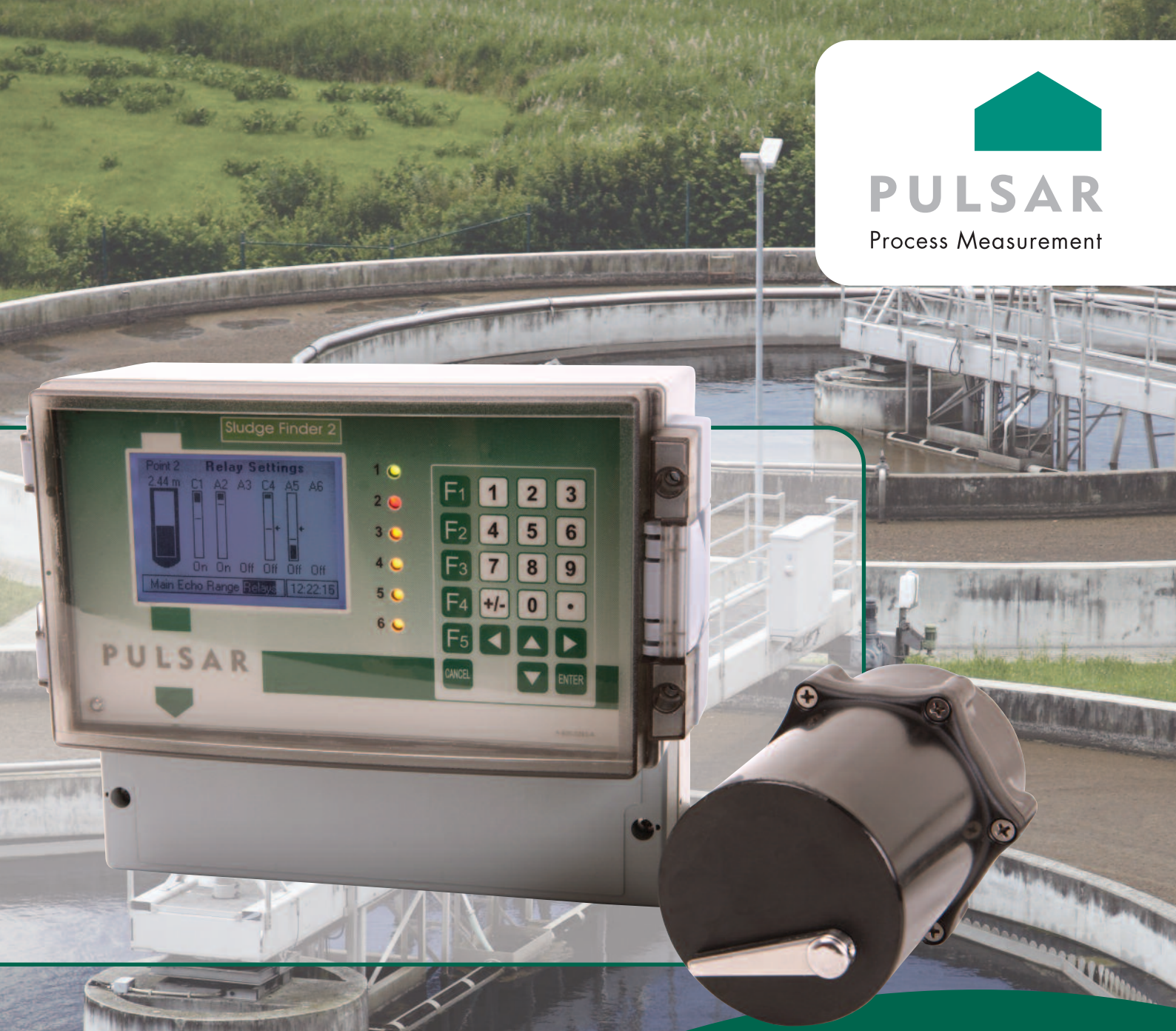
PULSAR
Process Measurement



Sludge Finder 2

effective sludge level detection and control

Sludge Finder 2

Pulsar's Sludge Finder 2 is a versatile, accurate and reliable solution to the problem of accurately measuring interface levels in primary or secondary settlement tanks and SBR systems. Operating ultrasonically through liquid, Sludge Finder 2 uses sophisticated and well proven echo processing algorithms to identify the sludge level.

Sludge Finder 2's unique Viper transducer is immersed in the liquid, emitting a high frequency ultrasonic pulse down towards the sludge interface. The pulse reflects from the interface of the denser material back to the Viper transducer face. This echo is analysed by the controller unit providing a depth reading and an analogue output proportional to the height of the interface above the vessel bottom.

