

DCT 532

Industrial Pressure Transmitter with i²C interface

Stainless Steel Sensor

Accuracy according to IEC 60770:
standart: ± 0.35 % FSO
option: ± 0.25 % FSO



Nominal pressure

from 0 ... 100 mbar up to 0 ... 400 bar

Digital output signals

- i²C
- bus frequency max. 400 kHz
- configuration of data format
- interrupt signal

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 to the industrial pressure transmitter with analog signal, the DCT 532 has a digital i²C-interface. i²C has a master-slave topology, whereby you can use up to 127 devices at one master. In addition to the typical settings, as slave address, data format, etc., it is possible to do special parametrisation for pressure unit and more.

Due to the usage of high quality materials and components, the DCT 532 is suitable for almost every industrial application, if medium is compatible with stainless steel 316L.

The modular concept of the pressure transmitter allows customized electrical or mechanical connections, so it is easy to adapt the DCT 532 to different conditions on-site.

Preferred areas of use are



Plant and Machine Engineering



Energy Industry



Input pressure range												
Nominal pressure gauge	[bar]	-1...0	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6
Nominal pressure abs.	[bar]	-	-	-	-	0.40	0.60	1	1.6	2.5	4	6
Overpressure	[bar]	5	0,5	1	1	2	5	5	10	10	20	40
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50

Nominal pressure gauge / abs.	[bar]	10	16	25	40	60	100	160	250	400
Overpressure	[bar]	40	80	80	105	210	600	600	1000	1000
Burst pressure ≥	[bar]	50	120	120	210	420	1000	1000	1250	1250
Vacuum resistance		P _N ≥ 1 bar: unlimited vacuum resistance P _N < 1 bar: on request								

Output signal / Supply	
i ² C	V _S = 3.5 ... 5.5 V _{DC}

Performance	
Accuracy ¹	standard for P _N ≥ 0.4 bar: ≤ ± 0.35 % FSO standard for P _N < 0.4 bar: ≤ ± 0.5 % FSO option for P _N ≥ 0.4 bar: ≤ ± 0.25 % FSO
max. I/O current	10 mA
Long term stability	≤ ± 0.1 % FSO / year at reference conditions
Response time	1.5 msec + transmission time (depending on bus frequency)
Measuring rate	500 Hz
¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)	

Thermal effects (Offset and Span)				
Nominal pressure P _N	[bar]	-1 ... 0	< 0.40	≥ 0.40
Tolerance band	[% FSO]	≤ ± 0.75	≤ ± 1	≤ ± 0.75
in compensated range	[°C]	-20 ... 85	0 ... 70	-20 ... 85

Permissible temperatures	
Permissible temperatures	medium: -25 ... 125 °C electronics / environment: -25 ... 85 °C storage: -40 ... 85 °C

Electrical protection	
Short-circuit protection	Permanent
Reverse polarity protection	by exchanged supply connections no damage, but also no function by exchanged communication with signal lines it can come according to constellation to damages.
Electromagnetic compatibility	emission and immunity according to EN 61326

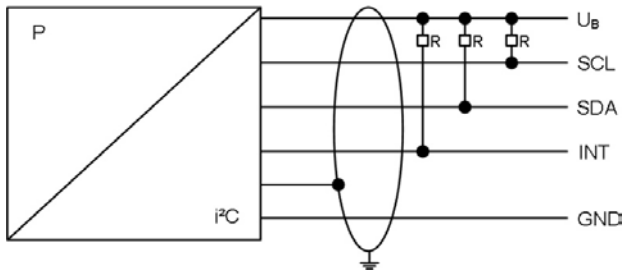
Mechanical stability	
Vibration	10 g RMS (25 ... 2000 Hz) according to DIN EN 60068-2-6
Shock	500 g / 1 msec according to DIN EN 60068-2-27

Materials	
Pressure port / Housing	stainless steel 1.4404 (316 L)
Seals (media wetted)	standard: FKM options: EPDM welded version ² 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	

Miscellaneous	
Current consumption	< 15 mA
Weight	approx. 140 g
Ingress protection	IP 67 / IP 68 for cable with ventilation tube
Installation position	any ³
Operational life	> 100 x 10 ⁶ pressure cycles
CE-conformity	EMC Directive: 2004/108/EC

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 diagrams

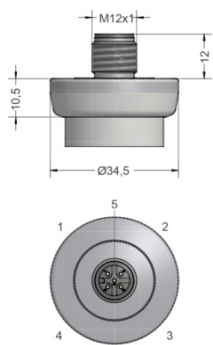


Pin configuration

Electrical connection	M12x1 / metal (5 pin)	Binder 723 (5 pin)	cable colours (DIN 47100)
Supply +	1	1	wh (white)
Supply -	3	3	bn (brown)
SDA	2	2	ye (yellow)
SCL	4	4	gn (green)
INT	5	5	pk (pink)
Shield	housing	housing	ye/gn (yellow / green)

