technical data

130mm (5.12") | 60mm (2.36") | 113mm (4.45")

130mm (5.12") | 113mm (4.45")

LEVEL CONTROL 133 — PULSAR Process Measurement Ltd — blackbox

FIXING HOLE CENTRES

Physical:
Weight: nominal 0.65Kg   -   Enclosure: ABS Base with polycarbonate lid, flammability rating UL94HB
Cable entries: 3xM20 nylon cable glands suitable for 6-12mm cable

Environmental:
IP Rating: IP66/67   -   Max/min temperature (electronics): -20°C - +45°C   -   Flammable atmosphere approval: All blackbox units must be mounted in a safe area. For use in zone 1 the Eex m certified transducers are effective, and the required line fuses are already contained within the blackbox unit -   Compatible with dB transducers

Performance:
Accuracy: 0.25% of measured range or 6mm (whichever is greater)   -   Resolution: 0.1% of the measured range or 2mm (whichever is greater)   -   Range: Dependent on transducer. Nominally 125mm to 25m.

Echo Processing:
DATEM (Digital Adaptive Tracking of Echo Movement)
Programming security: Via Passcode (user selectable)
Programmed data integrity: Via non-volatile RAM

Power Supply:
115V ac +5% / -10% 50-60Hz
230V ac +5% / -10% 50-60Hz
dc 10-28V
10W maximum power (typically 5W)

Fuses:
50mA at 200 - 240V ac
100mA at 90 - 120V ac

Hand Held Programmer:
Power supplied via blackbox RS232 RJ11 connector

range

blackbox	Type	230/ 115VAC	10-28v DC	4-20mA o/p Max 1K Ω	0-5V o/p Min Load 10 K Ω	2 relays 230V, 2A Form C (SPDT)	RS232	RS485 Modbus or Profibus	Logging
130	Level	✔	✔	✔		✔	✔		
133	Level Control	✔	✔		✔	✔	✔		
134	Level Comms	✔	✔			✔	✔	✔	
136	Level CSO		✔		✔	✔			✔

Pulsar Process Measurement Limited operates a policy of constant development and improvement and reserve the right to amend technical details as necessary
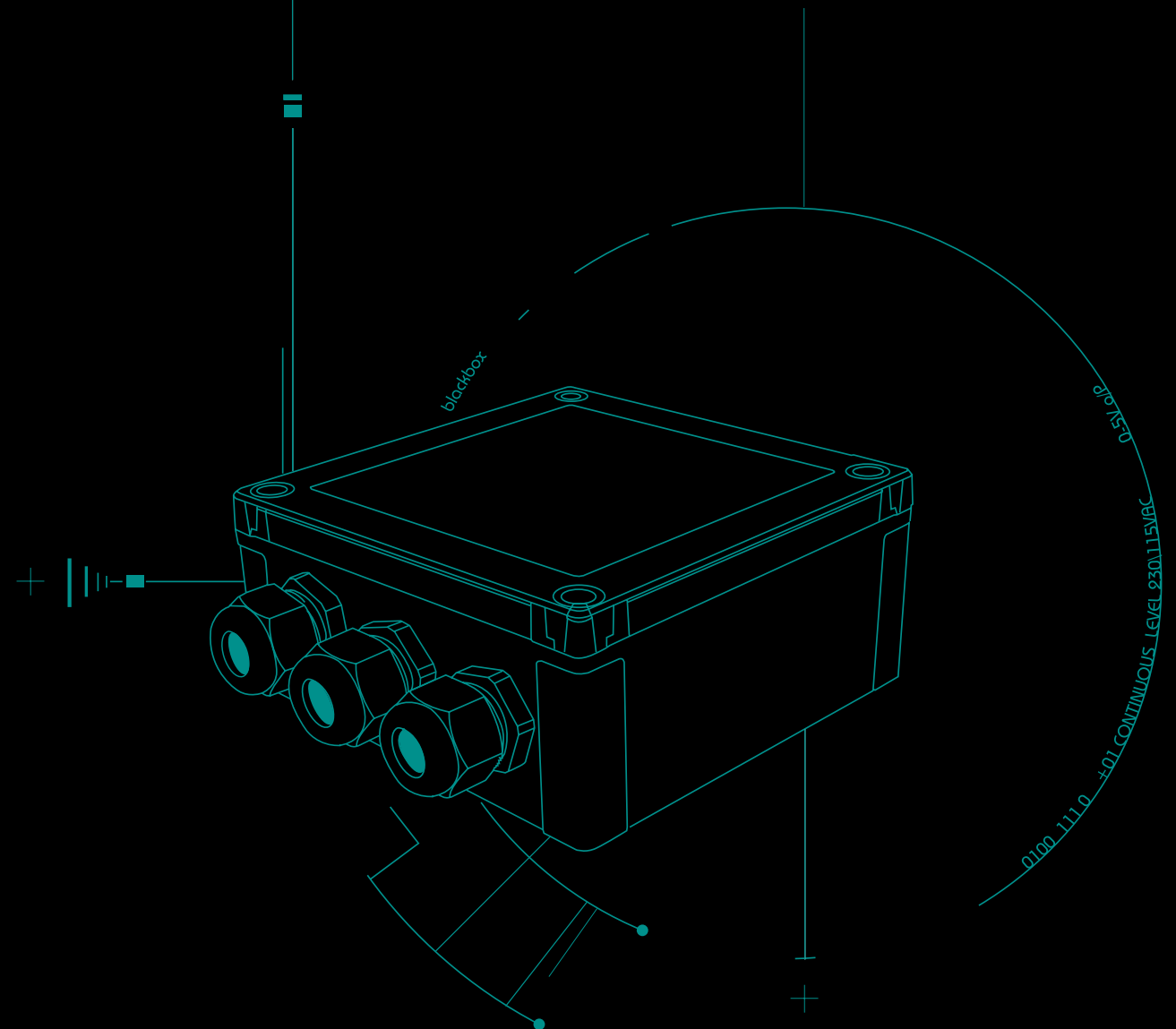
blackbox■

