IMP Range
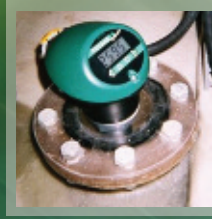
IMP Standard 2/3 Wire

The IMP range offers a combined transducer and controller in one self contained unit. Non-contact level measurement of liquids or solids. Has a choice of 2 or 3 wire configuration. Up to 10m range.

IMP I.S.

IMP is also available in I.S. configuration to ATEX and IECEx.

2 wire loop powered easy set up

IMP PC Software

IMP PC software allows parameter access and echo trace viewing on screen. This easy-to-use software package stores calibration details of each IMP.

pulsar®
PROCESS MEASUREMENT

IMP:

Self-contained ultrasonic level measurement without compromise

Pulsar's IMP range is non-contacting ultrasonic level measurement without compromise. Compact, low-profile self contained units with the benefit of digital echo processing specially designed for IMP. Simple programming without affecting the IP rating via the integral keypad or using IMP PC, IMP's own PC software that lets you program the unit, view and download echo profiles and parameters.

There is an IMP to suit your application. 3m, 6m and 10m range versions are available and each can be wired for 2 wire or 3 wire operation. 2-wire Intrinsically Safe (I.S.) versions are also available. All IMPs feature LCD displays and digital temperature measurement and compensation. Imp also has 2 relay outputs as standard.

You can use IMP wherever you need reliable non-contacting level measurement: digital echo processing means IMP is perfect for solids or liquids. Sumps, tanks, silos. Anywhere you need a display telling you the level, or an analogue output to interface with your site control system or drive a display.

When used on battery power for intermittent (wake-up) applications, IMP's high speed boot up of circa 3 seconds maximises battery life. For example, if an IMP were switched on every 15 minutes for a 3 second reading, average current is a mere 40μA.

Active and passive (sourcing and sinking) analogue outputs assist with system integration, especially when retro-fitting into older installations.

Features

- Compact self contained level measurement
- Calibrate without compromising the IP67 rating
- Simple menu led set up
- High power and narrow beam angles

IMP ON CHEMICAL TANK

STANDARD IMP FACE

Features

- 1.5" universal thread (2" on IMP 10)
- Agitator avoidance as standard
- 200mm deadband on IMP 3
- PVDF Nose option

IMP Variants

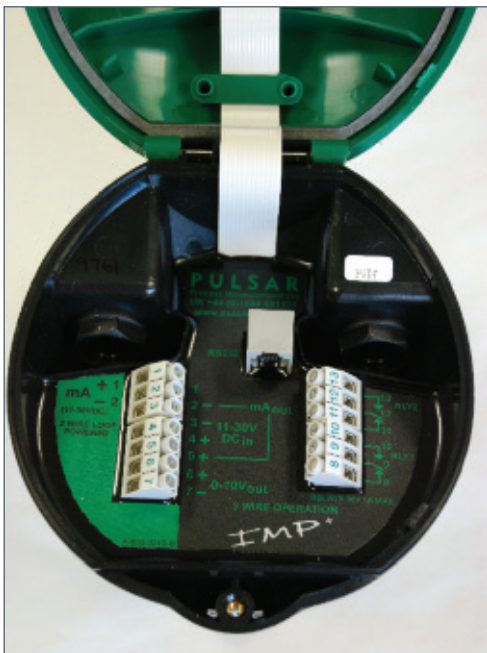| VARIANTS:	IMP 3	IMP 6	IMP 10
Range:	200mm - 3m	300mm - 6m	300mm - 10m
2 / 3-wire configurable IMP:	11-30 volts dc / 4-key user interface / LCD adjustable backlit display Digital temperature measurement / 2 alarm relays (1A 30V) / IMP PC software download / Digital echo processing.		
2-wire I.S. IMP:	I.S. certificate to ATEX EEx ia IIC T4 and IECEx / 4-20mA loop powered / 4-key user interface / LCD display / Digital temperature measurement / Digital echo processing.		

PVDF NOSE CONE OPTION

The full IMP range is available with the wetted parts in PVDF build alternative for corrosive or aggresive applications. The picture below shows a PVDF nose cone on an IMP 6 unit.

INSIDE OF I.S. IMP (ATEX and IECEx)

INSIDE OF STANDARD 2/3 WIRE IMP

IMP ON A MIXING TANK

IMP ON A LIQUID LIME TANK

I.S. IMP:
I.S. IMP and IMP PC Software

IMP applications

You can use IMP wherever you need reliable non-contacting level measurement: digital echo processing means IMP is perfect for solids or liquids. Sumps, tanks, silos. Anywhere you need a display telling you the level, or an analogue output to interface with your site control system or drive a display.

When used on battery power for intermittent (wake-up) applications, IMP's high speed boot up of circa 3 seconds maximises battery life. For example, if an IMP were switched on every 15 minutes for a 3-second reading, average current is 40µA (3 seconds "live" @ 12mA averaged over 15 minutes) .

The presence of active and passive (sourcing and sinking) analogue outputs assists with system integration, especially when retrofitting into older installations.

