

ATEX MSFM LITE ULTRASONIC LEVEL MONITOR

SPECIFICALLY DESIGNED TO MEASURE COMBINED SEWER OVERFLOWS (CSO). IT CAN ALSO BE USED FOR REMOTE MONITORING OF RESERVOIR AND TANK LEVELS INCLUDING THOSE LOCATED IN POTENTIALLY EXPLOSIVE ATMOSPHERES.

HOW IT WORKS

It uses power saving technology developed by Detectronic to provide up to 5 years of battery life; significantly longer than competitive systems and more cost effective than traditional wired telemetry.

The MSFM Lite's two main components; the ultrasonic sensor and 2G/3G/LTE-M1/NB-IoT capable data logger are connected by a 10 metre cable. This allows the sensor to be positioned directly above the measured surface, with the data logger located just under the chamber cover or other suitable location.

The depth of the flow is inferred from the measured distance from the ultrasonic sensor to the surface of the flow. This distance is calculated by measuring the time taken for the ultrasonic pulses to traverse the return path from the probe to the water surface. Compensation for the effects of changes in air temperature is applied automatically.

The data is read and recorded by the MSFM Lite at predetermined logging intervals set by the user. Thanks to its custom-designed antenna, which improves signal sensitivity in underground locations, logged data is then transmitted via GSM/GPRS at user-selectable intervals (typically once an hour, once a day, once a week or once a month). Data can be transmitted direct to a host computer or viewed on Detectronics secure website.



Installation examples:



ULTRASONIC LEVEL MONITOR

KEY FEATURES

- IS certified (Europe and worldwide)
- Embedded 2G/3G/LTE-M1/NB-IoT remote data delivery
- Worldwide roaming data tariffs
- Ultrasonic level sensor 3m range
- 5 years battery life for GPRS comms, logger and sensor
- Hi / low alarms with 'send latest data' feature. includes ability to send data to a local output (e.g. sampler)
- IP68/NEMA 6P construction
- Military specification connectors
- Custom internal hi-gain underground antenna
- External antenna option (for marginal signal sites)
- Calculated flow data available when used with flumes and weirs

TECHNICAL SPECIFICATION

CSO ULTRASONIC LEVEL SENSOR

Range: 0.0m to 3.0m (with 300mm deadband)

Accuracy: ± 3mm

Main Beam Angle: 10° (-3dB)

DATA LOGGER AND GPRS/GSM COMMUNICATION

Memory: solid state 512K - 60K per channel (rotating store or store until full)

Recording interval programmable between 1 minute and 1 hour

2G/3G/LTE-M1/NB-IoT communication (worldwide compatibility)

Data transmission: GPRS - 15 minutes, hourly, daily, weekly, monthly at programmable intervals

Data logger power supply: 5 years typical life span internal lithium battery pack (user replaceable. Internal battery voltage logged as an additional channel of data)

ALARM DIAL OUT

High/ low threshold and profile alarms with 'send latest data' with alarm message

ENVIRONMENTAL

Operating temperature: -40°C to +60°C

Protection: IP68 / NEMA6P

Connectors: IP68 Mil - Spec

Dimensions:

MSFM Lite - L = 280mm x W = 150mm x D = 100mm

CSO Probe - L = 280mm x W = 80mm x D = 85mm

Weight: 3.5 kg (including sensor and 10m cable)

APPROVALS

MSFM S2.5T:

Sira 19ATEX2255X

II 1G

Ex ia IIB T4 Ga

Ta = -40°C to +60°C

CSO Ultrasonic Probe v2:

Sira 12ATEX2259X

II 1G

Ex ia IIC T4 Ga

Ta = -20°C to + 60°C

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