SCHNEIDER
MESSTECHNIK

ILMP 808

Detachable 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 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 l-l/l-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 ILMP 808 was developed for water applications, for level measurements in rivers and for level measure-ments by fuels and oils designed. The basic ele-ment is a precise stainless steel sensor.

Since the area of application is often outside a building, great emphasis was placed on overvolt-age / 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

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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
Max. ambient pressure (housing): 20 bar												

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 nominal pressure ≥ 0.4 bar: ≤ ± 0.35 % FSO option: 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 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

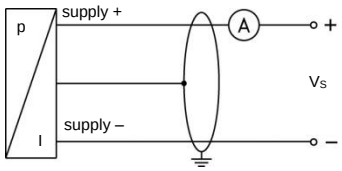
Electrical connection	
Cable with sheath material [3]	PVC (-5 … 70 °C) grey Ø 7.4 mm PUR (-25 … 70 °C) black Ø 7.4 mm FEP [4] (-25 … 70 °C) black Ø 7.4 mm
Cable capacitance	signal line/shield also signal line/signal line: 160 pF/m
Cable inductance	signal line/shield also signal line/signal line: 1 µH/m
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

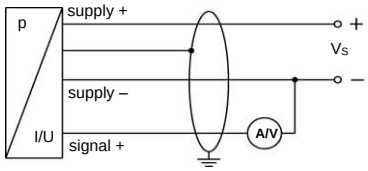
Miscellaneous	
Option cable protection (on request)	prepared for mounting with PP-HT pipe Ø 25 mm; available as compact product (standard: pipe with a total length up to 2 m possible)
Option SIL 2 application [5]	according to IEC 61508 / IEC 61511
Current consumption	signal output current: max. 25 mA 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

2-wire-system (current)



3-wire-system (current / voltage)

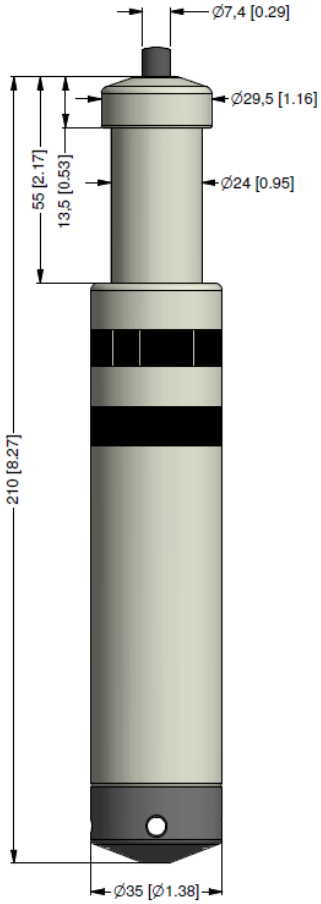


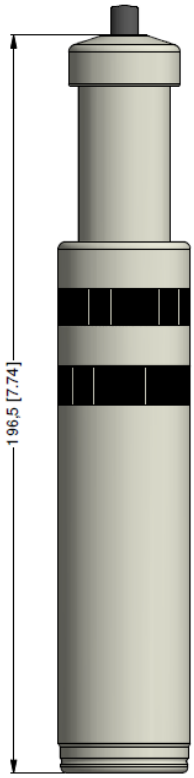
Pin configuration

Electrical connection	M12x1 (4-pin) [6]	cable colours (IEC 60757)
	A-A: 1, 2, 4, 3 — B-B: 4, 3, 1, 2	
Supply + Supply – Signal + (only for 3-wire)	3 4 1	WH (white) BN (brown) GN (green)
Shield	2	GNYE (green-yellow)

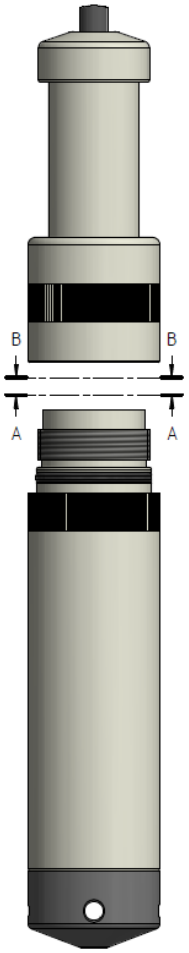
[6] *if detached*

Dimensions (mm / in)





protection cap
removable



sensor head
and cable detached

Ordering code ILMP 808

ILMP 808 □□□-□□□□-□-□-□-□-□-□-□□□-□□□

Option	[mH$_2$O]	[bar]	Code	Remark
Pressure				
in bar			4 1 0	
in mH$_2$O			4 1 1	
Input	**[mH$_2$O]**	**[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				
PP-HT			R	
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 (grey, Ø 7.4 mm) [1]			1	
PUR-cable (black, Ø 7.4 mm) [1]			2	
FEP-cable (black, Ø 7.4 mm) [1]			3	
customer			9	consult
Accuracy				
standard for $p_N \geq 0.4$ bar 0.35 % FSO			3	
standard for $p_N < 0.4$ bar 0.5 % FSO			5	
option for $p_N \geq 0.4$ bar 0.25 % FSO			2	
customer			9	consult
Cable length				
in m			9 9 9	
Special version				
standard			0 0 0	
prepared for pipe mounting [2]			1 0 6	
customer			9 9 9	consult

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

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