PULSAR

Process Measurement

Ultrasonic level measurement without compromise

IMP+

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Self contained non-contacting ultrasonic level measurement with digital echo processing for superb performance

A great range

Pulsar's IMP range is non-contacting ultrasonic level measurement without compromise. All-in-one self contained units with the benefit of digital echo processing specially designed for IMP. Program 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 with 2-wire intrinsically safe (I.S.), 2 and 3-wire IMP versions at each range. All IMPs feature LCD displays and digital temperature measurement and compensation. IMP may be wired as a 2 or 3 wire device, each giving choices on outputs.

- Compact low profile self-contained intelligent level measurement
- Calibrate without compromising IP rating
- Small 1.5" universal thread (2" on 10m version)
- Simple menu led set-up
- Active and passive 4-20mA outputs
- High acoustic power with narrow beam angles
- 150mm deadband on 3m version
- Agitator avoidance as standard

IMP variants

Range	2 / 3-wire configurable IMP	2-wire I.S. IMP
		I.S. certificate to ATEX EEx ia IIC T4 and IECEx
IMP 3 — 150mm - 3m	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 and Location algorithms	4-20mA loop powered 4-key user interface LCD display Digital temperature measurement Digital echo processing and Location algorithms.
IMP 6 — 300mm - 6m		
IMP 10 — 300mm - 10m		

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.

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

IMP 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*
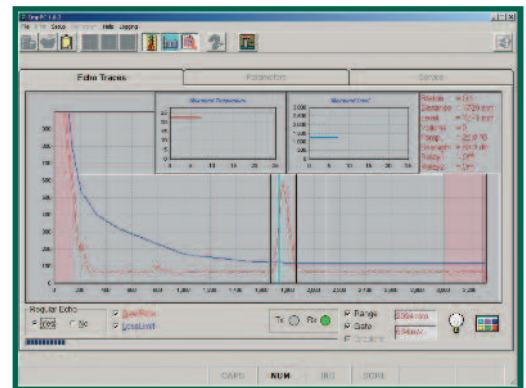
IMP echo trace
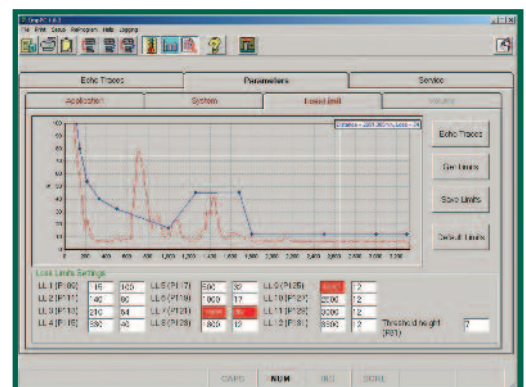
IMP loss limit screen

Part of the family

IMP is just one member of the Pulsar range of level and flow measurement equipment. For component ultrasonic level measurement without a display (ideal for larger distributed control applications) try **blackbox**, a solution that comprises an ultrasonic controller with a transducer that may be sited up to 1000m away. For complex control applications and volume calculations **Ultra 3 and Ultra 5** provide measurement from 125mm up to 40 metres on solids and liquids, depending on the transducer choice. Where pump control is required, Pulsar's **Ultra 3 and Ultra 5** units, using an advanced **software wizard**, are designed specifically for the task, with a host of sophisticated control routines developed within the water industry. Details of these products and many more can be found on our web site.

Technical specification

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 & 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	0.15m-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 5μA (both active & 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 & 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.

I.S. IMP

CE

ISO 9001 : 2000
Registered Company

sira
Certification Service

UKAS
QUALITY
MANAGEMENT

Certificate No: 950136
Literature: IMP2b Sep 07

Contact us

Represented by: