

pulsar

IMP

IMP Standard 2/3 Wire

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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.

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IMP is also available in I.S. configuration to ATEX and IECEx. 2 wire loop powered easy set up

IMP Lite

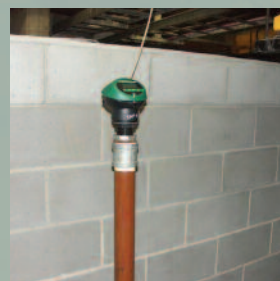
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IMP Lite is a lower cost alternative to the standard 2/3 wire version. IMP Lite is 2-wire configuration, includes RJ11 and is not suitable for flammable atmosphere use

IMP PC Software

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



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 40 μ A.

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 A LIQUID LIME TANK



IMP ON CHEMICAL TANK

STANDARD IMP FACE



IMP Variants:

Features

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

VARIANTS:	IMP 3	IMP 6	IMP 10
Range:	200mm - 3m (0.65ft-10ft)	300mm - 6m (0.98ft-20ft)	300mm - 10m (0.98ft-33ft)
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.		
2-wire IMP Lite:	2-wire configuration only. RJ11 port/ 4 key user interface/LCD display/ Digital temperature measurement/ 4-20mA loop powered/ Digital echo processing/ No flammable atmosphere approval.		



PVDF NOSE CONE OPTION

The full IMP range is available with the wetted parts in PVDF build alternative for corrosive or aggressive 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



INSIDE OF IMP LITE SHOWING RJ11 PORT

IMP ON A MIXING TANK



IMP Applications:

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

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



**SPECIALLY DESIGNED
IMP BRACKET IS ALSO
AVAILABLE**

Simple to install

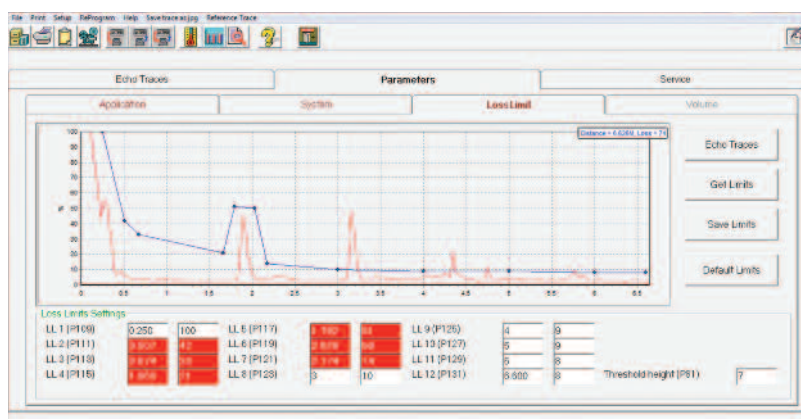
The compact IMP is only 175mm high with a 130mm diameter. Cable glands are provided and IMP can be simply screwed into a 1.5" or 2" universal fitting (a 1.5" to 2" adaptor is available). High transducer power and tight beam angles, together with Pulsar's digital echo processing, makes IMP ideal for many "difficult" applications such as dusty or foamy environments, or where a tank has unavoidable intrusions. The integral display makes programming IMP is 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.

I.S.IMP Features

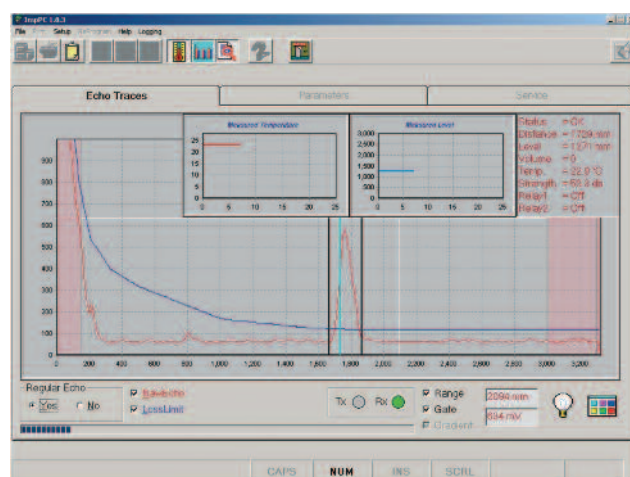
- High Specification I.S. version
- Up to 10m range available

