DUS2-L

LoRaWAN®

LoRaWAN Low Power Ultrasonic Distance and Level Sensor

- Compatible with all LoRaWAN frequencies
- Wide range of industrial applications
- High accuracy and repeatability
- Designed to meet outdoor applications
- Long-term durable performance in harsh environment
- Ultra-low power
- Suitable for liquid and solid media

TECHNICAL SPECIFICATION

Sensor

• Range (m)	5, 10
• Accuracy	±1 (typ.) (combined linearity, hysteresis, repeatability) (%Span)
• Resolution (mm)	1
• Sensor Minimum Distance	0 ~ 20cm for 5m range 0 ~ 50cm for 10m range
• Reading-to-reading stability	1mm in 1m (Typ)
• Compensated Temperature (°C)	-10 ~ +60

Power

• Power Supply	Built-in Replaceable Lithium Battery, External Power (option)
• Rated Voltage (V)	3.6
• Battery Lifetime	100,000+ readings and 20,000+ transmission (More than 10 years for most applications)

Physical

• Materials	Enclosure: ASA/POM
• Weight (g)	~500
• Protection Rate	IP65, UV Protected

Communication

• LoRaWAN® Version, Class	1.0.2revB, Class A (Class C on request)
• LoRaWAN® Frequency Zone	AS923, EU868, US902-928, AU915-928 (other zones available on request)
• LoRaWAN® Activation Type	OTA (default), ABP
• Sampling Type	Periodic (default), Event triggered
• Sampling Period	Configurable via downlink (default 4 hours)
• Transmission Type	Per sample (default), Event triggered, Conditional
• Parameter Configuration	Over-the-air via LoRaWAN® downlinks Locally via wireless connectivity
• Firmware Update	Locally via Wireless Connectivity, Over The Air

www.10sorex.com
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NETWORK CONNECTION AND VISUALIZATION

Network Integration

- Integratable to all main networks (Actility, Alibaba, Cisco, Digita, Everynet, Helium, Kerlink, kpn, Loriot, machine-Q, Objenious, Orange, Orbiwise, Proximus, Senet, Sens, Swisscom, TATA, The Things Network (TTN), TTI and any other network)

Visualization And Data Management

- 10Sorex white label microservice platform, and Integratable to all main IIoT platforms directly or through the api (AWS, Azure, PTC ThingWorx, Bosch IoT, Cisco Jasper & Kinetic, Sierra Numerex, MathWorks, ThingSpeak, GE Digital Predix, LandisGyr, Siemens MindSphere, Cumulocity, myDevices, Ubidots, TagoIO, ALSO AllThingsTalk, HPE IoT and any other major IoT platform).

10Sorex Platform Main Features

- Encrypted ultra-low power communication protocol
- Advanced device inventory
- Integration APIs for enterprise systems
- Multi-tenant role-based access control
- Data export and import
- White-label platform for enterprise runs on private account
- Variable alarm setting for high and low thresholds and multi-channel alerting
- Sampling and transmission interval configuration
- Transmission condition configuration
- Other configurations and customization available on request

Encrypted & ultra-low power	Integratable	Dynamic alerting
Multi-tenant	Scalable	Composable & API first

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BEAM PATTERN

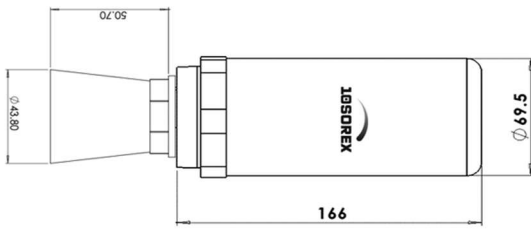| 1050 cm (~34 ft.) | 900 cm (~30 ft.) | 750 cm (~25 ft.) | 600 cm (~20 ft.) | 450 cm (~15 ft.) | 300 cm (~10 ft.) | 150 cm (~5 ft.) | 30 cm (~1 ft.) |
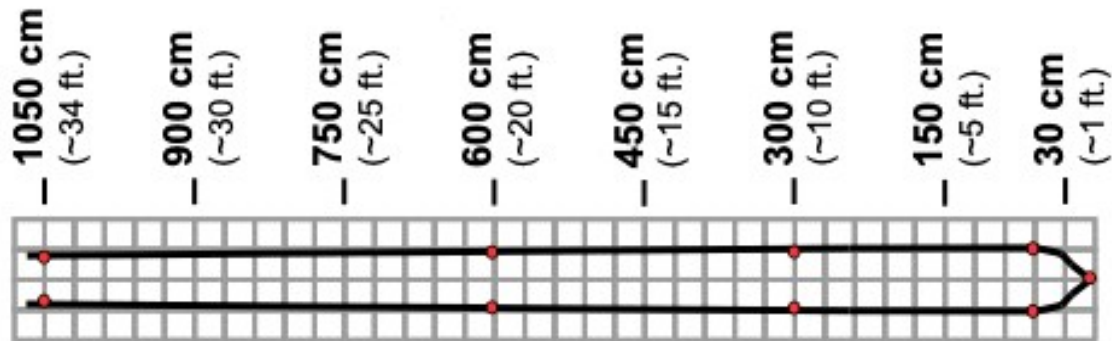
Typical beam patter for 30cm target mover left and right with the board parallel to the sensor face

MODEL GUIDE

Model	Option / Schematic
C Model	 50.70 ⌀43.80 ⌀69.5 166 Cylindrical compact, POM enclosure

INDUSTRIES

- Water & Environment
- Agriculture & Farming
- Oil & Gas
- Marine & Oceanography
- Mining & Construction
- Smart Building & HVAC

APPLICATIONS

- Water Tank Level Monitoring
- Diesel Tank Level Monitoring
- Flood Monitoring
- Open Channel Level Monitoring

- Non-corrosive Liquid Storage Level Monitoring
- Distance Measurement
- People Counting
- Long Range Object Detection

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ORDERING CODE

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LoRaWAN Frequency Zone

AS (AS923)	**AUx** (AU915-928) (Sub Band x)	**EU** (EU868)	**USx** (US902-928) (Sub Band x)

LoRaWAN Activation

A (Over The Air Activation - OTAA)	**P** (Activation By Personalization - ABP)

Measurement Range

5 meters, **10** meters

Enclosure

C5: Cylindrical	**E5:** Rectangular

Device Activation

X: No Switch (Always On)	**S:** With On/Off Switch (Only for E Type)

Antenna Option

E: External	**I:** Internal

Options

(On request)1

DUS2-L	AS	A	5m	E5	S	E	

Sample Product Code:

- **DUS2-L-AS-A-5m-E5-X-E**
  LoRaWAN® ultrasonic distance sensor, frequency AS923, over the air activated, range of 5m, with E5 housing (rectangular and IP65 rated), with on/off switch and external antenna.

1) Product Options

- **EP**: sensor with external power supply connector for 12V supply (only for E type enclosure, adaptor is not included)
- **EPB**: connector for 12V supply with internal battery backup (only for E type enclosure)
- **HG**: high gain external antenna
- **WF**: Active WiFi module on device for communication/ firmware update through Mobile phone NFC module (only for E type enclosure)
- **HCB**: high-capacity battery (only for E type enclosure)