# DCT 532



## Industrial Pressure Transmitter with i²C interface

Stainless Steel Sensor

Accuracy according to IEC 61298-2:
≤ ± 0.25 % FSO

### Nominal pressure

from 0 ... 100 mbar up to 0 ... 60 bar

### Digital output signal

- i²C
- bus frequency max. 400 kHz

### Special characteristic

- ► perfect thermal behaviour
- ► excellent long term stability

### Optional versions

- ► pressure port
  G 1/2" flush up to 40 bar
- ► welded sensor
- ► customer specific versions

Contrary the DCT 532 product is a pressure transmitter with a digital i2C interface. Since i²C is an easy-to-use serial communication, has low energy requirements and is easy to integrate into controllers, i2C is often used in IOT applications.

The modular structure of the device allows different electrical and mechanical connections to be provided in order to ensure that the DCT 532 can be adapted to the conditions of the application.

By using high-quality materials or components, universal use is possible in practically all industrial areas, provided the gas or fluid is compatible with stainless steel.

### Preferred areas of use are

- Plant and machine engineering
- Energy industry

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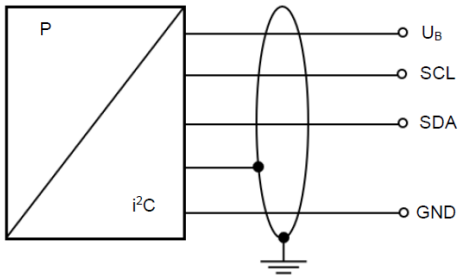
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| **Input pressure range** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Nominal pressure gauge | [bar] | -1…0 | 0.10 | 0.16 | 0.25 | 0.40 | 0.60 | 1 | 1.6 |
| Nominal pressure absolute | [bar] | - | - | - | - | 0.40 | 0.60 | 1 | 1.6 |
| Overpressure | [bar] | 5 | 0.5 | 1 | 1 | 2 | 5 | 5 | 10 |
| Burst pressure ≥ | [bar] | 7.5 | 1.5 | 1.5 | 1.5 | 3 | 7.5 | 7.5 | 15 |

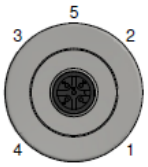
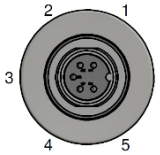
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Nominal pressure gauge / absolute | [bar] | 2.5 | 4 | 6 | 10 | 16 | 25 | 40 | 60 |
| Overpressure | [bar] | 10 | 20 | 40 | 40 | 80 | 80 | 105 | 105 |
| Burst pressure ≥ | [bar] | 15 | 25 | 50 | 50 | 120 | 120 | 210 | 210 |
| Vacuum resistance | | $p_N$ ≥ 1 bar: unlimited vacuum resistance<br>$p_N$ < 1 bar: on request | | | | | | | |

| **Output signal (Module) / Supply** | |
|---|---|
| Standard | i²C Module / $V_s$ = 2.7 ... 5.5 $V_{DC}$ |
| Output | i²C address: 0x28 (HEX) |
| Current consumption | max. 3.2 mA |
| Measuring rate | 660 Hz (adjustable from 8 up to 660 Hz) |
| **Output signal (Power Save) / Supply** | |
| Option | i²C Power Save / $V_s$ = 2.7 ... 5.5 $V_{DC}$ |
| Output | i²C address: 0x28 (HEX) |
| Current consumption | min. 0.15 mA ($V_S$ 2.7 V, measuring rate 8 Hz), max. 3.2 mA ($V_S$ 5.5 V, measuring rate 660 Hz) |
| Measuring rate | 8 Hz (adjustable from 8 up to 660 Hz) |
| **Performance** | |
| Accuracy [1] | ≤ ± 0.25 % FSO |
| Max. I/O current | ≤ ± 3 mA |
| Long term stability | ≤ ± 0.1 % FSO / year at reference conditions |
| Response time | 1.5 msec + transmission time (depending on bus frequency) |
| *[1] accuracy according to IEC 61298-2 – limit point adjustment (non-linearity, hysteresis, repeatability)* | |
| **Thermal effects (offset and span)** | |
| Tolerance band | ≤ ± 0.75 % FSO |
| In compensated range | -20 ... 80 °C |
| **Permissible temperatures** | |
| Medium | -25 ... 125 °C |
| Electronics / environment | -25 ... 85 °C |
| Storage | -40 ... 85 °C |
| **Electrical protection** | |
| Short-circuit protection | without |
| Reverse polarity protection | without |
| **Mechanical stability** | |
| Vibration | 20 g RMS / 10 ... 2000 Hz — according to DIN EN 60068-2-6 |
| Shock | 500 g / 1 msec half sine — according to DIN EN 60068-2-27 |
| **Materials** | |
| Pressure port / Housing | stainless steel 1.4404 (316 L) |
| Seal | standard: FKM<br>options: EPDM<br>welded version [2] (for $p_N$ ≤ 40 bar) — others on request |
| Diaphragm | stainless steel 1.4435 (316 L) |
| Media wetted parts | pressure port, seal, diaphragm |
| *[2] welded version only with pressure ports according to EN 837 and NPT, $p_N$ ≤ 40 bar* | |
| **Miscellaneous** | |
| Pull-up resistor | 4.7 kΩ (recommended) |
| Weight | approx. 140 g |
| Ingress protection | IP 67 |
| Installation position | any [3] |
| Operational life | 100 million load cycles |
| *[3] Pressure transmitters are calibrated in a vertical position with the pressure connection down. If this position is changed on installation there can be slight deviations in the zero point for pressure ranges $p_N$ ≤ 1 bar.* | |

