

DCT 562

Industrial Pressure Transmitter with i²C interface

Ceramic Sensor

accuracy according to IEC 60770:
0.5 % FSO



Nominal pressure

from 0 ... 400 mbar up to 0 ... 600 bar

Digital output signal

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

Special characteristic

- ▶ pressure port G 1/2" open port PVDF for aggressive media




Optional versions

- ▶ customer specific versions

Regardless of whether you need a pressure transmitter with i²C interface for an application in the laboratory area or in plant and mechanical engineering, the DCT 562 is adaptable for the detection of pressures and fill levels of pasty, contaminated Universal or aggressive media. Various mechanical and electrical connections are available.

The integrated i²C interface offers the user various options in the area of addressing and data acquisition, as well as simple control and use of the network for fast and slow bus users.

Preferred areas of use are

-  Plant and machine engineering
-  Energy industry
-  Laboratory applications



Input pressure range ¹																			
Nominal pressure gauge [bar]	-1...0	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	400	600	
Nominal pressure absolute [bar]	-	-	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	400	600	
Overpressure [bar]	4	1	2	2	4	4	10	10	20	40	40	100	100	200	400	400	600	800	
Burst pressure ≥ [bar]	7	2	4	4	5	7.5	12	18	30	50	75	120	180	300	500	750	1000	1100	
Permissible vacuum	$p_N \geq 1$ bar: unlimited vacuum resistance $p_N < 1$ bar: on request																		

¹ PVDF pressure port possible for nominal pressure ranges up to 60 bar

Output signal / Supply	
i ² C	$V_S = 3.5 \dots 5.5 V_{DC}$
Performance	
Accuracy ²	$\leq \pm 0.5 \% \text{ FSO}$
Max. I/O current	10 mA
Long term stability	$\leq \pm 0.3 \% \text{ FSO} / \text{year}$ at reference conditions
Response time	1.5 msec + transmission time (depending on bus frequency)
Measuring rate	500 Hz
² accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)	
Thermal effects (offset and span)	
Thermal error	$\leq \pm 0.2 \% \text{ FSO} / 10 \text{ K}$
In compensated range	-25 ... 85 °C
Permissible temperatures	
Permissible temperatures ³	medium: -40 ... 125 °C electronics / environment: -40 ... 85 °C storage: -40 ... 100 °C
³ for pressure port in PVDF the medium temperature is -30 ... 60 °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	standard: stainless steel 1.4404 (316 L) optional for G1/2" DIN 3852 open port with nominal pressure range max. up to 60 bar: PVDF others on request
Housing	stainless steel 1.4404 (316 L)
Seals	standard: FKM option: EPDM (for $p_N \leq 160$ bar) others on request
Diaphragm	ceramic Al ₂ O ₃ 96 %
Media wetted parts	pressure port, seals, diaphragm
Miscellaneous	
Current consumption	< 15 mA
Weight	approx. 140 g
Ingress protection	IP 67
Installation position	any
Operational life	100 million load cycles
CE-conformity	EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A) ⁴

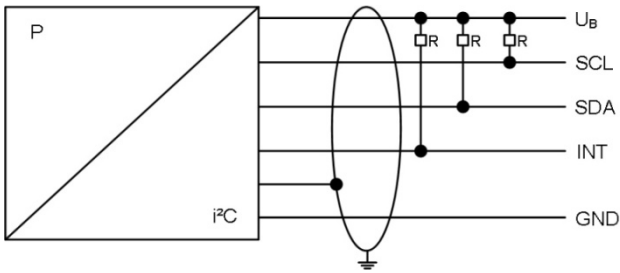
⁴ This directive is only valid for devices with maximum permissible overpressure > 200 bar

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Technical Data

Wiring diagram

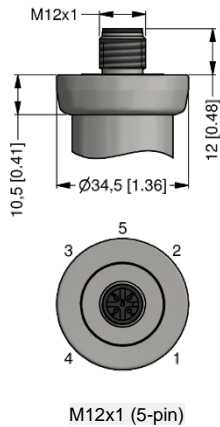


Pin configuration

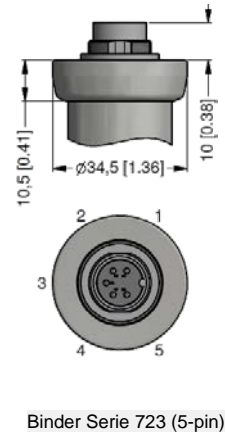
Electrical connection	M12x1 / metal (5-pin)	Binder 723 (5-pin)
Supply +	1	1
Supply -	3	3
SDA	2	2
SCL	4	4
INT	5	5
Shield	housing	housing

Electrical connections (dimensions mm/in)

