



TECHNOLOG



## Cello CSO - GSM Ultrasonic Level Recorder

### At a Glance

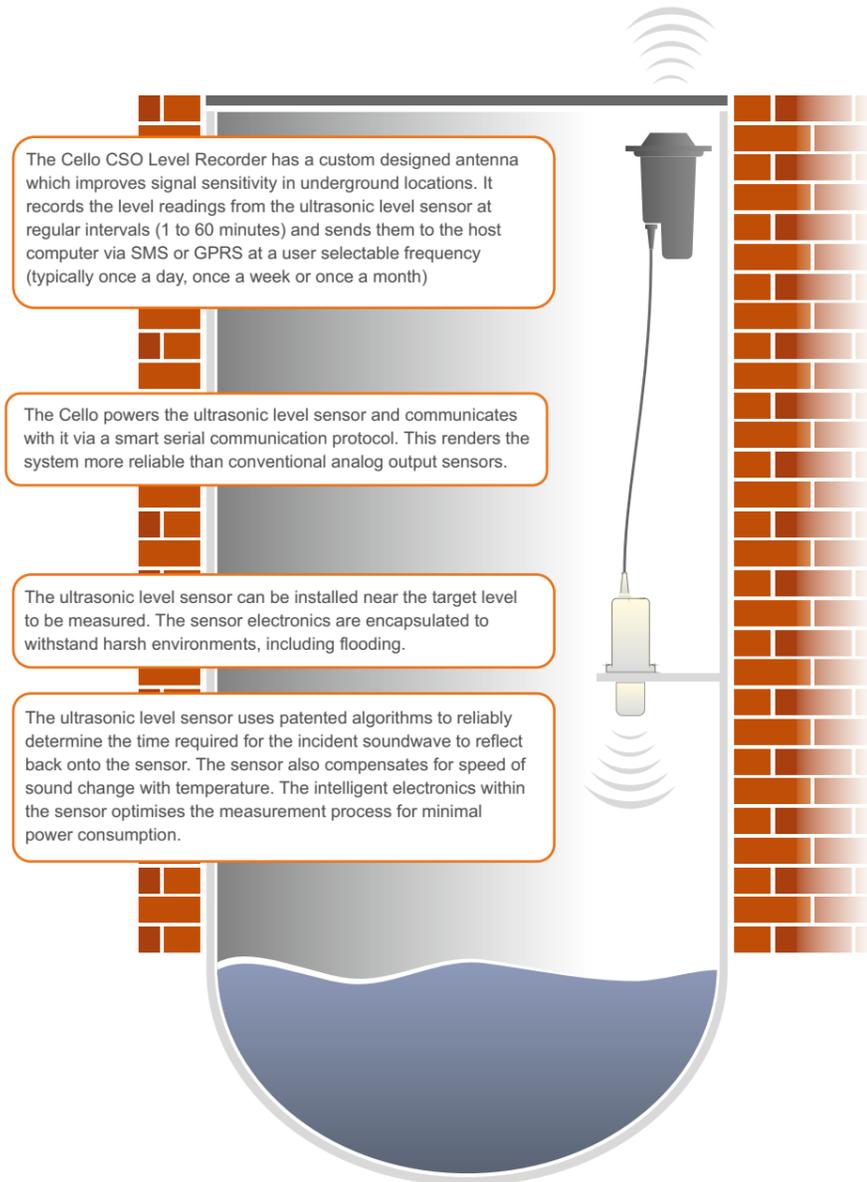
- Proven GSM battery powered data logger technology (Cello)
- Proven ultrasonic level sensing technology (Siemens Milltronics)
- Simple and easy to install
- Fully certified for explosive atmospheres (ATEX)
- Remote alarms
- "Data on the web" option
- Self powered for > 5 years
- IP68 logger and sensor
- WITS compatible version

### Applications

- Sewer overflow recording
- Open channel flow measurements
- Reservoir overflow monitoring
- River/reservoir levels
- Flood warning
- Sewer surveys

**Cello is a family of GSM data logging devices for water, gas and electricity applications. Over 250,000 of Cellos have been installed throughout the world, and Cello has become a veritable standard for remote monitoring.**

**Siemens Milltronics is a recognised manufacturer of level sensors. The Cello ultrasonic level sensor utilises patented technology from The Probe. This results in reliable level measurement with optimised electronics for low power consumption and serial communications with the Cello GSM Level Recorder.**



At installation time, the installer can set up the ultrasonic level sensor using his laptop, visualise the echoes from the target, and select the most appropriate measurement algorithm.