IMP PC

I**MP PC** is optional software that extends IMP's capabilities, allowing you to:

- **Download, analyse and store echo profiles.** A great way to see exactly what is happening in the application. Fine tuning for ultimate performance.
- **Set-up** IMP. All programming parameters are instantly visible in the IMP PC programming screens. Program the IMP unit on a desktop before installation, or clone a number of IMPs to save valuable time.
- **Updates.** Future-proof your IMP! Pulsar's policy of continuous improvement means that we never stop developing our products. IMP PC allows new firmware to be installed into your IMP units without even removing them from the application.
- **Flow measurement.** A flow curve may be added within IMP PC to configure for simple
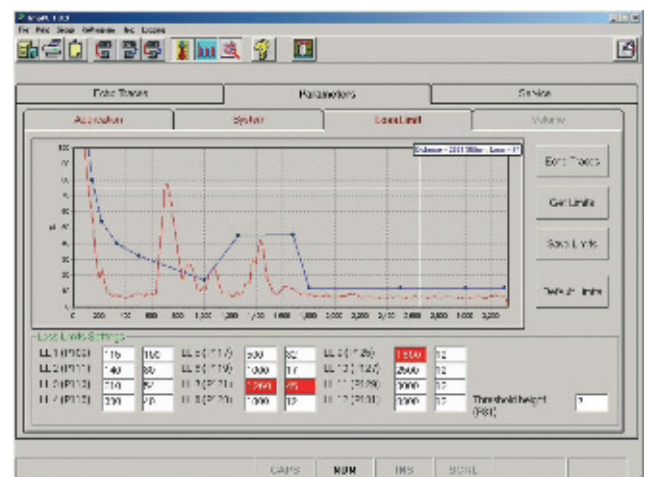
level to flow linearisation

Simple to install

The compact IMP is only 175mm high with a 130mm diameter. Cable glands are provided and IMP can be simply screwed into a 1.5" or 2" universal fitting (a 1.5" to 2" adaptor is available). High transducer power and tight beam angles, together with Pulsar's digital echo processing, makes IMP ideal for many "difficult" applications such as dusty or foamy environments, or where a tank has unavoidable intrusions. The integral display makes programming
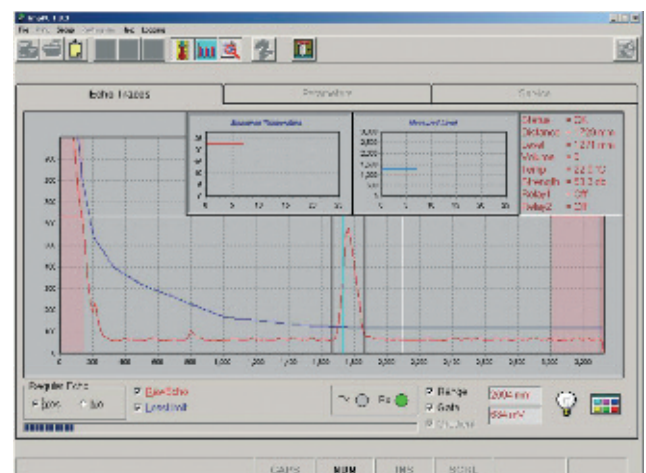
IMP extremely straightforward. IMP can be completely set up, without compromising the IP rating, using the integral keypad alone with no need for a PC. Optional IMP PC software makes it easy to fine tune IMP's performance and "clone" any number of IMP units to the same settings if, for example, they are being used on a tank farm. Please note that PC interface is not included on I.S. IMP variants.

IMP PC DIAGNOSTICS

IMP PC ECHO TRACE

Technical Specification: IMP

PHYSICAL:	
Dimensions:	175mm overall height x 130mm diameter
Cable entry:	2 off 16mm cable glands 3.5 - 10mm cable dia.
Mounting:	1.5" (3m and 6m range versions), 2" (10m version) universal thread - suits BSP and NPT, parallel and tapered
Weight:	approximately 1Kg

ENVIRONMENTAL:	
Temp range (process):	-40°C - +85°C (-40°C - +80°C for I.S. version)
Temp range (ambient):	-20°C - +65°C
IP Rating:	IP67

VARIANTS:	IMP 3	IMP 6	IMP 10
Beam angle (-3dB half power):	<10° inclusive	<10° inclusive	<10° inclusive
Operating frequency:	125kHz	75kHz	41kHz
Measurement range:	0.2m-3m	0.3m-6m	0.3m-10m

PERFORMANCE:	
Digital echo processing:	
Input voltage range:	11 - 30V (17 - 28V for I.S. version), 3.5 - 22mA
Accuracy:	± 0.25% or 6mm (whichever is greater)
Resolution:	± 0.1% or 2mm (whichever is greater)
4-20mA outputs:	resolution 5 micro A (both active and passive outputs)
Temperature compensation:	via internal temperature sensor (±0.5°C accuracy) Level and volume conversion are installed allowing linearisation for tank shapes

IMP MAY BE WIRED AS EITHER 2-WIRE OR 3-WIRE, GIVING THE FEATURES BELOW:	
2-wire configuration:	RS232 (RJ11 port) connection for diagnostics and software updates
	4 digit LCD display
	4 button keypad for parameter entry
	Power consumption: 3.5 - 22mA
	Passive 4-20mA output
3-wire configuration (additional to 2-wire):	Backlit LCD display
	0-10V analogue output
	2 relays: single pole two way, 1A 30VDC/AC
	Power consumption with relays energised <60mA (less12mA/relay not energised)
	Active and passive 4-20mA outputs
2-wire I.S. version:	Intrinsically safe to ATEX EEx ia IIC T4 and IECEx. NB: I.S. IMP is identified by black cap to housing instead of green. Does not include RS232 interface.
PC Interface IMP PC:	All parameters can be accessed and changed through IMP PC software. Echo traces may be viewed on screen. NB: IMP I.S. does not offer this feature.

IMP CONTROLLING SCREEN HEIGHT

IMP CONTROLLING GATE HEIGHT

IMP MONITORING IN A CSO CHAMBER

Notes:

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