DCT 571

Industrial Pressure Transmitter with RS485 Modbus RTU

Ceramic Sensor

accuracy according to IEC 61298-2:
standard: 0.35 % FSO
option: 0.25 % FSO

Nominal pressure

from 0 ... 100 mbar up to 0 ... 40 bar

Output signal

RS485 with Modbus RTU protocol

Special characteristic

- diaphragm ceramics 99.9 % Al_2O_3
- high long-term stability
- reset function

Optional versions

- different kinds of inch threads
- pressure port in PVDF or PP-HT for aggressive media on request
- drinking water certificate according to DVGW and KTW

The pressure transmitter DCT 571 was developed for applications in plant and mechanical engineering or in laboratory technology, e.g. designed to measure pressures or levels of pasty, contaminated or aggressive media.

The self-developed pressure sensor made of 99.9% pure ceramic is characterized by a high overload capacity, as well as temperature and media resistance.

The integrated RS 485 interface and the MODBUS RTU protocol used ensure reliable and robust data transmission, which also works smoothly over long distances.

Preferred areas of use

- Plant and machine engineering
- Laboratory techniques
- Water
- Aggressive media

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

Telefon +49 (0) 92 35 / 98 11- 0
Telefax +49 (0) 92 35 / 98 11- 11

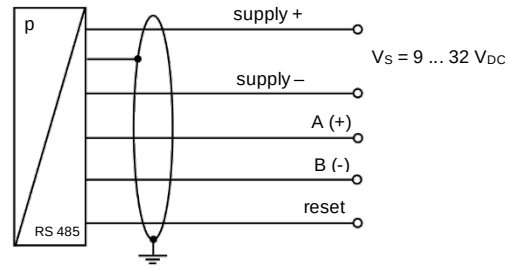
www.bdsensors.de
info@bdsensors.de

Input pressure range															
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40
Level	[mH_2O]	1	1.6	2.5	4	6	10	16	25	40	50	100	160	250	400
Overpressure	[bar]	3	4	5	5	5	7	7	12	12	20	20	20	40	70
Burst pressure ≥	[bar]	4	6	8	8	7	9	9	18	18	25	30	30	45	80
Permissible vacuum	[bar]	-0.2	-0.3	-0.5				-1 (unlimited vacuum resistance)							

Output signal		
Digital (pressure)	RS485 with Modbus RTU protocol	
Supply		
Direct current (DC)	V_S = 9 … 32 V_{DC}	
Performance		
Accuracy [1]	standard: option:	≤ ± 0.35 % FSO ≤ ± 0.25 % FSO
Long term stability	≤ ± 0,1 % FSO / year at reference conditions	
Measuring rate	500 Hz	
Delay time	500 msec	
[1] accuracy according to IEC 61298-2 – limit point adjustment (non-linearity, hysteresis, repeatability)		
Thermal effects (offset and span)		
Tolerance band	≤ ± 1 % FSO	
In compensated range	-20 ... 80 °C	
Permissible temperatures [2]		
Medium	-40 ... 125 °C	
Electronics / environment	-40 ... 85 °C	
Storage	-40 ... 85 °C	
[2] for pressure port in PVDF the operation medium temperature is -30 … 60 °C and in PP-HT 0 … 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	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	standard: option for G3/4" flush: others on request	stainless steel 1.4404 (316 L) PVDF (p_{max} = 20 bar), PP-HT (p_{max} = 10 bar) on request
Housing	stainless steel 1.4404 (316 L) others on request	
Seals (O-rings)	standard: options: others on request	FKM EPDM (without / with drinking water approval) FFKM
Diaphragm	ceramics Al_2O_3 99.9 % others on request	
Media wetted parts	pressure port, seals, diaphragm	
Miscellaneous		
Ingress protection	IP 67	
Installation position	any	
Current consumption	max. 10 mA	
Weight	approx. 180 g	
Operational life	100 million load cycles	
CE-conformity	EMC Directive: 2014/30/EU	
Drinking water certificate [3]	according to DVGW W 270 and UBA KTW (with order the indication "with drinking water certificate" is necessary)	
[3] only possible with EPDM seal		

