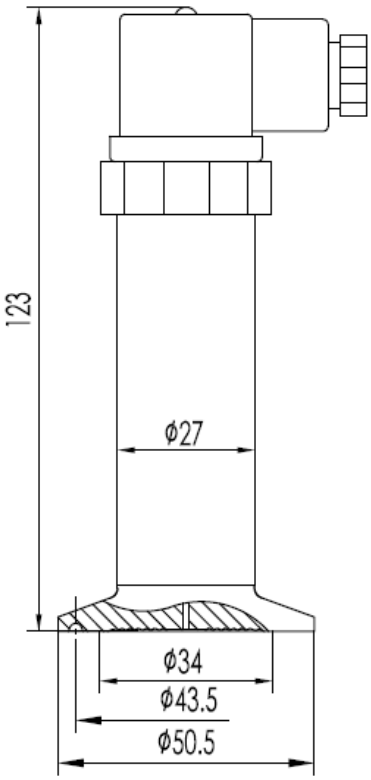


1/4” NPT male thread

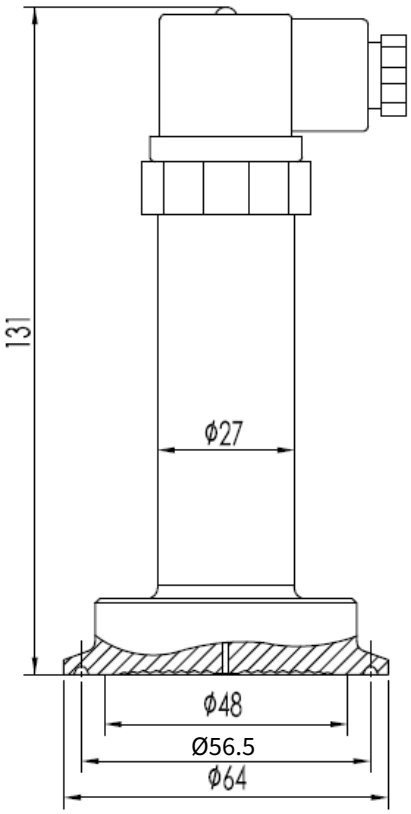




Sanitary: DIN 32676 DN25 /
ISO 2852 DN 25; max 30bar



Sanitary: DIN 32676 DN40 /
ISO 2852 DN 38; max 30bar



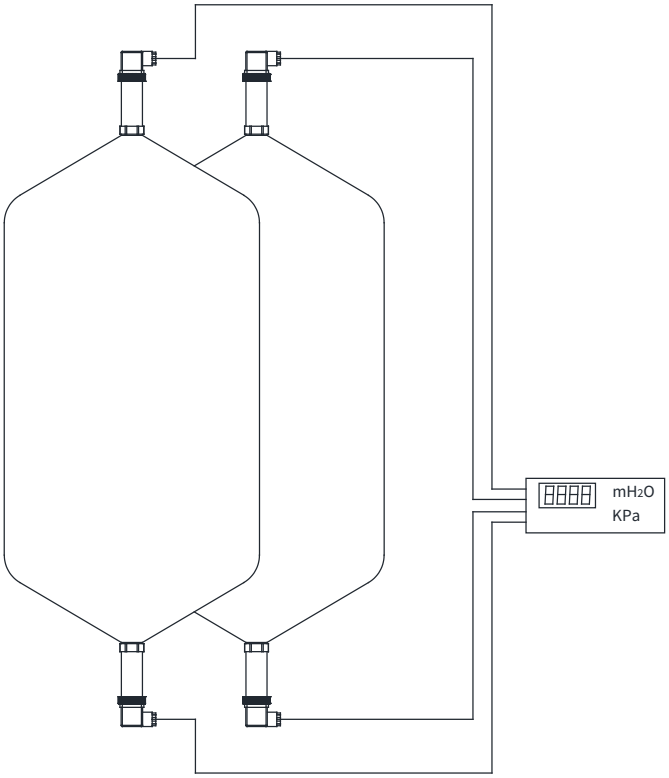
Sanitary: DIN 32676 DN50 /
ISO 2852 DN 51; max 30bar