Sludge Finder 2 uses a self-cleaning underwater acoustic sensor that results in continuous, reliable sludge level measurement. You can reduce sludge pumping, optimise dosing and let your staff concentrate on other things.

Use Sludge Finder 2 in:

- Primary and secondary settlement tanks
- Clarifiers
- Stationary and travelling bridge applications
- Gravity thickeners
- Reactor clarifiers
- DAF thickeners
- SBR tanks
- Industrial process thickeners

Sludge Finder 2 is also compatible with the full range of Pulsar dB Transducers, so you can mix level measurement applications with sludge monitoring.

Multiple Tanks, Multiple Applications

Sludge Finder 2 will operate with one or two transducers: you can mix and match Sludge Transducers and Pulsar's main dB transducer range to give astonishing versatility. Manage two clarifiers/thickeners, or one clarifier plus a level application from a single unit, providing flexible, economical control and a single connection point for system interface.

Sludge Finder 2 features a microprocessor and a multifunction display showing blanket level, complete echo profile, alarm points, tank depth and multiple tank status.

Versatile outputs

Sludge FInder 2 features 4-20mA isolated outputs for each channel, with optional RS485 connection (Modbus or Profibus). Six control relays are included (5A rated), independently assignable to any channel. An optional radio modem with a 500m line-of-sight range may also be specified.

The hygienic solution

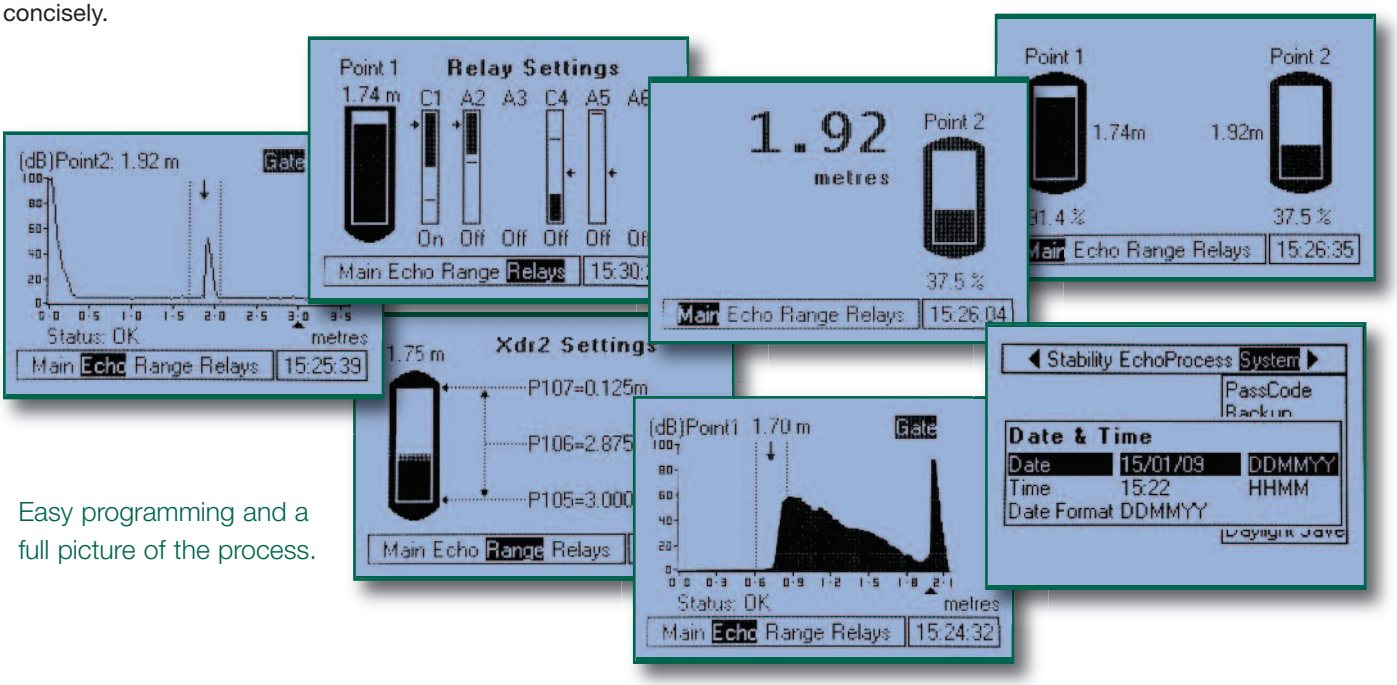
Remote measurement with Sludge Finder 2 means you can put an end to tedious, time consuming, potentially unhygienic and hazardous manual measurements using gap switches or vacuum probes

