BD|SENSORS
pressure measurement

DCT 563

Industrial Pressure Transmitter with IO-Link Interface

Ceramic Sensor

accuracy according to IEC 60770:
0.5 % FSO

Nominal pressure

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

Digital output signal

- IO-Link according to specification V 1.1
- data transfer 38.4 kbit/s
- smart sensor profile

Special characteristic

- ► good thermal behaviour
- ► good long term stability

Optional versions

- ► pressure port G 1/2" flush for pasty media (up to 25 bar)
- ► pressure port G 1/2" open port PVDF for aggressive media (up to 60 bar)
- ► oxygen application

IO-Link is a digital interface for sensors and actuators, which is worldwide standardized by IEC 61131-9. IO-Link does not have a bus topology, but it is a powerful point to - point communication, where the device can be parameterized and the measured values transferred. The integration to the master is easy by using the IODD-file.

The sensor technology of the DCT 563 is the same as those of the proven pressure transmitter DMK 331, whereby the DCT 563 is suitable for pasty, polluted and aggressive media as well as for low-pressure oxygen applications.

The modular concept of the pressure transmitter allows customized electrical or mechanical connections, so it is easy to adapt the DCT 563 to different conditions on-site.

Preferred areas of use are

- Plant and machine engineering
- Environmental engineering (water - sewage - recycling)
- Medical technology

BD SENSORS GmbH
BD-Sensors-Straße 1
D - 95199 Thierstein

Tel.: +49 (0) 92 35 / 98 11- 0
Fax: +49 (0) 92 35 / 98 11- 11

www.bdsensors.de
info@bdsensors.de

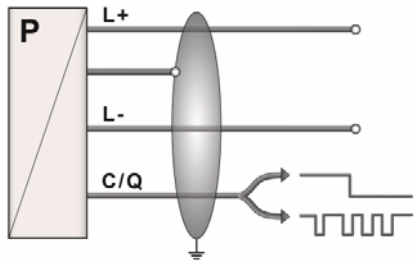
Input pressure range [1]										
Nominal pressure gauge	[bar]	-1…0 [2]	0.6	1	1.6	2.5	4	6	10	16
Nominal pressure abs.	[bar]	-	0.6	1	1.6	2.5	4	6	10	16
Overpressure	[bar]	3	2	3	5	5	12	12	20	50
Burst pressure ≥	[bar]	4	4	4	7	7.5	15	18	30	70

Nominal pressure gauge / abs.	[bar]	25	40	60	100	160	250	400	600
Overpressure	[bar]	50	120	120	200	400	400	650	800
Burst pressure ≥	[bar]	75	150	180	300	500	750	1000	1100
Vacuum resistance		unlimited vacuum resistance							

[1] PVDF pressure port possible for nominal pressure ranges up to 60 bar
[2] accuracy ≤ 1 % FSO

Output signal / Supply	
Standard	IO-Link (measured value / status transmission) / V_S = 18 ... 30 VDC SIO (switching output)
IO-Link	V 1.1 / slave / smart sensor profile
Data transfer	COM2 38.4 kbit/s
Mode	SIO / IO-Link (COMx)
Standard	IEC 61131-2, IEC 61131-9
Performance	
Accuracy [3]	≤ ± 0.5 % FSO
Switching current (SIO-Mode)	max. 200 mA
Switching frequency	max. 200 Hz
Switching cycles	> 100 x 10^6
Long term stability	≤ ± 0.1 % FSO / year at reference conditions
Turn-on time	SIO modus: approx. 20 msec
Response time	SIO modus: < 4 msec
Measuring rate	400 Hz
[3] accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)	
Thermal effects (offset and span)	
Thermal error	≤ ± 0.3 % FSO / 10 K
In compensated range	0 ... 85 °C
Permissible temperatures [4]	
Medium	-25 ... 125 °C
Electronics / environment	-25 ... 85 °C
Storage	-40 ... 85 °C
[4] for pressure port in PVDF the medium temperature is -25 … 60 °C	
Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
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" open port with nominal pressure range up to 60 bar: PVDF others on request
Housing	stainless steel 1.4404 (316L)
Seals (media wetted)	standard: FKM options: EPDM (for p_N ≤ 160 bar) others on request
Diaphragm	ceramic Al_2O_3 96 %
Media wetted parts	pressure port, seal, diaphragm
Miscellaneous	
Option oxygen application	for p_N ≤ 25 bar: O-ring in FKM Vi 567 (with BAM-approval); permissible maximum values are 25 bar / 150° C
Current consumption	max. 20 mA
Weight	approx. 140 g
Installation position	any
Protection class	IP 67
Operational life	100 million load cycles
CE-conformity	EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A) [5]
[5] This directive is only valid for devices with maximum permissible overpressure > 200 bar	

