

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



### Application area

- Chemical and petrochemical industry
- Machinery construction
- General process technology

### 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

### 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 DIN EN 60529   |
| Electronic unit:      | Completely encapsulated  |
| Elec. connection:     | <ul style="list-style-type: none"><li>■ Externally accessible trimming potentiometers</li><li>■ Screwable case cap for connection chamber with O-ring thread protection</li><li>■ Connection terminals 4 mm<sup>2</sup></li><li>■ M20 x 1,5 female thread</li><li>■ Cable gland M20 x 1,5 for cable Ø 7-13 mm, material: Polyamid</li><li>■ Cable gland M20 x 1,5 for cable Ø 8-13 mm, material: stainless steel</li></ul> |

### 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.<br>(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><br>standard:<br>$R \leq (U-14V)/0.02 \text{ A } [\Omega]$<br>with explosion protection:<br>$R \leq (U-15V)/0.02 \text{ A } [\Omega]$<br>U = supply voltage |

### Voltage output

A current of 20 mA can be obtained in the case of devices with current output.

|                   |   |
|-------------------|---|
| Burden influence: | For 500 Ω burden of change:<br>≤ 0,1 % v.E. |
|-------------------|---|

### Supply voltage

#### Standard version:

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

#### Ex-design:

|                         |  |
|-------------------------|--|
| Permiss. voltage range: | 2-wire technology: 15...30 V DC<br>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<br>⊕ II 2G Ex ia IIC T4/T5/T6 Gb<br>⊕ II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb |
| IECEX: | IECEX TUN 04.0008X<br>Ex ia IIC T4/T5/T6 Ga/Gb<br>Ex ia IIC T4/T5/T6 Gb<br>Ex ia I Ma     |

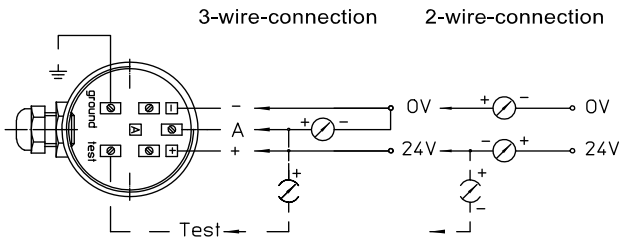
#### Queensland mining approval

|        |   |
|--------|---|
| IECEX: | IECEX TUN 04.0008X<br>ANZEx 15.2002X<br>Ex ia IIC T4/T5/T6 Ga/Gb<br>Ex ia IIC T4/T5/T6 Gb<br>Ex ia I Ma |
|--------|---|

For detailed information see Ex Safety Instruction XA\_007.

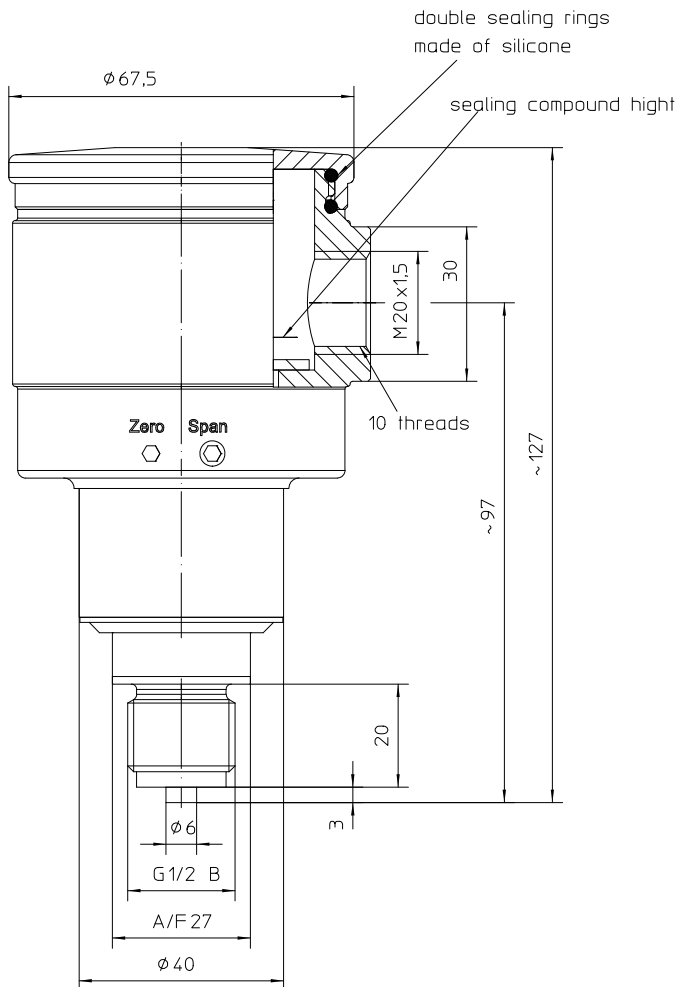
|      |   |
|------|---|
| EMC: | <ul style="list-style-type: none"><li>■ Noise immunity as per EN 50082, section 2, March 95 issue for industry.</li><li>■ Emitted interference as per EN 50081, section 1, 1993 issue for residential and industrial areas.</li></ul> The device has no own emission. |
|------|---|

## Connection diagram



design field housing

## 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/T6 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<br>ANZEx 15.2002X                 | Ex ia IIC T4/T5/T6 Ga/Gb |
|   | Ex ia IIC T4/T5/T6 Gb |   |                          |
|   | Ex ia I Ma            |   |                          |

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