LevelRay
Radar Level-Sensor

The radar level-sensor designed by Teledyne ISCO Water specifically for water and wastewater applications.

Teledyne ISCO's LevelRay non-contact radar level sensor uses FMCW (Frequency Modulated Continuous Wave) method to measure liquid level. Mounted above the flow, it sends a linearly frequency-swept radar signal and receives the reflection from the liquid surface. The slight time delay between transmitted and reflected signals creates a beat frequency proportional to distance, allowing the device to calculate level accurately. This non-contact method minimizes maintenance and performs reliably in applications with chemicals, grease, silt, or suspended solids.

Also submersible for continuous operation

In addition to working as a non-contact sensor using radar waves, the LevelRay's rugged design and IP68 protection allow it to withstand being submerged. When a LevelRay is installed with the optional integrated pressure sensor, level measurement switches from radar to the pressure sensor upon submersion and continues providing level readings while submerged.

Quick and easy flow meter interface

LevelRay outputs level measurement using TIENet® or Modbus RS485 protocols. The TIENet protocol readily allows the LevelRay to interface with Teledyne ISCO DuraTracker or Signature flow meters for level and flow measurement. The flow meter calculates the flow using one of the built-in flow conversions or a user-defined level-to-flow relationship. Using Modbus protocol, LevelRay can be connected to a non-ISCO device for level and flow measurement.

LevelRay hanging on a suspension mounting bracket.

LevelRay

Applications:

- Flow and level measurement in wastewater collection system
- CSO (Combined Sewer Overflow) and SSO (Sanitary Sewer Overflow) studies
- Industrial discharge flow measurement
- Flow and level measurement in WRRF (Water Resource Recovery Facility)
- Surface water flow and level measurement
- Horizontal design is ideal for in-pipe installation

Standard Features:

- Rugged IP68 protection
- TIENet protocol or Modbus RS485 protocol
- Zero deadband
- Bluetooth
- Radar technology is far superior to ultrasonic method—not affected by temperature swings, fumes or steam
- Optional integrated pressure sensor adds submersible operation
- Bluetooth interface with Flowlink Cipher Go! for configuration, calibration, viewing live data, and diagnostics

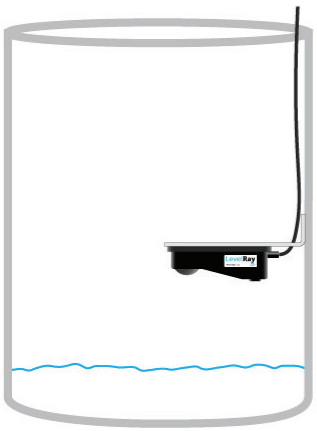
LevelRay Level Sensor Specifications

Technology:	FMCW Radar
Measurement Range:	0 to 26' (0–8 m)
Accuracy from Sensor Face at 72 °F (22 °C):	±0.08" ±2 mm
Beam Angle:	≤8° 4° From center line
Radar Signal:	60 GHz
Bluetooth™	2.4 GHz
Deadband:	Zero deadband
Size (H x W x D):	2.5 x 2.38 x 8.5 in 6.35 x 6 x 21.6 cm
Weight:	2.3 lbs. (1.0 kg) for 33 ft (10 m) w/o connector 4.5 lbs. (2.0 kg) for 75 ft (23 m) w/o connector 5.7 lbs. (2.6 kg) for 99 ft (30) m w/o connector
Material:	HDPE
Cable Lengths:	33, 75, 99 ft (10, 23 or 30 m)
Enclosure:	IP68
Certifications:	CE/UL/CSA/UKCA/RoHS FCC 47 CFR Part 15 ETSI EN 302 729
Temperature Range:	Operating: -4–140 °F (-20–60 °C)
Storage:	-40–176 °F (-40–80 °C)
Power Required:	9–27 Vdc
Communication Protocol:	TIENet

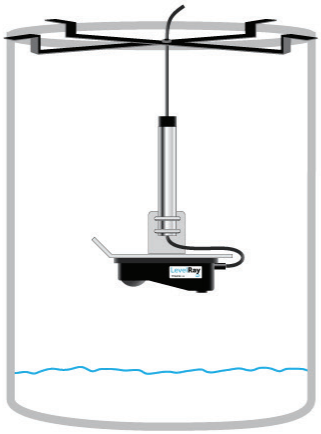
Optional Surcharge Measurement

Technology:	Pressure Transducer
Material:	Stainless Steel
Certification:	CE EN61326
Temperature Range:	-4–140 °F (-20–60 °C)
Measurement Range:	0–33 ft (0–10 m)
Accuracy	±0.10% of full scale
Stability:	±0.023 ft/yr (0.007 m)

Mounting Options

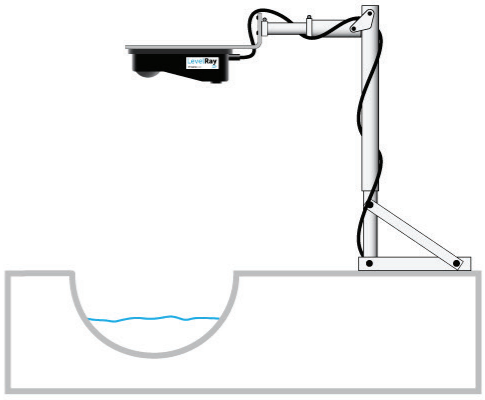


Wall Mount



Suspension Mount

In-Pipe Mounts
Scissor Ring or
Spring Ring



Floor Mount

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Teledyne ISCO is continually improving its products and reserves the right to change product specifications, replacement parts, schematics, and instructions without notice.

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