

DCT 571

Industrial Pressure Transmitter with RS485 Modbus RTU

Ceramic Sensor

accuracy according to IEC 60770:
standard: 0.35 % FSO
option: 0.25 % FSO



Nominal pressure

from 0 ... 100 mbar up to 0 ... 60 bar

Output signal

RS485 with Modbus RTU protocol

Special characteristic

- ▶ diaphragm ceramics 99.9 % Al₂O₃
- ▶ 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

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 paste, 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



Modbus®

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	60
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	50	100	160	250	400	600
Overpressure	[bar]	3	4	5	5	5	7	7	12	12	20	20	20	40	70	70
Burst pressure ≥	[bar]	4	6	8	8	7	9	9	18	18	25	30	30	45	80	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: ≤ ± 0.35 % FSO option: ≤ ± 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 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)	
Thermal effects (offset and span) / Permissible Temperatures	
Thermal error	≤ ± 1.0 % FSO
In compensated range	-20 ... 80 °C
Permissible temperatures	
Areas of application ²	medium: -40 ... 125 °C electronics / environment: -40 ... 85 °C storage: -40 ... 85 °C
² for pressure port in PVDF or PP-HT the operation medium temperature is -30 ... 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	100 g / 1 msec according to DIN EN 60068-2-27
Materials	
Pressure port	standard stainless steel 1.4404 (316 L) option for G3/4" flush: PVDF, PP-HT on request others on request
Housing	stainless steel 1.4404 (316 L) others on request
Seals (O-rings)	standard FKM option EPDM FFKM others on request
Diaphragm	ceramics Al ₂ O ₃ 99.9 % others on request
Media wetted parts	pressure port, seals, diaphragm
Miscellaneous	
Ingress protection	IP67
Installation position	any
Current consumption	max. 7 mA
Weight	approx. 180 g
Operational life	100 million load cycles
CE-conformity	EMC Directive: 2014/30/EU

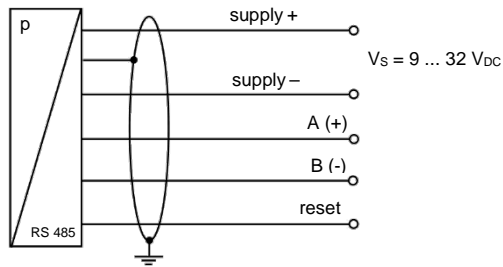
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Industrial Pressure Transmitter with RS485 Modbus RTU