5-INSTALLATION

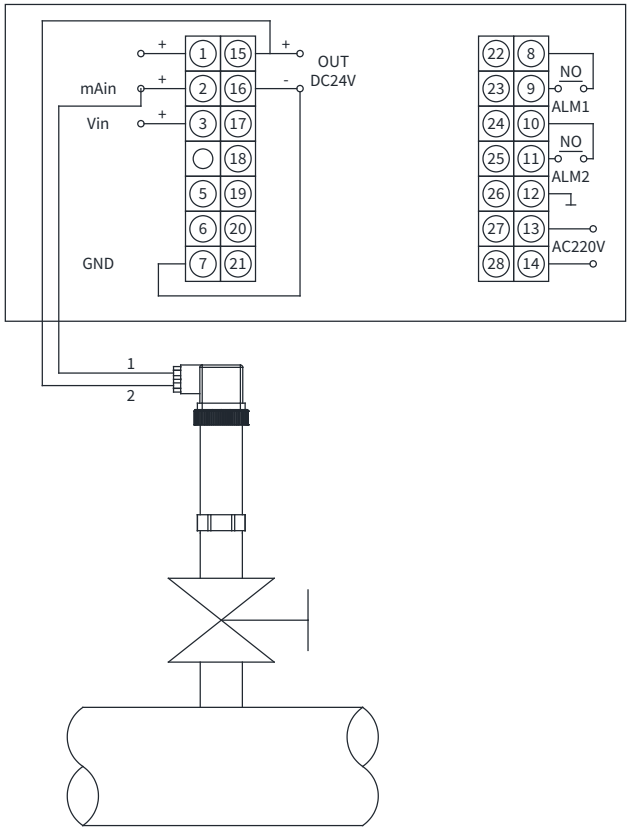
The transmitters KPT can be installed in a connection point of the under pressure pipe.
It is recommended that the combination of a closing valve to facilitate the operations of mechanical installation or maintenance.
The drift of the Zero caused by the installation position can be easily eliminated by the calibration trimmer Zero.
If you want to calibrate the Zero or Span unscrew the top of the transmitter body.

5.1 APPLICATION EXAMPLES

Level measurement in beer silo



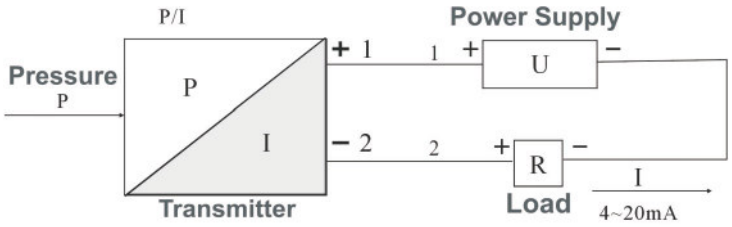
Pressure measurement in pipe

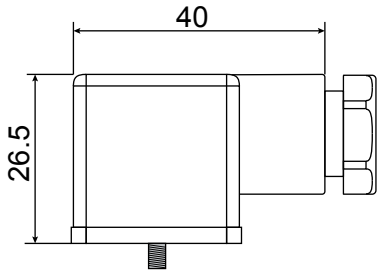


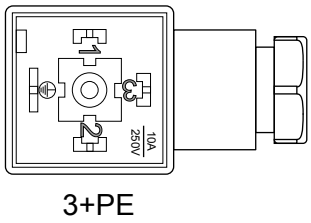
6-ELECTRICAL CONNECTIONS

6.1 CONNECTION

Two wires connection 4÷20mA
Type A connector EN 175301-803 (DIN 43650)
Terminal for 1.5mm2 max wires.
Cable gland: PG9 4.5÷7mm



