



LMK 351

Screw-in Transmitter

Ceramic Sensor

accuracy according to EN IEC 62828-2: standard: 0.35% span option: 0.25% span

Nominal pressure

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

Output signal

2-wire: 4 ... 20 mA

3-wire: 0 ... 20 mA / 0 ... 10 V

others on request

Product characteristics

- pressure port PVDF of PP-HT version for aggressive media
- pressure port G 1 1/2" for pasty and polluted media

Optional versions

- IS-version Ex ia = intrinsically safe for gases and dusts
- diaphragm 99.9 % Al₂O₃
- customer specific versions

The screw-in transmitter LMK 351 has been designed for measuring small system pressure and level measurement in container. The LMK 351 is based on an own-developed capacitive ceramic sensor element. Usage in viscous and pasty media is possible because of the flush mounted sensor.

For the usage in aggressive media a pressure port in PVDF or PP-HT and the diaphragm in Al₂O₃ 99.9 % is available. An intrinsically safe version complete the range of possibilities.

Preferred areas of use are



Plant and Machine Engineering



Environmental Engineering (water – sewage – recycling)

Preferred used for



Fuel and Oil



Viscous and Pasty Media











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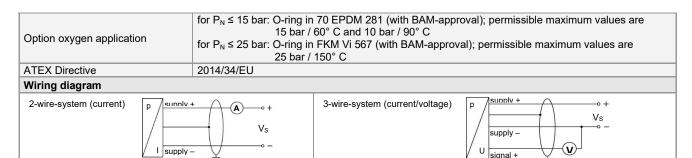


Screw-in Transmitter

Pressure ranges																
Nominal pressure	[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
Level	[mH ₂ O]	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100	160	200
Overpressure	[bar]	2	2	4	4	6	6	8	8	15	25	25	35	35	45	45
Low pressure	[bar]	-C	.2	-0	.3		-0	.5					-1			

Output signal / Supply	
Standard	2-wire: 4 20 mA / V _S = 9 32 V _{DC}
Option Ex-version	2-wire: 4 20 mA / V _S = 14 28 V _{DC}
Option 3-wire	3-wire: 0 10 V / V _S = 12.5 32 V _{DC}
Performance	
Accuracy ¹	standard: $\leq \pm 0.35 \%$ span
Accuracy	option: $\leq \pm 0.25\%$ span
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{S min}) / 0.02 \text{ A}] \Omega$
1 omnosible lead	voltage 3-wire: $R_{min} = 10 \text{ k}\Omega$
Influence effects	supply: 0.05 % span / 10 V
	load: 0.05 % span / kΩ
Long term stability	≤ ± 0.1 % span / year
Turn-on time	700 msec
Mean measuring time	5/sec
Response time	mean response time: ≤ 200 msec max. response time: 380 msec
¹ accuracy according to EN IEC 62828	-2- limit point adjustment (non-linearity, hysterisis, repeatability)
Thermal effects (Offset and Spa	
Tolerance band	≤ ±0.1 % span / 10 K in compensated range - 20 80 °C
Permissible temperatures ²	medium: -40 125 °C electronics / environment:-40 85 °C storage: -40 100 °C
² for pressure port of PVDF the permis	
Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326
	emission and infindinty according to LN 01320
Mechanical stability	40 PMO (00 0000 LI-)
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 (media wetted)	
Pressure port	standard: stainless steel 1.4404 (316L) option: PVDF option: PP-HT
Housing	standard: stainless steel 1.4404 (316L) option: PVDF option: PP-HT
Option field housing	Stainless steel 1.4301 (304)
Seals	FKM -40 125 °C
	FFKM -15 125 °C
Dianhragm	EPDM -40 125 °C standard: ceramics Al ₂ O ₃ 96 %
Diaphragm	standard: ceramics Al ₂ O ₃ 96 % options: ceramics Al ₂ O ₃ 99.9 %
Media wetted parts	pressure port, seals, diaphragm
<u>'</u>	1, , , , , ,
IS-protection (only for 4 20 n	
Approval DX4-LMK 351	IBEXU05ATEX1069 X
	stainless steel-pressure port with male (connector):
	zone 0: II 1 G Ex ia IIC T4 Ga zone 20: II 1 D Ex iaD T 110 °C Da
	stainless steel-pressure port with cable: zone 0: II 1 G Ex ia IIB T4 Ga zone 20: II 1 D Ex iaD T 110 °C Da
	plastic-pressure port with male (connector):
	zone 0/1 ³ : II 1/2 G Ex ia IIC T4 Ga/Gb zone 20/21 ³ : II 1 D Ex iaD T 110 °C Da/Db
	plastic-pressure port with cable:
	zone 0/1 ³ : II 1/2 G Ex ia IIB T4 Ga/Gb zone 20/21 ³ : II 1 D Ex iaD T 110 °C Da/Db
Safety technical	
maximum values	$U_i = 28 \text{ V}, I_i = 93 \text{ mA}, P_i = 660 \text{ mW}, C_i = 14 \text{ nF}, L_i = \text{negligible}$
Max. permissible temperature	in zone 0: -20 60 °C for p _{atm} 0.8 bar up to 1.1 bar
for environment	zone 1 and higher: -25 70 °C
Connecting cables	capacity: signal line / shield also signal line / signal line: 220 pF/m
(by factory)	inductance: signal line / shield also signal line / signal line: 1.5 μH/m
³ The designation depends on the use With nominal pressure ranges > 60 n	d pressure range. With nominal pressure ranges ≤ 60 mbar the designation is "2G". sbar and < 10 bar (see item 17 of the type-examination certificate) must be attended!
Miscellaneous	
Current consumption	signal output current: max. 21 mA signal output voltage: max. 5 mA
Weight	approx. 200 g
Installation position	any
Operational life	> 100 x 10 ⁶ loading cycles
CE-conformity	EMV-directive: 2014/30/EU

