



LIDoTT® Smart Solution

INTEGRATED MULTI-SENSOR
FLUID LEVEL MONITORING

UNIQUE MCERTS ACCREDITED MULTI- SENSOR DEVICE DELIVERS CONSISTENT **HIGH QUALITY LEVEL DATA** ACROSS A WIDE RANGE OF OPERATING CONDITIONS AND SWITCHES SEAMLESSLY TO PROVIDE **CONTINUOUS DEPTH DATA** UNDER BLOCKAGE OR SURCHARGE CONDITIONS.

AFFORDABLE, **ACCURATE AND RELIABLE**

LIDoTT® Smart Solution is a cost effective versatile system comprising the LIDoTT® Smart datalogger and LIDoTT® sensor delivering high-quality data throughout **normal dry-weather** and **wet-weather** or **blockage induced surcharge conditions**.

DESIGNED FOR CONVENIENCE

LIDoTT® is simple to install and ultra-low maintenance by design. It requires no external atmospheric breather for its pressure-sensor.

External battery and antenna options are available for challenging environments.

Solar radiation shield available for open channels with exposure to direct sunlight.

ATEX and IECEx certified

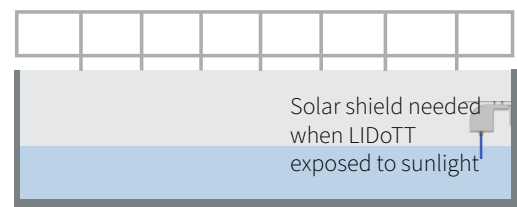
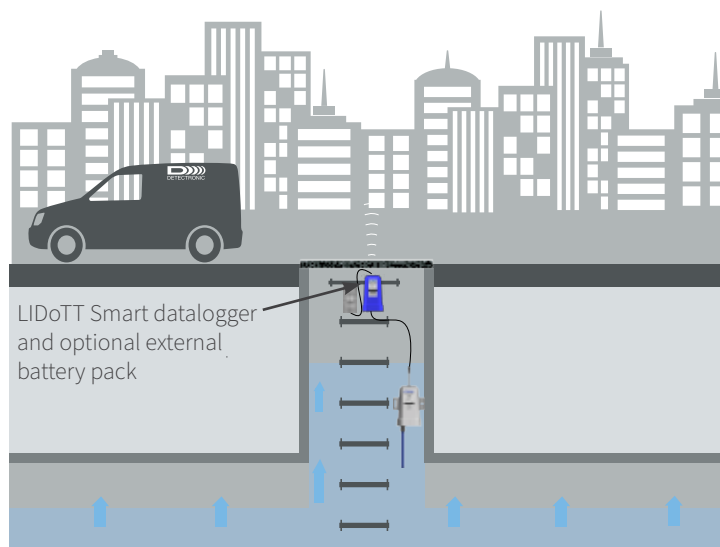
Zone 0

CONTINUOUS MEASUREMENT

When the sewer network is stressed during storm weather events or by blockages, the **LIDoTT®** Sensor **automatically switches sensor mode** from ultrasonic (level) to pressure (depth) as the liquid level rises, seamlessly delivering high-quality network management data. This transition is transparent to the external datalogging device which needs only a single recording channel.

WIDESPREAD DEPLOYMENT

LIDoTT® is ideal for widespread deployment in sewer networks, in domestic sewer manholes and throughout other water courses.



Left: Sewer manhole, Top Right: Open channel using solar shield, Bottom Right: Bridge with culverts

THREE SENSORS IN ONE

ULTRASONIC LEVEL

The LIDoTT® sensor reliably detects subtle changes in “normal” operating conditions – accurately delivering, for example, small silt-induced variations in Depth of flow.

“IN AIR” TEMPERATURE

Primarily used to calibrate distance measurement for changes in air density, temperature can optionally be delivered to the datalogger as a measured parameter.