Technical Data

Wiring diagram

Modbus RTU

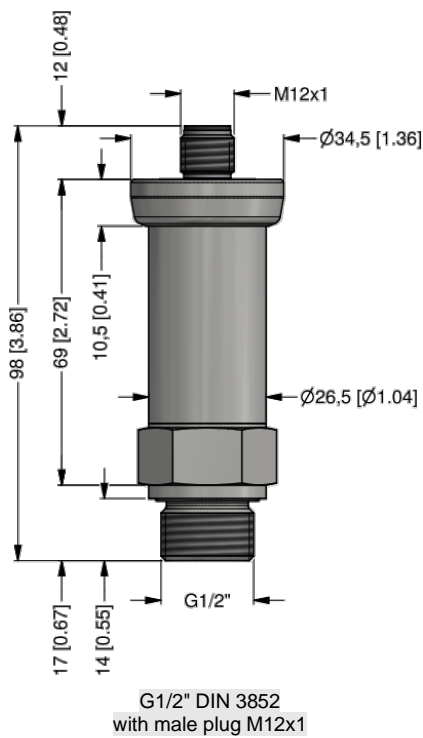


Pin configuration / electrical connection

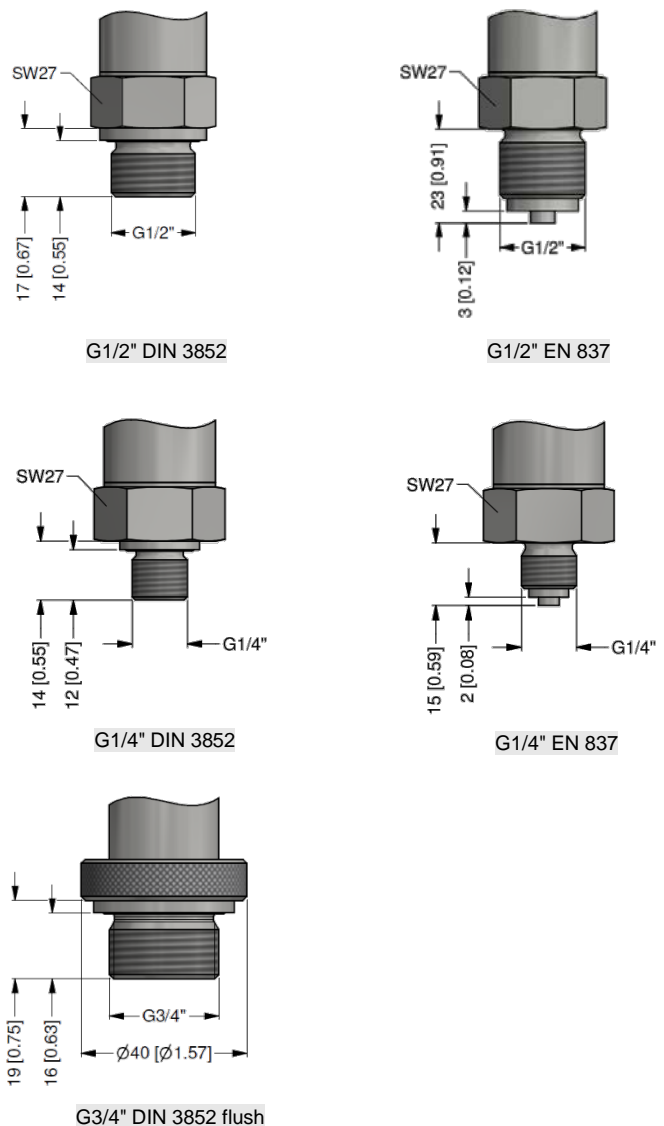
Electrical connection	M12x1, metal (5-pin)	
Supply +	1	
Supply -	3	
A (+)	2	
B (-)	4	
Reset	5	
Shield	plug housing	

Dimensions / mechanical connection (mm / in)

standard



option



⇒ metric threads and other versions on request

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Technical Data

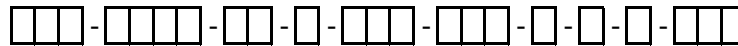
Configuration Modbus RTU					
Standard configuration	001	-	1	-	1
Address					
Address	001				
	...				
	247				
Baud Rate					
4800 Bd			0		
9600 Bd			1		
19200 Bd			2		
38400 Bd			3		
Parity					
None					0
Odd					1
Even					2
Configuration code (to specify with order)		-		-	

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DCT571_E_060720

Ordering code DCT 571

DCT 571



Pressure									
gauge in bar	2	8	5						
gauge in mH ₂ O	2	8	6						
Input									
	[mH ₂ O]	[bar]							
	1.0	0.1	1	0	0	0			
	1.6	0.16	1	6	0	0			
	2.5	0.25	2	5	0	0			
	4.0	0.40	4	0	0	0			
	6.0	0.60	6	0	0	0			
	10	1.0	1	0	0	1			
	16	1.6	1	6	0	1			
	25	2.5	2	5	0	1			
	40	4.0	4	0	0	1			
	60	6.0	6	0	0	1			
	100	10	1	0	0	2			
	160	16	1	6	0	2			
	250	25	2	5	0	2			
	400	40	4	0	0	2			
	600	60	6	0	0	2			
	customer		9	9	9	9			consult
Output									
	RS485 Modbus RTU				L	5			
Accuracy									
standard	0.35 % FSO							3	
option	0.25 % FSO							2	
	customer							9	consult
Electrical connection									
	male plug M12x1 (5-pin) / metal						N	1	1
	customer						9	9	9
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
	G3/4" with flush sensor						K	0	0
	customer						9	9	9
Seal									
	FKM								1
	EPDM								3
	FFKM								7
	customer								9
Pressure port									
	stainless steel 1.4404 (316L)								1
	PVDF ²								B
	PP-HT ²								R
	customer								9
Diaphragm									
	ceramics Al ₂ O ₃ 99.9 %								C
	customer								9
Special version									
	standard								0
	customer								9

¹ metric threads and others on request

² only for mechanical connection G3/4"; for pressure port in PVDF or PP-HT the operation medium temperature is -30 ... 60 °C