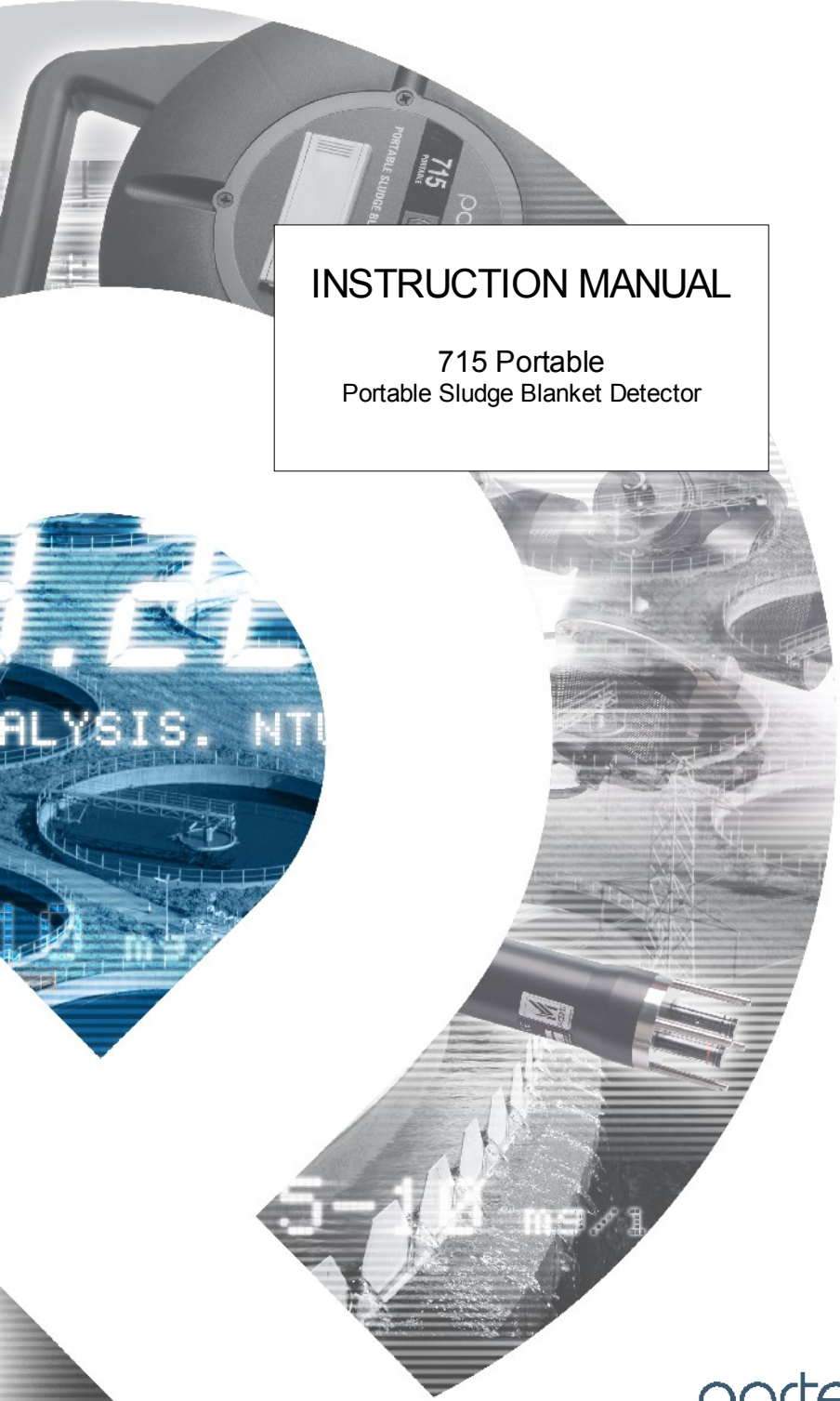

INSTRUCTION MANUAL

715 Portable

Portable Sludge Blanket Detector

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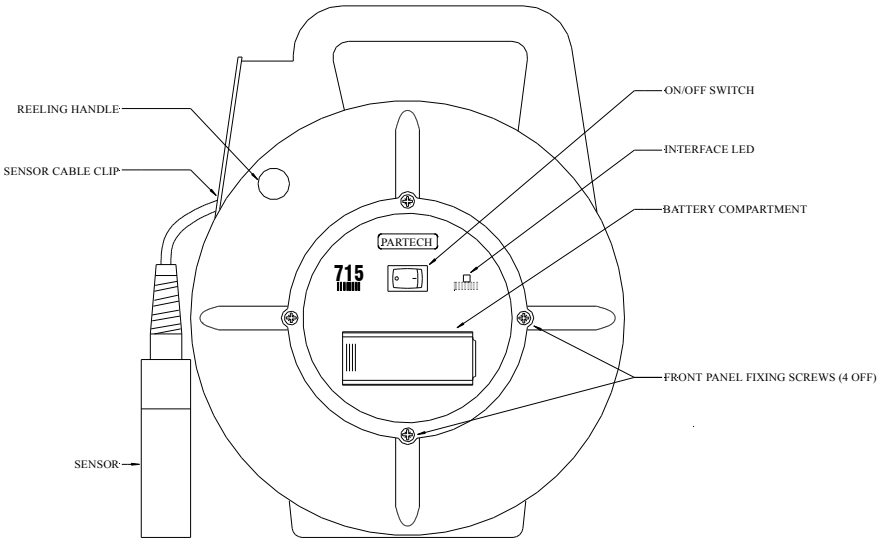
1 Introduction

