



LMK 351

Screw-in Transmitter

Ceramic Sensor

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

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Nominal pressure

from 0 ... 40 mbar
up to 0 ... 10 bar

Output signal

2-Leiter: 4 ... 20 mA
3-Leiter: 0 ... 10 V
others on request

Product characteristics

- ▶ pressure port PVDF-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 welded sensor.

For the usage in aggressive media a pressure port in PVDF 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

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]	-0.2		-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		standard:	≤ ± 0.35 % FSO														
		option:	≤ ± 0.25 % FSO														
Permissible load		current 2-wire:	R _{max} = [(V _S - V _{S min}) / 0.02] Ω														
		voltage 3-wire:	R _{min} = 10 kΩ														
Influence effects		supply:	0.05 % FSO / 10 V														
		load:	0.05 % FSO / kΩ														
Long term stability		≤ ± 0.1 % FSO / 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 IEC 60770 - limit point adjustment (non-linearity, hysteresis, repeatability)																	
Thermal effects (Offset and Span) / -Permissible temperatures																	
Tolerance band		≤ ± 0.1 % FSO / 10 K		in compensated range - 20 ... 80 °C													
Permissible temperatures		medium:	-40 ... 125 °C														
		electronics / environment:	-40 ... 85 °C														
		storage:	-40 ... 100 °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 (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)														
		options:	PVDF														
Housing		stainless steel 1.4404 (316L)															
Seals		FKM	-40 ... 125 °C														
		FFKM	-15 ... 125 °C														
		EPDM	-40 ... 125 °C														
Diaphragm		standard:	ceramics Al ₂ O ₃ 96 %														
		options:	ceramics Al ₂ O ₃ 99.9 %														
Media wetted parts		pressure port, seals, diaphragm															
IS-protection (only for 4 ... 20 mA / 2-wire)																	
Approval DX14-LMK 351		stainless steel-pressure port with male (connector):															
		zone 0:	II 1 G EEx ia IIC T4				zone 20:	II 1 D EEx IP6X T=85°C									
		stainless steel-pressure port with cable:															
		zone 0:	II 1 G EEx ia IIB T4				zone 20:	II 1 D EEx IP6X T=85°C									
		plastic-pressure port with male (connector):															
		zone 0/1 ² :	II 1/2 G EEx ia IIC T4				zone 20/21 ³ :	II 1/2 D EEx IP6X T=85°C									
		plastic-pressure port with cable:															
		zone 0/1 ² :	II 1/2 G EEx ia IIB T4				zone 20/21 ³ :	II 1/2 D EEx IP6X T=85°C									
Safety technical maximum values		U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i = 27 nF, L _i = 5 μH															
Max. permissible temperature for environment		in zone 0:	-20 ... 60 °C for p _{atm} 0.8 bar up to 1.1 bar														
		zone 1 and higher:	-25 ... 70 °C														
Connecting cables (by factory)		capacity:	signal line / shield also signal line / signal line: 160 pF/m														
		inductance:	signal line / shield also signal line / signal line: 1 μH/m														
² The designation depends on the used pressure range. With nominal pressure ranges ≤ 60 mbar the designation is „2G“.																	
With nominal pressure ranges > 60 mbar and < 10 bar (see item 17 of the type-examination certificate) must be attended!																	

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Technical Data

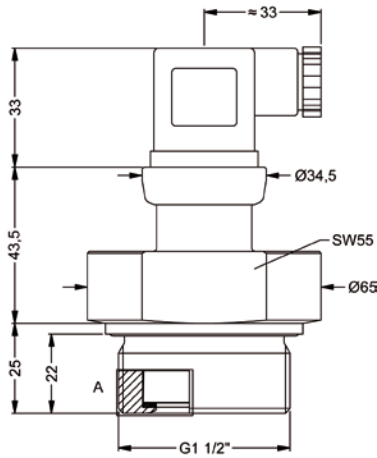
Miscellaneous					
Current consumption	signal output current: max. 21 mA		signal output voltage: max. 5 mA		
Weight	approx. 200 g				
Installation position	any				
Operational life	> 100 x 10 ⁶ loading cycles				
CE-conformity	EMV-directive: 2004/108/EC				
ATEX Directive	94/9/EC				
Wiring diagram					
2-wire-system (current)			3-wire-system (current/voltage)		
Pin configuration					
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 (4-pin)	field housing	cable colours (DIN 47100)
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	⊥	gn/ye (green/yellow)
Electrical connections (dimensions in mm)					
ISO 4400 (IP 65)		Binder Serie 723 (IP 67)		M12x1 4-pin (IP 67)	
				cable outlet with PVC-cable (IP 67) ³	
compact field housing (IP 67)				cable outlet, cable with ventilation tube (IP 68) ⁴	
<p>³ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)</p> <p>⁴ different cable types and lengths available, permissible temperature depends on kind of cable</p>					

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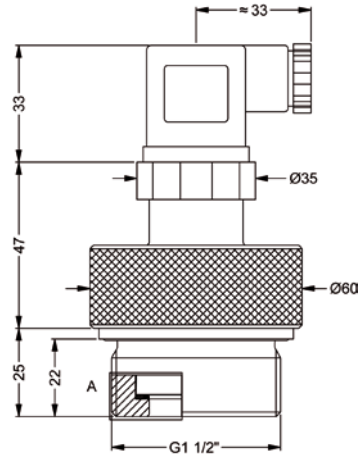
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Dimensions (in mm)



G1 1/2" flush (DIN 3852)
stainless steel



G1 1/2" flush (DIN 3852)
PVDF⁵

material	A
stainless steel	ca. 3
PVDF	ca. 6

⁵ not possible in combination with compact field housing

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

