

## IMP02 Detachable Submersible Transmitter

- Slim line 25mm construction
- Detachable cable assembly
- Internal temperature sensor option
- Highly stable, reliable output
- Compensated ceramic technology
- Accuracies to  $<\pm 0.05\%$
- Submersible to 200mtrs depth
- Protected from lightning strikes



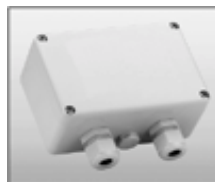
The IMP02 detachable submersible level transmitter offers many advantages to users. The product is designed so that the cable can be detached from the transmitter therefore the cable does not have to be removed from site, which can be very costly, when re-calibrating or servicing the product. Even with the detachability the product maintains a slim line 25mm diameter to ensure the product can fit in tight bore holes and still tubes.

Using the latest in programmable ASIC based electronics, accuracy can be selected from 0.25% through to an exceptional 0.05% BFS, to ensure the product is fit for purpose. Paired with the accessories indicated below, this submersible can be an ideal cost effective instrumentation system for your level measurement needs.

An integrated 4 wire temperature sensor is optional to give both the level measurement and temperature measurement of the media again saving on space & cost.

### Typical Applications Include:

- Tank Level Measurement
- Hydrostatic Level measurement
- Bore holes
- Breweries
- Reservoirs
- Rivers and estuaries



Junction Box

### Accessories Available:



Remote Display



Internal Temperature Sensor

Options for this product include: Pressure Range, Pressure datum, Output, Accuracy, Thermal Performance, Cable types and Cable lengths

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## Detailed Specification

### Pressure Specification

Pressure Ranges	2.5mWg through to 200mWg (customer specific ranges on request)
Pressure Datum	Gauge, Sealed Gauge or Absolute
Burst Pressures	> x 3 rated calibrated range
Overpressure	x 1.5 rated calibrated range
Pressure Media	Liquids and Gases compatible with 316st/st, Alumina Al <sub>2</sub> O <sub>3</sub> & seal of choice

### Input Specification

Electrical Excitation	millivolt 100/200mV 4 - 20mA 1 - 5V 0 - 10V 0 - 2V	2 - 32V dc 10 - 32V dc 10 - 32V dc 10 - 32V dc 13 - 32V dc 2V dc	Supply Voltage Effects	millivolt 100/200mV 4 - 20mA 1 - 5V 0 - 10V 0 - 2V	ratiometric <0.001% span <0.001% span <0.001% span <0.001% span <0.001% span
Input Current	millivolt voltage	<3mA <4mA	Input Resistance	millivolt —	11k Ω —
Reverse Polarity Protection	—	yes	Insulation Resistance	—	>500MΩ@50V dc

### Output Specification

Zero Output	millivolt 100/200mV 4 - 20mA 1 - 5V 0 - 10V 0 - 2V	0mV ± 0.2mV 0mV ± 1% span 4mA ± 1% span 1V ± 1% span 0V ± 1% span 0V ± 1% span	Span Output	millivolt 100/200mV 4 - 20mA 1 - 5V 0 - 10V 0 - 2V	see table c 100/200mV ± 1% 16mA ± 1% 4V ± 1% 10V ± 1% 2V ± 1%
Accuracy (includes non-linearity, hysteresis, repeatability at ambient temperatures)	option 1 option 2 option 3	<±0.25% span BFSL <±0.10% span BFSL <±0.05% span BFSL	Output Resistance	millivolt voltage —	<11k Ω <500 Ω —

### Environmental Specification

Operating Temperature	—	-20°C to +80°C	Compensated Temperature	20°C ± 20°C
Max. Process Temperature	—	+100°C	Storage Temperature	-40°C to +140°C
Thermal Zero Shift (TZS)	option 1 option 2 option 3	<±0.04%/span/°C <±0.02%/span/°C <sup>1)</sup> <±0.01%/span/°C <sup>1)</sup>	Thermal Span Shift (TSS)	<±0.015%/°C
Shock	—	100 g / 11ms	Vibration	10 g RMS (20 - 2000 Hz)

### Miscellaneous Specification

Weight	350g with 1 mtr of cable (no need for additional sink weight)
Response time	Millivolt: <1mS, Amplified: <10mS
EMC Immunity	EN 50082-1 (<±2% errors)
Lightning Protection Class	EN61000-4-5