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ultrasonic level measurement

Taking process measurement and control into a new era

blackbox■

PULSAR
Process Measurement

PULSAR
Process Measurement

deceptively simple

Simple and versatile. blackbox is a range of component non-contacting ultrasonic level measurement products that share the same echo processing capability and differ only in the type of output generated, so you can match your application exactly.

Simply programmed from the Pulsar hand-held programmer or a PC, blackbox gives you the technology you need, not complexity you don't.

the tool for the job

Simple does not mean unsophisticated. The **DATEM** software that powers blackbox is the most advanced echo processing system in the world, so you can be confident that you have the best possible ultrasonic level solution for solids or liquids.

software

Pulsar set-up software is included with blackbox units and allows you to program blackbox via the onboard RJ11 (RS232) port, while optional Pulsar blackbox PC software includes full programming capability together with diagnostics and echo analysis.

Pulsar

The blackbox range complements the family of Pulsar ultrasonic level measurement equipment. Other products include systems for contents monitoring and system control, open channel flow measurement and pump control and management.
Accredited to ISO9001:2000.

transducers

blackbox controllers are compatible with any of the superb dB range of Pulsar ultrasonic transducers, giving you freedom of choice. With a working range from 125mm through to 25 metres and a maximum separation between the transducer head and the blackbox of up to 500m, dB transducers cover almost all eventualities. Connection to the blackbox unit is via a 3-core screened cable. All Pulsar transducers are ATEX Zone 1 certified, with the option of Zone 0. See separate dB transducer literature for more details.

blackbox range

blackbox units share a common IP67 enclosure with three cable glands. All units have a flashing LED to indicate healthy operation. Programmed through PC or Pulsar hand-held programmer (RS232 via RJ11 port).

blackbox130 - Level
Non-contacting level measurement, featuring 4-20 mA output proportional to level for remote display or PLC input. With 2 relays for alarm generation.

blackbox133 - Level Control
Has two relays for control and alarm functions, together with simple 0-5V output proportional to level.

blackbox134 — Level Comms
blackbox134 retains the alarm relays of blackbox130, and adds an RS485 port for digital communications such as Modbus or Profibus.

blackbox136 — Level CSO
blackbox136 is designed as a dc powered level source to provide months or years of operation where mains power is not easily available. Applications include "overflow events" where information for environmental monitoring is required. Also accepts "wake-up" from external datalogger. More details are available on request, see separate data sheet.