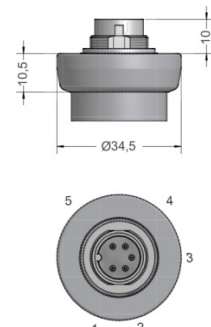
Electrical connections (dimensions in mm)

Standard

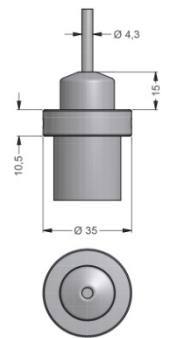


M12x1 5 pin
(IP 67)

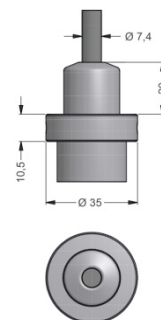
Optional



Binder Serie 723 5 pin
(IP 67)



cable outlet with PVC cable
(IP 67)⁴



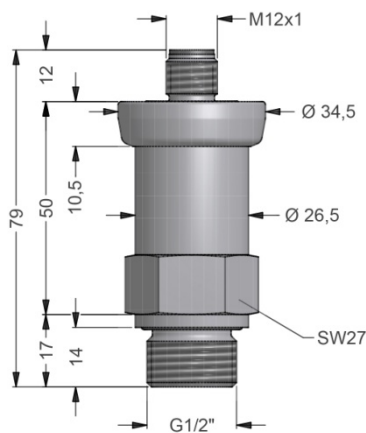
cable outlet, cable with ventilation tube
(IP 68)⁵

⁵ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C)

⁶ different cable types and lengths available, permissible temperature depends on kind of cable

Mechanical connections (dimensions in mm)

standard



G1/2" DIN 3852
with ISO 4400

Mechanical connections (dimensions in mm)

option

⇒ metric threads and other versions on request

Configuration i ² C-interface																
Stand configuration	0	5	0	-	0	-	0	-	0	-	0	-	0	0	1	
Slave Address																
adress	0	0	1													
		...														
	1	2	7													
Type of result register																
32bit IEEE float					0											
16bit Integer					1											
Byte order of values																
Low byte first									0							
High byte first									1							
Mode of result register																
Value									0							
Percent of nominal									1							
Restore of address pointer																
No restore										0						
To last set address on next start										1						
Digital meaning																
Count of result												0	0	0	0	1
													...			
												1	0	0	0	0

© 2015 BD/SENSORS GmbH – The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

Ordering code DCT 532

DCT 532

□□□ - □□□□ - □ - □ - □□□ - □□□□ - □ - □□□□

Pressure												
gauge		D	C	0								
absolute ¹		D	C	1								
Input												
[bar]												
0.1	¹	1	0	0	0							
0.16	¹	1	6	0	0							
0.25	¹	2	5	0	0							
0.4		4	0	0	0							
0.6		6	0	0	0							
1		1	0	0	1							
1.6		1	6	0	1							
2.5		2	5	0	1							
4		4	0	0	1							
6		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							
100		1	0	0	3							
160		1	6	0	3							
250		2	5	0	3							
400		4	0	0	3							
-1 ... 0		X	1	0	2							
customer		9	9	9	9					consult		
Output												
i°C												
										IC		
Accuracy												
standard for P _N ≥ 0.4 bar	0.35 %									3		
standard for P _N < 0.4 bar	0.5 %									5		
option for P _N ≥ 0.4 bar	0.25 %									2		
	0.1 %									1		
customer										9		
											consult	
											consult	
Electrical connection												
Male plug M12x1 (5-pin) / metal											N 1 7	
Male plug Binder series 723 (5-pin)											2 0 7	
Cable outlet with PVC cable ²											T A 0	
Cable outlet (IP68) ³											T R 0	
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											F 0 0	
G1/2" DIN 3852 open pressure port											H 0 0	
1/2" NPT											N 0 0	
1/4" NPT											N 4 0	
customer											9 9 9	
												consult
Seals												
FKM											1	
EPDM											3	
without (welded version) ⁴											2	
customer											9	
												consult
Special version												
standard											0 0 0	
customer											9 9 9	
												consult

¹ absolute pressure possible from 0.4 bar

² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C), others on request

³ cable with ventilation tube (code TR0 = PVC cable), different cable types and lengths available, price without cable

⁴ welded version only with pressure ports according to EN 837