The 715 Portable Sludge Blanket Level Detector is designed for spot checking sludge interface levels in settling tanks. The 715 works by measuring the change in the level of suspended solids as the sensor is lowered into the tank. When the sensor reaches the sludge blanket, an audible signal changes from a fast bleeping to a slow bleeping. A red LED provides a visual indication that the sludge blanket has been detected. To enable measurement of the sludge interface position in a tank, the sensor cable is marked in one-metre intervals from the sensor.

The 715 consists of two main parts, a cable reel and an IR sensor. The cable reel houses the detector electronics and battery and is also used to store the sensor cable when not in use. The 715 is supplied with either an IR8, IR15, IR40 or IR100 sensor as required for the application. The IR sensors use light attenuation across a single measurement gap to determine the suspended solids in a solution. The length of the sensing gap determines the measurement range of the sensor.



2 Operation

The 715 is ready for operation once the power switch is moved to the ON position. Before using the 715 to determine the sludge interface position, it is worthwhile performing the operation test below.

2.1 Operation Test

The operation of the 715 can be quickly checked. When the unit is switched on and the sensor gap is clear (sensor in air or in clean water) the unit should emit a fast bleep and the LED should not be illuminated. If the sensor gap is then blocked, the unit will switch to a slow bleep and the LED will illuminate. Unblocking the sensor should return the unit to a fast bleep with the LED off.

2.2 Sludge Interface Detection

Release the sensor and allow it to hang below the cable reel. Slowly lower the sensor into the settling tank, listening for a change in the sounder output. When the sound changes, the sludge blanket has been detected, and the lowest visible cable marking indicates the position of the sludge blanket below the supernatant surface.

2.3 Cleaning

After use the sensor should be cleaned by rinsing with clean water. On a regular basis the sensor and sensor cable should be cleaned by rinsing with a solution of water and a mild detergent. The cable reel can be cleaned using a damp cloth and mild detergent.

Note: The cable reel should not be immersed

2.4 Reeling Technique

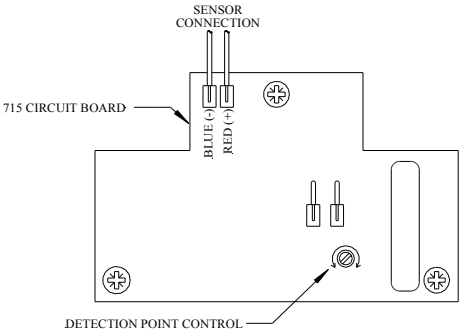
When using the 715, the sensor cable should not be allowed to go slack when reeling the sensor in or out. If the cable is allowed to become slack, it is possible for the cable to jam inside the cable reel – if this does occur the cable must be carefully freed – the cable reel must not be forced.

3 Configuration

3.1 Detection Point

The unit has an adjustable detection point, which is factory set to 50%. This has been found to be suitable for most applications and it is unusual for a user to need to adjust it. However if it is found necessary to make an adjustment, the following steps should be carried out.

1. Obtain a sample of supernatant and sludge from the intended application.
2. Reel out sufficient cable to allow the sensor to be placed into the samples.
3. Unscrew and remove the front panel from the cable reel. There should be sufficient cable such that the circuit board is exposed.
4. The detection point control is located on the circuit board and can be accessed through a hole in the circuit board.
5. The most sensitive detection point is set when the control is turned fully counter



clockwise and the least sensitive detection point is when its is turned fully clockwise.

6. Switch the 715 on. Turn the detection point control fully clockwise. The unit should emit a fast bleep.
7. Place the sensor into the sludge sample. A fast bleeping should be heard. Turn the detection point control slowly counter clockwise until a slow bleeping is heard and the interface LED lights.
8. Place the sensor into the supernatant sample. A fast bleeping should be heard and the detection LED should be off.
9. The unit is now set for operation. Switch the unit off and replace the front panel into the cable reel. Replace the four securing screws.

4 Technical Support

Technical Support is available by phone, fax, or email, the details of which are shown below.

- Phone: +44 (0) 1726 879800
- Fax: +44 (0) 1726 879801
- Email: techsupport@partech.co.uk
- Website: www.partech.co.uk

To enable us to provide quick and accurate technical support please have the following information ready when you contact us:

- Serial Number or original purchase details
- Sensor Type, and Serial Number
- Application details
- Description of fault

4.1 Returning Equipment for Repair

If equipment needs to be returned to Partech for repair or service the following address should be used:

SERVICE DEPARTMENT
PARTECH (ELECTRONICS) LTD
CHARLESTOWN
ST AUSTELL
CORNWALL
PL25 3NN
UNITED KINGDOM

Please include the following information with the returned equipment. Also ensure that sensors are adequately protected for transportation (Advice on packing can be provided by our service department).