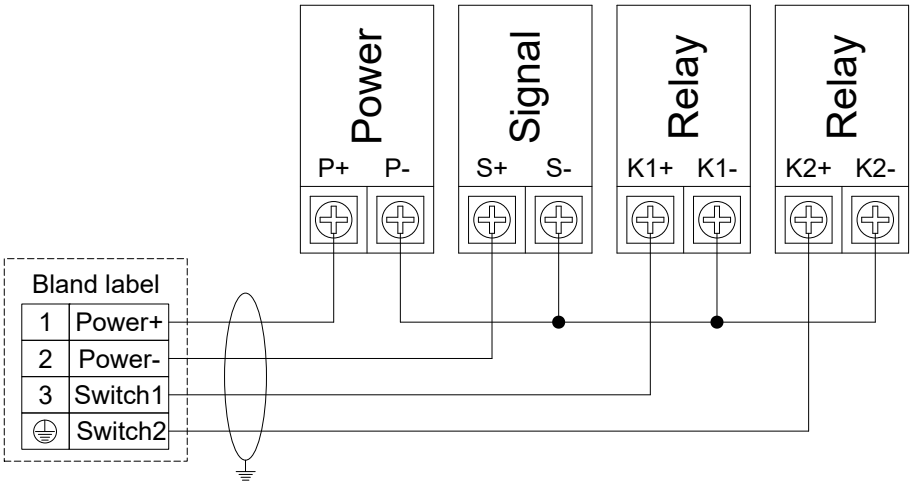




3+PE

Connector pinout	
PINS	Function
1	Power + = +V
2	Power - = 0V
3	-

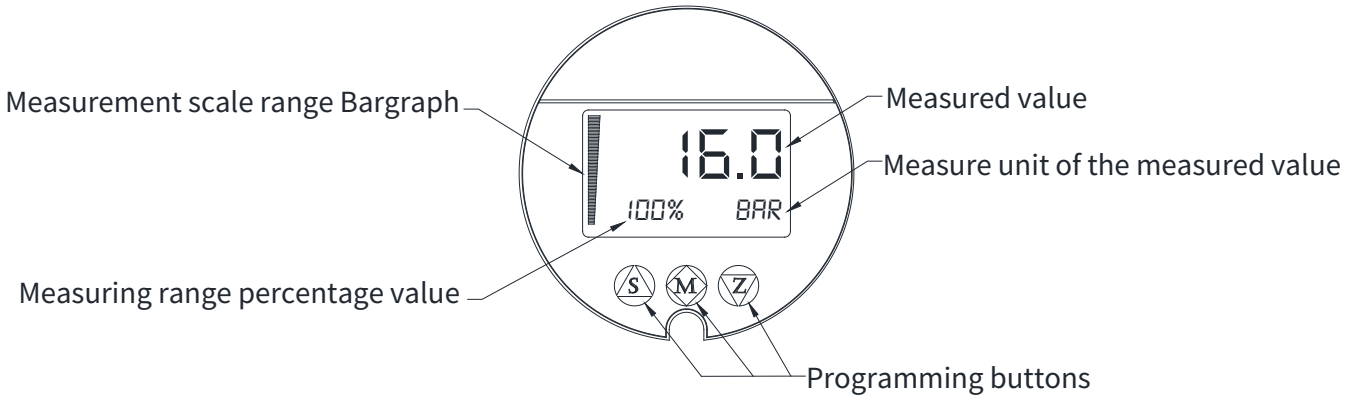
6.2 LCD DISPLAY WITH 2 PNP DIGITAL ALARM OUTPUTS



7-DISPLAY (optional)

The KPT pressure transmitter may be directly connected to the configurable LCD display.
The display is available for all KPT sensors.
The display main features are:

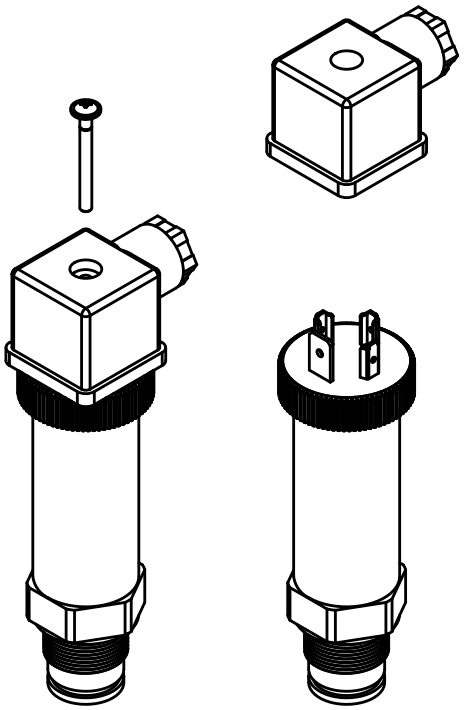
- dimensions 39x24
- blue backlight
- large, 9x5, and easily visible font of the measured value
- programmable pressure measure unit
- programmable display pressure range
- Access code for the programming protection
- display with a rotation of 350°



