

# DMK 387

## Pressure Transmitter

Ceramic sensor

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



### Nominal pressure

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

### Output signal

2-wire: 4 ... 20 mA

3-wire and others on request

### Product characteristics

- ▶ diaphragm  
ceramics 99.9 % Al<sub>2</sub>O<sub>3</sub>
- ▶ high long-term stability





### Optional versions

- ▶ IS-version  
Ex ia = intrinsically safe for  
gases and dust
- ▶ different kinds of inch threads
- ▶ pressure port in PVDF or PP-HT  
for aggressive media

The pressure transmitter DMK 387 has been specially designed for applications in plant and machine engineering as well as laboratory techniques and is suitable for measuring small system pressure and filling heights.

By using our own-developed capacitive sensor, available in Al<sub>2</sub>O<sub>3</sub> 99.9%, the DMK 387 offers a high overpressure resistance and a high temperature and media resistance. The pressure transmitter is available in an intrinsically safe version for usage in explosive environments.

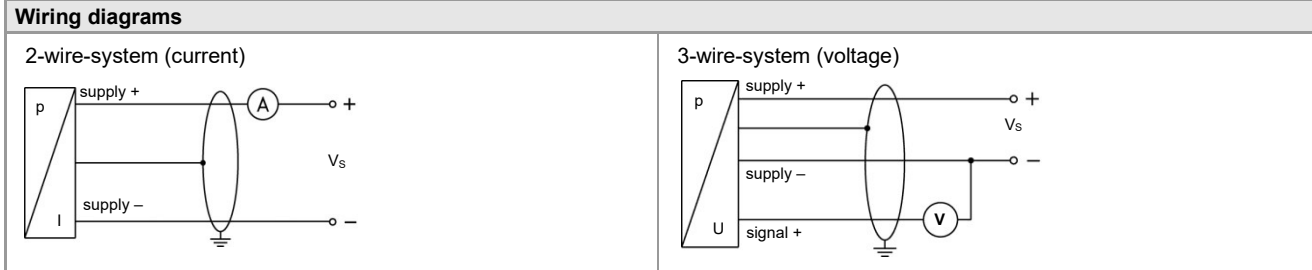
### Preferred areas of use

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



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 <sub>2</sub> O]	1	1.6	2.5	4	6	10	16	25	40	60	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	8	9	9	18	18	25	30	30	45	80	
Permissible vacuum	[bar]	-0.2	-0.3	-0.5				-1								
Output signal / Supply																
Standard		2-wire: 4 ... 20 mA / V <sub>S</sub> = 14 ... 36 V <sub>DC</sub>														
Option IS-version		2-wire: 4 ... 20 mA / V <sub>S</sub> = 14 ... 28 V <sub>DC</sub>														
On request		3-wire: 0 ... 10 V / V <sub>S</sub> = 14 ... 36 V <sub>DC</sub>														
Performance																
Accuracy <sup>1</sup>		standard: ≤ ± 0.35 % span option: ≤ ± 0.25 % span														others on request
Permissible load		current 2-wire: R <sub>max</sub> = [(V <sub>S</sub> - V <sub>Smin</sub> ) / 0.02 A] Ω voltage 3-wire: R <sub>min</sub> = 10 kΩ														
Influence effects		supply: 0.05 % span / 10 V load: 0.05 % span / kΩ														
Long term stability		≤ ± 0.1 % span / year														
Turn-on time		450 msec														
Mean response time		≤ 70 msec														
Measuring rate		80 Hz														
<sup>1</sup> accuracy according to IEC 60770 - limit point adjustment (non-linearity, hysteresis, repeatability)																
Thermal effects (offset and span)																
Tolerance band		≤ ± 1 % span														
In compensated range		-20 ... 80 °C														
Permissible temperatures																
Medium <sup>2</sup>		-40 ... 125 °C														
Electronics / environment		-40 ... 85 °C														
Storage		-40 ... 85 °C														
<sup>2</sup> 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		10 g RMS (25 ... 2000 Hz) according to DIN EN 60068-2-6														
Materials																
Pressure port / housing		standard:										pressure port		housing		
		options for G3/4" flush:										stainless steel 1.4404 (316 L) PVDF (p <sub>max</sub> = 20 bar) PP-HT (p <sub>max</sub> = 10 bar)		stainless steel 1.4404 (316 L) PVDF PP-HT		
Option compact field housing		stainless steel 1.4301 (304) cable gland M12x1.5, brass, nickel plated (clamping range 2 ... 8 mm)														
Seals (O-rings)		FKM, EPDM, FFKM										others on request				
Diaphragm		ceramics Al <sub>2</sub> O <sub>3</sub> 99.9 %														
Media wetted parts		pressure port, seals, diaphragm														
Explosion protection (only for 4 ... 20 mA / 2-wire)																
Approval DX14B-DMK 387		IBExU 15 ATEX 1067 X pressure port: stainless steel zone 0: II 1G Ex ia IIC T4 Ga pressure port: PVDF or PP-HT zone 1: II 2G Ex ia IIC T4 Gb for all pressure ports zone 20: II 1D Ex ia IIIC T135 °C Da														
Safety technical maximum values		U <sub>i</sub> = 28 V, I <sub>i</sub> = 93 mA, P <sub>i</sub> = 660 mW, C <sub>i</sub> = 14 nF, L <sub>i</sub> = 0 μH, the supply connections have an inner capacity of max. 27 nF to the housing														
Permissible temperatures for environment		in zone 0: -20 ... 60 °C with p <sub>atm</sub> 0.8 bar up to 1.1 bar in zone 1 or higher: -25 ... 65 °C														
Connecting cables (by factory)		cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1 μH/m														