Self-cleaning transducer

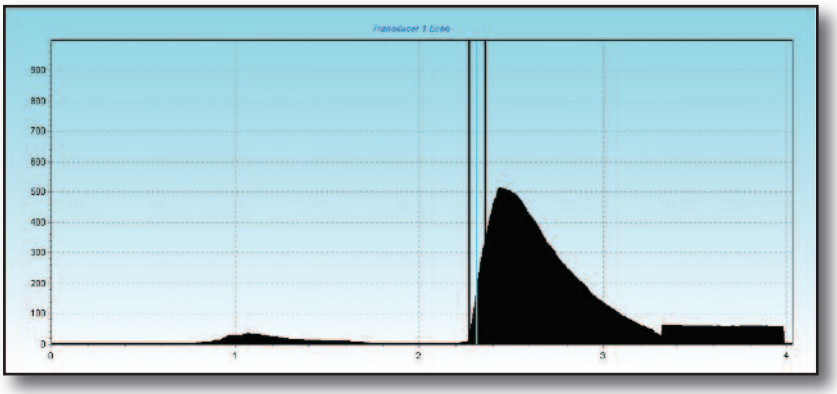
Sludge Finder 2 is designed to be maintenance free. Sludge Finder's Viper transducer is a single beam ultrasonic unit immersed just below the liquid surface. A wiper blade sweeps the transducer face, ensuring that it remains clean. The Viper transducer may be positioned up to 200m from the control unit and has a measurement range of 0.3 to 10m. Accuracy is .25% of the measured range. A tight 6° beam angle and sophisticated echo processing algorithms makes sure that Sludge Finder 2 deals with difficult tanks and rotating equipment with ease.

Easy installation & set-up

Sludge Finder 2 is simply installed and the transducer cable can be easily extended with twin pair screened cable. To program Sludge Finder 2, the operator enters operating parameters via a menu driven operator interface and the Sludge Finder 2 automatically tracks to the blanket interface. Sludge Finder 2's operator interface consists of several screens that make setting up the unit straightforward and communicates information about the process quickly, clearly and concisely.



Easy programming and a full picture of the process.



Optional Sludge PC software allows you to program Sludge Finder 2 and view detailed echo profiles.

Sludge Finder Technical Information

Physical

Wall Mount	
External dimensions	235 x 184 x 120 mm
Weight	Nominal 1 kg
Enclosure material/description	Polycarbonate, flame resistant to UL94-5V
Cable entry detail	10 cable entry knock outs, 5 x M20 and 1 x M16 underside, 4 x PG11 at rear
Transducer cable extensions	2 x twin pair with overall screen
Maximum separation	200 m from transducer to transceiver
Recommended cable type	From Farnell, Lapp Twin twisted pair screened Part number 1285741

Environmental

IP Rating (Wall)	IP65
Max. & min. temp. (electronics)	-20 ºC to +50 ºC
CE approval	2004/108/EC EMC approval 2006/95/EC low voltage directive

Sonar (Interface) Performance

Accuracy	0.25% of the measured range or 10 mm (whichever is greater)
Resolution	0.25% of the measured range or 10 mm (whichever is greater)
Max. range	10m
Min. range	0.3m

NB: Please refer to separate literature for dB transducer performance if using an 'air' application.

Outputs

Analogue output	2 off Isolated output (to 150V) of 4-20 mA or 0-20 mA into 1kΩ (user programmable and adjustable) 0.1% resolution
Digital output	Half Duplex RS232
Volt free contacts	6 form "C" (SPDT) rated at 5A at 240V AC
Display	192 x 128 pixel illuminated graphical display. Fully programmable display options. Integral keypad with menu navigation keys
Radio Modem (optional)	4 – 20mA using wireless exempt frequencies
Maximum range	500m line of site
Communication bus (optional)	RS485 Modbus RTU/ASCII or Profibus DPV0 or DPV1

Programming

On-board programming	By integral keypad
PC programming	via RS232
Programming security	Via passcode (user selectable and adjustable)
Programmed data integrity	Non-volatile memory

Supply

Power supply	Universal 100 - 240VAC 50/60Hz DC 22 - 28V 14W maximum power (typically 11W)
Fuse	2A slow blow

Represented by:

UKAS QUALITY MANAGEMENT 011 ISO 9001:2000 Cert No.950136
UKAS ENVIRONMENTAL MANAGEMENT 011 ISO 14001:2004 Cert No. 072570

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Pulsar Process Measurement Ltd.
Cardinal Building, Enigma Commercial Centre, Sandy's Road, Malvern, Worcestershire WR14 1JJ United Kingdom
Tel:+44 (0) 1684 891371, Fax: +44 (0) 1684 575985, e-mail: info@pulsar-pm.com web: **www.pulsar-pm.com**