**Wiring diagram**




**Pin configuration**

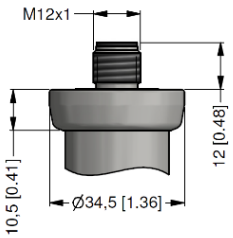
| Electrical connection | M12x1 / metal (5-pin) | Binder 723 (5-pin) |
|---|---|---|
| |  |  |
| Supply + | 1 | 1 |
| Supply – | 3 | 3 |
| SDA | 2 | 2 |
| SCL | 4 | 4 |
| not connected | 5 | 5 |
| Shield | housing | housing |





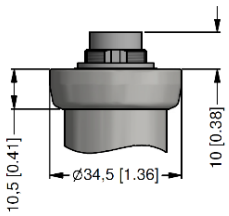
**Electrical connections (dimensions mm / in)**

**standard**




M12x1 (5-pin)

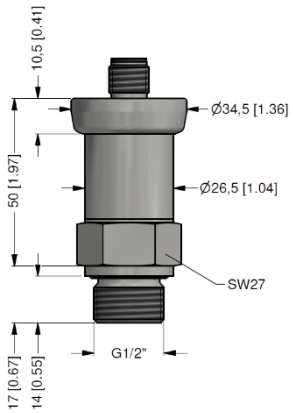
**optionally**




Binder Serie 723 (5-pin)

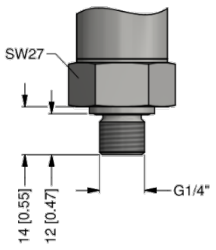
## Dimensions (mm / in)

