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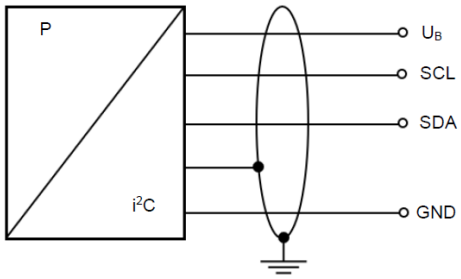
Input pressure range									
Nominal pressure gauge	[bar]	-1…0	0.10	0.16	0.25	0.40	0.60	1	1.6
Nominal pressure abs.	[bar]	-	-	-	-	0.40	0.60	1	1.6
Overpressure	[bar]	5	0.5	1	1	2	5	5	10
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15

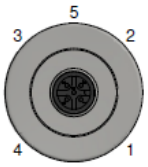
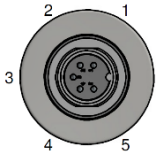
Nominal pressure gauge / abs.	[bar]	2.5	4	6	10	16	25	40	60
Overpressure	[bar]	10	20	40	40	80	80	105	105
Burst pressure ≥	[bar]	15	25	50	50	120	120	210	210
Vacuum resistance		p_N ≥ 1 bar: unlimited vacuum resistance p_N < 1 bar: on request							

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 options: EPDM 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

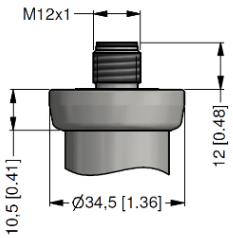


Pin configuration

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

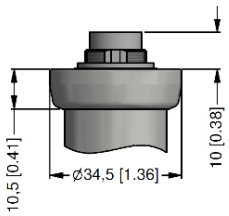
Electrical connections (dimensions mm / in)

standard



M12x1 (5-pin)

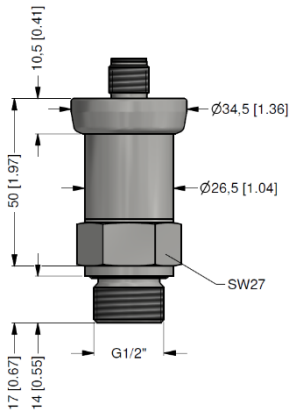
optionally



Binder Serie 723 (5-pin)

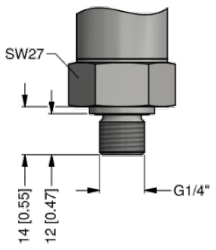
Dimensions (mm / in)

standard

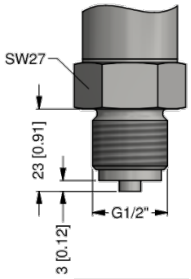


G1/2" DIN 3852
withM12x1

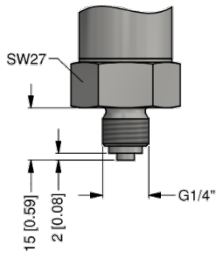
optionally



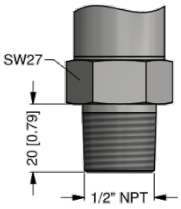
G1/4" DIN 3852



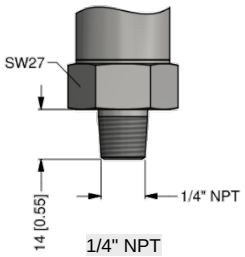
G1/2" EN 837



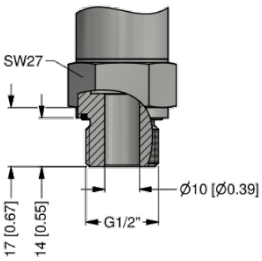
G1/4" EN 837



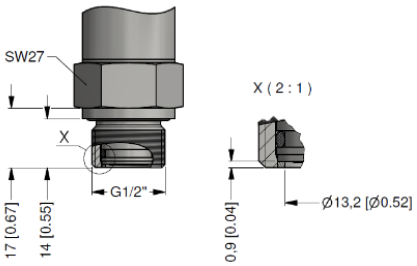
1/2" NPT



1/4" NPT



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



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

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

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BD|SENSORS pressure measurement

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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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