OPERATION MANUAL

Industrial pressure transmitter with digital I²C interface DRTR-I²C

Description

Characteristic features

- From vacuum to 100 bar FS
- For measuring absolute and relative pressure
- Digital I²C-interface
- Calibrated and temperature compansated
- Robust, media-resistant design
- Easy to install
- Water and oil resistant
- IP65 protection

Typical areas of application

- Pneumatics
- Hydraulics
- Machinery and plant technology
- Vehicle Technology
- Liquids

Technical Data

Industrial pressure transmitter DRTR-I²C	
Measuring range	Vakuum ... +100 bar, 36 Types
Burst pressure	See Table
Residual error Linearity / Hyst.	< ±0,4 % FS
Temperature coefficient	TCO < ±0,015 % FS / K TCG < ±0,010 % FS / K
Operating temperature range	-40...+85 °C
Sensor material	Ceramics, Al_2O_3
Housing matierial	Stainless steel 1.4305, optional 1.4571
Seal	Viton
Pressure connection	¼“ male thread, Adapters available as accessories
Dimensions	71 x 27 mm
Connection	I²C
Protection	IP65
CE-conformance	2004/108/EG
EMV-noise emission	EN 61000-6-3:2011
EMV-noise withstanding	EN 61000-6-1:2007

Features

The pressure sensor with digital I²C interface of the series DRTR I²C transmit the measured value as a calibrated and temperature-compensated signal. The product range covers 18 graded variants for absolute and relative pressure in the pressure range from vacuum to 100 bar full scale (See table). Through a precise calibration of 7 measurement points at 3 different temperatures, it achieves outstanding precision and very few temperature errors. Depending on variant, the sensors are ideal for measurement of static or dynamic absolute pressure, or relative pressure in liquids and gases.

Typical applications for his sensor in the fields of pneumatics, hydraulics as well as industrial applications. Another field of application is the measurement of liquids such as motor oil or fuel in vehicles. The robust sensor housing made of stainless steel with protection class IP65 has a ¼“ external thread media connection. With the help of an port adapter (accessory), this allows the pressure sensor to fit different gauge ports from ⅛“ to ½“.

The electrical connection is made via the digital I²C interface. A custom addressing of the transmitter is possible from factory to customer. It is then possible to use multiple transmitters on the I²C bus.

B+B Thermo-Technik GmbH | Heinrich-Hertz-Straße 4 | D-78166 Donaueschingen
Fon +49 771 83160 | Fax +49 771 8316-50 | info@bb-sensors.com | bb-sensors.com

OPERATION MANUAL

Industrial pressure transmitter with digital I²C interface DRTR-I²C

Models for absolute pressure

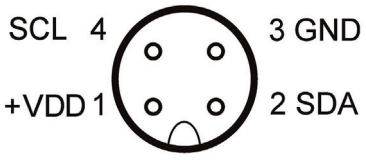
Measuring range	Burst pressure	Order No. absolute pressure
1 bar abs.	4 bar	DRTR-I²C-A1B
2 bar abs.	5 bar	DRTR-I²C-A2B
5 bar abs.	12 bar	DRTR-I²C-A5B
10 bar abs.	25 bar	DRTR-I²C-A10B
20 bar abs.	50 bar	DRTR-I²C-A20B
50 bar abs.	120 bar	DRTR-I²C-A50B
Absolutdruckmessung, 0 Bar entspricht Vakuum.		

Models for relative pressure

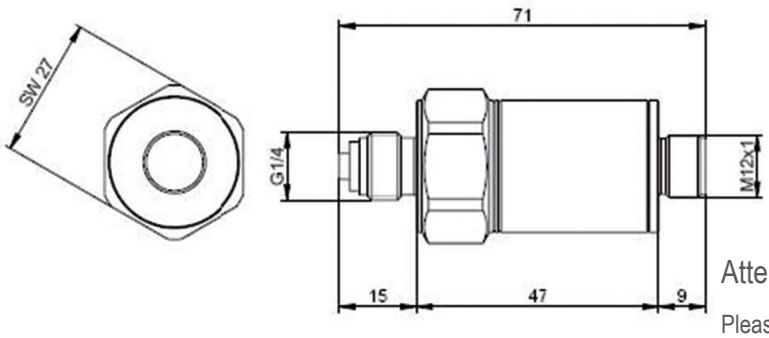
Measuring range	Burst pressure	Order No. relative pressure
-1...0 bar	4 bar	DRMOD-I²C-RV0
-1...+1 bar	4 bar	DRMOD-I²C-RV1
0...1,6 bar	4 bar	DRMOD-I²C-R1B6
0...2,5 bar	6,25 bar	DRMOD-I²C-R2B5
0...4 bar	10 bar	DRMOD-I²C-R4B
0...6 bar	15 bar	DRMOD-I²C-R6B
0...10 bar	25 bar	DRMOD-I²C-R10B
0...16 bar	40 bar	DRTR-I²C-R16B
0...25 bar	62,5 bar	DRTR-I²C-R25B
0...40 bar	100 bar	DRTR-I²C-R40B
0...60 bar	150 bar	DRTR-I²C-R60B
0...100 bar	175 bar	DRTR-I²C-R100B
Relativdruckmessung, -1 bar entspricht Vakuum unter Normalbedingungen.		

Connection assignment

Sensor connector M12		
1	VDD	Power supply +5 V DC
2	SDA	Serial I²C data
3	GND	Masse
4	SCL	Serial clock I²C



View of the plug



Attention

Please avoid extreme mechanical and inappropriate exposure.

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

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

Technical changes reserved
0141 0316-121 27.08.2015

B+B Thermo-Technik GmbH | Heinrich-Hertz-Straße 4 | D-78166 Donaueschingen
Fon +49 771 83160 | Fax +49 771 8316-50 | info@bb-sensors.com | bb-sensors.com