



# IDCT 553P

## Industrial Pressure Transmitter with IO-Link Interface

Process Connections with semi-flush ceramic diaphragm

accuracy according to IEC 60770:  
Standard: 0.35 % FSO  
Option: 0.25 % FSO

### Nominal pressure

from 0 ... 40 mbar up to 0 ... 20 bar

### Output signal

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

### Special characteristics

- ▶ hygienic version
- ▶ high purity ceramic 99.9 % Al<sub>2</sub>O<sub>3</sub> diaphragm
- ▶ high overpressure capability
- ▶ ingress protection IP 67 / IP 69

### Optional versions

- ▶ different process connections

The pressure transmitter IDCT 553P is used in the food and pharmaceutical industries or in applications where a dead space-free process connection is required. A capacitive ceramic pressure sensor developed in-house is used as the basic sensor, which is characterized by a high overload and excellent surface quality.

The special design prevents the condensation inside the pressure transmitter and thus failure in applications with large temperature changes.

The integrated, standardised IO-Link interface increases productivity and supports the operator in service and maintenance.

### Preferred areas of use are



Food industry



Chemical and petrochemical industry

### Material and test certificates

- ▶ inspection certificate 3.1 according to EN 10204
- ▶ test report 2.2 according to EN 10204



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Technical Data

Input pressure range																	
Nominal pressure gauge [bar]	0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	20		
Nominal pressure absolute [bar]	on request						0.4	0.6	1	1.6	2.5	4	6	10	16	20	
Overpressure [bar]	2	2	4	4	6	6	8	8	15	25	25	35	35	45	45		
Burst pressure $\geq$ [bar]	-0.2		-0.3		-0.5				-1								

Output signal / Supply	
Standard	IO-Link (measured value transmission) $V_s = 18 \dots 30 V_{DC}$ SIO (switching output)
IO-Link	V 1.1 / slave / smart sensor profile
Data transfer	COM 2 38.4 kbit/sec
Mode	SIO / IO-Link
Standard	IEC 61131-9

Performance	
Accuracy <sup>1</sup>	standard: $\leq \pm 0.35\%$ FSO option for $p_N \geq 0.6$ bar: $\leq \pm 0.25\%$ FSO
Switching current (SIO-Mode)	max. 200 mA
Switching frequency	max. 200 Hz
Switching cycles	$> 100 \times 10^6$
Long term stability	$\leq \pm 0.1\%$ FSO / year at reference conditions
Turn-on time	SIO mode: approx. 20 msec
Response time	SIO mode: $< 4$ msec
Measuring rate	400 Hz

<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

Thermal effects (offset and span)	
Tolerance band	$\leq \pm 1\%$ FSO
In compensated range	$-20 \dots 80$ °C

Permissible temperatures	
Medium	$-40 \dots 125$ °C
Electronics / environment	$-40 \dots 85$ °C
Storage	$-40 \dots 100$ °C

Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	on supply connection no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

Mechanical stability	
Vibration	10 g RMS (20 ... 2000 Hz) according to DIN EN 60068-2-6
Shock	100 g / 1 msec according to DIN EN 60068-2-27

Materials	
Pressure port	stainless steel 1.4404 (316L)
Housing	stainless steel 1.4404 (316L)
Seals	FKM EPDM others on request
Diaphragm	ceramic Al <sub>2</sub> O <sub>3</sub> 99.9 %
Media wetted parts	pressure port, seals, diaphragm

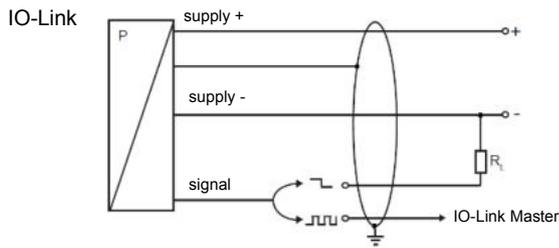
Miscellaneous	
Current consumption	max. 15 mA
Weight	min. 200 g
Installation position	any
Operational life	100 million load cycles
CE-conformity	EMC-directive: 2014/30/EU

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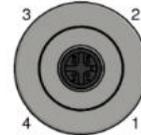
Technical Data

## Wiring diagram

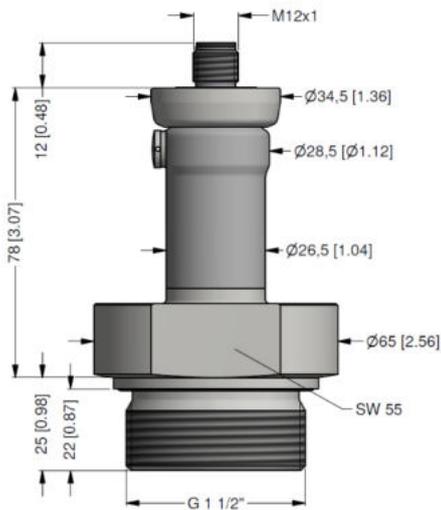


## Pin configuration / electrical connection

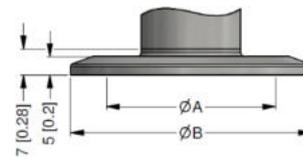
Electrical connection	M12x1 / metal (4-pin)
Supply +	1
Supply -	3
SIO / IO Link	4
Shield	housing



## Dimensions / mechanical connection (mm / in)



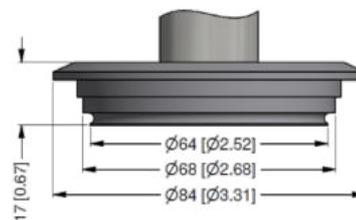
G 1 1/2" flush (DIN 3852)



Clamp (DIN 32676)

dimensions in mm		
size	DN 25	DN 50
A	23	45
B	50.5	64
p <sub>N</sub> [bar]	≤ 16	≤ 16

\* higher pressure ranges on request



Varivent® DN 40/50 (p<sub>N</sub> ≤ 10 bar)

