



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 ... 20 bar

Output signal

2-wire: 4 ... 20 mA
3-wire: 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

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Technical Data

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

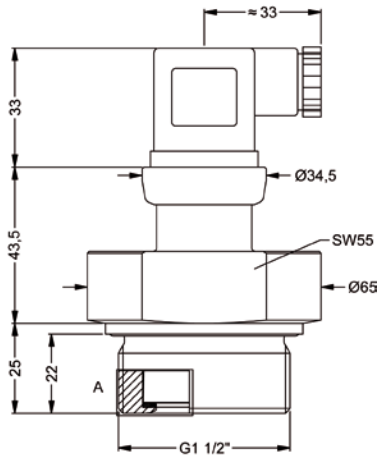
Miscellaneous					
Current consumption	signal output current: max. 21 mA		signal output voltage: max. 5 mA		
Weight	approx. 200 g				
Installation position	any				
Operational life	> 100 x 10 ⁶ loading cycles				
CE-conformity	EMV-directive: 2004/108/EC				
ATEX Directive	94/9/EC				
Wiring diagram					
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)					
<p>ISO 4400 (IP 65)</p>		<p>Binder Serie 723 (IP 67)</p>		<p>M12x1 4-pin (IP 67)</p>	
		<p>compact field housing (IP 67)</p>		<p>cable outlet with PVC-cable (IP 67)³</p>	
				<p>cable outlet, cable with ventilation tube (IP 68)⁴</p>	
<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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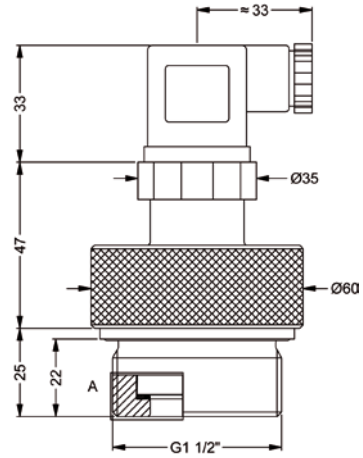
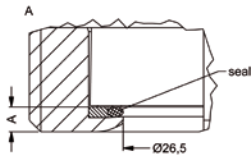
Screw-in Transmitter

Technical Data

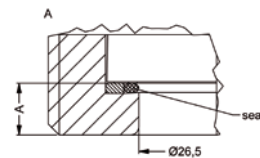
Dimensions (in mm)



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.

Ordering code LMK 351

LMK 351

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Pressure		in bar		4	7	0																	
		in mH ₂ O		4	7	1																	
Input		[mH ₂ O]	[bar]																				
		0.4	0.04	0	4	0	0																
		0.6	0.06	0	6	0	0																
		1.0	0.10	1	0	0	0																
		1.6	0.16	1	6	0	0																
		2.5	0.25	2	5	0	0																
		4.0	0.40	4	0	0	0																
		6.0	0.60	6	0	0	0																
		10	1.0	1	0	0	1																
		16	1.6	1	6	0	1																
		25	2.5	2	5	0	1																
		40	4.0	4	0	0	1																
		60	6.0	6	0	0	1																
		100	10	1	0	0	2																
		customer		9	9	9	9																consult
Output		4 ... 20 mA / 2-wire						1															
		0 ... 10 V / 3-wire						3															
		Intrinsic safety 4 ... 20 mA / 2-wire						E															
		customer						9															consult
Accuracy		standard			0.35 %			3															
		option			0.25 %			2															
		customer						9															consult
Electrical connection		Male and female plug ISO 4400						1	0	0													
		Male plug Binder series 723 (5-pin)						2	0	0													
		Cable outlet with PVC-cable ¹						T	A	0													
		Cable outlet ²						T	R	0													
		Male plug M12x1 (4-pin) / metal						M	1	0													
		compact field housing						8	5	0													
		customer						9	9	9													consult
Mechanical connection		G1 1/2" DIN 3852 with flush sensor						M	0	0													
		customer						9	9	9													consult
Seals		FKM								1													
		EPDM								3													
		FFKM								7													
		customer								9													consult
Pressure port		Stainless steel 1.4404 (316L)								1													
		PVDF ³								B													
		customer								9													consult
Diaphragm		Ceramics Al ₂ O ₃ 96%									2												
		Ceramics Al ₂ O ₃ 99.9%									C												
		customer									9												consult
Special version		standard										0	0	0									
		customer										9	9	9									consult

¹ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)
² cable with ventilation tube (code TR0 = PVC cable), different cable types and lengths available, price without cable
³ not possible in combination with compact field housing