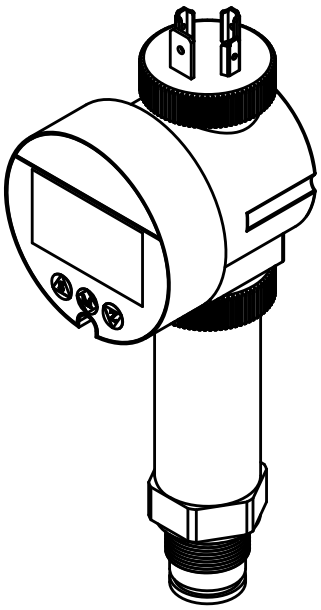
7.1 MOUNTING

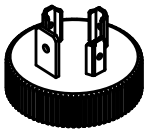
To mount the display on the KPT proceed as follows:

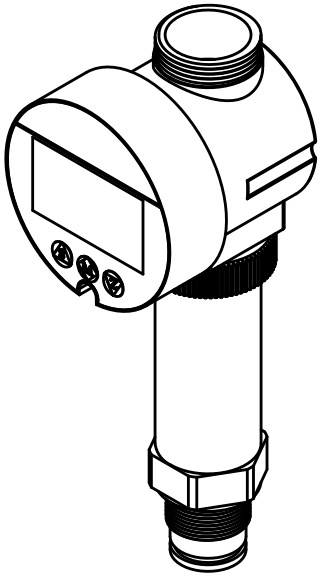
1) Unscrew the screw and remove the female connector.



2) connect the display female connector with the KPT male connector.

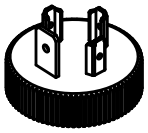


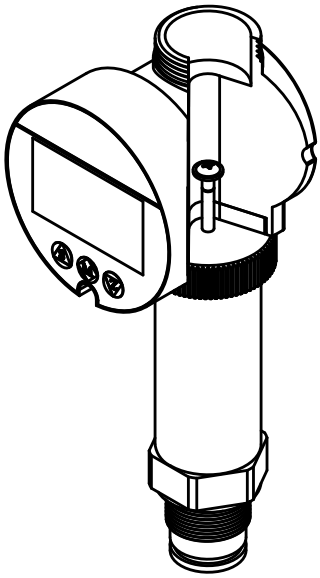




3) Unscrew the plastic ring nut, the male connector must not be rotated to avoid damage to internal connections.

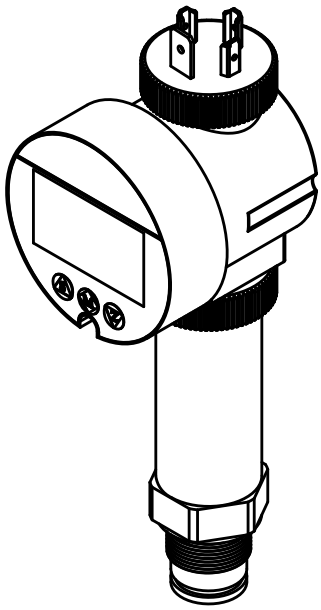
4) Carefully lift the male connector, be careful not to damage the internal connection wires.



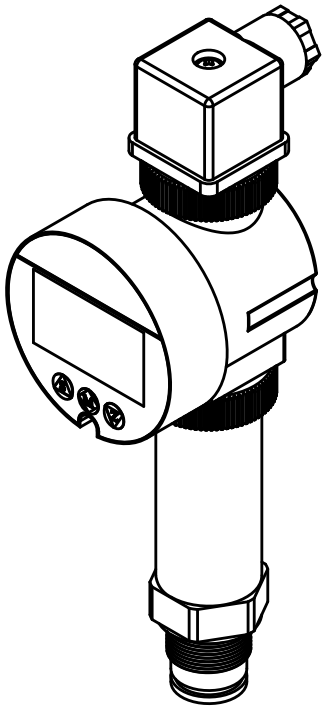


5) Tighten the inside screw.

6) Screw the plastic ring nut, the male connector must not be rotated to avoid damage to internal connectionse.

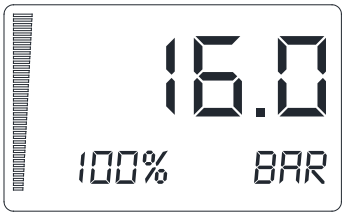


7) Connect the female connector and lock it by tightening the screw.



