



LORAWAN ULTRASONIC RANGING & LIQUID LEVEL DETECTION SENSORS

ULTRASONIC RANGE/DISTANCE SENSOR (ULR75) 280 MM – 7,500 MM MEASUREMENT RANGE



KEY FEATURES

- ◆ **Extended Measurement Range:** Accurately measures distances from 280 mm to 7,500 mm, making it suitable for both small and large-scale monitoring tasks.
- ◆ **Rugged & Reliable:** Built in an IP66-rated enclosure, the sensor is resistant to dust, water, and harsh conditions for long-term durability.
- ◆ **Long-Term Power:** Powered by an 8500 mAh Li-SOCl₂ battery, the ULR75 supports up to 5 years of autonomous operation with ultra-low power consumption.

DEVICE OVERVIEW

The **ioX-Connect ULR75** is an industrial-grade LoRaWAN® ultrasonic sensor designed for **long-range distance and liquid level monitoring**. With a detection range of **280 mm to 7.5 m** and built-in temperature compensation, it delivers accurate, **non-contact measurement across harsh environments**. Pre-provisioned for seamless onboarding to the ioX-Connect platform, it enables rapid deployment for applications such as tank monitoring, parking systems, waste management, and automation.

Best For: Long-range distance and liquid level monitoring in industrial, municipal, and smart city applications.

TECHNICAL FEATURES

- **LoRaWAN® Version:** v1.0.3, Class A
- **Detection Range:** 280 mm – 7,500 mm | **Accuracy:** $\pm(1 \text{ cm} + 0.3\% \text{ of distance})$
- **Measurement Angle:** 40°
- **Dimensions:** Size: 150 mm (L) x 120 mm (W) x 55 mm (H) - Weight: 220 g
- **Battery Type:** 8500 mAh Li-SOCl₂ (non-rechargeable), up to 5 years
- **Downlink Configuration:** Remotely configurable via ioX-Connect platform
- **Operating Temperature:** -40 ~ 85°C
- **Enclosure:** IP66 waterproof housing
- **Power Consumption:** Sleep 5 μ A | TX 125 mA @ 20 dBm
- **Frequency Range:** 862 ~ 1020 Mhz | **RF Output:** Max +22 dBm | **RX Sensitivity:** Down to -139 dBm
- **Supported Frequency Bands:** EU868 (Europe, Middle East), US915 (USA/Australia), AS923 (Australia/New Zealand, ASIA), IN865 (India).



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LORAWAN ULTRASONIC RANGING & LIQUID LEVEL DETECTION SENSORS

ULTRASONIC RANGE/DISTANCE SENSOR (ULR45) 30 MM – 4,500 MM MEASUREMENT RANGE



KEY FEATURES

- ◆ **Precision Measurement:** Accurately monitors distances from 30 mm to 4,500 mm with temperature compensation for consistent performance.
- ◆ **Durable Design:** Built in an IP66-rated waterproof enclosure, the ULR45 withstands harsh indoor and outdoor environments.
- ◆ **Extended Battery Life:** Powered by an 8500 mAh Li-SOCl₂ battery, the sensor supports up to 5 years of operation with ultra-low power use.

DEVICE OVERVIEW

The **ioX-Connect ULR45** is an industrial LoRaWAN® ultrasonic sensor designed for precise, **non-contact distance and liquid level monitoring**. With a measurement range of **30 mm to 4.5 m** and built-in temperature compensation, it provides reliable readings in varied environments. Pre-provisioned for quick setup in the ioX-Connect platform, the ULR45 is ideal for compact to **mid-range monitoring** in smart city, commercial, and industrial applications.

Best For: Medium-range distance and liquid level monitoring in industrial automation, facilities, and municipal systems.

TECHNICAL FEATURES

- **LoRaWAN® Version:** v1.0.3, Class A
- **Detection Range:** 30 mm – 4,500 mm | **Accuracy:** ±(1 cm + 0.3% of distance)
- **Measurement Angle:** 60°
- **Dimensions:** Size: 150 mm (L) x 120 mm (W) x 55 mm (H) - Weight: 220 g | Cable Length: 25 cm
- **Battery Type:** 8500 mAh Li-SOCl₂ (non-rechargeable), up to 5 years
- **Downlink Configuration:** Remotely configurable via ioX-Connect platform
- **Operating Temperature:** -40 ~ 85°C
- **Enclosure:** IP66 waterproof housing
- **Power Consumption:** Sleep 5 µA | TX 125 mA @ 20 dBm
- **Frequency Range:** 862 ~ 1020 Mhz | **RF Output:** Max +22 dBm | **RX Sensitivity:** Down to -139 dBm
- **Supported Frequency Bands:** EU868 (Europe, Middle East), US915 (USA/Australia), AS923 (Australia/New Zealand, ASIA), IN865 (India).



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LORAWAN ULTRASONIC RANGING & LIQUID LEVEL DETECTION SENSORS

ULTRASONIC LIQUID LEVEL SENSOR (ULR20) 20 MM – 2,000 MM MEASUREMENT RANGE



KEY FEATURES

- ◆ **Non-Contact Sensing:** Accurately measures liquid levels through container walls — no drilling or direct contact required.
- ◆ **Industrial Safety:** Suitable for toxic, corrosive, or high-temperature liquids in sealed and pressurized systems.
- ◆ **Extended Battery Life:** Powered by an 8500 mAh Li-SOCl₂ battery, the sensor supports up to 5 years of operation with ultra-low power use.

DEVICE OVERVIEW

The **ioX-Connect ULR20** is an industrial-grade LoRaWAN® ultrasonic sensor designed for **non-contact liquid level monitoring**. Installed beneath a container, it measures liquid height through the container wall without drilling or exposure, making it ideal for **hazardous, sealed, or high-pressure environments**. Pre-provisioned for rapid onboarding, the ULR20 provides real-time visibility via the ioX-Connect platform with support for alarms, analytics, and automation.

Best For: Safe, non-contact liquid level measurement in chemical storage, sealed tanks, and hazardous process environments.

TECHNICAL FEATURES

- **LoRaWAN® Version:** v1.0.3, Class A
- **Detection Range:** 20 mm – 2,000 mm | **Accuracy:** $\pm(5 \text{ mm} + 0.5\% \text{ of measured value})$
- **Dimensions:** Size: 145 mm (L) x 80 mm (W) x 50 mm (H) - Weight: 190 g | Cable Length: 25 cm
- **Battery Type:** 8500 mAh Li-SOCl₂ (non-rechargeable), up to 5 years
- **Downlink Configuration:** Remotely configurable via ioX-Connect platform
- **Operating Temperature:** -40 ~ 85°C
- **Enclosure:** IP66 waterproof housing
- **Power Consumption:** Sleep 5 μA | TX 125 mA @ 20 dBm
- **Frequency Range:** 862 ~ 1020 Mhz (HF) | **RF Output:** Max +22 dBm | **RX Sensitivity:** Down to -139 dBm
- **Supported Frequency Bands:** EU868 (Europe, Middle East), US915 (USA/Australia), AS923 (Australia/New Zealand, ASIA), IN865 (India).

