





DMK 387

Pressure Transmitter

Ceramic sensor

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

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 % Al₂O₃
- 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 Al₂O₃ 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



+49 (0) 92 35 / 98 11- 0

+49 (0) 92 35 / 98 11- 11

Aggressive media











Pressure Transmitter **Technical Data**

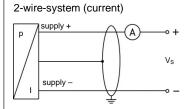
Input pressure range															
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	400
Overpressure	[bar]	3	4	5	5	5	7	7	12	12	20	20	20	40	70
Burst pressure ≥	[bar]	4	6	8	8	8	9	9	18	18	25	30	30	45	80
Permissible vacuum	[bar]	-0.2	-0.3	-0.5			-1								

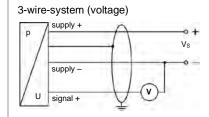
	-0.2 -0.3 -0.5								
Output signal / Supply	T								
Standard	2-wire: $4 \dots 20 \text{ mA} / V_S = 14 \dots 36 V_{DC}$								
Option IS-version	2-wire: $4 20 \text{ mA} / V_S = 14 28 V_{DC}$								
On request	3-wire: $0 \dots 10 \text{ V} / \text{V}_S = 14 \dots 30$	6 V _{DC}							
Performance									
Accuracy ¹	$ \begin{array}{ll} \text{standard:} & \leq \pm \ 0.35 \ \% \ \text{FSO} \\ \text{option:} & \leq \pm \ 0.25 \ \% \ \text{FSO} \end{array} $ others on request								
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{S min}) / 0.02 \text{ A}] \Omega$ voltage 3-wire: $R_{min} = 10 \text{ k}\Omega$								
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ								
Long term stability	≤± 0.1 % FSO / year								
Turn-on time	450 msec								
Mean response time	≤ 70 msec								
Measuring rate	80 Hz								
¹ accuracy according to IEC 60770 - limit point adjustment (non-linearity, hysteresis, repeatability)									
Thermal effects (offset and span)									
Tolerance band ≤±1% FSO									
In compensated range	-20 80 °C								
Permissible temperatures									
Medium ²	-40 125 °C								
Electronics / environment	-40 125 °C								
	-40 85 °C								
Storage -40 85 °C ² for pressure port in PVDF or PP-HT the operation medium temperature is -30 60 °C									
·	e operation medium temperature is -50 o								
Electrical protection									
Short-circuit protection	permanent								
Reverse polarity protection	no damage, but also no function	EN 04000							
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: options for G3/4" flush:	pressure port stainless steel 1.4404 (316 L) PVDF PP-HT	housing 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 ₂ O ₃ 99.9 %		others on request						
Media wetted parts	pressure port, seals, diaphragm								
Explosion protection (only for 4.	20 mA / 2-wire)								
Approval DX14B-DMK 387	IBExU 15 ATEX 1066 X / IECEx IBE	18.0019X							
, , , , , , , , , , , , , , , , , , , 	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 T138	5 °C Da							
Safety technical maximum values	U_i = 28 V, I_i = 93 mA, P_i = 660 mW, C_i = 14 nF, L_i = 0 μ H, 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 _{atm} 0.8 bar up to 1.1 bar in zone 1 or higher: -25 65 °C								
Connecting cables (by factory)	cables 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								

Pressure Transmitter Technical Data

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

Wiring diagrams



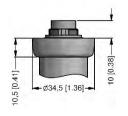


Pin configuration								
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	compact field housing				
	3 GND	3 4 5	3 2	V _{S+} V _{S-} S+ GND	cable colours (IEC 60757)			
supply +	1	3	1	V _S +	WH (white)			
supply –	2	4	2	V _S -	BN (brown)			
signal + (only 3-wire)	3	1	3	S+	GN (green)			
Shield	ground pin 😩	5	4	GND	GNYE (green-yellow)			

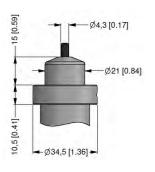
Electrical connections (dimensions mm / in)

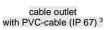


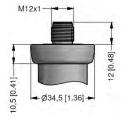
compact field housing (IP 67)



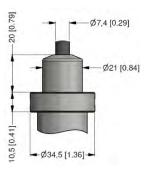
Binder series 723, 5-pin (IP 67)







