

Industrial pressure transmitter for measuring absolute and relative pressure

Description



Technical data

Industrial pressure transducer	
Measuring range	-1...+100 bar
Overload	See table delivery spectrum over/burst pressure
Residual error Linearity/Hyst.	< ±0.4 % FS
Temperature coefficient	TCO < ±0.015 % FS / K TCG < ±0.010 % FS / K
Application temp. range	-20...+80 °C
Sensor material	Ceramic measuring cell
Housing material	Stainless steel
Seal	Viton
Pressure connection	G1/4" / G1/2" external thread
Connection	M12 plug, male
Protection class	IP65
CE conformity	2014/30/EU
EMC emission standard	EN 61000-6-3:2011
EMC immunity	EN 61000-6-1:2007
Version 4...20 mA	
Output signal	4...20 mA, two wires
Min. load	$R_{a[\Omega]} = (U_v[V] - 10V) / 0.02 A$
Version 0...10 V	
Output signal	0...10 V, three wires
Operation voltage	12...36 V DC / 5 mA
Version I ² C	
Output signal	I ² C-Bus
Operation voltage	3.0...5.3 V DC / 5 mA

Performance features

- Variants from vacuum to 100 bar FS
- For measuring absolute and relative pressure
- Standard output signal 0...10 V, 4...20 mA or I²C
- High-quality industrial version (stainless steel)
- Robust, media-resistant version
- Temperature compensated
- Easy to install
- Water and oil resistant
- Protection class IP65

Areas of application

- Pneumatics
- Hydraulics
- Industrial applications
- Mechanical and plant engineering
- Automation technology

Features

The stainless steel pressure sensors transmit the measured value as a calibrated and temperature-compensated standard signal 0...10 V, 4...20 mA or I²C. The portfolio of products covers the pressure range from vacuum to 100 bar full scale (FS) with graduated measuring range variants (see table).

Precise calibration at seven measuring points for three different temperatures ensures excellent precision and a very low residual temperature error.

The sensors are ideal for measuring static and dynamic relative or absolute pressure in liquids and gaseous media. Typical areas of application include pneumatics, hydraulics and industrial applications.

The robust sensor housing, compliant with protection class IP65, is made of stainless steel and has a G1/4" or G1/2" external thread as the process connection. The electrical connection is made through a M12 plug. The version with current signal is supplied via the current loop.

The version with I²C output is programmed at the factory with the address 0x78. On request, a customer-specific address can be programmed. Please order the article 0800 3000 „Programming the I²C address ex works“.

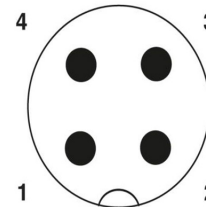
Of the 15-bit measured value, 12 bits of resolution are to be used. The three least significant bits can be ignored.

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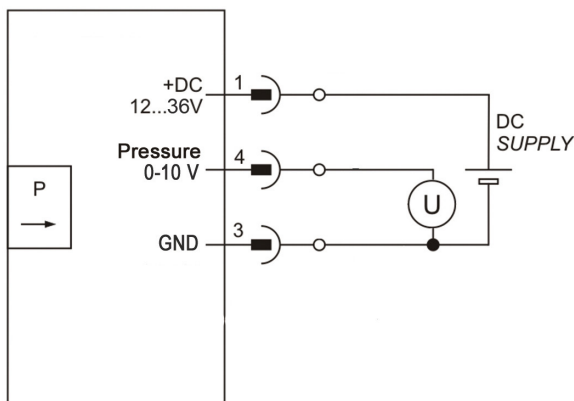
Connection layout

Pin	Voltage output 0...10 V	Current output 4...20 mA	I ² C-Bus
1	Supply: + DC 12...36 V	Supply: + DC 14...24 V	Supply: + DC 3,0...5,3 V
2	-	-	SDA
3	Supply: - DC	Pressure: 4...20 mA	Supply: - DC
4	Pressure: 0...10 V	-	SCL