PRESSURE

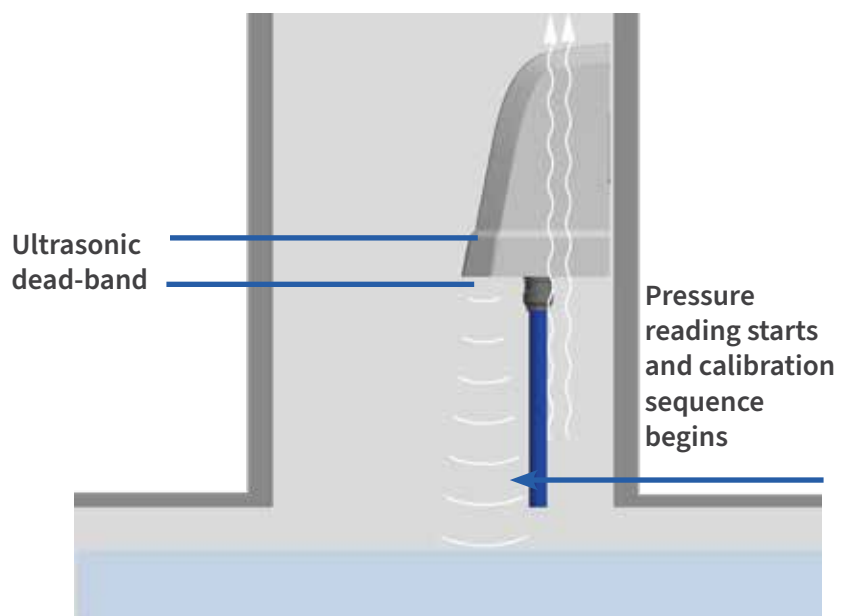
With its 10m H₂O operating range, the pressure sensor deals with exceptional Depth measurement. **LIDoTT®** delivers seamless transition from Level measurement - using its Ultrasonic sensor, to Depth measurement – using its Pressure sensor. The pressure-sensor is activated and measures rising depth **before** the Ultrasonic sensor blanking distance (dead-band) is reached.



HIGH QUALITY DATA

The LIDoTT® sensor is placed close to the source of water within the sewer network. The narrow beam angle of the ultrasonic sensor removes any “noise” and enables high quality data with millimetre precision.

When the data is transmitted to a remote monitoring platform, the AI machine-learning systems can detect minor changes in the network characteristics and predict operational issues with far more accuracy.





DATA COMMUNICATIONS

The LIDoTT® Smart datalogger communicates over 2G, 4G LTE-M1 and 4G NB-IoT.

The Data logging rate can be set to 2, 5, 10 or 15 minutes.

Data transmission can be set to daily or more frequently, including a windowed send option. This means that during an event we can increase the comms frequency and then once event passes the comms can revert back to normal.

It also means that a window period can also be set permanently, for example, if something always happens at a given time transmission can be set for that period also.

Data from LIDoTT® Smart can be sent to any data platform via an API.

PRODUCT SPECIFICATION

LIDoTT SENSOR

Ultrasonic Level Sensor

Type: Piezo-ceramic, temperature-compensated

Range: 0.000 - 1.500m

Accuracy: +/- 2mm

Temperature Sensor

Type: High Precision CMOS Temperature device

Pressure Sensor

Type: Isolated Silicon Diaphragm

Range: 0-10.000m

Accuracy: $\pm 0.2\%$ FS

LIDoTT SMART

Memory: 64MiB

Programming interval: 2,5,10,15 minutes

Transmission frequency: 5min-24hrs

Communications: 2G, 4G LTE-M1, 4G NB-IoT

Data logger power supply: 7 years* (using user replaceable external battery pack)

ENVIRONMENTAL

Operating temperature: -20°C to +60°C.

Protection: IP68/NEMA6P.

Connectors: IP68 Mil - Spec.

Dimensions and weights:

LIDoTT Sensor: 196mm(h) x 122mm(d) x 115mm(w)

845g (weight)

LIDoTT Smart: 196mm(h) x 122mm(d) x 115mm(w)

975g (weight)

Battery pack: 198mm(h) x 66mm(d) x 120mm(w)

950g (weight)

APPROVALS

LIDoTT Sensor

ATEX Zone 0 certified CML 20ATEX2039X

IECEX Zone 0 certified IECEX CML 20.0019X

II 1 G, Ex ia IIB T4 Ga. Ta= -20°C to +60°C

MCERTS No: MC240396/02

MCERTS Ultrasonic sensor certified range: 1m

MCERTS Temperature Range: -10°C to +40°C

LIDoTT Smart

ATEX Zone 0 certified CML 21ATEX2097X

IECEX Zone 0 certified IECEX CML 21.0002X

II 1 G, Ex ia IIB T4 Ga. Ta= -20°C to +60°C

MCERTS No: MC240396/02

Patent Number: GB2591274

*Battery life subject to device configuration

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