SR

intelligent pressure **transmitter**

CRESSTO

- **overpressure endurance**
- **uP signal processing**
- **users SW configuration**
- **analogue, digital and two-state outputs**
- **supply 5 ÷ 36 V**
- **robust construction**
- **protection IP65**
- **wide temperature range**
- **display fit-out possibility**

These pressure transmitters designed for meassuring of pressure in gases and liquids. They are applicable in many sectors of industry, in heating engineering, water-supply engineering, agricultural engineering, construction of machines or in laboratories etc. The transmitters can measure overpressure, underpressure compare with ambient atmosphere or absolute pressure.

The medium being measured may be gases and liquids also aggressive character. Measured media is in a contact directly with stainless separation diaphragm, stainless housing and Viton sealing. Connecting screwing has a standard proportion G1/2“. In case of bulid to order is possible to produce treansmitter also with different connection armature.

All components of the transmitter are placed in robust box from aluminum alloy, which serves as a good mechanical and electrical protection is IP65. The construction of transmitter is self-supporting and connection by pressure screwing is adequate.

For electrical connection serves internal terminal block with screws for cable with metal grommet PG-9. For some outputs can be used also sealed latched mini connector type DIN 43650 - C with cabel grommet PG7, witch enables to use cable diameter of max. 6,5mm.

This type of transducer measures the pressure by means of a silicon diaphragm on a piezoelectric principle. Silicon diaphragm is separated from measured media by stainless diaphragm and oil filling. Therefore this transducer attains a good overload endurance, is resistant against vibrations and output is independent on work position. Electronic circuitry is realized by a surface mount technology and for increasing protection is passivated by a coat.

Electric signal from sensor is after amplifying converted by 16bit ADC to digital format. By means of two-dimensional polynomial approximation of 3rd order transmitter is calibrated and temperature compensated. With special agreement it is possible to compensate down to -20°C. Output pressure value can be read directly via serial port RS485, RS 232 or USB. Transmitter has special output stage, which convert calculated value to analogue value 4-20mA *(two-wire)* or 0-20mA, 0-10V, 0-3V*(three-wire)*. Particular analogue outputs can be switch by software and it is possible to change measuring pressure range and set other parameters, for example damping etc. In addition it is possible at analogue outputs to switch linear conversion characteristics to switching two-state one and realize logic levels with voltage output. Transmitters can be fitted with output switching module, which has small relay with one contact and two independent outputs with NPN transistors with open collector with LED indication. All switching parameters can be set only via software. Next option is 4 or 5 digit LCD with white LED back lighting. There is also place for FLASH memory, where can be stored measured data with desired period *(without timestamps)*.

Transmitters can be supply with DC voltage with wide range from 5 to 35 Volts. Change in this range has no effect to measurement accuracy.

Software configuration is realized via special USB adapter with program for Windows. Transmitter can be supplied from USB and due to adapter totally DC isolation can be connected to PC whenever in the final application.

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Technical parametrs:

Nominal pressure range	± 10 kPa to 3 MPa
Overpressure	200%nominal range(max 4MPa)
Error	max. 0,5%
Zero temperature error	typ. 0,1 % max. 0,2%/10°C
Span temperature error	typ. 0,1 % max. 0,2 %/10°C
Operating temperature with display	-20 ÷ +85°C -20 ÷ +70°C
Media temperature	-20 ÷ +100°C
Storage temperature with display	-25 ÷ +100°C -20 ÷ +80°C
Supply voltage	5 ÷ 36V DC
Supply current	typ 4 mA
Output	4 ÷ 20mA two-wire 0 ÷ 20mA three-wire 0 ÷ 10 V three-wire 0 ÷ 3 V three-wire RS232 four-wire RS485 four-wire USB four-wire open collector three-wire relay four-wire
Operated position	arbitrary
Protection	min. IP 65
Voltage endurance	min. 1000V DC
Weight	cca 300g

CE ČSN EN 61326-1

As a custom it is possible we can provide measurement of accredited test sensors centre and calibration services.

Operating instructions:

- Before connection of the transducer into the pressure circuit, it is necessary to verify that the pressure being measured corresponds to the nominal range of this transducer. Even a transient loading over the maximum allowable overpressure may cause a destruction of the measuring diaphragm!
- If you measure a pressure of aggressive media it is necessary to verify the transducer material resistance.
- For sealing transmitter is recomandet flat seal.
- During sealing into the thread (teflon, tow) for fluid medium is necessary take notice of, because during driving screws into a closed volume of fluid can increase pressure and thereby can be the membrane destroyed!

Electrical connection:

Transmitters are connected into electrical circuit by common way. They are protected against supply reversing polarity by series diode. ATTENTION with more-wire connection, when for example changing output and supply wire may cause transmitter damage.
Detailed description all types of electrical connections, pin assignments and protocol description for series communication are in special document, which is a part of transmitter delivery. All information can be found on www.cressto.cz

How to order this device:

Such an order shall include a specification of transducer according following selection. Alternatively can be sent full description of all requested parameters.

Legend:

SR	G	6	1	1	A	5	U	B	D	M	S
Pressure measurement											
relative	G										
absolute	A										
Pressure range											
±30 kPa		4	3								
±100 kPa		5	1								
-100 ÷ +300 kPa		5	3								
-100 ÷ +1000 kPa		6	1								
-100 ÷ +3000 kPa		6	3								
other		0	0								
Accuary											
1%				1							
0,5%				2							
other				0							
Pressure connection											
thread G1/2“					A						
other					X						
Electrical connection											
cable 1m						2					
conector DIN 43650 C						4					
terminal block and grommet						5					
Analogue electrical output											
analogue 4÷20mA, 0÷20mA, 0÷3V, 0÷10V							U				
other							X				
Digital electrical output											
series RS232								A			
series RS485								B			
series USB								C			
none											
other								X			
Display											
4 digitas display									D		
Memory											
FLASH memory										M	
Switch											
relay contact, 2x open collector + LED											S

Dimensions: