

# Parametrizable Modular Pressure Transducer for the Food- and Pharmaceutical Industry

## Manual **SDT 03**



**seli**®  
Automatisierungstechnik

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Thank you, that you have chosen our product. This manual will show you an easy installation. Please read this documentation carefully and keep it for later to look up. Information about the various used materials and general technical data can be seen in the relevant technical datas.

## **1. General**

This pressure transducer is a precision instrument. The highly sensitive membrane surface is protected by a cap, that may be removed only immediately before the installation. Pay special attention for avoiding abrasive, and other solid mechanical damages (fingerprint).

Please follow these instructions carefully, so the pressure transducer is working properly. The allowed storage temperature is  $-30\text{ ° C} \dots + 80\text{ ° C}$  (dry air).

The pressure transducer corresponds to the standards for Electromagnetic Compatibility EN 61000-6-3 and 4, and EN 61000-6-2 and EN 61326, provided it was installed carefully and professionally.

## 2. Installation / Removal

Install the pressure transducer in the chosen process adaptation and use following torque:

Torque 30 Nm

### **Attention: DON'T USE ANY SEALING MATERIALS!**

For corresponding welding sleeves and process connections, please see our datasheet Process connection technology. [modular @ process](#)

Don't install the pressure transducer directly besides quickly closing valves or pumps (eg hydraulic systems), even if the sensor tips are protected against pressure-peaks.

Before removing the pressure transducer from the process make sure that the pipeline, which hoists the medium or the container, whose level is measured, is fully depressurized.

### **Attention: Serious violations may result, if the process is still under pressure!**

After the removal, the membrane surface or the pressure connection must be protected immediately with the original cap.

### 3. Electrical Connection

We recommend using a shielded cable eg Seli capillary cable SKK-3 (No. S0772-00001) for the best protection regarding electromagnetic compatibility and tightness of the device.

#### Cable-Version

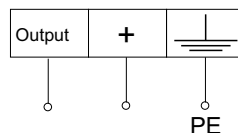
The shielding on the end of the line must be kept short and properly grounded. Informations regarding the connection assignment, see on the page "technical data". (The pressure transducer is being protected against twisted polarity of the voltage .)

#### Plug-Version

In the connector version is the electrical connection on a M12 connector. The pin assignment or the connection-assignment, please extract from the "Technical data". When connecting this version please use an additional cable. We recommend the WWAKE 4-10/P00 (4-pin connector VA-plug angled, 10 mtr. long) For other versions please ask us.

The electrical connection for the cable version takes place over a 3-pin plug, that will be accessible after removing the housing lid and the display unit.

two-wire (pluggable)



**NOTE: Because of the better tightness of this version please use our capillary line SKK-3 (No. S0772-00001). Please note that the altitude compensation takes place over the line.**

## 4. Cleaning and Service

The pressure transducer does not require any cleaning. To avoid damage, please do not focus the water-jet of a high-pressure water blaster directly to the membrane.

Do not clean the membrane with tools or other mechanical items.

Do not bring in hard objects in the opening of the pressure sensor.

## Handling

The allowable areas in compliance with the technical data sheet must be strictly respected in any case.

In the case of a malfunction please check the following points:

- Check the information on the label and compare it with the installed configuration.
- Check the wiring.
- Check the power supply and load
- Check whether the membrane is OK or damaged.
- Check the possibility of influences in relation to the Electromagnetic Compatibility

