

# DCT 532

## Industrial Pressure Transmitter with i<sup>2</sup>C interface

Stainless Steel Sensor

Accuracy according to IEC 60770:  
standard:  $\leq \pm 0.35\%$  FSO  
option:  $\leq \pm 0.25\%$  FSO



### Nominal pressure

from 0 ... 100 mbar up to 0 ... 400 bar

### Digital output signal

- i<sup>2</sup>C
- bus frequency max. 400 kHz
- configuration of data format
- interrupt signal

### Special characteristic

- ▶ perfect thermal behaviour
- ▶ excellent long term stability

### Optional versions



- ▶ pressure port  
G 1/2" flush up to 40 bar
- ▶ welded sensor
- ▶ customer specific versions

Contrary to the industrial pressure transmitter with analogue signal, the DCT 532 has a digital i<sup>2</sup>C-interface. i<sup>2</sup>C has a master-slave topology, whereby you can use up to 127 devices at one master. In addition to the typical settings, as slave address, data format, etc., it is possible to do special parametrisation for pressure unit and more.

Due to the usage of high quality materials and components, the DCT 532 is suitable for almost every industrial application, if medium is compatible with stainless steel 316L.

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

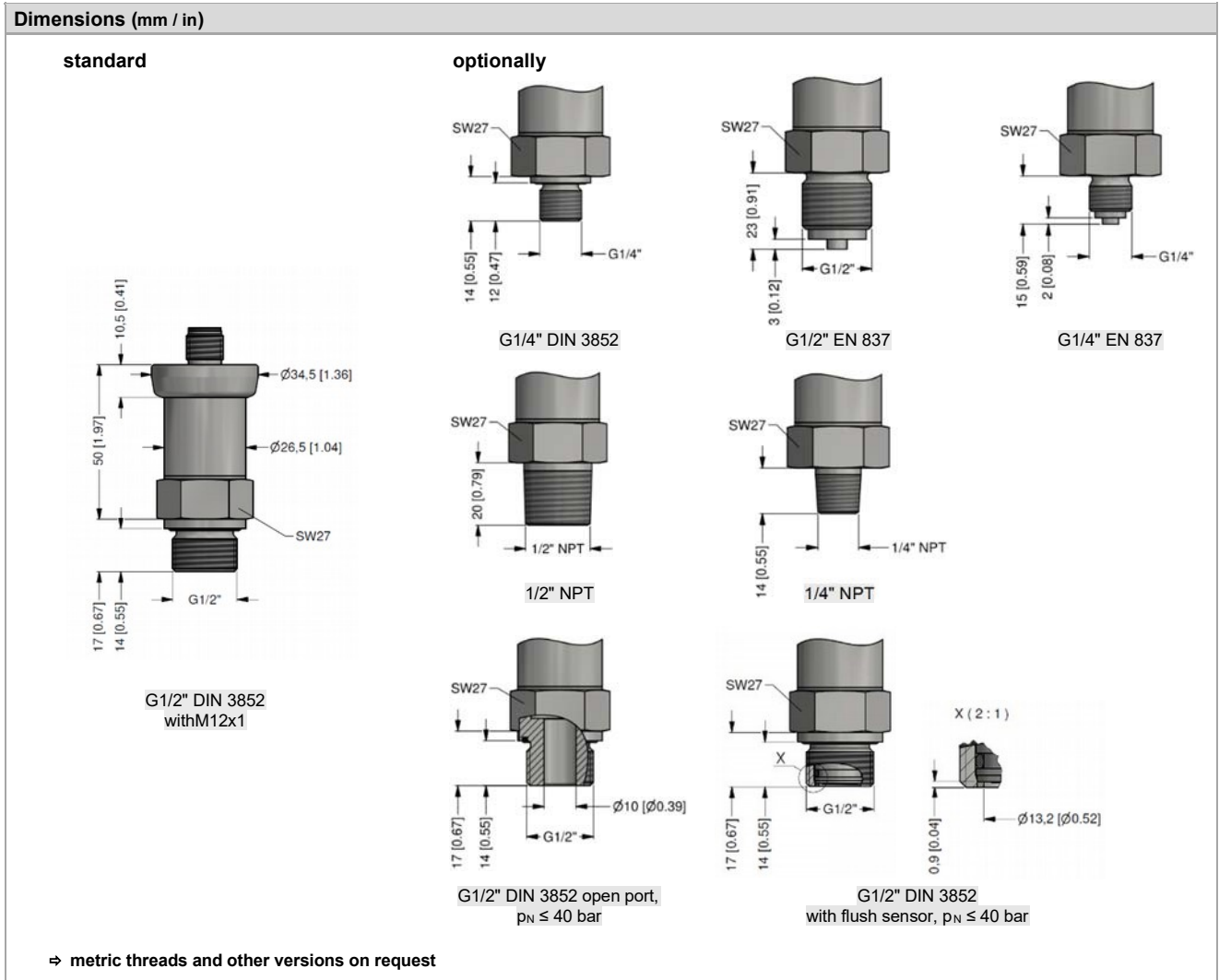
### Preferred areas of use are

-  Plant and machine engineering
-  Energy industry



Input pressure range												
Nominal pressure gauge [bar]	-1...0	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6	
Nominal pressure abs. [bar]	-	-	-	-	0.40	0.60	1	1.6	2.5	4	6	
Overpressure [bar]	5	0,5	1	1	2	5	5	10	10	20	40	
Burst pressure ≥ [bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	
Nominal pressure gauge / abs. [bar]	10	16	25	40	60	100	160	250	400			
Overpressure [bar]	40	80	80	105	210	600	600	1000	1000			
Burst pressure ≥ [bar]	50	120	120	210	420	1000	1000	1250	1250			
Vacuum resistance	p <sub>N</sub> ≥ 1 bar: unlimited vacuum resistance p <sub>N</sub> < 1 bar: on request											
Output signal / Supply												
i <sup>2</sup> C	V <sub>S</sub> = 3.5 ... 5.5 V <sub>DC</sub>											
Performance												
Accuracy <sup>1</sup>	standard for p <sub>N</sub> ≥ 0.4 bar: ≤ ± 0.35 % FSO standard for p <sub>N</sub> < 0.4 bar: ≤ ± 0.50 % FSO option for p <sub>N</sub> ≥ 0.4 bar: ≤ ± 0.25 % FSO											
Max. I/O current	10 mA											
Long term stability	≤ ± 0.1 % FSO / year at reference conditions											
Response time	1.5 msec + transmission time (depending on bus frequency)											
Measuring rate	500 Hz											
<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)												
Thermal effects (offset and span)												
Nominal pressure p <sub>N</sub> [bar]	-1 ... 0		< 0.40				≥ 0.40					
Tolerance band [% FSO]	≤ ± 0.75		≤ ± 1				≤ ± 0.75					
in compensated range [°C]	-20 ... 85		0 ... 70				-20 ... 85					
Permissible temperatures												
