



IDCT 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 % 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

The pressure transmitter IDCT 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

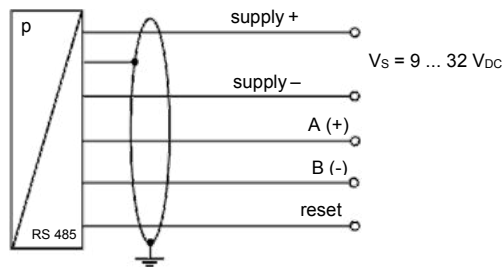


Modbus®

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 option for G3/4" flush: others on request						stainless steel 1.4404 (316 L) PVDF, PP-HT on request									
Housing		stainless steel 1.4404 (316 L) others on request															
Seals (O-rings)		standard option others on request						FKM EPDM FFKM									
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															

Wiring diagram

Modbus RTU

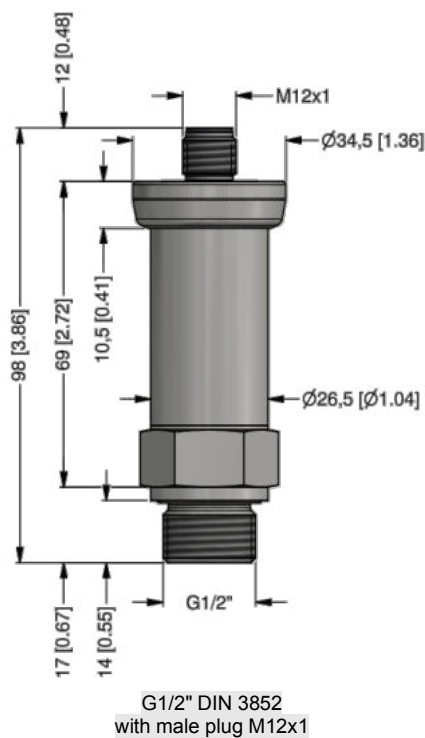


Pin configuration / electrical connection

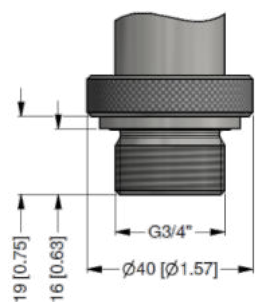
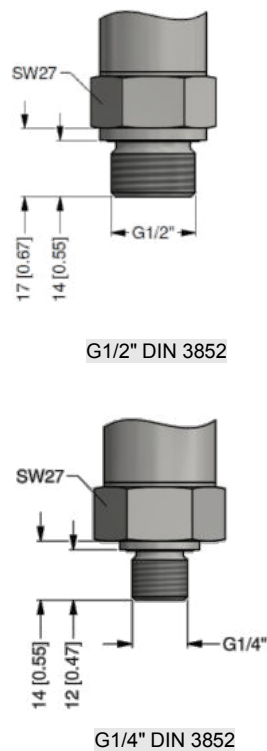
Electrical connection	M12x1, metal (5-pin)	
Supply +	1	
Supply -	3	
A (+)	2	
B (-)	4	
Reset	5	
Shield	plug housing	

Dimensions / mechanical connection (mm / in)

standard



option



⇒ metric threads and other versions on request

G3/4" DIN 3852 flush

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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)		-		-	

Ordering code IDCT 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									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							
G3/4" with flush sensor												K	0	0							
customer												9	9	9							consult
Seal																					
FKM														1							
EPDM														3							
FFKM														7							
customer														9							consult
Pressure port																					
stainless steel 1.4404 (316L)																1					
PVDF ²																B					consult
PP-HT ²																R					consult
customer																9					consult
Diaphragm																					
ceramics Al ₂ O ₃ 99,9 %																C					
customer																9					consult
Special version																					
standard																			0	0	0
customer																			9	9	9
																					consult

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