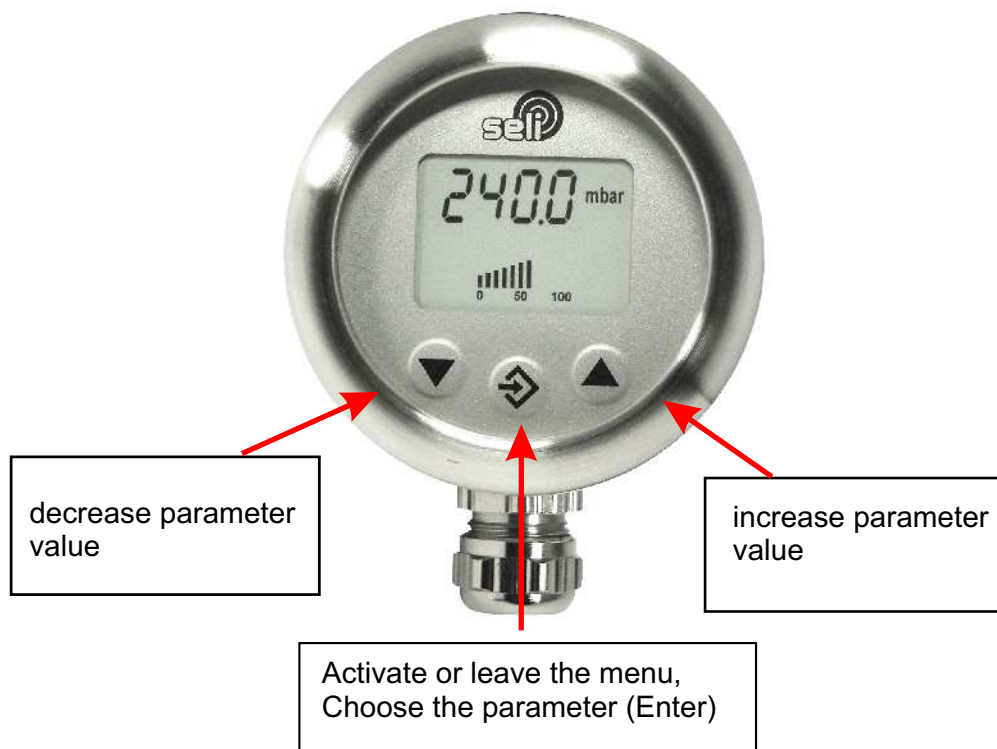
## Repair

Please send the pressure (if possible in the original packaging) directly to us.

Detailed information regarding the malfunction helps us to speed up the analysis.

## 5. Control-Elements

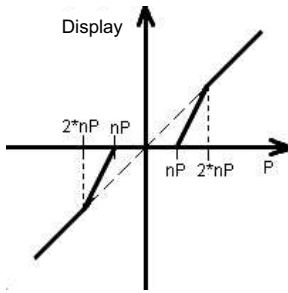
The transmitter is controlled via three buttons, that are available after removing the housing lid.



**NOTE: If no key is pressed for the set time (adjustable 0 ...100 min) the transmitter shows the actual measurement again.**

## 6. Control Structure

↪ Enter

	Menu Item	Description	Factory setting
▲ ↪	<i>ESC</i>	<u>Menu start respectively Menu end</u>	↓
▼ ▲ ↪	<i>DSP</i>	<u>Display switching:</u> P = indication of the measuring pressure T = indication of the media temperature	P
▼ ▲ ↪	<i>MA</i>	<u>Beginning of the effective range:</u> Specify your measuring pressure for 4mA output signal	see measuring range
▼ ▲ ↪	<i>ME</i>	<u>End of the effective range:</u> Specify your measuring pressure für 20mA output signal	see measuring range
▼ ▲ ↪	<i>DP</i>	<u>Damping measuring pressure:</u> For sedation of the pressure-measuring, please adjust the minimum rise time (adjustable 0...200sec.)	0
▼ ▲ ↪	<i>DT</i>	<u>Damping measuring temperature:</u> For sedation of the temperature-measuring, please adjust the minimum rise time (adjustable 0...200sec.)	0
▼ ▲ ↪	<i>OFF</i>	<u>Offset-correction:</u> Correct the measuring-pressure at the zero point. The current measured value is indicated which can be adjusted with the arrow keys up to +/-10% from the basic range.	0
▼ ▲ ↪	<i>SPAN</i>	<u>Span correction:</u> Here you can correct the span (100%) of the pressure-measuring up to +/- 10% of the basic range. The current measured value is indicated which can be adjusted with the arrow keys up to +/-10% from the basic range.	0
▼ ▲ ↪	<i>NP</i>	<u>Zero-point window:</u> Here you can set the range around the zero point (0 bar). The indicated value and the default value will be set to 0 bar. The indication takes place in Display-Steps (Digits, 0...100). Outside of the entered window the measured value will be approached. 	0
▼ ▲ ↪	<i>IG1</i>	<u>Lower current limit</u> Here you can set the minimal output signal for the measuring-range lower deviation. (3,5...22,5 mA)	3,8