8-CONFIGURATION VIA DISPLAY

8.1 PARAMETERS SETTING



To configure the display parameters is sufficient to act on the 3 buttons:

Z - access to the parameter programming or select digit to be edited
S - change the selected digit or choice option
M - stores changes or moves to the next parameter

To access the parameter setting, press **M**

8.1.1 CLK - Access code

To access the parameters need to enter the access code 132.
Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.

8.1.2 SLL - Begin scale value of the measuring range

PTo access the next parameter without changes, press **M**.
Set the value to be displayed when the analog signal is 4mA.
Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.
NB - the decimal point position is in accordance with the setting in 8.1.6

8.1.3 SLH - End scale value of the measuring range

To access the next parameter without changes, press **M**.
Set the value to be displayed when the analog signal is 20mA.
Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter
NB - the decimal point position is in accordance with the setting in 8.1.6

8.1.4 UNI - Measure unit

To access the next parameter without changes, press **M**.
The available measure units are:

0	-	None
1	-	kPa; chiloPascal
2	-	MPa; megaPascal
3	-	Pa; Pascal
4	-	bar; bar
5	-	mbar; millibar
6	-	psi; pounds per square inch
7	-	mHO; meters of water column
8	-	mmHO; millimeters of water column
9	-	cmHO; centimeters of water column
10	-	mmHg; millimeters of mercury column
11	-	tor; torr
12	-	atm; atmospheres

To select the unit of measurement set the corresponding number, es:
to select bar have to set the number 3.
Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.

8.1.5 PV-dISP - “Measured value” Displaying

To access the next parameter without changes, press **M**.
Set the measured value to be displayed.
The available options are:

00 - 4÷20mA analog signal value displaying, that KPT sensor is transmitting, with three digits to the decimal point right
01 - KPT sensor measured pressure value displaying; the measure unit displayed is in accordance with the setting in 8.1.4
02 - KPT sensor measured pressure range percentage displaying, with two digits to the decimal point right

Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.

8.1.6 dECP - Decimal point

To access the next parameter without changes, press **M**.
Set the decimal point fixed position for the measured pressure displaying.
The available options are:

0 - no decimal point, eg.: 160
1 - one digit to the decimal point right, eg.: 16.0
2 - two digit to the decimal point right, eg.: 1.60
3 - three digit to the decimal point right, eg.: 0.160

Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.

8.1.7 Pb - Zero correction

To access the next parameter without changes, press **M**.
Set the Zero correction value.

Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.

8.1.8 KKI - Correction factor

To access the next parameter without changes, press **M**.
Set the correction factor value.
Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.

8.1.9 AOLC - Low alarm

To access the next parameter without changes, press **M**.
Set the low alarm threshold value in mA.
Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.

8.1.10 AOHC -Higt alarm

To access the next parameter without changes, press **M**.
Set the higt alarm threshold value in mA.
Press **Z** to select the digit and **S** to modify.
Press **M** to confirm and go to the next parameter.

8.2 THRESHOLD N ° 1 SETTINGS

From the operational interface, press **M** + **Z** simultaneously for at least 5 seconds.

8.2.1 SP1: threshold 1 upper limit

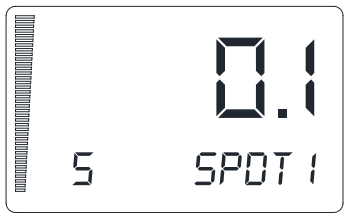
To move to the next parameter press **M**, otherwise:
press **Z** to edit the parameter; the least significant digit can be edited by pressing **S**.
To confirm the change and move to the next digit press **Z**; to confirm and go to the next menu press **M**.

8.2.2 RP1: threshold 1 lower limit

To move to the next parameter press **M**, otherwise:
press **Z** to edit the parameter; the least significant digit can be edited by pressing **S**.
To confirm the change and move to the next digit press **Z**; to confirm and go to the next menu press **M**.

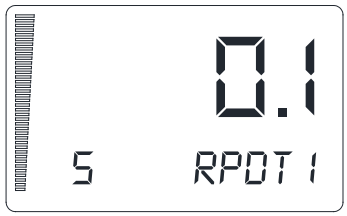
8.2.3 SPDT1: threshold 1 activation delay (0.0 ÷ 60.0 sec.)