**standard**

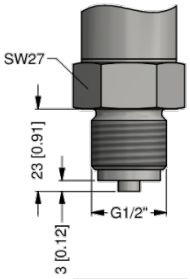



G1/2" DIN 3852
withM12x1

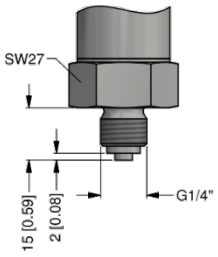
**optionally**



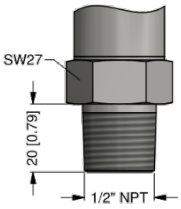

G1/4" DIN 3852



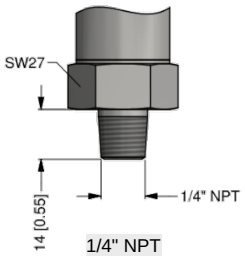

G1/2" EN 837



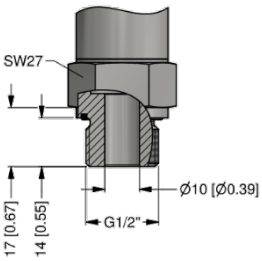

G1/4" EN 837



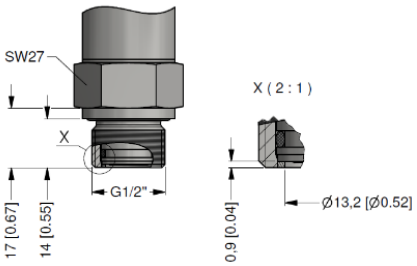

1/2" NPT




1/4" NPT




G1/2" DIN 3852 open port,
$p_N$ ≤ 40 bar




G1/2" DIN 3852
with flush sensor, $p_N$ ≤ 40 bar

⇨ **metric threads and other versions on request**

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# Ordering code DCT 532

DCT 532 □□□-□□□□-□-□-□□□-□□□-□-□□□

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pressure** | | | | | | | | | | | | | | | | | | | | | | | |
| gauge | | D | C | 0 | | | | | | | | | | | | | | | | | | | |
| absolute | [1] | D | C | 1 | | | | | | | | | | | | | | | | | | | |
| **Input** | **[bar]** | | | | | | | | | | | | | | | | | | | | | | |
| 0.10 | [1] | | | | 1 | 0 | 0 | 0 | | | | | | | | | | | | | | | |
| 0.16 | [1] | | | | 1 | 6 | 0 | 0 | | | | | | | | | | | | | | | |
| 0.25 | [1] | | | | 2 | 5 | 0 | 0 | | | | | | | | | | | | | | | |
| 0.40 | | | | | 4 | 0 | 0 | 0 | | | | | | | | | | | | | | | |
| 0.60 | | | | | 6 | 0 | 0 | 0 | | | | | | | | | | | | | | | |
| 1.0 | | | | | 1 | 0 | 0 | 1 | | | | | | | | | | | | | | | |
| 1.6 | | | | | 1 | 6 | 0 | 1 | | | | | | | | | | | | | | | |
| 2.5 | | | | | 2 | 5 | 0 | 1 | | | | | | | | | | | | | | | |
| 4.0 | | | | | 4 | 0 | 0 | 1 | | | | | | | | | | | | | | | |
| 6.0 | | | | | 6 | 0 | 0 | 1 | | | | | | | | | | | | | | | |
| 10 | | | | | 1 | 0 | 0 | 2 | | | | | | | | | | | | | | | |
| 16 | | | | | 1 | 6 | 0 | 2 | | | | | | | | | | | | | | | |
| 25 | | | | | 2 | 5 | 0 | 2 | | | | | | | | | | | | | | | |
| 40 | | | | | 4 | 0 | 0 | 2 | | | | | | | | | | | | | | | |
| 60 | | | | | 6 | 0 | 0 | 2 | | | | | | | | | | | | | | | |
| -1 … 0 | | | | | X | 1 | 0 | 2 | | | | | | | | | | | | | | | |
| customer | | | | | 9 | 9 | 9 | 9 | | | | | | | | | | | | | | | consult |
| **Output** | | | | | | | | | | | | | | | | | | | | | | | |
| i²C Module | | | | | | | | | IM | | | | | | | | | | | | | | |
| i²C Power Save | | | | | | | | | IP | | | | | | | | | | | | | | |
| **Accuracy** | | | | | | | | | | | | | | | | | | | | | | | |
| 0.25 % FSO | | | | | | | | | | 2 | | | | | | | | | | | | | |
| customer | | | | | | | | | | 9 | | | | | | | | | | | | | consult |
| **Electrical connection** | | | | | | | | | | | | | | | | | | | | | | | |
| male plug M12x1 (5-pin) / metal | | | | | | | | | | | N | 1 | 7 | | | | | | | | | | |
| male plug Binder series 723 (5-pin) | | | | | | | | | | | 2 | 0 | 7 | | | | | | | | | | |
| customer | | | | | | | | | | | 9 | 9 | 9 | | | | | | | | | | consult |
| **Mechanical connection** | | | | | | | | | | | | | | | | | | | | | | | |
| G1/2" DIN 3852 | | | | | | | | | | | | | | 1 | 0 | 0 | | | | | | | |
| G1/2" EN 837 | | | | | | | | | | | | | | 2 | 0 | 0 | | | | | | | |
| G1/4" DIN 3852 | | | | | | | | | | | | | | 3 | 0 | 0 | | | | | | | |
| G1/4" EN 837 | | | | | | | | | | | | | | 4 | 0 | 0 | | | | | | | |
| G1/2" DIN 3852 with flush sensor | [2] | | | | | | | | | | | | | F | 0 | 0 | | | | | | | |
| G1/2" DIN 3852 open pressure port | [2] | | | | | | | | | | | | | H | 0 | 0 | | | | | | | |
| 1/2" NPT | | | | | | | | | | | | | | N | 0 | 0 | | | | | | | |
| 1/4" NPT | | | | | | | | | | | | | | N | 4 | 0 | | | | | | | |
| customer | | | | | | | | | | | | | | 9 | 9 | 9 | | | | | | | consult |
| **Seal** | | | | | | | | | | | | | | | | | | | | | | | |
| FKM | | | | | | | | | | | | | | | | | 1 | | | | | | |
| EPDM | | | | | | | | | | | | | | | | | 3 | | | | | | |
| without (welded version) | [3] | | | | | | | | | | | | | | | | 2 | | | | | | |
| customer | | | | | | | | | | | | | | | | | 9 | | | | | | consult |
| **Special version** | | | | | | | | | | | | | | | | | | | | | | | |
| standard | | | | | | | | | | | | | | | | | | 0 | 0 | 0 | | | |
| customer | | | | | | | | | | | | | | | | | | 9 | 9 | 9 | | | consult |

[1] absolute pressure possible from 0.4 bar

[2] not possible for nominal pressure $p_N$ > 40 bar

[3] welded version only with pressure ports according to EN 837 and NPT, possible for $p_N \leq 40$ bar

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27.09.2024

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