

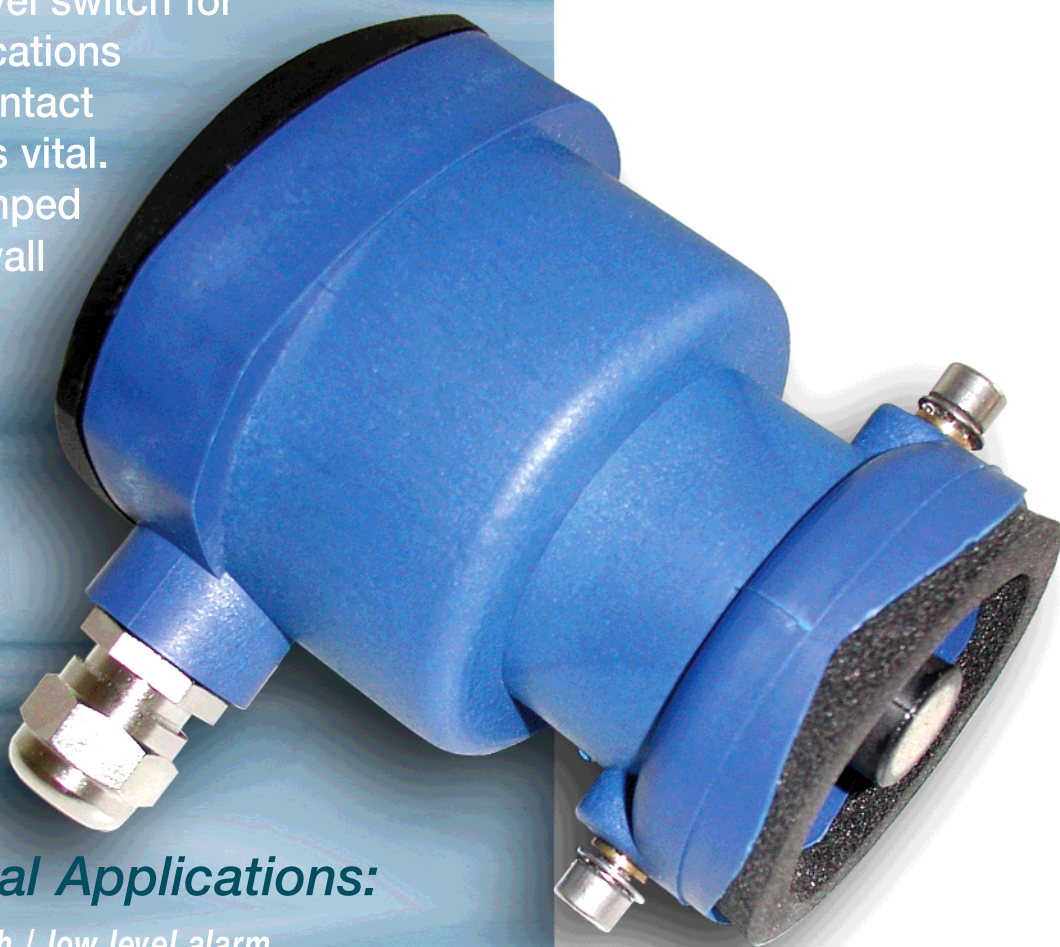
SpotCheck



Series 1000 / 2000 Non-invasive point level detector for tanks & pipes

SpotCheck is a level switch for use in liquid applications where avoiding contact with the product is vital. The sensor is clamped externally to the wall of the pipe or vessel.

The method of measurement is suitable for steel, plastic or glass up to 50mm thick.



Typical Applications:

- Tank high / low level alarm*
- Pump dry protection*
- Pig Detection*
- Tanker off-load pump control*
- Liquids with suspended solids & free gas*
- Detect liquid / foam interface*
- Aggressive or toxic liquids, effluent, sewage etc.*
- Ultra pure or hygienic liquids, foodstuffs, pharmaceuticals*
- Flowing and static liquids*
- High or low pressure pipes or vessels*
- Detect presence of spray e.g. tank washing*



Working Principle

SpotCheck uses an ultrasonic "footprint" to determine the presence or absence of liquid inside a tank or pipe. It provides two wire, 24Vdc operation with an appropriate current sensor but also incorporates a relay switch output. The piezo-electric transducer emits ultrasonic energy into the wall of the tank or pipe, which acts as a wave-guide. The electronics detect the difference between "wet", "dry" and "fault" conditions.