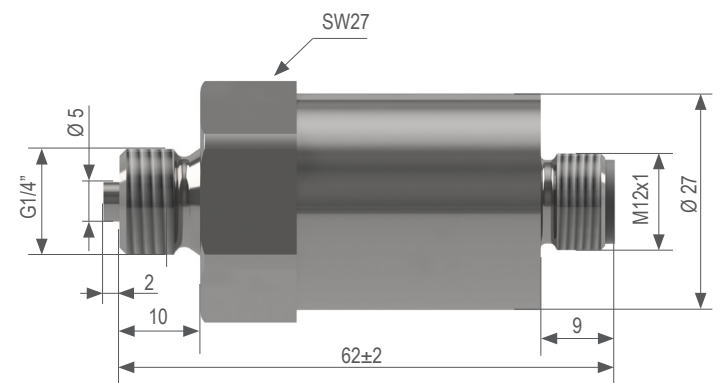
schematic Pole pattern M12 connector, 4-pin, A-coded, pin header view

Connection diagramm

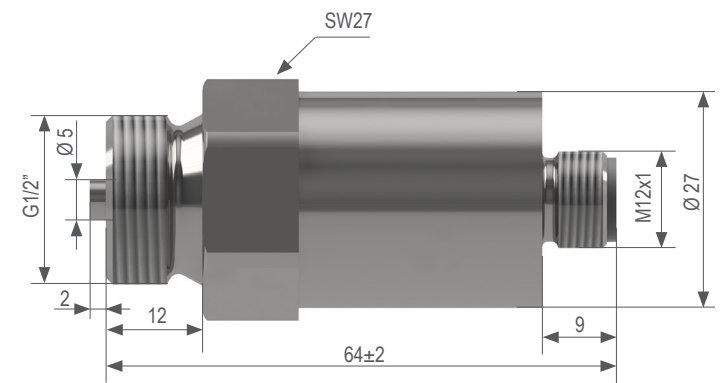


Voltage output 0...10 V, DC supply

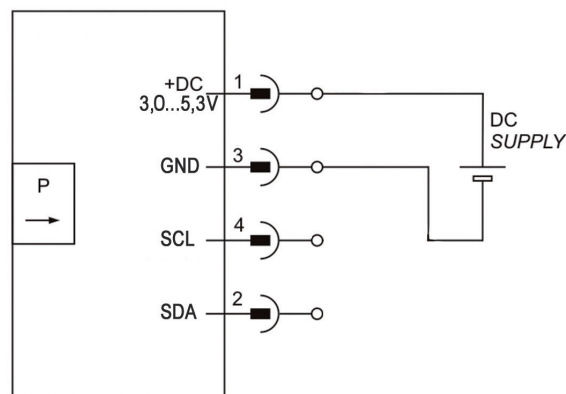
Dimensions



G1/4"



G1/2"



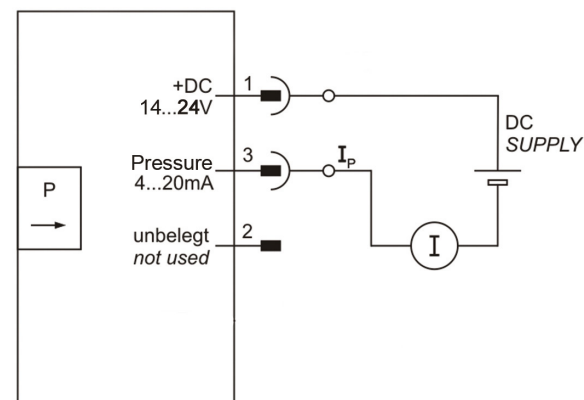
I²C

Attention

Please avoid extreme mechanical and inappropriate exposure.

The device/product is not suitable for potential explosive areas and medical-technical applications.

