
Capacitive Liquid Level Sensor With Integrated Cellular Telemetry



Description

The Remote Industries CryoCall™ capacitive level sensor is a robust sensor and telemetry device suitable for measuring liquid levels of most cryogenic gases such as: Carbon Dioxide, Nitrogen, Argon, Oxygen, and Nitrous Oxide. Every 60 seconds, the device transmits real-time data readings of the current liquid level as well as up to six external auxiliary sensors.

The capacitive level sensor contains an integrated cellular modem and is available with internal or external antenna options. The only local setup includes screwing the sensor into the Dewar top and plugging in the power cable. Unlike competitors' level sensors, there is no need to "zero" the sensor or set the "full" fill level. All configuration is done remotely.

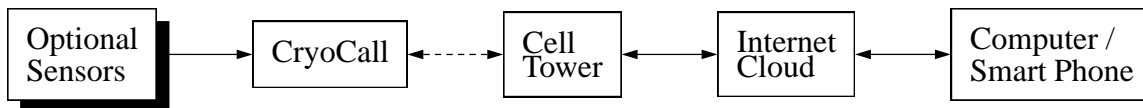
The device also supports up to five auxiliary sensors via integrated analog inputs. Each analog input will monitor, record, and transmit one external industrial sensor reading. The first three channels support typical 4-20 mA current loops. The next two channels support voltage inputs. Typical sensors used with the device measure: pressure, differential pressure, electrical current, weight, flow, pH, liquid level, temperature, humidity, and distance. The board also supports direct interface with differential pressure sensors, eliminating the need for intermediate signal processing.

Features

- *Liquid Level Sensing of Liquid Cryogenics*
- *Top Can Entry*
- *Integrated Cellular Telemetry*
- *Updates Every 60 Seconds*
- *5 Auxiliary Inputs*
- *Remote Configuration*
- *Internal or External Antenna*

Monitoring Applications

- *Gas supply systems*
- *Gas mixer systems*
- *Waste water treatment*



Specifications

General

Primary Power Range	8 to 30 VDC
Maximum Operating Current	400 mA @ 12 VDC 200 mA @ 24 VDC
Operating Temperature (Sensor Housing)	-40 to 85 °C (non-condensing atmosphere)
Environmental Rating	IP67
Mounting	Dewar Can Top

Sensor

Measurement Range	0.100 pF to 0.100 μF
Measurement Resolution	0.100 pF
Power/Aux. Sensor Connector	8 pin M12

Probe

Materials	316 Stainless Steel (probe) 360 Brass (mounting hub) Teflon/PTFE (insulators) Silicone (o-ring)
Outer Diameter	0.50 "
Length	To Suit Vessel
Temperature	-200 °C to 260 °C
Tank Fitting	7/8-14 UNF 3/4-16 UNF
Hub Size	1.25 " Hex
Maximum Pressure	500 PSI

Cellular

Update Interval	60 Seconds (default)
Type	CDMA or GSM
Antenna Connection	50 Ω SMA
Frequency	850 Mhz and 1900 Mhz (North America) 800 Mhz and 1950 Mhz (International)

Auxiliary Analog Inputs

Number of Channels	5
Input Range	0-25 mA 0-5 V 0-10 V
Resolution	12 bit
Termination Resistance	100 Ω (4-20 mA)
Maximum Allowable Current	30 mA

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