



The Introtek Advantage provides products of unsurpassed quality, functionality, and dependability that are manufactured to the highest standards and supported with a three-year warranty

CLD / Continuous Level Detector

A pulsed ultrasonic, non-invasive, continuous level sensor scalable for small to large containers and vessels for medical, industrial, pharmaceutical, laboratory, and food & beverage applications



Introtek Continuous Level Detector (CLD) is available in a standard configuration (pictured above), as well as customized designs to meet customer application requirements. The unique pulsed, non-invasive design enables the liquid level from the bottom of a vial container or tank to be monitored quickly, accurately and dependably.

TECHNOLOGY

Introtek patented pulse-type ultrasonic technology provides highly reliable, non-invasive liquid level or air detection capabilities in the most critical applications where patient or process safety is mandatory. Many of the variables which affect the accuracy of amplitude based or continuous-wave ultrasound are greatly reduced if not eliminated by pulse-type technology.

HIGHLIGHTS

- ◆ Customized to use with a wide range of diameters, depths and variations in containers or vessels.
- ◆ Reliable pulse-type, non-invasive technology with electronics options available per your specifications
- ◆ Dry coupled; no coupling gel required
- ◆ Provides constant analog signal depicting precise liquid level.
- ◆ Simple uni-body construction with no moving parts
- ◆ Factory-calibrated and maintenance-free
- ◆ High noise immunity to EMI and RFI

INTROTEK CERTIFICATIONS



APPLICATIONS

- ◆ Liquid Level Detection with a continuous analog output signal. In addition to a wide array of uses within medical-related equipment, the CLD is utilized to improve processes for the following applications;
 - Industrial
 - Liquid dispensing
 - Reagent production
 - Pharmaceutical manufacturing
 - Clinical laboratory
 - Food & beverage production

CLD / Continuous Level Detector

SENSOR PART NUMBER

Please contact an Introtek Application Specialist to determine the optimal configuration for your application.

FUNCTIONAL SPECIFICATIONS

Supply Voltage:

5 VDC, 12VDC or 24 VDC.

Supply Current:

Less than 50 mA.

Analog Output:

Standard factory analog output calibration is set as follows:

- 5 VDC Input = 0 to 5 VDC Output (or as required)
- 12 VDC Input = 0 to 5 VDC Output (or as required)
- 24 VDC Input = 0 to 5 VDC Output (or as required)

The sensor may be programmed for custom full scale output voltages, offsets and logic thresholds. This calibration is performed at the factory via special order. Custom timing and averaging is also available.

Logic Output:

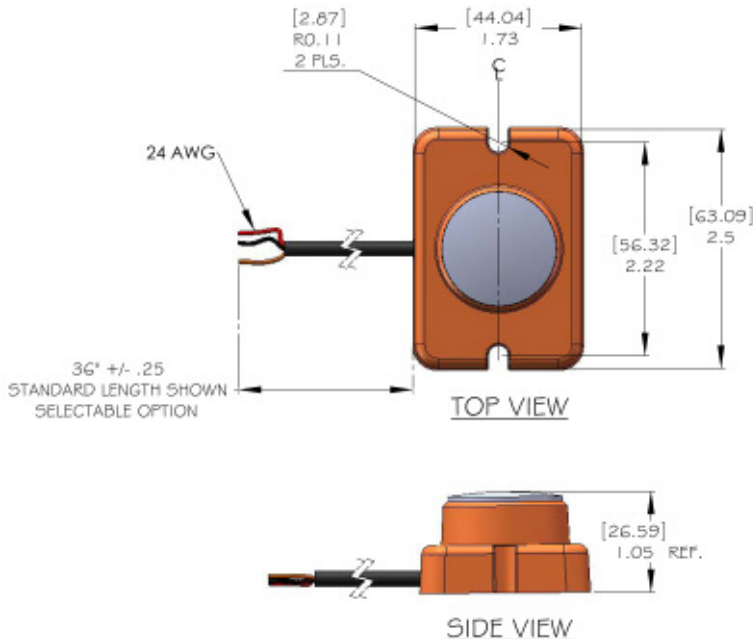
The Logic Output shall provide a logic high output when the liquid level reaches or exceeds the pre-calibrated set point. Set point threshold as per customer requirement.

Operating Temperature:

+41° to +140° F (+5° to +60° C)

Humidity:

0% to 95% Non-Condensing



VALIDATION TESTING

The CLD was designed to meet validation requirements in conjunction with the following specifications:

Electrical Fast Transients:

IEC 61000-4-4:2004

Radiated Emissions, Group 1, Class B:

CISPR 11

Electrostatic Discharge:

IEC 61000-4-2:2002

Radiated Immunity:

IEC 61000-4-3:2002

Power Frequency Magnetic Fields:

Performed per IEC 60601-1-2:2004

General Safety Requirements:

IEC 60601-1:1988

OPTIONS

- ◆ Sensor arrays
- ◆ Full-scale output
- ◆ Continuous level detection
- ◆ Custom OEM designs

THREE-YEAR WARRANTY

All Introtek systems are warranted free of defects in materials or workmanship for three full years from the date of original factory shipment.

If returned within the warranty period; and, upon factory inspection of the unit, the cause of the malfunction is determined to be defective material or workmanship; then, Introtek will repair or replace the system at no cost to the purchaser (or owner) other than transportation.

Introtek shall not be liable for misapplication, labor claims, direct or consequential damage or expense arising from the installation or use of the equipment. There are no other warranties expressed or implied, except special written warranties covering some Introtek products.



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Performance specifications are effective with date of issue and are subject to change without notice

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