IMP Lite Features

- 2-wire configuration
- RJ11 Port
- Up to 10m range available



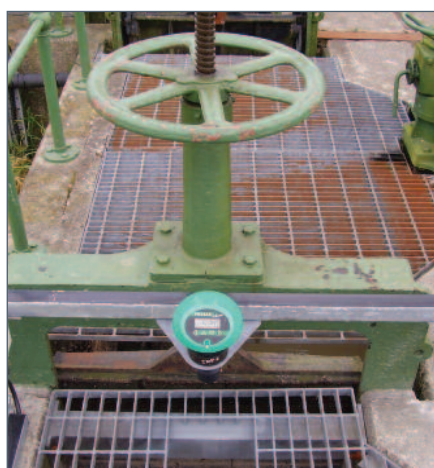
IMP PC DIAGNOSTICS



IMP PC ECHO TRACE

Technical Specification: IMP

PHYSICAL:			
Dimensions:	175mm (6.89in) overall height x 130mm (5.12in) diameter		
Cable entry:	2 off 16mm (0.63in) cable glands 3.5 - 10mm (0.14-0.39in) cable dia.		
Mounting:	1.5" (3m (10ft) and 6m (20ft) range versions), 2" (10m version) universal thread - suits BSP and NPT, parallel and tapered		
Weight:	approximately 1Kg (2.2lbs)		
ENVIRONMENTAL:			
Temp range (process):	-40°C - +85°C (-40°F to +185°F) (-40°C - +80°C (-40°F to +176°F) for I.S. version)		
Temp range (ambient):	-20°C - +65°C (-4°F to +149°F)		
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 (0.66ft-10ft)	0.3m-6m (0.98ft-20ft)	0.3m-10m (0.98ft-33ft)
PERFORMANCE:			
Digital echo processing:			
Input voltage range:	11 - 30V (17 - 28V for I.S. version), 3.5 - 22mA		
Accuracy:	± 0.25% or 6mm (0.24in) (whichever is greater)		
Resolution:	± 0.1% or 2mm (0.08in) (whichever is greater)		
4-20mA outputs:	resolution 5µA (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 (less 12mA/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.		
IMP Lite version:	11-30V supply, 3.5 - 22mA output, has RS232 (RJ11 port), 2-wire configuration, no flammable atmosphere approval		
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

PC Software Suite:

Pulsar's PC Suite - interface for all your Pulsar equipment from a single installation

Pulsar's PC Suite now includes every major piece of Pulsar software in a single, convenient downloadable package. Activated by a security 'dongle' after the 30 day evaluation period, PC Suite can now be flexibly installed on as many PC's as required.

PC Suite is a simple download and install from the Pulsar website (see address below). PC Suite can be used to set up, calibrate, clone, or download data from the main range of Pulsar equipment. It includes Ultra PC, the popular and powerful set of tools that work with Pulsar's Ultra 3 and Ultra 5, plus the core control software for several other Pulsar controllers, including the two-channel UltraTWIN, self-contained IMP, component ultrasonic system Blackbox, Sludge Finder 2 sludge interface monitor and HART protocol dBi 'intelligent' transducers.

Newly introduced with the latest version of PC Suite is a security 'dongle', which simply plugs into a vacant USB port, providing an interface with whichever Pulsar unit is in use via its on-board RS232 socket and activating PC Suite.

