

Pressure transmitter UNIVERSAL Heavy Duty Design thin film sensor Type series CB203. HDD



Application area

- General process technology
- Plant and mechanical engineering
- Chemical and petrochemical industry

Features

- Measuring range
 - 0...25 bar up to 0...600 bar rel.
- Thin film sensor element
- Zero point and measuring span can be adjusted externally by means of a potentiometer
- Stainless steel housing
- Degree of protection IP 66 per DIN EN 60529
- Electronic unit completely encapsulated
- Wetted parts of stainless steel, completely welded
- Output signal: 4...20 mA, alternative: 0...20 mA, 0...10 V DC, 0...5 VDC

Options

- Approvals/Certificates
 - Explosion protection
 - Queensland Mining approval, ANZEx
- As per UKCA regulations

Application

The pressure transmitter UNIVERSAL in Heavy-Duty Design is suited for measuring of pressure of gases, vapour and liquids. Because of their robust design, these transmitters are suitable for use in tough environments.

Technical data

Constructional design / case

| | |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material: | Stainless steel W.-Nr. 1.4301 (304) |
| Degree of protection: | IP 66 per EN 60529 |
| Electronic unit: | Completely encapsulated |
| Elec. connection: | <ul style="list-style-type: none">■ Externally accessible trimming potentiometers■ Screwable case cap for connection chamber with O-ring thread protection■ Connection terminals 4 mm²■ M20 x 1,5 female thread■ Cable gland M20 x 1,5 for cable Ø 7-13 mm, material: Polyamid■ Cable gland M20 x 1,5 for cable Ø 8-13 mm, material: stainless steel |

Process connection

| | |
|---------|---------|
| Design: | G 1/2 B |
|---------|---------|

Material wetted parts

| | |
|------------|----------------------------------------|
| Socket: | Stainless steel mat.-no. 1.4404 (316L) |
| Diaphragm: | Stainless steel mat.-no. 1.4542 (630) |

Measuring system

| | |
|---------|------------------------------------------------------------------------|
| Sensor: | Measuring bridge embedded in thin film on a stainless steel diaphragm. |
|---------|------------------------------------------------------------------------|

Accuracy

| | |
|------------------------|------------------------------------------------|
| Lin./Hyst.: | ≤ 0.3 % f.s. (limit point setting) |
| Adjustable range: | Zero point and measuring span approx. ± 10 % |
| Temperature influence: | On zero point and measuring range: ≤ 0.3 %/10K |
| Overload limits: | For short-time overload. See order details. |
| Overload influence | ≤ 0.1 % f.s.. |

Output

| | |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal: | 4...20 mA, 2-wire technology, standard. Further possibilities see order details. |
| Test output: | Non interruptible output current measurement via integrated LOC diode. |
| Response time: | ≤ 20 ms |
| Current limitation: | ≤ 30 mA |
| Burden, R: | <u>Current output</u> standard: $R \leq (U-14V)/0.02 \text{ A } [\Omega]$ with explosion protection: $R \leq (U-15V)/0.02 \text{ A } [\Omega]$ U = supply voltage <u>Voltage output</u> A current of 20 mA can be obtained in the case of devices with current output. |
| Burden influence: | For 500 Ω burden of change: ≤ 0,1 % v.E. |

Supply voltage

Standard version:

| | |
|----------------------------------|--------------------------------------------------------------------|
| Nominal voltage | 24 V DC |
| Funktion range: | 2-wire technology: 14...30 V DC 3-wire technology: 16...30 V DC |
| Max. permiss. operating voltage: | 30 V DC |

Ex-design:

| | |
|-------------------------|--------------------------------------------------------------------|
| Permiss. voltage range: | 2-wire technology: 15...30 V DC 3-wire technology: 16...30 V DC |
| Influence: | ≤ 0,2 % f.s. / 10V |

Temperature ranges

| | |
|-----------------------|-------------|
| Storage temperature: | -25...80° C |
| Rated temperature: | -10...70° C |
| Limiting temperature: | -25...70° C |

Tests and certificates

Ex approval

ATEX: TÜV 02 ATEX 1971 X
 Ⓢ II 2G Ex ia IIC T4/T5/T6 Gb
 Ⓢ II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb

IECEX: IECEX TUN 04.0008X
 Ex ia IIC T4/T5/T6 Ga/Gb
 Ex ia IIC T4/T5/T6 Gb
 Ex ia I Ma

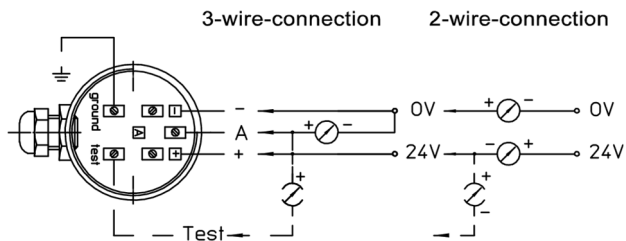
Queensland mining approval

IECEX: IECEX TUN 04.0008X
 ANZEx 15.2002X
 Ex ia IIC T4/T5/T6 Ga/Gb
 Ex ia IIC T4/T5/T6 Gb
 Ex ia I Ma

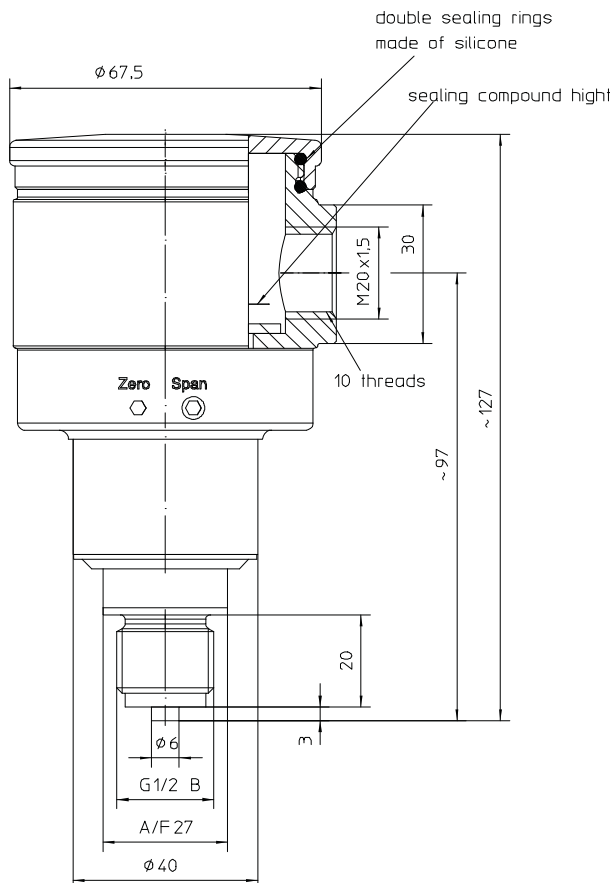
For detailed information see Ex Safety Instruction XA_007.

EMC: ■ Noise immunity as per EN 50082, section 2, March 95 issue for industry.
 ■ Emitted interference as per EN 50081, section 1, 1993 issue for residential and industrial areas.
 The device has no own emission.

Connection diagram



Dimensions



All dimensions are in mm

Order details

Pressure transmitter UNIVERSAL Heavy Duty Design Type series CB203. HDD

| Order code UNIVERSAL Heavy Duty Design | | |
|----------------------------------------|-----------------------|----------------------------------------------------------------------|
| CB2030 HDD | version | standard |
| CB2031 HDD | | explosion protection, type of ex-protection s. below |
| | measuring range | overload protection |
| A1060 | 0...25 bar | 80 bar |
| A1061 | 0...40 bar | 80 bar |
| A1062 | 0...60 bar | 200 bar |
| A1063 | 0...100 bar | 200 bar |
| A1064 | 0...160 bar | 500 bar |
| A1065 | 0...250 bar | 500 bar |
| A1066 | 0...400 bar | 800 bar |
| A1068 | 0...600 bar | 1000 bar |
| H1 | output signal | 4...20 mA, 2-wire |
| H2 | | 0...20 mA, 3-wire |
| H4 | | 0...10 V, 3-wire |
| H6 | | 0...5 V, 3-wire |
| T5.. | degree of protection | IP66 Heavy Duty Design (HDD) |
| 00 | Electrical connection | M20 x 1,5, female thread |
| 10 | | cable gland M20 x 1,5 for cable Ø 7-13 mm, material: polyamide |
| 11 | | cable gland M20 x 1,5 for cable Ø 8-13 mm, material: stainless steel |

| Additional features (to be indicated if required) | | | |
|---------------------------------------------------|-------------------------|------------------------------------------|--------------------------|
| S68 | Ex-proof design | ⊕ II 2G Ex ia IIC T4/T5/T 6 Gb, standard | |
| S66 | | ⊕ II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb | |
| S76 | | IECEX | Ex ia IIC T4/T5/T6 Ga/Gb |
| | | | Ex ia IIC T4/T5/T6 Ga |
| | | | Ex ia I Ma |
| S83 | | IECEX ANZEx 15.2002X | Ex ia IIC T4/T5/T6 Ga/Gb |
| | Ex ia IIC T4/T5/T6 Gb | | |
| | Ex ia I Ma | | |
| W2660 | as per UKCA regulations | | |

Order code (example): CB2030 HDD – A1061 – H4 – T500 - ...