For more information, please visit our website: www.bb-sensors.com



Current output 4...20 mA

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Delivery spectrum

Pressure kind	Output	Process connection	Measuring range	Over pressure	Burst pressure	Article number
relativ	0...10 V	G1/4"	-1-1 bar	3,2 bar	5 bar	0550 1190-001
relativ	0...10 V	G1/4"	0-1 bar	3,2 bar	5 bar	0550 1190-002
relativ	0...10 V	G1/4"	0-1,6 bar	3,2 bar	5 bar	0550 1190-003
relativ	0...10 V	G1/4"	0-2,5 bar	10 bar	12 bar	0550 1190-004
relativ	0...10 V	G1/4"	0-4 bar	10 bar	12 bar	0550 1190-005
relativ	0...10 V	G1/4"	0-6 bar	12 bar	18 bar	0550 1190-006
relativ	0...10 V	G1/4"	0-10 bar	20 bar	30 bar	0550 1190-007
relativ	0...10 V	G1/4"	0-16 bar	32 bar	48 bar	0550 1190-008
relativ	0...10 V	G1/4"	0-25 bar	50 bar	75 bar	0550 1190-009
relativ	0...10 V	G1/4"	0-40 bar	80 bar	120 bar	0550 1190-010
relativ	0...10 V	G1/4"	0-60 bar	120 bar	180 bar	0550 1190-011
relativ	0...10 V	G1/4"	0-100 bar	200 bar	300 bar	0550 1190-012
relativ	0...10 V	G1/2"	-1-1 bar	3,2 bar	5 bar	0550 1180-001
relativ	0...10 V	G1/2"	0-1 bar	3,2 bar	5 bar	0550 1180-002
relativ	0...10 V	G1/2"	0-1,6 bar	3,2 bar	5 bar	0550 1180-003
relativ	0...10 V	G1/2"	0-2,5 bar	10 bar	12 bar	0550 1180-004
relativ	0...10 V	G1/2"	0-4 bar	10 bar	12 bar	0550 1180-005
relativ	0...10 V	G1/2"	0-6 bar	12 bar	18 bar	0550 1180-006
relativ	0...10 V	G1/2"	0-10 bar	20 bar	30 bar	0550 1180-007
relativ	0...10 V	G1/2"	0-16 bar	32 bar	48 bar	0550 1180-008
relativ	0...10 V	G1/2"	0-25 bar	50 bar	75 bar	0550 1180-009
relativ	0...10 V	G1/2"	0-40 bar	80 bar	120 bar	0550 1180-010
relativ	0...10 V	G1/2"	0-60 bar	120 bar	180 bar	0550 1180-011
relativ	0...10 V	G1/2"	0-100 bar	200 bar	300 bar	0550 1180-012
relativ	4...20 mA	G1/4"	-1-1 bar	3,2 bar	5 bar	0550 1290-001
relativ	4...20 mA	G1/4"	0-1 bar	3,2 bar	5 bar	0550 1290-002
relativ	4...20 mA	G1/4"	0-1,6 bar	3,2 bar	5 bar	0550 1290-003
relativ	4...20 mA	G1/4"	0-2,5 bar	10 bar	12 bar	0550 1290-004
relativ	4...20 mA	G1/4"	0-4 bar	10 bar	12 bar	0550 1290-005
relativ	4...20 mA	G1/4"	0-6 bar	12 bar	18 bar	0550 1290-006
relativ	4...20 mA	G1/4"	0-10 bar	20 bar	30 bar	0550 1290-007
relativ	4...20 mA	G1/4"	0-16 bar	32 bar	48 bar	0550 1290-008
relativ	4...20 mA	G1/4"	0-25 bar	50 bar	75 bar	0550 1290-009
relativ	4...20 mA	G1/4"	0-40 bar	80 bar	120 bar	0550 1290-010
relativ	4...20 mA	G1/4"	0-60 bar	120 bar	180 bar	0550 1290-011
relativ	4...20 mA	G1/4"	0-100 bar	200 bar	300 bar	0550 1290-012