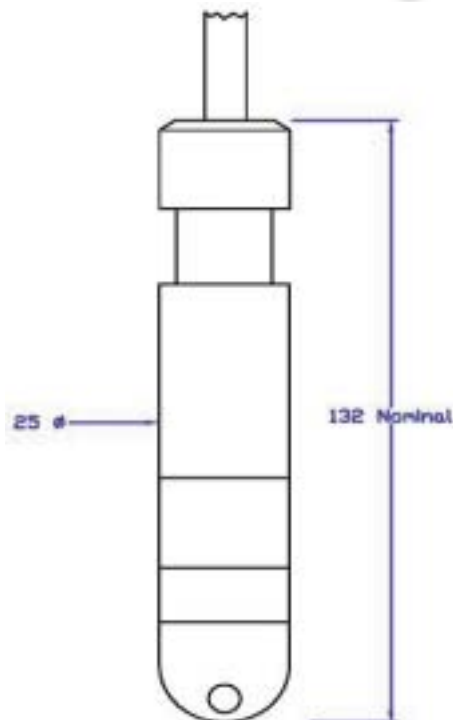
<sup>1)</sup> Not available for ranges <1 Bar or down ranged capsules, consult sales if this is a requirement

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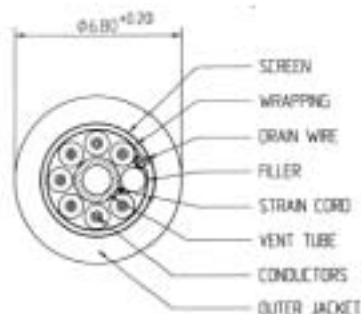
Pressure — Temperature — Flow — Gas — Level — Control — Indication — Logging

## Dimensions & Connections

### Outline drawing



### Cable details



### Wiring Information

- 4 - 20mA output version-

Red = +ve supply  
Blue = -ve supply  
White = earth

- 4 - 20mA with temperature option -

Yellow = PT100 -ve wire  
Green = PT100 +ve wire  
Brown = PT100 -ve wire  
Black = PT100 +ve wire

- mV output version-

Red = +ve supply  
Blue = -ve supply  
Green = +ve output  
Yellow = -ve output

- Volts output version -

Red = +ve supply  
Blue = -ve supply  
Green = +ve output

**Table A - mV output/pressure range**

Pressure capsule range (bar)	1	2	5	10	20	50	100	250	400	600
Output - passive (mV/V)	2.7 ± 30%	3.0 ± 30%	3.4 ± 30%	4.8 ± 30%	3.2 ± 30%	5.2 ± 30%	3.9 ± 30%	3.9 ± 30%	3.9 ± 30%	3.9 ± 30%
Output - rationalised (mV/V)	2 ± 1%	2 ± 1%	2 ± 1%	2 ± 1%	2 ± 1%	2 ± 1%	2 ± 1%	2 ± 1%	2 ± 1%	2 ± 1%
Output - low amplification (mV/V)	10 ± 1%	10 ± 1%	10 ± 1%	10 ± 1%	10 ± 1%	10 ± 1%	10 ± 1%	10 ± 1%	10 ± 1%	10 ± 1%

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## Part Number System

	IMP	—	X	XXXX	—	X	X	X	—	X	X	—	X	X	X
<b>Datum</b>															
Absolute			A												
Gauge			G												
Sealed Gauge			S												
<b>Pressure Range (mWG)</b>															
2.5			0250												
3			0300												
5			0500												
7.5			0750												
10			1000												
15			1500												
20			2000												
30			3000												
50			5000												
100			1002												
200			2002												
Customer			XXXX												
<b>Output</b>															
mV/V / 4-wire								1							
2mV/V / 4-wire								2							
10mV/V / 4-wire								3							
0 - 100/200mV / 4-wire								4							
4 - 20mA / 2-wire								5							
0 - 5V, 0 - 10V / 3-wire								6							
4 - 20mA / 2-wire + 4 wire PT100								7							
0 - 2V / 3-wire (2V supply)								8							
Intrinsic safety								E							
Customer								X							
<b>Accuracy (Combined NLH)</b>															
<±0.25%								A							
<±0.1%								B							
<±0.05%								C							
Customer								X							
<b>Accuracy (TC-0 thermal zero shift)</b>															
<±0.04								4							
<±0.02 <sup>1)</sup>								2							
<±0.01 <sup>1)</sup>								1							
Customer								X							
<b>Electrical Connection</b>															
Standard PUR cable, first mtr free												A			
PTFE sheathed cable, first mtr free												B			
Customer												X			
<b>Internal 'O' ring seal</b>															
NBR												N			
Viton												V			
Customer												X			
<b>Cable Length</b>															
length in mtr's ie. 5 mtrs = 005													X	X	X

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