



## LoRaWAN® Corrosion Resistant 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 ~ +60	°C

### Power

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

### Physical

• Materials	Enclosure: ASA/POM, Sensor Head: Parylene coating applied to the surface of the Aluminium transducer	
• 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	

## NETWORK CONNECTION AND VISUALISATION

### Network Integration

- Integratable to all main networks (Actility, Alibaba, Cisco, Digita, Everynet, Helium, Kerlink, kpn, Lorient, machine-Q, Objenious, Orange, Orbiswise, 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, ALSO AllThingsTalk, 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

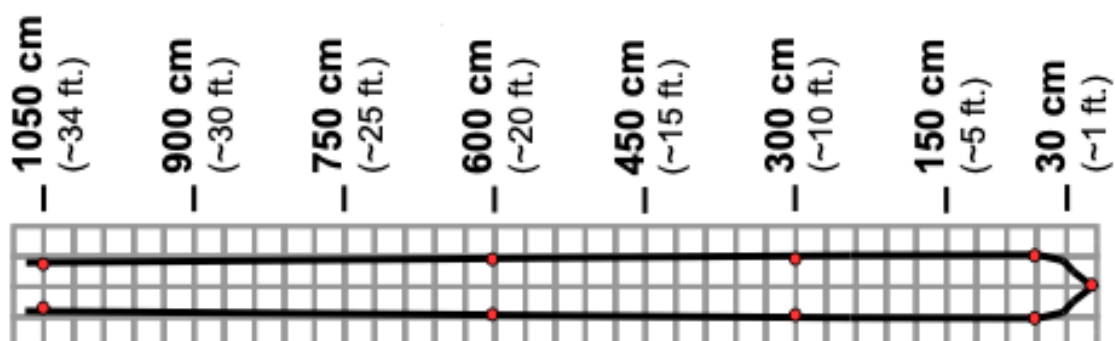


Scalable




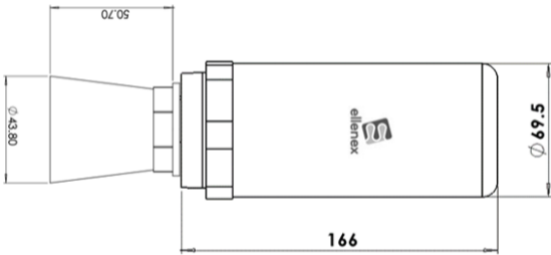

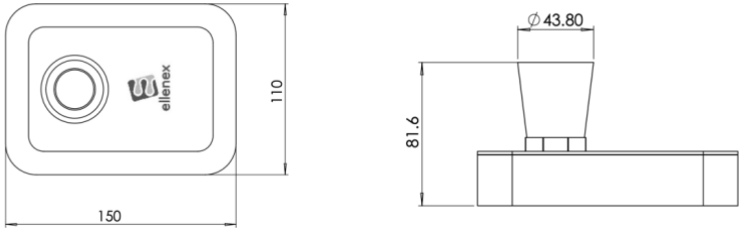
Composable & API first

## BEAM PATTERN



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

## MODEL GUIDE

Model	Option / Schematic
<p><b>C Model</b></p> 	 <p>Cylindrical compact, POM enclosure</p>
<p><b>E Model</b></p> 	 <p>Rectangular ASA enclosure with on/off switch</p>

## INDUSTRIES



Water & Environment



Agriculture & Farming



Oil & Gas



Marine & Oceanography



Mining & Construction



Smart Building & HVAC

## APPLICATIONS

- Chemical Tanks
  - Liquid Delivery Systems
  - Water Resources Level
  - Food Industry
- Diesel Tank
  - Liquid Storage
  - Hydraulic Containers
  - Wastewater Tank

## ORDERING CODE

DUC2-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								
5 meters, 10 meters								
Enclosure								
C5: Cylindrical					E5: Rectangular			
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								
<small>(On request)<sup>1</sup></small>								
DUC2-L	AS	A	5m	C5	X	E		

### Sample Product Code:

- **DUC2-L-AS-A-5m-C5-X-E**

LoRaWAN<sup>®</sup> corrosion resistant ultrasonic distance sensor, frequency AS923, over the air activation, measurement range of 5m, with C5 housing (compact and IP65 rated), always on and with external antenna.

### <sup>1)</sup> 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)