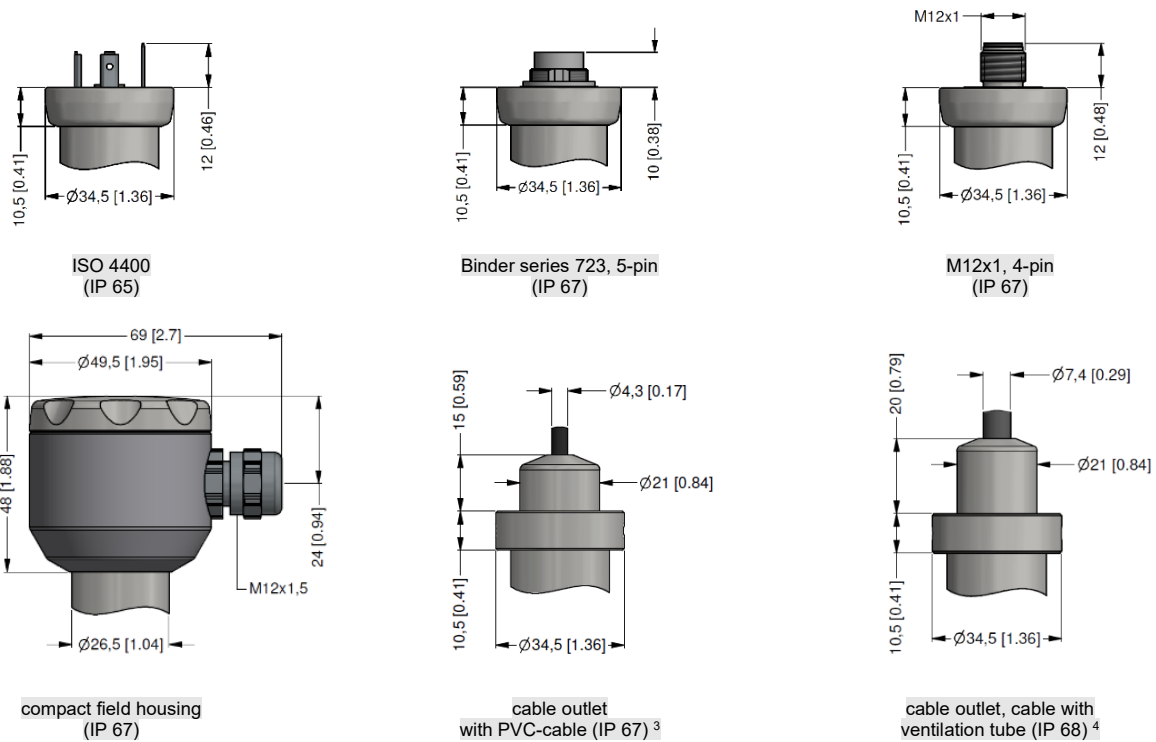
Miscellaneous	
Current consumption	max. 22 mA
Weight	approx. 180 g
Operational life	100 million load cycles
CE-conformity	EMC Directive: 2014/30/EU
ATEX Directive	2014/34/EU