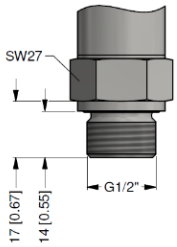
Wiring diagram



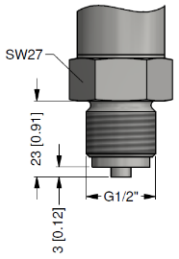
Pin configuration

Electrical connection		M12x1 / metal (4-pin)
(L+)	Supply +	1
(L-)	Supply –	3
(C/Q)	SIO / IO Link (COMx)	4
	Shield	housing

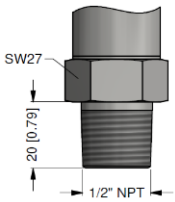
Dimensions (mm / in)



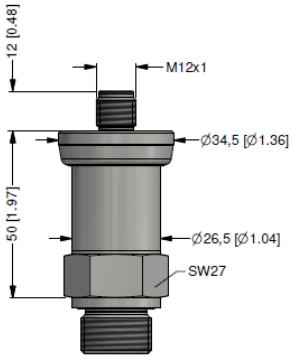
G1/2" DIN 3852

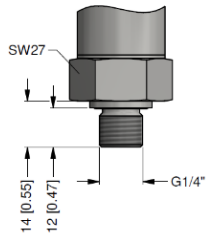


G1/2" EN 837

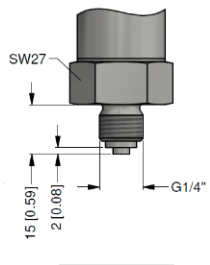


1/2" NPT

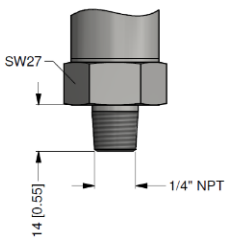




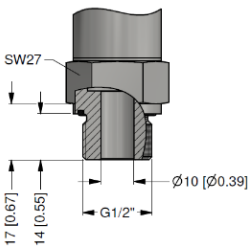
G1/4" DIN 3852



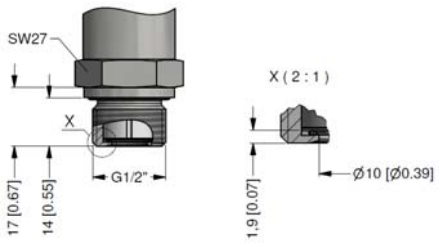
G1/4" EN 837



1/4" NPT



G1/2" DIN 3852
open port



G1/2" DIN 3852
with flush sensor [6]

⇨ metric threads and other versions on request

[6] *possible for nominal pressure ranges p_N ≤ 25 bar; absolute pressure ranges on request*

Tel.: +49 (0) 92 35 / 98 11- 0
Fax: +49 (0) 92 35 / 98 11- 11
www.bdsensors.de
info@bdsensors.de
BD|SENSORS pressure measurement

BD|SENSORS
pressure measurement

Ordering code DCT 563

DCT 563 □□□-□□□□-□-□-□□□-□□□-□-□-□-□□□

Pressure																									
gauge	D	C	5																						
absolute	D	C	6																						
Input	**[bar]**																								
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																									
IO-Link (COMx) / SIO								IO																	
Accuracy																									
0.5 % FSO									5																
customer									9																consult
Electrical connection																									
male plug M12x1 (4-pin) / metal										M	1	7													
customer										9	9	9													consult
Mechanical connection [1]																									
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 semi-flush sensor [2]													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]																3									
customer																9									consult
Pressure port																									
stainless steel 1.4404 (316L)																	1								
PVDF [4]																	B								
customer																	9								consult
Diaphragm																									
ceramics Al_2O_3 96%																			2						
customer																			9						consult
Special version																									
standard																				0	0	0			
oxygen application [5]																				0	0	7			
customer																				9	9	9			consult

[1] metric threads and others on request

[2] possible for nominal pressure ranges $p_N \leq 25$ bar; absolute pressure ranges on request

[3] possible for nominal pressure range $p_N \leq 160$ bar

[4] PVDF only with G1/2" DIN 3852 open pressure port (up to 60 bar); permissible medium temperature: -25 … 60 °C

[5] oxygen application with FKM-seal up to 25 bar

25.06.2020

BD|SENSORS GmbH
BD-Sensors-Straße 1
D - 95199 Thierstein

Tel.: +49 (0) 92 35 / 98 11- 0
Fax: +49 (0) 92 35 / 98 11- 11

www.bdsensors.de
info@bdsensors.de