- Contact name and phone number
- Return address for equipment
- Description of fault or service required
- Any special safety precautions because of nature of application

5 Technical Specification

5.1 General

Battery Type: .....9VDC (Alkaline Battery PP3)
Battery Life.....>200 Hours
Operating Temperature Range.....0 to 50°C
Storage Temperature Range.....-20 to +60°C
Environmental Rating.....IP65
Cable Type.....4 core, polyurethane coated
Standard Cable Length.....10 metres
Maximum Cable Length.....15 metres
Cable Marking.....Every Metre
Weight.....1.2 Kg
Dimensions.....280 x 230 x130mm (hxwxd)

5.2 Sensor

Measuring Principle.....Light absorption
Light Source.....Infrared LED, 950nm
Environmental Rating.....IP68
Materials.....Hastelloy, PVC, Epoxy Potting Compound

Parameter	IR100	IR40	IR15	IR8
Maximum Supernatant (mg/l)*	180	1350	9000	27000
Minimum Sludge (mg/l)**	20	150	1000	3000
Weight (g)	350	300	250	250
Width (mm)	160	100	75	75
Height (mm)	95	95	95	95
Depth (mm)	25	25	25	25

* The maximum supernatant value is the point at which the 715 will not detect sludge.
** The minimum sludge value is the starting point for detection of sludge.
Note: The values quoted are based on the typical solids found on a municipal sewage treatment works.

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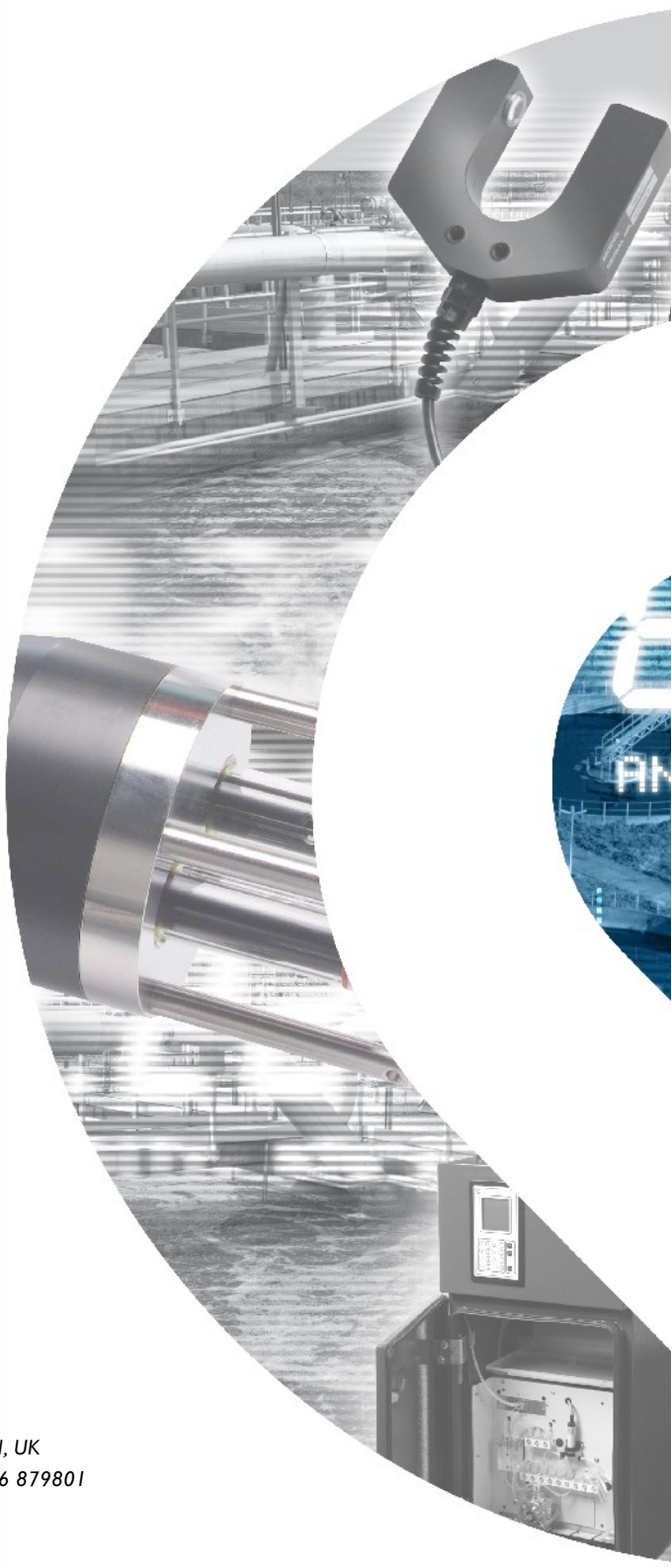

Partech (Electronics) Ltd
Charlestown, St Austell, Cornwall PL25 3NN, UK
T: +44 (0) 1726 879800 F: +44 (0) 1726 879801
E: info@partech.co.uk www.partech.co.uk