Permissible temperatures	medium: -25 ... 125 °C electronics / environment: -25 ... 85 °C storage: -40 ... 85 °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 / Housing	stainless steel 1.4404 (316 L)											
Seals (media wetted)	standard: FKM options: EPDM welded version <sup>2</sup> (for p <sub>N</sub> ≤ 40 bar) <span style="float: right;">others on request</span>											
Diaphragm	stainless steel 1.4435 (316 L)											
Media wetted parts	pressure port, seal, diaphragm											
<sup>2</sup> welded version only with pressure ports according to EN 837, p <sub>N</sub> ≤ 40 bar												
Miscellaneous												
Current consumption	< 15 mA											
Weight	approx. 140 g											
Ingress protection	IP 67											
Installation position	any <sup>3</sup>											
Operational life	100 million load cycles											
CE-conformity	EMC Directive: 2014/30/EU						Pressure Equipment Directive: 2014/68/EU (module A) <sup>4</sup>					
<sup>3</sup> Pressure transmitters are calibrated in a vertical position with the pressure connection down. If this position is changed on installation there can be slight deviations in the zero point for pressure ranges p <sub>N</sub> ≤ 1 bar.												
<sup>4</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar												

Wiring diagrams		
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)		
<b>standard</b>	<b>optionally</b>	
M12x1 (5-pin)	Binder Serie 723 (5-pin)	



Configuration i <sup>2</sup> C-interface																
Stand configuration	0	5	0	-	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
													1	0	0	0
Configuration code (has to be defined with the order)																
				-	-	-	-	-	-	-	-	-	-	-	-	-

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# Ordering code DCT 532

DCT 532



Pressure									
	gauge		D C 0						
	absolute	1	D C 1						
Input									
	[bar]								
	0.10	1		1	0	0			
	0.16	1		1	6	0			
	0.25	1		2	5	0			
	0.40			4	0	0			
	0.60			6	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		
	-1 ... 0			X	1	0	2		
	customer			9	9	9	9		consult
Output									
			i°C						IC
Accuracy									
	standard for $p_N \geq 0.4$ bar		0.35 % FSO						3
	standard for $p_N < 0.4$ bar		0.50 % FSO						5
	option for $p_N \geq 0.4$ bar		0.25 % FSO						2
			0.10 % FSO						1
	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								F 0 0
	with flush sensor <sup>2</sup>								
	G1/2" DIN 3852 open pressure port <sup>2</sup>								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
	without (welded version) <sup>3</sup>								2
	customer								9
									consult
Special version									
	standard								0 0 0
	customer								9 9 9
									consult

<sup>1</sup> absolute pressure possible from 0.4 bar

<sup>2</sup> not possible for nominal pressure  $p_N > 40$  bar

<sup>3</sup> welded version only with pressure ports according to EN 837, possible for  $p_N \leq 40$  bar