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relativ	4...20 mA	G1/2"	-1-1 bar	3,2 bar	5 bar	0550 1280-001
relativ	4...20 mA	G1/2"	0-1 bar	3,2 bar	5 bar	0550 1280-002
relativ	4...20 mA	G1/2"	0-1,6 bar	3,2 bar	5 bar	0550 1280-003
relativ	4...20 mA	G1/2"	0-2,5 bar	10 bar	12 bar	0550 1280-004
relativ	4...20 mA	G1/2"	0-4 bar	10 bar	12 bar	0550 1280-005
relativ	4...20 mA	G1/2"	0-6 bar	12 bar	18 bar	0550 1280-006
relativ	4...20 mA	G1/2"	0-10 bar	20 bar	30 bar	0550 1280-007
relativ	4...20 mA	G1/2"	0-16 bar	32 bar	48 bar	0550 1280-008
relativ	4...20 mA	G1/2"	0-25 bar	50 bar	75 bar	0550 1280-009
relativ	4...20 mA	G1/2"	0-40 bar	80 bar	120 bar	0550 1280-010
relativ	4...20 mA	G1/2"	0-60 bar	120 bar	180 bar	0550 1280-011
relativ	4...20 mA	G1/2"	0-100 bar	200 bar	300 bar	0550 1280-012
relativ	I ² C	G1/4"	-1-1 bar	3,2 bar	5 bar	0550 1390-001
relativ	I ² C	G1/4"	0-1 bar	3,2 bar	5 bar	0550 1390-002
relativ	I ² C	G1/4"	0-1,6 bar	3,2 bar	5 bar	0550 1390-003
relativ	I ² C	G1/4"	0-2,5 bar	10 bar	12 bar	0550 1390-004
relativ	I ² C	G1/4"	0-4 bar	10 bar	12 bar	0550 1390-005
relativ	I ² C	G1/4"	0-6 bar	12 bar	18 bar	0550 1390-006
relativ	I ² C	G1/4"	0-10 bar	20 bar	30 bar	0550 1390-007
relativ	I ² C	G1/4"	0-16 bar	32 bar	48 bar	0550 1390-008
relativ	I ² C	G1/4"	0-25 bar	50 bar	75 bar	0550 1390-009
relativ	I ² C	G1/4"	0-40 bar	80 bar	120 bar	0550 1390-010
relativ	I ² C	G1/4"	0-60 bar	120 bar	180 bar	0550 1390-011
relativ	I ² C	G1/4"	0-100 bar	200 bar	300 bar	0550 1390-012
relativ	I ² C	G1/2"	-1-1 bar	3,2 bar	5 bar	0550 1380-001
relativ	I ² C	G1/2"	0-1 bar	3,2 bar	5 bar	0550 1380-002
relativ	I ² C	G1/2"	0-1,6 bar	3,2 bar	5 bar	0550 1380-003
relativ	I ² C	G1/2"	0-2,5 bar	10 bar	12 bar	0550 1380-004
relativ	I ² C	G1/2"	0-4 bar	10 bar	12 bar	0550 1380-005
relativ	I ² C	G1/2"	0-6 bar	12 bar	18 bar	0550 1380-006
relativ	I ² C	G1/2"	0-10 bar	20 bar	30 bar	0550 1380-007
relativ	I ² C	G1/2"	0-16 bar	32 bar	48 bar	0550 1380-008
relativ	I ² C	G1/2"	0-25 bar	50 bar	75 bar	0550 1380-009
relativ	I ² C	G1/2"	0-40 bar	80 bar	120 bar	0550 1380-010
relativ	I ² C	G1/2"	0-60 bar	120 bar	180 bar	0550 1380-011
relativ	I ² C	G1/2"	0-100 bar	200 bar	300 bar	0550 1380-012

