pulsar MEASUREMENT

PDFM 6.1

Fast and Easy Flow Measurement of Challenging Mediums from Outside The Pipe

Portable non-contact flow measurement for the harshest mediums and environments. The simplest to install and operate.

Whether you need flow measurement when you didn't have it before, or you need to prove that your existing system is performing properly, the PDFM 6.1 Portable Doppler Flow Meter is here to help by providing fast, accurate, non-invasive flow measurement in challenging industrial environments and difficult to measure mediums. No other clamp-on flow meter is easier to install and operate.

With advanced signal processing, a low-power mode for extended flow logging applications, and a rugged IP67 extruded aluminum enclosure, the PDFM 6.1 is the right choice for your next immediate or long-term challenging flow measurement application. No downtime is required.

Friendliest Meter for the Unfriendliest Applications

The PDFM 6.1 comes equipped with everything you need to install it in just a couple of minutes. There's no need to configure a pipe material, wall thickness, liner configuration, or fluid characteristics before setting up. Simply clamp the single ultrasonic sensor to the pipe, set the inside pipe diameter in the easy-to-use programming menu, and the meter will immediately report flow when solids or undissolved gasses are present and moving.

THE RIGHT METER FOR

- Raw Sewage
- Aerated Water
- Slurries
- Viscous Liquids
- Abrasives

The Right Technology

Ideal for "Difficult" Fluids

Where clamp-on transit-time or contacting flow technologies struggle to measure or need increased maintenance because of the presence of solids or gas in the medium, the PDFM 6.1 and its clamp-on Doppler technology won't. By measuring the frequency shift of ultrasonic echoes reflecting off the solids or gas from outside the pipe, the meter can determine the velocity without contacting the medium. The flow rate of any fluid can be measured as long as there are solids or bubbles present.

Robust Design for Rugged Environments

The extruded aluminum enclosure with protective covers guard the PDFM 6.1 against damage from falls or impacts that can occur when using the meter in real-world applications. The meter is ready for use outside thanks to the IP67 rated connectors and bright LCD display which makes seeing the screen easy even in the brightest environments. Deploy the meter with confidence knowing it's ready to handle whatever your application can throw at it.

Each PDFM 6.1 comes in a rugged PELICAN™ case, along with a clamp-on sensor, and stainless-steel mounting kit. Use it for projects where a permanent flow meter is not required, to temporarily replace installed meters that have failed, or to verify output on an existing meter.

Low-Power Mode to Extend Battery

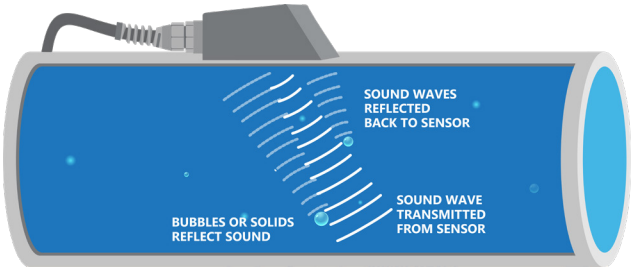
The PDFM 6.1's sleep mode extends battery life for long-term data logging at locations where power is not available. By automatically going to a low power state and then "waking up" to take a measurement at the user-defined interval, battery life is greatly extended.

Advanced Signal Processing

The PDFM 6.1 features advanced signal processing, capable of filtering out background noise and interference, as well as improving accuracy and repeatability in the most challenging Doppler flow applications like extremely dense slurries. With new on-screen signal capture capabilities, it has never been easier to fine-tune the performance of the PDFM to your specific application."

How it Works

The PDFM 6.1 ultrasonic sensor injects high-frequency sound through the pipe wall and into the flowing liquid. Gas bubbles or solids suspended in the liquid reflect the ultrasonic signal to the sensor. When this sound is reflected from moving bubbles or particles it is returned to the sensor at a shifted frequency. This frequency shift is called the Doppler effect. The PDFM 6.1 continuously measures the change from it's transmitted frequency to the received frequency to accurately measure flow.



Technical Specifications

GENERAL SPECIFICATIONS

Operating Parameters:	Liquids containing suspended solids or bubbles minimum size of 100 microns, minimum concentration 75 ppm
Flow Rate Range:	±0.03 m/s to 12.2 m/s (±0.1 ft/s to 40 ft/s) in most applications
Pipe Size:	Ultrasonic sensor mounts on any pipe from 12.7 mm to 4.6 m ID (0.5 in to 15 ft)
Display:	Color TFT LCD display, IPS type, 2.8" screen size, 320 x 240 resolution, 500 NITS brightness, super wide view
Power Input:	• Built-in rechargeable lithium polymer battery for up to 15 hours continuous operation • External mains to USB-C charger with 100-240V AC, 50-60Hz, 0.6A input; and 5.0V DC, 3A, 15W output
Outputs:	Log files, daily log files, parameter settings files, and waveform capture files via USB-C flash drive (included)
Data Logger:	12 million point capacity, configurable for velocity or flow rate, date and time stamped, configurable format for Greyline Logger Software (LG2) or CSV, available intervals of 10 s, 30 s, 1 min, 2 min, 5 min, 10 min, 15 min, 30 min, and 1 hr
Extended Logging:	Can be deployed in sleep-logging mode for extended battery duration.

