



## 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:	5,10	m
• Accuracy: (combined linearity, hysteresis, repeatability)	±1 (typ.)	%Span
• Resolution:	1	mm
• Sensor Minimum Distance:	0 ~ 20cm for 5m range 0 ~ 50cm for 10m range	
• Reading-to-reading stability:	1mm in 1m (Typ)	
• Compensated Temperature:	-10 ~ +65	°C

### Power

• Power Supply:	Built-in Replaceable Lithium Battery, External Power (option)	
• Rated Voltage	3.6	V
• Battery Lifetime:	50,000+ readings and 10,000+ transmission (More than 10 years for most applications)	

### Physical Specification

• Materials:	Enclosure: ASA/POM	
• Weight:	~500	g
• Protection Rate:	IP65 /IP67	-

### 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

## NETWORK CONNECTION AND VISUALISATION

### Network Integration

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

### Visualisation 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, TagoIO, AllThingsTalk Maker, 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 customisation available on request



Encrypted & ultra-low power



Integratable



Dynamic alerting



Multi-tenant



Scalable



Composable & API first

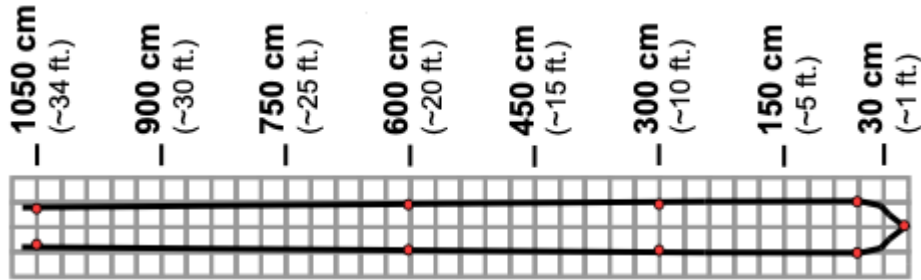
## APPLICATIONS

- Water Tank Level Monitoring
- Diesel Tank Level Monitoring
- Flood Monitoring
- Open Channel Level Monitoring
- Corrosive Liquid Storage Level Monitoring
- Distance Measurement
- People Counting
- Long Range Object Detection

# DUS2-L Spec-sheet


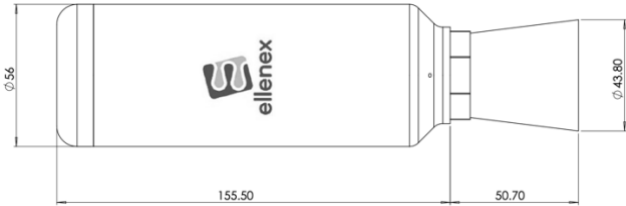

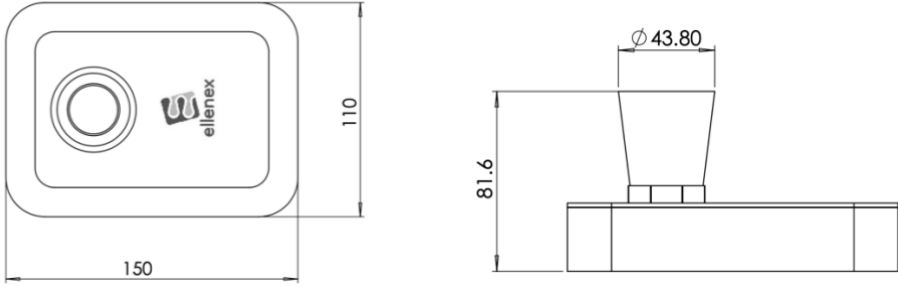


## Beam pattern



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

## MODEL GUIDE

Model	Options:
<p>C Model:</p> 	 <p>Cylindrical compact, POM enclosure</p>
<p>E Model:</p> 	 <p>Rectangular ASA enclosure with on/off switch</p>

## INDUSTRIES



Water & Environment



Agriculture & Farming



Oil & Gas



Marine & Oceanography



Mining & Construction



Smart Building & HVAC

## ORDERING CODE

<b>DUS2-L</b>							
<b>Frequency Zone</b>							
<b>AS</b>	<b>EU</b> (EU868)	<b>USx</b> (US902-928, sub-band x)	<b>AUx</b> (AU915-928, sub-band x)	Others			
<b>LoRaWAN® Activation</b>							
<b>A</b> (Over The Air Activation - OTAA)				<b>P</b> (Activation By Personalization ABP)			
<b>Measurement Range</b>							
5, 10 meters							
<b>Enclosure</b>							
<b>C5:</b> Cylindrical housing, IP65				<b>E5:</b> Rectangular housing, IP65			
<b>C7:</b> Cylindrical housing, IP67				<b>E7:</b> Rectangular housing, IP67			
<b>Device Activation</b>							
<b>S:</b> on/off switch				<b>N:</b> NFC (by mobile phone)			
<b>X:</b> No switch (always on)				<b>D:</b> Dual switch (on/off + Trigger)			
<b>Antenna</b>							
<b>I:</b> Internal				<b>E:</b> External			
<b>Options</b>							
(On request)							
<b>DUS2-L</b>	<b>AS</b>	<b>A</b>	<b>5m</b>	<b>E5</b>	<b>X</b>	<b>E</b>	

### Sample Product Code:

- DUS2-L-AS-A-5m-E5-X-I**

Ultrasonic distance sensor operated on LoRaWAN, range of 5m, with E5 housing (rectangular and IP65 rated), always on and with external antenna.