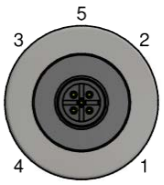
Wiring diagram

Modbus RTU



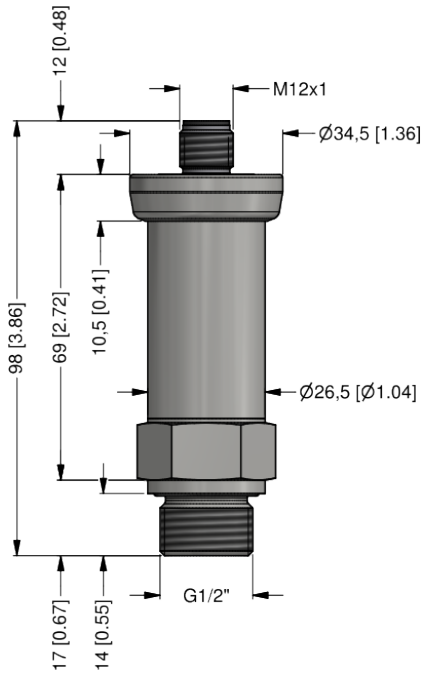
Pin configuration / electrical connection

Electrical connection	M12x1, metal (5-pin)
Supply +	1
Supply –	3
A (+)	2
B (–)	4
Reset	5
Shield	plug housing



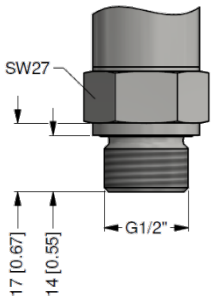
Dimensions / mechanical connection (mm / in)

standard

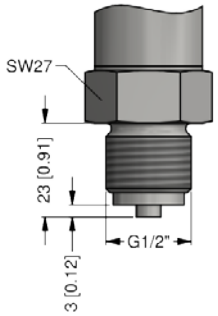


G1/2" DIN 3852
with male plug M12x1

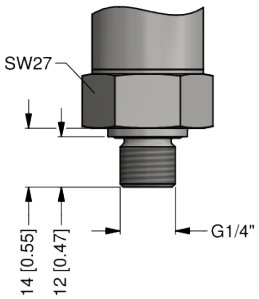
options



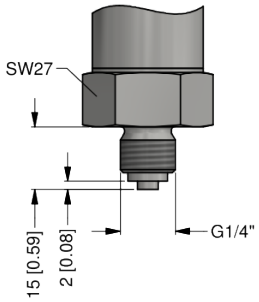
G1/2" DIN 3852



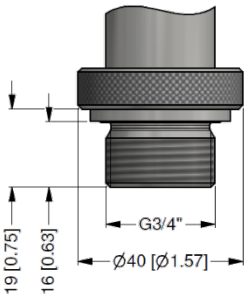
G1/2" EN 837



G1/4" DIN 3852



G1/4" EN 837



G3/4" DIN 3852 flush

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

Configuration Modbus RTU					
Standard configuration	001	-	1	-	1
Address					
Address	001				
	...				
	247				
Baud Rate					
4800 Bd			0		
9600 Bd			1		
19200 Bd			2		
38400 Bd			3		
Parity					
None					0
Odd					1
Even					2

Configuration code (to specify with order)		-		-	

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

Ordering code DCT 571

DCT 571 ☐☐☐-☐☐☐☐-☐☐-☐-☐☐☐-☐☐☐-☐-☐-☐-☐☐☐

Pressure			
gauge in bar		285	
gauge in mH_2O		286	
Input [mH_2O]	[bar]		
1.0	0.1	1000	
1.6	0.16	1600	
2.5	0.25	2500	
4.0	0.40	4000	
6.0	0.60	6000	
10	1.0	1001	
16	1.6	1601	
25	2.5	2501	
40	4.0	4001	
60	6.0	6001	
100	10	1002	
160	16	1602	
250	25	2502	
400	40	4002	
customer		9999	consult
Output			
RS485 Modbus RTU		L5	
Accuracy			
standard	0.35 % FSO	3	
option	0.25 % FSO	2	
customer		9	consult
Electrical connection			
male plug M12x1 (5-pin) / metal		N11	
customer		999	consult
Mechanical connection [1]			
G1/2" DIN 3852		100	
G1/2" EN 837		200	
G1/4" DIN 3852		300	
G1/4" EN 837		400	
G3/4" with flush sensor		K00	
customer		999	consult
Seal			
FKM		1	
EPDM		3	
DVGW/KTW:	EPDM [2]	3T	
FFKM		7	
customer		9	consult
Pressure port			
stainless steel 1.4404 (316L)		1	
PVDF (p_{max} = 20 bar) [3]		B	
PP-HT (p_{max} = 10 bar) [3]		R	
customer		9	consult
Diaphragm			
ceramics Al_2O_3 99,9 %		C	
customer		9	consult
Special version			
standard		000	
customer		999	consult

[1] metric threads and others on request
[2] drinking water certification only possible with EPDM seal (code 3T)
[3] only for mechanical connection G3/4"; for pressure port in PVDF the operation medium temperature is -30 … 60 °C and in PP-HT 0 … 60 °C

14.01.2026