Standard

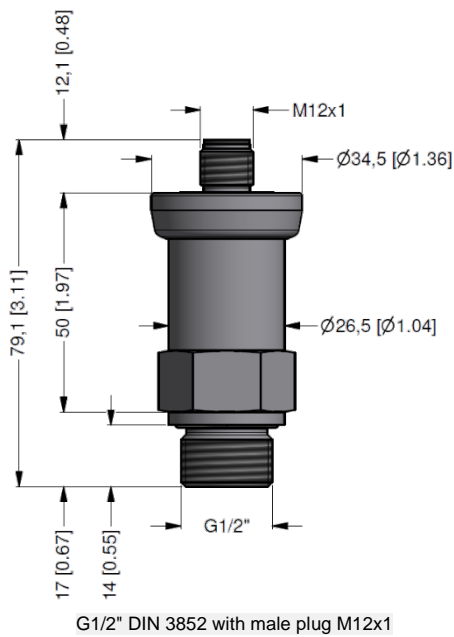


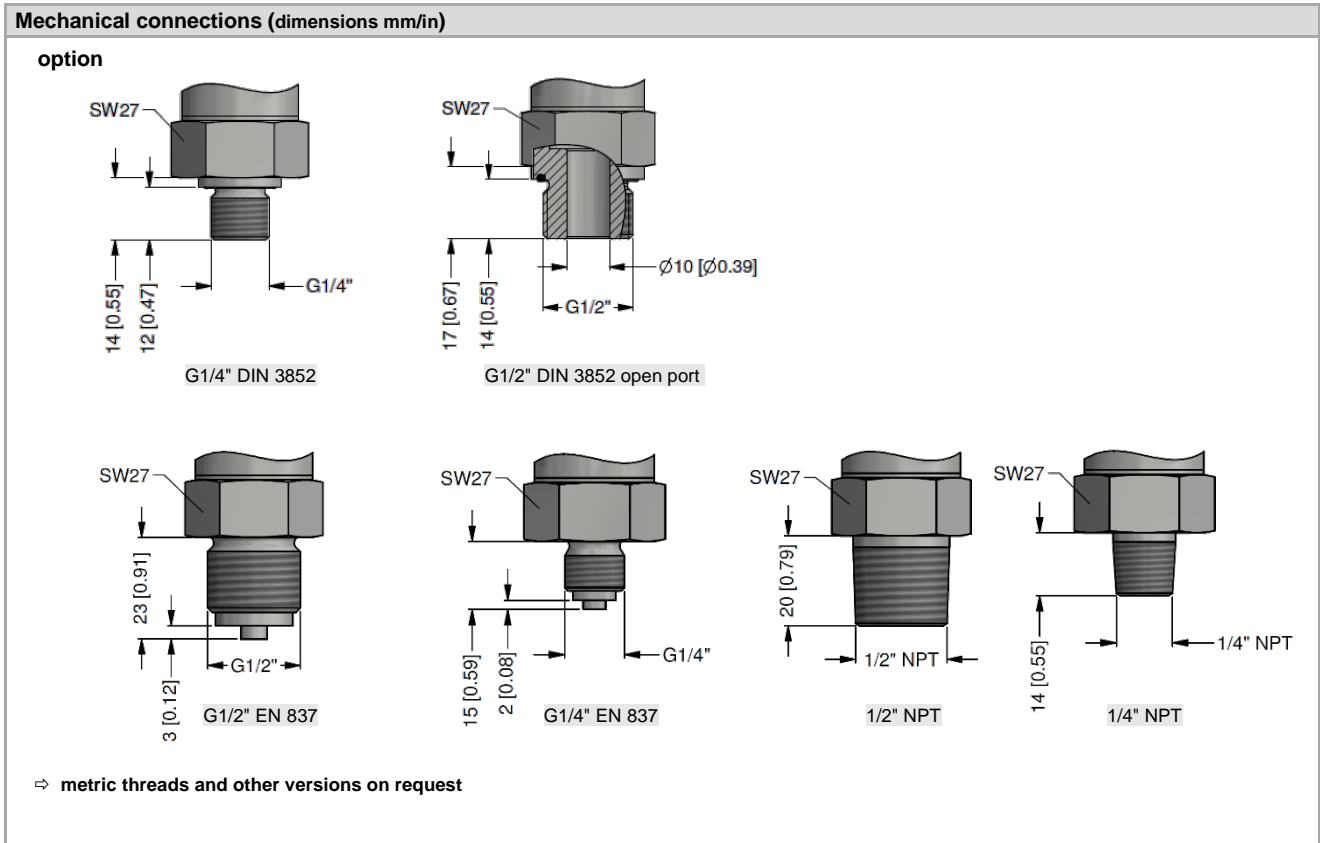
Optional



Dimensions / mechanical connections (dimensions in mm)

standard





Configuration i ² C-interface															
Stand configuration	0	5	0	-	0	-	0	-	0	-	0	-	0	0	1
Slave address															
address	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
													...		
													1	0	0
															0
Configuration code (has to be defined with the order)					-				-						

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Ordering code DCT 562

DCT 562

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Pressure									
gauge	2	5	0						
absolute	2	5	1						
Input									
[bar]									
0.4	4	0	0	0					
0.6	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					
100	1	0	0	3					
160	1	6	0	3					
250	2	5	0	3					
400	4	0	0	3					
600	6	0	0	3					
-1 ... 0	X	1	0	2					
customer	9	9	9	9					consult
Output									
°C					I	C			
Accuracy									
0.5 % FSO									5
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 open pressure port					H	0	0		
1/2" NPT					N	0	0		
1/4" NPT					N	4	0		
customer					9	9	9		consult
Seal									
FKM									1
EPDM ²									3
customer									9
									consult
Pressure port									
stainless steel 1.4404 (316L)									1
PVDF ³									B
customer									9
									consult
Diaphragm									
ceramics Al ₂ O ₃ 96 %									2
customer									9
									consult
Special version									
standard									0 0 0
customer									9 9 9
									consult

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¹ metric threads and others on request
² possible for nominal pressure ranges p_N ≤ 160 bar
³ PVDF only with G1/2" DIN 3852 open pressure port (up to 60 bar); permissible medium temperature: -30 ... 60 °C