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Delivery spectrum

Pressure kind	Output	Process connection	Measuring range	Over pressure	Burst pressure	Article number
absolut	0...10 V	G1/4"	0-1 bar	3,2 bar	5 bar	0550 2190-001
absolut	0...10 V	G1/4"	0-2 bar	10 bar	12 bar	0550 2190-002
absolut	0...10 V	G1/4"	0-5 bar	12 bar	18 bar	0550 2190-003
absolut	0...10 V	G1/4"	0-10 bar	20 bar	30 bar	0550 2190-004
absolut	0...10 V	G1/4"	0-20 bar	50 bar	75 bar	0550 2190-005
absolut	0...10 V	G1/4"	0-50 bar	120 bar	180 bar	0550 2190-006
absolut	0...10 V	G1/2"	0-1 bar	3,2 bar	5 bar	0550 2180-001
absolut	0...10 V	G1/2"	0-2 bar	10 bar	12 bar	0550 2180-002
absolut	0...10 V	G1/2"	0-5 bar	12 bar	18 bar	0550 2180-003
absolut	0...10 V	G1/2"	0-10 bar	20 bar	30 bar	0550 2180-004
absolut	0...10 V	G1/2"	0-20 bar	50 bar	75 bar	0550 2180-005
absolut	0...10 V	G1/2"	0-50 bar	120 bar	180 bar	0550 2180-006
absolut	4...20 mA	G1/4"	0-1 bar	3,2 bar	5 bar	0550 2290-001
absolut	4...20 mA	G1/4"	0-2 bar	10 bar	12 bar	0550 2290-002
absolut	4...20 mA	G1/4"	0-5 bar	12 bar	18 bar	0550 2290-003
absolut	4...20 mA	G1/4"	0-10 bar	20 bar	30 bar	0550 2290-004
absolut	4...20 mA	G1/4"	0-20 bar	50 bar	75 bar	0550 2290-005
absolut	4...20 mA	G1/4"	0-50 bar	120 bar	180 bar	0550 2290-006
absolut	4...20 mA	G1/2"	0-1 bar	3,2 bar	5 bar	0550 2280-001
absolut	4...20 mA	G1/2"	0-2 bar	10 bar	12 bar	0550 2280-002
absolut	4...20 mA	G1/2"	0-5 bar	12 bar	18 bar	0550 2280-003
absolut	4...20 mA	G1/2"	0-10 bar	20 bar	30 bar	0550 2280-004
absolut	4...20 mA	G1/2"	0-20 bar	50 bar	75 bar	0550 2280-005
absolut	4...20 mA	G1/2"	0-50 bar	120 bar	180 bar	0550 2280-006
absolut	I ² C	G1/4"	0-1 bar	3,2 bar	5 bar	0550 2390-001
absolut	I ² C	G1/4"	0-2 bar	10 bar	12 bar	0550 2390-002
absolut	I ² C	G1/4"	0-5 bar	12 bar	18 bar	0550 2390-003
absolut	I ² C	G1/4"	0-10 bar	20 bar	30 bar	0550 2390-004
absolut	I ² C	G1/4"	0-20 bar	50 bar	75 bar	0550 2390-005
absolut	I ² C	G1/4"	0-50 bar	120 bar	180 bar	0550 2390-006
absolut	I ² C	G1/2"	0-1 bar	3,2 bar	5 bar	0550 2380-001
absolut	I ² C	G1/2"	0-2 bar	10 bar	12 bar	0550 2380-002
absolut	I ² C	G1/2"	0-5 bar	12 bar	18 bar	0550 2380-003
absolut	I ² C	G1/2"	0-10 bar	20 bar	30 bar	0550 2380-004
absolut	I ² C	G1/2"	0-20 bar	50 bar	75 bar	0550 2380-005
absolut	I ² C	G1/2"	0-50 bar	120 bar	180 bar	0550 2380-006