

LMP 808

Detachable Plastic Probe

Stainless Steel Sensor

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



Nominal pressure

from 0 ... 1 mH₂O up to 0 ... 100 mH₂O

Output signals

2-wire: 4 ... 20 mA

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

others on request

Special characteristics

- ▶ diameter 35 mm
- ▶ cable assembly and sensor head detachable
- ▶ excellent linearity
- ▶ small thermal effect
- ▶ integrated lightning protection and increased overvoltage protection
8 kA gas discharge tube (8/20 μsec);
4 kV surge I-I-I-e according to
EN61000-4-5

Optional versions


- ▶ SIL 2 (Safety Integrity Level) according to IEC 61508 / 61511
- ▶ different kinds of cables and elastomers


The separable plastic immersion probe LMP 808 was developed for water applications, for level measurements in rivers and for level measurements by fuels and oils designed. The basic element is a precise stainless steel sensor.

Since the area of application is often outside a building, great emphasis was placed on overvoltage / lightning protection.

To simplify warehousing and Maintenance, the probe head can be separated from the cable part and, if necessary, can be done without time-consuming assembly work can be replaced.

Preferred areas of use are

 Water / filtrated sewage
ground water level measurement
rain spillway basins
drinking water systems
water treatment plants

 Fuel and oil
fuel storage
tank farms
biogas plants
process water recycling



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	
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100	
Overpressure	[bar]	0.5	1	1	2	5	5	10	10	20	40	40	
Burst pressure ≥	[bar]	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	50	
Output signal / Supply													
Standard	2-wire: 4 ... 20 mA / V _S = 8 ... 32 V _{DC}						SIL-version: V _S = 14 ... 28 V _{DC}						
Options 3-wire	3-wire: 0 ... 20 mA / V _S = 14 ... 30 V _{DC}						0 ... 10 V / V _S = 14 ... 30 V _{DC}						
Performance													
Accuracy	standard:		nominal pressure < 0.4 bar:		≤ ± 0.5 % FSO								
	option:		nominal pressure ≥ 0.4 bar:		≤ ± 0.35 % FSO								
			nominal pressure ≥ 0.4 bar:		≤ ± 0.25 % FSO								
Permissible load	current 2-wire:		R _{max} = [(V _S - V _{S min}) / 0.02 A] Ω										
	current 3-wire:		R _{max} = 500 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 at reference conditions												
Response time	< 10 msec												
¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)													
Thermal effects (Offset and Span)													
Nominal pressure P _N	[bar]	< 0.40						≥ 0.40					
Tolerance band	[% FSO]	≤ ± 1						≤ ± 0.75					
In compensated range	[°C]	0 ... 50											
Permissible temperatures													
Permissible temperatures	medium / electronics / environment / storage: -25 ... 80 °C												
Electrical protection ²													
Short-circuit protection	permanent												
Reverse polarity protection	no damage, but also no function												
Electromagnetic compatibility	emission and immunity according to EN 61326												
² additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request													
Overvoltage / lightning protection (only 4 ... 20 mA/2-wire without SIL2)													
Series resistance	9.4 Ω for each positive and negative wire												
Max. leakage current	8 kA (8/20 µsec)												
Overload	4 kV (line-line and line-earth) according to EN 61000-4-5												
Max. rated current	30 mA												
Electrical connection													
Cable with sheath material ³	PVC (-5 ... 70 °C) grey Ø 7.4 mm PUR (-25 ... 70 °C) black Ø 7.4 mm FEP ⁴ (-25 ... 70 °C) black Ø 7.4 mm												
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												
Bending radius	static installation: 10-fold cable diameter dynamic application: 20-fold cable diameter												
³ shielded cable with integrated air tube for atmospheric pressure reference													
⁴ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected													
Materials (media wetted)													
Housing	PP-HT												
Seals	FKM EPDM												
Diaphragm	stainless steel 1.4435 (316L)												
Protection cap	POM-C												
Cable sheath	PVC, PUR, FEP, others on request												
Miscellaneous													
Option cable protection (on request)	prepared for mounting with PP-HT pipe Ø 25 mm; available as compact product (standard: pipe with a total length up to 2 m possible)												
Option SIL 2 application ⁵	according to IEC 61508 / IEC 61511												
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA												
Weight	approx. 400 g (without cable)												
Ingress protection	IP 68												
CE-conformity	EMC Directive: 2014/30/EU												
⁵ only for 4...20 mA / 2-wire													

Wiring diagrams		
<p>2-wire-system (current)</p>	<p>3-wire-system (current / voltage)</p>	
Pin configuration		
<p>Electrical connection</p>	<p>M12x1 (4-pin)⁶</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>A-A</p> </div> <div style="text-align: center;"> <p>B-B</p> </div> </div>	<p>cable colours (IEC 60757)</p>
<p>Supply +</p>	<p>3</p>	<p>WH (white)</p>
<p>Supply -</p>	<p>4</p>	<p>BN (brown)</p>
<p>Signal + (only for 3-wire)</p>	<p>1</p>	<p>GN (green)</p>
<p>Shield</p>	<p>2</p>	<p>GYNE (green-yellow)</p>
<p>⁶ if detached</p>		
Dimensions (mm / in)		
	<p style="text-align: center;">protection cap removable</p>	<p style="text-align: center;">sensor head and cable detached</p>

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