LMP 808

Separable Plastic Probe

Stainless Steel Sensor

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

Nominal pressure

from 0 ... 1 mH_2O up to 0 ... 100 mH_2O

Output signals

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

Special characteristics

- diameter 35 mm
- cable and sensor section separable
- excellent linearity
- small thermal effect

Optional versions

- SIL 2 (Safety Integrity Level) according to IEC 61508 / 61511
- mounting accessories as screw fitting and terminal clamp of stainless steel
- different kinds of cables and elastomers
- customer specific versions e. g. special pressure ranges

The separable plastic probe is designed for level measurement of water, waste water as well as fuels and oils. Basic element is a piezoresistive stainless steel sensor.

In order to facilitate stock-keeping and maintenance the transmitter head is plugged to the cable assembl with a connector and can be changed easily.

Preferred areas of use are

Water / filtrated sewage
ground water level measurement
storm water systems
drinking water system
water treatment plants

Fuel / Oil
fuel storage
tank farm
biogas plants
process water recycling

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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_2O]	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

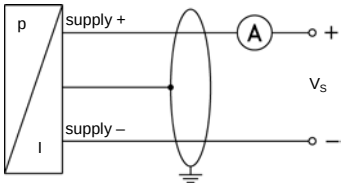
Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V_S = 8 ... 32 V_{DC}
Options 3-wire	3-wire: 0 ... 20 mA / V_S = 14 ... 30 V_{DC} 0 ... 10 V / V_S = 14 ... 30 V_{DC}
Performance	
Accuracy	standard: nominal pressure < 0.4 bar: ≤ ± 0.5 % FSO nominal pressure ≥ 0.4 bar: ≤ ± 0.35 % FSO option 1: nominal pressure ≥ 0.4 bar: ≤ ± 0.25 % FSO
Permissible load	current 2-wire: $R_{max} = [(V_S - V_S\ min) / 0.02\ A]\ \Omega$ current 3-wire: $R_{max} = 500\ \Omega$ voltage 3-wire: $R_{min} = 10\ k\Omega$
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ
Long term stability	≤ ± 0.1 % FSO / year
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	

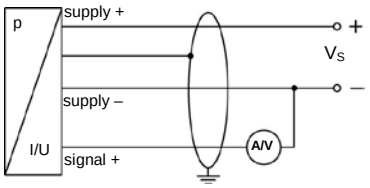
Permissible temperatures	
Permissible temperatures	medium: 0 ... 50 °C storage: -10 ... 50 °C
Electrical protection [2]	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326
[2] additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request	
Electrical connection	
Cable with sheath material [3]	PVC (0 … 50 °C) grey PUR (0 … 50 °C) black FEP (0 … 50 °C) black
Cable protection	standard: without cable protection optional: prepared for mounting of a PVC pipe with diameter 25 mm
[3] cable with integrated air tube for atmospheric pressure reference	
Materials (media wetted)	
Housing	PVC grey
Seals	FKM EPDM
Diaphragm	stainless steel 1.4435 (316L)
Protection cap	POM
Miscellaneous	
Option SIL 2 application	according to IEC 61508 / IEC 61511
Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1µH/m
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: 2004/108/EC

Wiring diagrams

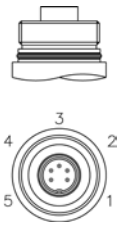
2-wire-system (current)



3-wire-system (current / voltage)



connector



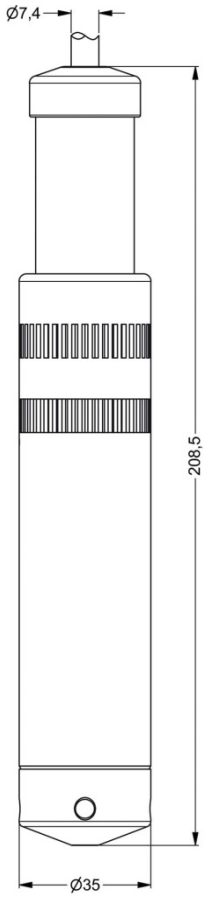
Pin configuration

Electrical connection	Binder serie 723 [4] (5-pin)	cable colours (DIN 47100)
Supply +	3	wh (white)
Supply – (only 2-wire)	1	bn (brown)
Supply – (only 3-wire)	4	bn (brown)
Signal + (only 3-wire)	1	gn (green)
Shield	5	gn/ye (green / yellow)

[4] *in separated version*

Dimensions (in mm)

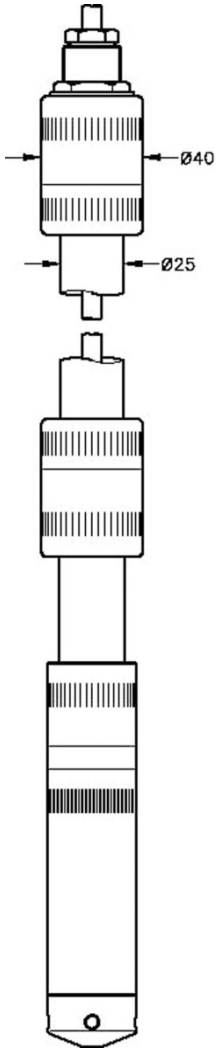
standard



standard version
without cable protection

separate version

option



cable protection with PVC pipe

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BD|SENSORS pressure measurement

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Ordering code LMP 808

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Pressure			
in bar		4 1 0	
in mH_2O		4 1 1	
Input [mH_2O]	[bar]		
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
Housing			
PVC		A	
customer		9	consult
Diaphragm			
Stainless steel 1.4435 (316L)		1	
customer		9	consult
Output			
4 … 20 mA / 2-wire		1	
0 … 20 mA / 3-wire		2	
0 … 10 V / 3-wire		3	
SIL2 4 … 20 mA / 2-wire		1S	
customer		9	consult
Seals			
FKM		1	
EPDM		3	
customer		9	consult
Electrical connection			
PVC-cable [1]		1	
PUR-cable [1]		2	
FEP-cable [1]		3	
customer		9	consult
Accuracy			
standard for $P_N \geq 0.4$ bar	0.35 %	3	
standard for $P_N < 0.4$ bar	0.5 %	5	
option 1 for $P_N \geq 0.4$ bar	0.25 %	2	
customer		9	consult
Cable length			
in m		9 9 9	
Special version			
standard		0 0 0	
prepared for mounting with PVC pipe [2]		1 0 6	
customer		9 9 9	consult

[1] cable with integrated air tube for atmospheric pressure reference
[2] PVC pipe is not part of the supply

This price list contains product specification; properties are not guaranteed. Detailed information about options are defined in the datasheet. Subject to change without notice.

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