Logging Interval	30 sec	1 min	2 min	5 min	10 min	15 min
Est. Battery Duration	5 days	8 days	15 days	30 days	45 days	60 days

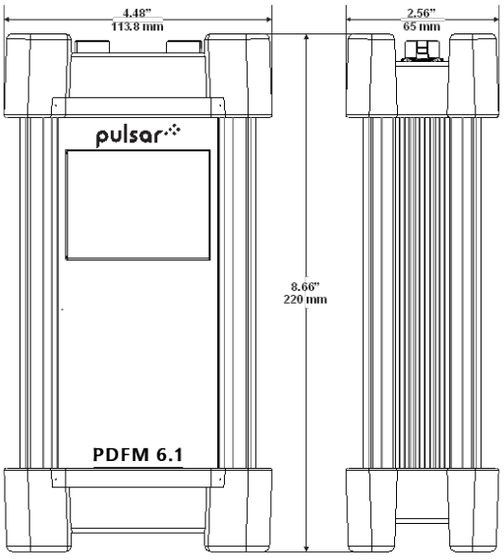
PC Software:	Free Greyline Logger Software for Windows. For display, manipulation, analysis, and exporting of data.
Operating Temp. (Electronics):	-20 °C to +60 °C (-5 °F to +140 °F)
Electronics Enclosure:	IP67 when transducer cables connected. IP65 when transducers cables not connected. Aluminum enclosure with silicone protective end covers.
Carry Case:	IP67, with protective molded foam with room for transducer and installation hardware
Accuracy:	±2% of reading or 0.03 m/s (0.1 ft/s), whichever is greater. Requires solids or bubbles minimum size of 100 microns, minimum concentration 75 ppm. Repeatability: ±0.1%, Linearity ±0.5%
Configuration:	Built-in 5-button keypad interface with English, French, and Spanish menu language selection. Optional user-configured password protection.
Approvals:	CE

TRANSDUCER SPECIFICATIONS

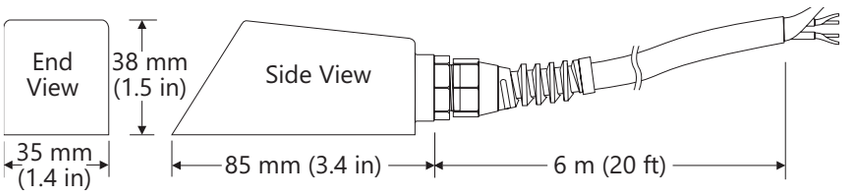
Standard Model PSE4-A2:	Clamp-on, single-head ultrasonic for pipes from 12.7 mm to 4.6 m ID (0.5 in to 15 ft) with 3.4 m (12 ft) shielded dual-coaxial cable and latching connector
Sensor Mounting Kit:	Stainless steel pipe clamp and 3.0 fl oz coupling compound
Pipe Materials:	Steel, stainless steel, cast iron, ductile iron, concrete-lined ductile iron, PVC, HDPE, or any contiguous pipe material that conducts sound, including lined pipes with a liner bonded to the pipe wall. Avoid pipes with loose insertion liners and pipe walls that contain air.
Operating Temperature:	-40 °C to +150 °C (-40 °F to +300 °F)
Ingress Protection	IP68, can withstand 10psi (approx. 23 ft or 7 m of H2O) for 24 hours

POPULAR OPTIONS

Sensor Cable:	15.2 m (50 ft) sensor cable extension, shielded, with connectors
Sensor Mounting:	Extra silicone coupling compound. Additional stainless steel pipe clamps



Enclosure



SE4 Ultrasonic Doppler Sensor

Delivering the Measure of Possibility

Pulsar Measurement offers worldwide professional support for all of our products, and our network of global partners all offer full support and training. Our facilities in Malvern, UK and Largo, USA are home to technical support teams who are always available to answer your call or attend your site when required. Our global presence, with direct offices in the UK, USA, Canada, and Malaysia, allows us to create close relationships with our customers and provide service, support, training, and information throughout the lifetime of your product.

For more information, please visit our website:

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