In order to ensure that **SpotCheck** will operate satisfactorily, the surface of the tank or pipe must be prepared correctly.

Installation / Set-up

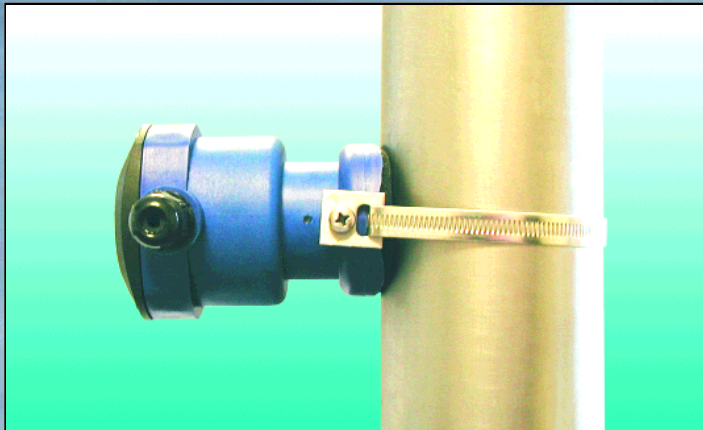
SpotCheck is easy to install and set-up. Simply push the calibrate button when the sensor is uncovered. A red / green / amber LED gives an indication of status.

Series 1000 - Standard Version

The Series 1000 **SpotCheck** is powered by 24Vdc and includes a single relay output. The sensor also modulates the current draw which allows the option of two wire operation with a current sensor to provide the alarm signal.

Series 2000 - IS Version

The Intrinsically Safe Series 2000 **SpotCheck** does not contain a relay and **must** be used with a zener barrier and current sensor which are available from Canongate.



Dimensions: Body: 11cm long
Cap: 8cm wide
Width of top including gland 10cm
Weight: 256grms

Canongate also manufacture a range of non-invasive level measurement systems for clean liquids. The **VesselCheck** range offers the following features and benefits:

- High accuracy, to +/-0.1%
- Truly non-invasive sensing technique
- Independent of temperature and density
- ATEX approved

Call Canongate now with your level measurement problems and we'll offer low cost, effective and reliable solutions from our range. We have a team of qualified technical sales and service staff to assist you in your selection of the ideal system.

You can also visit our web-site at:

www.canongatetechnology.co.uk

Technical Data

Input: Amplitude of ultrasonic ring
Output: Normal: 20mA
Alarm: 10mA
Fault: 27mA

Single Relay dual change-over contacts.
Switches at: Midpoint of sensor
Repeatability: +/-2mm
Response Time: 1 sec.
Wall thickness: 1.6...50mm
Surface Finish: 240...300 grit or better
Vessel Diameter: Min. 60mm, no max.
Power: +24V dc (50mA maximum)


Electrical Connection:

Series 1000: 2 or 4 core cable
Series 2000: 2 core cable (no relay)

Temp Range:

Standard Sensor: -40°C to 110°C (125°C for short periods)

Atex Sensor: -30°C ≤ Ta ≤ +65°C

Atex Certification:  EEx ia IIB T₄
(-30°C ≤ Ta ≤ +65°C)

SpotCheck Ordering Information

Certification Requirement

- 1 None (Standard)
- 2 Intrinsically Safe (I.S.)

Wall Thickness*

- 1 Thin 'Steel' (1.6...6mm)
- 2 Thick 'Steel' (8...50mm)
- 3 Plastic / Glass / Aluminium

Fixing

- 1 Vessel Bracket
- 2 Pipe Clamp

Current Sensor

- 0 None
- 2 Current Sensor (Fault & Alarm Relay)

Application

- 1 Liquid Level
- 2 Pump Protection (Pig Detection)
- 3 Tank Wash Detection (Spray)

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2 2 1 0 1 Sample Product Identification code
* For wall thicknesses between 6mm & 8mm contact Canongate

World-wide patent pending

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