To move to the next parameter press **M**, otherwise:
press **Z** to edit the parameter; the least significant digit can be edited by pressing **S**.
To confirm the change and move to the next digit press **Z**; to confirm and go to the next menu press **M**.



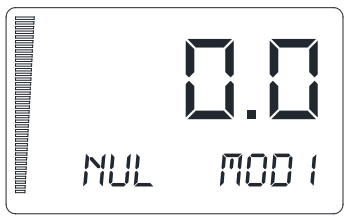
8.2.4 RPDT1: threshold 1 de-activation delay (0.0 ÷ 60.0 sec.)

To move to the next parameter press **M**, otherwise:
press **Z** to edit the parameter; the least significant digit can be edited by pressing **S**.
To confirm the change and move to the next digit press **Z**; to confirm and go to the next menu press **M**.



8.2.5 MOD1: setting the intervention mode of threshold1

To go back to the operational interface press **M**, otherwise:
press **Z** to edit the parameter; the indicative digit of the activation mode can be edited by pressing **S**.
To confirm the change and move to the operational interface press **M**.



8.3 IMPOSTAZIONI SOGLIA N°2

From the operational interface, press **M** + **S** simultaneously for at least 5 seconds.

8.3.1 SP2: threshold 2 upper limit

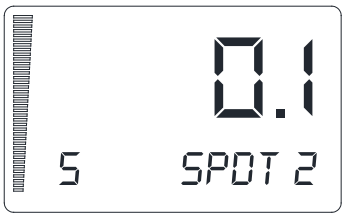
To move to the next parameter press **M**, otherwise:
press **Z** to edit the parameter; the least significant digit can be edited by pressing **S**.
To confirm the change and move to the next digit press **Z**;
to confirm and go to the next menu press **M**.

8.3.2 RP2: threshold 2 lower limit

To move to the next parameter press **M**, otherwise:
press **Z** to edit the parameter; the least significant digit can be edited by pressing **S**.
To confirm the change and move to the next digit press **Z**;
to confirm and go to the next menu press **M**.

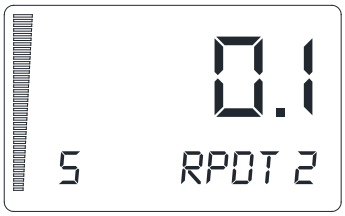
8.3.3 SPDT2: threshold 2 activation delay (0.0 ÷ 60.0 sec.)

To move to the next parameter press **M**, otherwise:
press **Z** to edit the parameter; the least significant digit can be edited by pressing **S**.
To confirm the change and move to the next digit press **Z**;
to confirm and go to the next menu press **M**.



8.3.4 RPDT2: threshold 2 de-activation delay (0.0 ÷ 60.0 sec.)

To move to the next parameter press **M**, otherwise:
Press **Z** to edit the parameter; the least significant digit can be edited by pressing **S**.
To confirm the change and move to the next digit press **Z**;
to confirm and go to the next menu press **M**.



8.3.5 MOD2: setting the intervention mode of threshold 2

To go back to the operational interface press **M**, otherwise:
press **Z** to edit the parameter; the indicative digit of the activation mode can be edited by pressing **S**.
To confirm the change and move to the operational interface press **M**.

8.4 MEANING OF INTERVENTION MODES:

MODx	Activation mode
0	No output, threshold not active.
1	Active threshold (with SPDTx delay) when the measured value exceeds the SPx value; threshold not active (with RPDTx delay) when the measured value falls below RPx
2	Threshold not active (with RPDTx delay) when the measured value falls below RPx; active threshold (with SPDX delay) when the measured value falls below RPx
3	Active threshold (with SPDTx delay) when the measured value is between RPx and SPx; threshold not active (with RPDTx delay) when the measured value is not included between the RPx ÷ SPx interval
4	Active threshold (with SPDTx delay) when the measured value is outside of interval RPx ÷ SPx; threshold not active (with RPDTx delay) when the measured value is within the interval RPx ÷ SPx

9-FACTORY TEST AND QUALITY CERTIFICATE

CE

In conformity to the company and check procedures I certify that the equipment:

(Miniature Pressure Transmitters)

is conform to the technical requirements on Technical Data and it is made in conformity to the procedure

Quality Control Manager: ..... Production and check date: .....

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