



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

Power

• Power Supply	Built-in Replaceable Lithium Battery, External Power (option)	
• Rated Voltage	3.6	V
• Battery Lifetime	Typ. 50,000+ readings / 20,000+ transmission (connected to ellenex platform and standard network quality)	

Physical

• Materials	Enclosure: ASA/POM	
• Weight	~500	g
• 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

DUS2-L Spec-sheet

NETWORK CONNECTION AND VISUALISATION

Network Integration

- Pre-configured to ellenex LNS or configurable to all main network servers (AWS, Netmore, ChirpStack, Helium, Kerlink, Kona Tektelic, Lorient, machine-Q, Orange, Orbiwise, Proximus, Swisscom, TATA, The Things Network (TTN), TTI and any other network)

Visualization And Data Management

- Ellenex 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, TagIO, HPE IoT and any other major IoT platform).

Ellenex 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

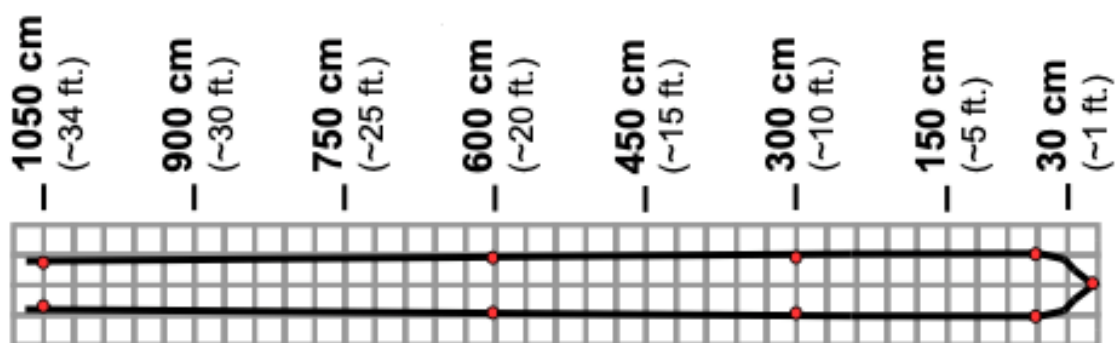


Scalable



Composable & API first


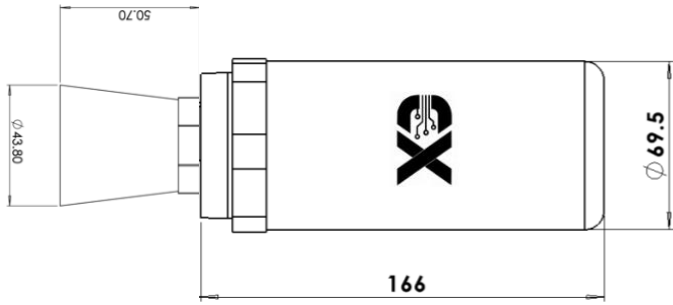
BEAM PATTERN



Typical beam patter for 30cm target mover left and right with the board parallel to the sensor face

DUS2-L Spec-sheet

MODEL GUIDE

Model	Options:
<p>C Model:</p> 	 <p>Cylindrical compact, POM enclosure</p>

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

DUS2-L Spec-sheet

ORDERING CODE

DUS2-L								
LoRaWAN Frequency Zone								
AS (AS923)			AUx (AU915-928) <small>(Sub Band x)</small>		EU (EU868)		USx (US902-928) <small>(Sub Band x)</small>	
LoRaWAN Activation								
A (Over The Air Activation - OTAA)					P (Activation By Personalization - ABP)			
Measurement Range								
10 meters								
Enclosure								
C5: Cylindrical					E5: Rectangular, on request			
Device Activation								
X: No Switch <small>(Always On)</small>						S: With On/Off Switch <small>(Only for E Type)</small>		
Antenna Option								
E: External						I: Internal		
Options								
(On request) ¹								
DUS2-L	AS	A	10m	E5	S	E		

Sample Product Code:

- DUS2-L-AS-A-10m-E5-X-E**

LoRaWAN® ultrasonic distance sensor, frequency AS923, over the air activated, range of 10m, with E5 housing (rectangular and IP65 rated), with on/off switch and external antenna.

¹⁾ Product Options

- EPB:** sensor with external power supply connector for 12V supply with internal battery backup (only for E type enclosure, adaptor is not included)
- HG:** high gain external antenna
- HCB:** high-capacity battery (only for E type enclosure)