The Cello CSO Level recorder has sophisticated alarm regimes for detecting and immediately signalling abnormal conditions. These include high & low alarms levels as well as profile alarms. The Cello also reports in-situ signal strength, GSM network errors and low battery levels



**Data sent by the Cello can be collected via several methods, including:**

- Technolog's proprietary software installed onto a local host PC
- Technolog's resilient twin data centre
- Technolog's WaterCore web based software

Alarms from the Cello in the field can be forwarded to the relevant field support staff by text message or emails.

## Cello CSO - GSM Ultrasonic Level Recorder

# Technical Specifications



## CSO Probe specification

<b>Input</b> .....	Ultrasonic level measurement
<b>Range</b> .....	0.2 to 3m
<b>Accuracy</b> .....	+/-10mm
<b>Temperature Sensor</b> .....	Integrated, for temperature compensation of speed of sound
<b>Beam Angle</b> .....	12° at -3 dB boundary
<b>Intrinsic Safety</b> .....	Certified Intrinsically Safe Sira 12ATEX2007X – Ex ia IIC T4 (Ta= -20 to +60 Deg. C.) IECEX SIR 12.0001X - Ex ia IIC T4 (Ta= -20 to +60 Deg. C.)
<b>Environmental</b> .....	Operating temperature: -20°C to +60°C / Ingress protection classification: IP68 (1m / 24 hours)
<b>Dimensions (mm)</b> .....	CSO Monitor: 217(h) x 82(w) x 88(d)

## Cello I.S. Mk. 2 specification

<b>GSM Modem</b> .....	Quad band: 900MHz, 1800 MHz / 850MHz, 1900MHz. Integral antenna
<b>Data transmission</b> .....	SMS or GPRS. 15mins, 30mins, 1 hour, 1 day, 1 week or monthly at programmable date and time
<b>Serial Port</b> .....	Type: Full duplex, asynchronous Data rate: 1200, 2400, 4800, 9600 bps
<b>Memory</b> .....	Type: Solid state, non-volatile Size: 128K, allocatable between channels as required (max 64K per channel)
<b>Clock</b> .....	Type: Crystal controlled calendar clock with leap year adjustment Accuracy: 100 seconds per month maximum error over operating temperature range Synchronisation: Option to synchronise clock to GSM network
<b>Supply Type</b> .....	Internally powered by a single lithium battery pack. Battery life: Typical battery life 5 years depending on mode of use (15 minute logging rate / daily transmission)
<b>Recording</b> .....	Recording interval: programmable between 1 minute and 1 hour Data storage: Rotating store, or store until full
<b>Alarm Dial-Out</b> .....	High/low threshold and profile alarms Option to update data on alarm and more frequently thereafter
<b>Environmental</b> .....	Operating temperature: -20°C to +60°C / Ingress protection classification: IP68 (1m / 24 hours) Certified Intrinsically Safe
<b>Intrinsic Safety</b> .....	SIRA 06ATEX2010X - EEx ia IIC T4 (Ta=-20 to +60 Deg. C.) or EEx ia IIC T3 (Ta= -20 to +60 Deg. C.) IECEX SIR 06.0003X - Ex ia IIC T4 (Ta= -20 to +60 Deg. C.) or Ex ia IIC T3 (Ta= -20 to +60 Deg. C.)
<b>Dimensions</b> .....	Cello: 205(h) x 140(w) x 150(d)

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DS5P9003 & DMR n/a