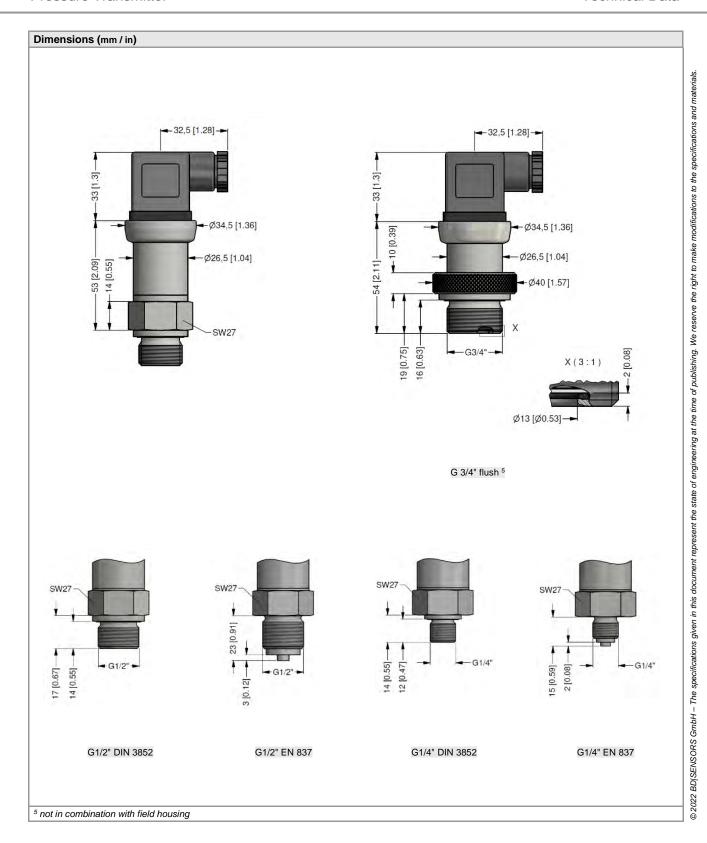
M12x1, 4-pin (IP 67)



cable outlet, cable with ventilation tube (IP 68) 4

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

 ³ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)
 ⁴ different cable types and lengths available, permissible temperature depends on kind of cable



DMK387_E_230822



Ordering code DMK 387 **DMK 387** Pressure gauge in bar 2 8 5 gauge in mH₂O 2 8 6 1.0 0.1 0 0 0 6 0 0 1.6 0.16 0 0 0 0 5 0.25 2 2.5 0 4.0 0.40 4 0 0 0 6.0 0.60 0 0 10 1.0 1 6 5 0 0 1 0 1 0 1 16 16 2 25 25 4 40 4.0 60 6.0 6 0 0 1 0 0 2 1 6 0 2 2 5 0 2 4 0 0 2 9 9 9 9 100 10 160 16 250 25 400 40 customer consult Output 4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire consult intrinsic safety 4 ... 20 mA / 2-wire Е customer 9 consult Accuracy standard 0.35 % FSO 3 0.25 % FSO option customer consult male and female plug ISO 4400 1 0 0 male plug Binder series 723 (5-pin) 2 0 0 cable outlet with PVC cable (IP67) A 0 Т cable outlet, Т R 0 cable with ventilation tube (IP68) 2 male plug M12x1 (4-pin) / metal 1 0 compact field housing 5 8 0 stainless steel 1.4301 (304) 9 9 9 customer consult Mechanical connection G1/2" DIN 3852 0 0 1 G1/2" EN 837 2 0 0 0 0 0 0 0 0 G1/4" DIN 3852 3 G1/4" FN 837 4 G3/4" with flush sensor 4 Κ customer 9 9 9 consult FKM **EPDM** 3 **FFKM** 7 9 customer consult stainless steel 1.4404 (316L) PVDF 5 В PP-HT ⁵ R customer 9 consult Diaphragm ceramics Al₂O₃ 99.9 % С customer consult Special version standard 0 0 0 9 9 9 customer consult

23.08.2022 ©

modifications to the specifications and

the right to make

We reserve

time of publishing.

at the

state of engineering

the

BDISENSORS GmbH - The specifications given in this

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

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 or PP-HT the operation medium temperature is -30 ... 60 $^{\circ}$ C