

# PULSARpoint

## 600 series

PULSAR  
Process Measurement

### Description

The Pulsarpoint 600 series is a range of ultrasonic **non invasive liquid and slurry level switches**. They provide easy to install reliable and non intrusive point level indication. The Pulsarpoint 600 series is used on metal tanks containing liquids and slurries to provide indication of rising or falling liquid levels.

### Application

The Pulsarpoint 600 is attached to the outer wall of the tank at a point coinciding with the level at which indication is required. Ultrasonic soundwaves are transmitted through the side wall of the tank to detect the absence or presence of the liquid, by monitoring the characteristics of the reflected soundwaves. A change in condition is indicated once material reaches the required level. The output may be assigned to indicate a 'wet' or 'dry' condition at the required level.

### Operation

The Pulsarpoint 600 series is non-intrusive by attaching the level measurement switch to the outside of the tank, there is no need to drill or cut the tank wall and there is also no contact with the fluid being measured. There are no moving parts and therefore no cleaning or maintenance requirements. This highly reliable non invasive technology can be applied to many different fluids and once installed is easily calibrated. Among many typical applications the Pulsarpoint 600 will provide over-fill protection, leak detection or low level liquid alarm to prevent, for instance, pump damage.

Pulsarpoint 600 series operates within temperature ranges of -40 °C to + 90 °C. The 600 version provides an output via a 1 amp volt free contact changeover. The 610 & 611 versions provide 4-20mA point level indication. Simple to install using the supplied mounting plate. The 600 series can be used in existing process control applications without the need for vessel modification. The **611 intrinsically safe version** is available for use in flammable atmospheres.

A rugged stainless steel enclosure provides a high degree of protection from bumps, shock and vibrations within a typical industrial environment.

The Pulsarpoint 600 series incorporates a unique self-check routine which can be initiated from time to time and which will automatically self-check both system and installation integrity.

Calibration is simple via a single button with two LED status indicators.



Calibration and set-up instructions are illustrated within the unit.

A liquid level repeatability of  $\pm 1$ mm can be achieved through a tank wall thickness of 2.5mm up to 40mm on metal tanks providing there is no internal corrosion present.

### Features

- Non-invasive point level detection
- Relay version (600)
- Two wire loop powered version (610)
- Intrinsically safe version (611)
- Microprocessor controlled
- Auto calibrate 'wet' or 'dry'
- Alarm 'wet' or 'dry'
- Single button setup
- Repeatability  $\pm 1$ mm
- Unique installation self-check routine.



Pulsarpoint 610 attached to vessel using optional self adhesive aluminium plate

*Specifying information and wiring diagrams are available on request from Pulsar*

600 Series  
non invasive level switches

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# Technical Specification: 600 Series

## Outputs

<b>Pulsarpoint 600</b>	1 volt free contact, programmable 1A, 30V dc SPCO
<b>Pulsarpoint 610</b>	4 to 20mA current sink (loop powered)
<b>Pulsarpoint 611 (Intrinsically safe EEx ia IIC T6)</b>	4 to 20mA current sink (loop powered)

## Power requirements

18-36V dc

## Operating temperatures

-40°C to +90°C

## Ingress protection rating

IP68

## Vessel specifications

<b>Vessel diameter</b>	Greater than 250mm diameter
<b>Vessel wall thickness</b>	2.5 to 40mm
<b>Vessel material</b>	Metal or glass
<b>Maximum fluid viscosity</b>	100 centipoise

## Size / weight

Size: 118mm L x 70mm H x 65mm

Weight: 1kg

## Housing material

Type 316 stainless steel investment casting

## CE / EMC Approval

Complies with BS EN 50081-1:1992 for emissions & BS EN 50082-2:1995 for immunity

## Bump, shock & vibration

Complies with BS 60068

## Flammable atmospheres approval

Zone 'O' EEx ia IIC T6 (Pulsarpoint 611)

## Installation

By means of the semi flexible self adhesion type aluminium mounting plate with fasteners ( temperature range -40°C to +90°C) using a silicone grease acoustic coupler applied to the base of the sensor and the tank. Silicone compound from Dow Corning DC-4 or equal.

## Cable entry

M20 x 1.5mm for gland

## Repeatability & response

<b>Repeatability</b>	± 1.0mm
<b>Minimum response time</b>	1.0 second
<b>Variable alarm hold off</b>	1 to 255 seconds

## Installation Recommendations

The Pulsarpoint units should be mounted in direct contact with the outside wall of the tank, which should be clean and free from any loose or flaking material. The sensor to tank contact area should be coated with non melting waterproof silicone compound to provide a direct acoustic coupling. The supplied self adhesive aluminium plate will firmly position and clamp the sensor in place.

Commissioning and set-up are simple and straight forward. The set-up consists of a one button calibration routine to enable setting the option of **wet** or **dry** indication.

Represented by



Certificate No: 950136

Our policy is one of constant development and improvement. Pulsar reserve the right to amend technical details as necessary.