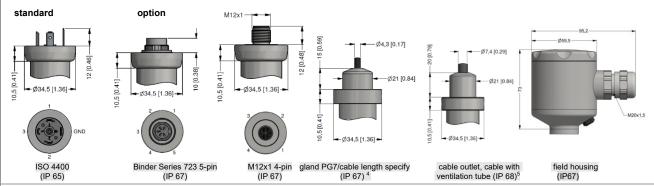
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Pin	configuration
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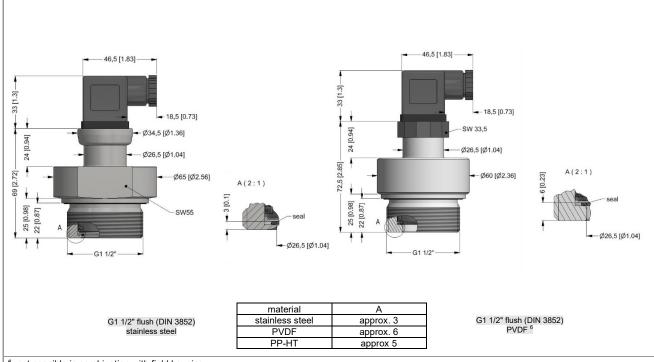
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 (4-pin)	field housing	cable colours (IEC 60757)
Supply +	1	3	1	IN +	wh (white)
Supply –	2	4	2	IN –	bn (brown)
Signal + (only for 3-wire)	3	1	3	OUT +	gn (green)
Shield	ground pin 🖶	5	4	\equiv 	gn/ye (green/yellow)

Electrical connections (dimensions in mm)



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

Dimensions (in mm)



6 not possible in combination with field housing

BD SENSORS
pressure measurement

This data sheet contains product specification, properties are not guaranteed. Subject to change withaut notice



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izel dousing stainless steel, cable gland M 20 x 1,5 (IP 67)	+ PVC cable / 1 m		
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	Customer		













Version for oxygen Customer

0,-...without additional charge

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

2 full-plastic only with electrical connection code 100, E00 and M00; permissible medium temperature: -30 \dots 60 $^{\circ}$ C

3 maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m $\,$



