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TEMATEC
Temperature · Technology

LMP 808

Separable Plastic Submersible Transmitter with Stainless Steel Sensor

- diameter: 35 mm
- transmitter head and cable assembly plugged
- nominal pressure ranges from 0 ... 1 mH_2O up to 0 ... 100 mH_2O (0 ... 100 mbar up to 0 ... 10 bar)

The LMP 808 plastic submersible transmitter is suited for continuous level measurement of liquids.

A piezoresisitve stainless steel sensor, which features a small thermal effect and a good long term stability, is the basis of the LMP 808. In order to facilitate stock-keeping and maintenance the transmitter head is plugged to the cable assembly with a connector and can be changed easily.

In addition to the several cable materials (PVC, PUR and FEP) the customer has the possibility to consider different versions of cable protection.

Preferred areas of use are:

- environmental engineering: water treatment
- depth or level measurement in wells and open waters
- ground water level measurement
- level measurement in open tanks

Characteristics

- small thermal effect
- excellent linearity
- good long term stability
- accuracy: 0.175% / 0.125% FSO BFSL (0.35 % / 0.25% FSO IEC 60770)
- customer specific versions:
  - special pressure ranges

LMP 808
Plastic Submersible Transmitter

07. 2008

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
Permissible overpressure [bar]	1	1	1	1	3	3	6	6	20	20	60

Output signal / Supply

Standard	2-wire: 4 ... 20 mA / V_S = 12 ... 36 V_{DC}
Optional	3-wire: 0 ... 20 mA/ V_S = 14 ... 36 V_{DC} 0 ... 10 V / V_S = 14 ... 36 V_{DC}

Performance

				IEC 60770 [1]	BFSL
Accuracy	standard:	nominal pressure > 0.4 bar:		≤ ± 0.35 % FSO	≤ ± 0.175 % FSO
		nominal pressure ≤ 0.4 bar:		≤ ± 0.50 % FSO	≤ ± 0.250 % FSO
	option:	nominal pressure > 0.4 bar:		≤ ± 0.25 % FSO	≤ ± 0.125 % FSO
Permissible load	current 2-wire:	$R_{max} = [(V_S - V_{S\,min}) / 0.02]\ \Omega$			
	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				
Response time	< 10 msec				

Thermal errors (Offset and Span)

Nominal pressure P_N [bar]	≤ 0.1	≤ 0.25	≤ 0.4	≤ 1	> 1
Tolerance band [% FSO]	≤ ± 2	≤ ± 1.5	≤ ± 1	≤ ± 1	≤ ± 0.75
TC, average [% FSO / 10 K]	± 0.3	± 0.2	± 0.14	± 0.1	± 0 07
in compensated range [°C]	0 ... 50				

Electrical protection [2]

Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

Permissible temperatures

Medium	0 ... 50 °C
Storage	-10 ... 50 °C

Electrical connection

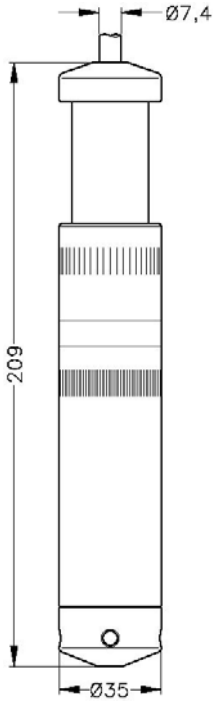
Cable with sheath material [3]	PVC grey PUR black FEP black
Cable protection	standard: without cable protection optional: prepared for mounting of a PVC pipe with diameter 25 mm

[1] accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

[2] additional external overvoltage protection unit in terminal box KL1 or KL2 with atmospheric pressure reference available on request (please ask for data sheet)

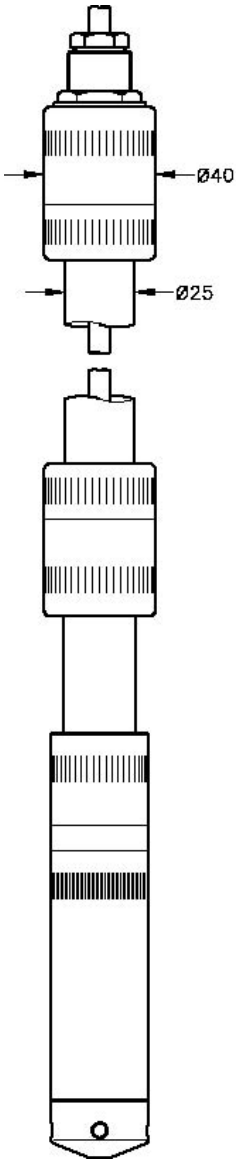
[3] cable with integrated air tube for atmospheric pressure reference

Dimensions (in mm)



Standard version
without cable protection

separability of transmitter
head and cable assembly



Special version cable protection
with PVC pipe

Materials

Housing	PVC grey
Seals	FKM / EPDM
Diaphragm	stainless steel 1.4435 (316L)
Cable sheath	PVC / PUR / FEP

Miscellaneous

Optionally 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: 1 µH/m
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	400 g (without cable)
Ingress protection	IP 68

Mounting accessories (not part of delivery)

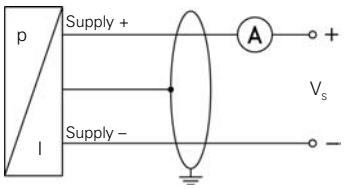
Screw fitting, of PVC
Terminal clamp, of stainless steel 1.4301 (304) or steel, zinc plated

Pin configuration

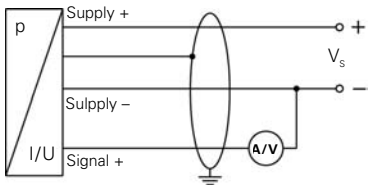
Electrical connection		Binder Serie 723 [4] (5-pin)	cable colours (DIN 47100)
2-wire-system	Supply + Supply –	3 1	white brown
	Ground	5	yellow / green (shield)
3-wire-system	Supply + Supply – Signal +	3 4 1	white brown green
	Ground	5	yellow / green (shield)

Wiring diagram

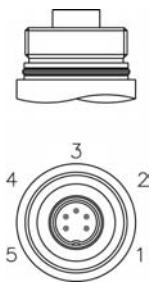
2-wire-system (current)



3-wire-system (current / voltage)



connector [4]



[4] in separated version

Ordering code LMP 808

LMP 808 □□□-□□□□-□-□-□-□-□-□-□□□-□□□

Pressure	Code	
in bar	4 1 0	
in mH_2O	4 1 1	

Input [mH_2O]	[bar]	Code	
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	on request

Housing	Code	
PVC	A	
customer	9	on request

Diaphragm	Code	
Stainless steel 1.4435 (316L)	1	
customer	9	on request

Output	Code	
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	on request

Seals	Code	
FKM	1	
EPDM	3	
customer	9	on request

Electrical connection	Code	
PVC-cable [1]	1	
PUR-cable [1]	2	
FEP-cable [1]	3	
customer	9	on request

Accuracy		Code	
standard for $P_N > 0{,}4$ bar	0,35 %	3	
standard for $P_N \leq 0{,}4$ bar	0,5 %	5	
option for $P_N > 0{,}4$ bar	0,25 %	2	
customer		9	on request

Cable length	Code	
in m	9 9 9	

Special version	Code	
standard	0 0 0	
prepared for mounting with PVC pipe [2]	1 0 6	
customer	9 9 9	on request

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

This ordering code contains product specification; properties are not guaranteed. Subject to change without notice.