**Pin configuration**

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	compact field housing	cable colours (IEC 60757)
supply +	1	3	1	V <sub>S+</sub>	WH (white)
supply -	2	4	2	V <sub>S-</sub>	BN (brown)
signal + (only 3-wire)	3	1	3	S+	GN (green)
Shield	ground pin	5	4	GND	GNYE (green-yellow)

**Electrical connections (dimensions mm / in)**

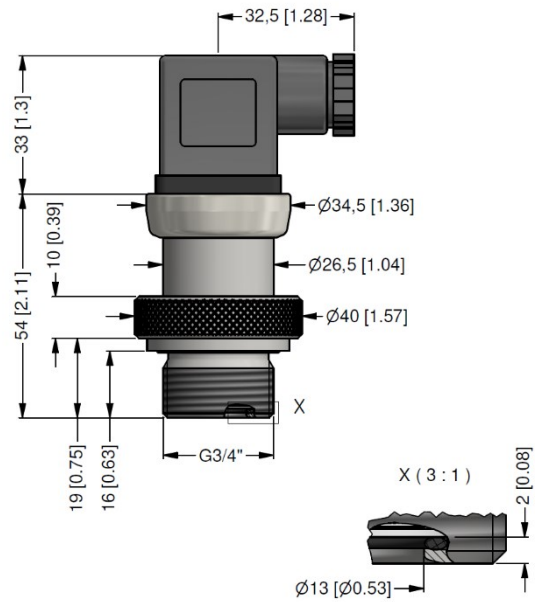
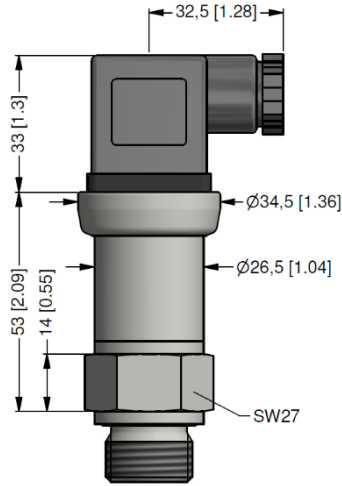


⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

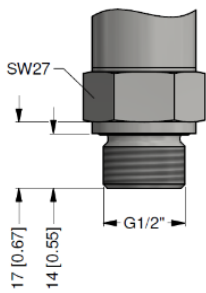
<sup>3</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

<sup>4</sup> different cable types and lengths available, permissible temperature depends on kind of cable

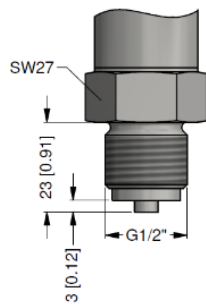
Dimensions (mm / in)



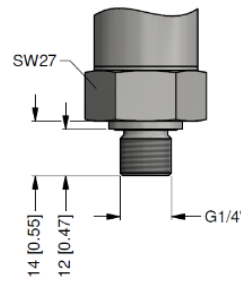
G 3/4" flush<sup>5</sup>



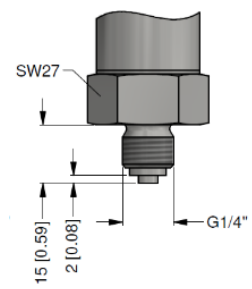
G1/2" DIN 3852



G1/2" EN 837



G1/4" DIN 3852



G1/4" EN 837

<sup>5</sup> not in combination with field housing



On request...in accordance with the producer

Surcharges for calibration are not subject to any discounts. Subject to change.

This document contains the specification for ordering the product; detailed technical parameters of the product and its possible variants are given in the data sheet.

BD SENSORS reserves the right to change sensor specifications without further notice.

1 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

2 code TR0 = PVC cable, cable with ventilation tube available in different types and lengths; cable not included in the price

3 metric threads and others on request

4 not in combination with field housing

5 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



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