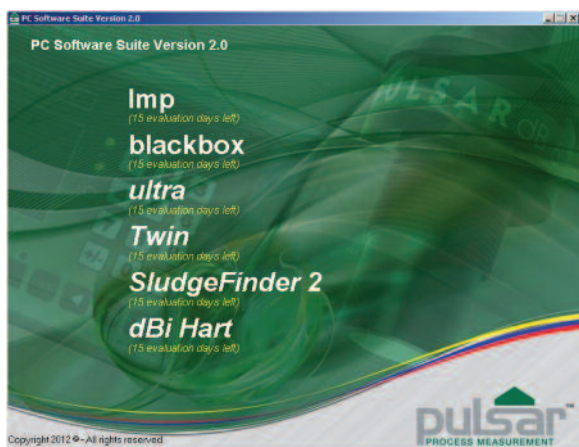
The advantage of this approach is that in previous versions of Pulsar's software, only team members with registered software could use it, meaning that a PC might have to be effectively dedicated to the task of setting up, calibrating or investigating Pulsar equipment. Now, with PC Suite, a full set of Pulsar software tools can be installed on everyone's PC, activated as required using the dongle. Customers need only purchase as many dongles as there are users who may need to operate the software at the same time.

Features

- Software now instantly available for download
- Requires security 'dongle' to operate after 30 day evaluation period
- All main software components in one place



SECURITY DONGLE



Download PC Suite from the Pulsar web site:

www.pulsar-pm.com/Support/SoftwareDownloads.aspx

PC Software Suite:

What's included:

IMP PC

Set-up, program, calibrate, clone and configure IMP units.

Blackbox PC

Pulsar's Blackbox range is designed specifically to be set up from a PC or PLC. Create a programming template to easily set up multiple blackbox units, configure interfaces and outputs, and to download data, depending on the Blackbox unit in use.

Ultra PC

Complete control over Ultra units, Pulsar's popular and versatile fully-featured level and flow measurement controller. Set up single or several Ultra 3 or Ultra 5 units, view live DITEM echo processing traces and view data log information.

Twin PC

Exactly like the Ultra units, but controlling Pulsar's versatile two-channel device, UltraTWIN.

Sludge Finder 2 PC

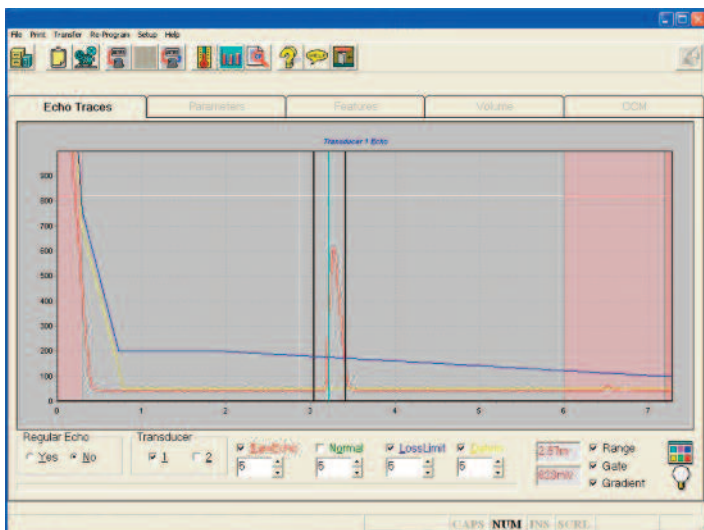
Control, program and calibrate Pulsar's innovative and effective Sludge Interface monitor. Now including the capability to program separate RAS and FLOC levels. See interface level profiles and store level data.

dBi HART PC

Address and configure the HART version of Pulsar's dBi Intelligent transducer via a HART modem.

To order:

You can download PC Suite software directly from the Pulsar website. To purchase a dongle, contact Pulsar or their local representative and request Product Reference PCSUITE-D-PS to receive a disk copy of the software and the dongle.



TYPICAL ECHO TRACE

Note: Flow Pulse PC Software is not included in the PC Software Suite package. Flow Pulse PC does not require a security dongle, instead a RJ11 USB lead is required.