	Menu Item	Description	Factory setting
▼ ▲ ↻	<i>IG2</i>	<u>Upper current limit</u> Here you can set the maximal output signal for the measuring-range overriding.	↓ 22,5
▼ ▲ ↻	<i>IER</i>	<u>Error-signal</u> Here you can set the output signal which is emitted in case of an internal fault.	3,5
▼ ▲ ↻	<i>TAST</i>	<u>Keyboard-lock</u> Here you can chose a time-lock (0...100 min) for keyboard control. The adjustment takes place in minute-steps. If you enter "0" is no lock. If you want to unlock the keyboard you must turn off the unit and then turn it on again.	0
▼ ▲ ↻	<i>RST</i>	<u>Resetting to default mode</u> For resetting all user-adjustments you must set this parameter to "1". Please note: In this moment the parameterization will be resetted, too	0
▲	<i>ESC</i>	Exit menu	
↻	Back to actual value		

## Technical Data

### Input variable (Measuring range)

Basic measuring range bar		0...0,4	0...1	0...1,6	0...2,5	0...4	0...6	0...10	0...16	0...25	0...40
Allowable overload		1,6	4	6,4	10	16	24	40	64	100	160
Turndown 4 : 1											

### Housing material

High grade steel 1.4404 (316 L)

### Sensormaterial (wetting parts)

High grade steel 1.4435 (316 L) Advantages material of the food and Pharmaindustrie (corrosion resistance increased)

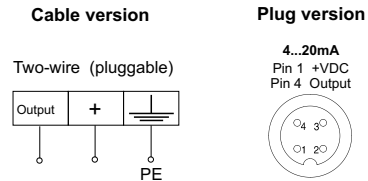
### Filling medium

AK 100, FDA conformal

### Filling volume

ca. 0,11 cm<sup>3</sup>

### Connection dimensional drawing



### Output signal / auxiliary power

Standard 2-Leiter: 4 ... 20 mA / U<sub>b</sub> = 12 ... 30 VDC

### Elektrical connection / safety class

- High grade steel connecting head with M16-gland or M12-plug made of high grade steel
- with capillaries cable (Art.Nr. S0772-00001) IP 69K
- or Goretex-filter

### Torque

Torque: 30 Nm

### Signal behaviour

Accuracy Standard:  $\leq \pm 0,2\%$  of meas. Range FS (incl. hysteresis and reproducibility)  
 Allowable load 450 Ohm Lower current border adjustable (3,5...22,5 mA)  
 Upper current border adjustable (3,5...22,5 mA) Current in case of error adjustable (3,5...22,5 mA)

### Temperature error

Temperature drift zero-point:  $\leq \pm 0,01\%$  FS/K  
 Temperature drift meas. range  $\leq \pm 0,01\%$  FS/K

### Temperature operating range

All. duration mediumtemp.: -10...100°C  
 Mediumtemp max.: (1/2 h) 140°C  
 Ambient temperature.: -20... 85°C

### Order Code

SDT03 -  -  0 - B -  -  -

Measuring range	bar								
0...0,4	advantages type	0	1						
0...1	advantages type	0	2						
0...1,6		0	3						
0...2,5	advantages type	0	4						
0...4		0	5						
0...6		0	6						
0...10	advantages type	0	7						
0...16		0	8						
0...25		0	9						
0...40		1	1						
- 0,6...0,0		3	0						
- 1...0,0		3	1						
- 1...0,6		3	2						
- 1...1,5		3	3						
- 1...3		3	4						
- 1...5		3	5						
- 1...9		3	6						
- 1...15		3	7						
<b>Measuring value</b>									
Relative pressure			0						
<b>Output signal</b>									
4...20 mA, 2-wire technology					B				
<b>Parameter module</b>									
without integrated control and indicator display						A			
with integrated control and indicator display						B			
<b>Electrical connections</b>									
Connecting head made of high-grade steel with M16 screw connection							5		
Connecting head made of high-grade steel with M12 plug							6		
Capillarwire in m enclosure IP 69K								X	
Pressure balance with Goretex-filter enclosure IP 67								G	

### process connection

look at the data sheet process connections **modular** @ process

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