DUS2-L Spec-sheet

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	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	
•	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

- 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)

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

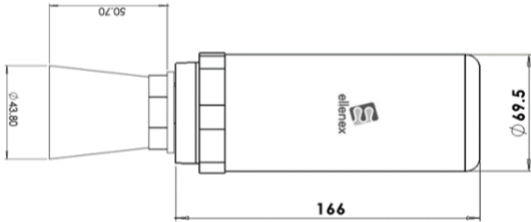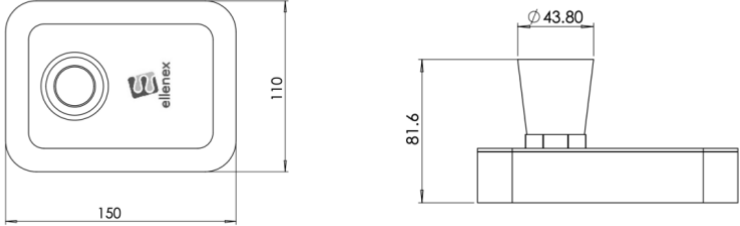|		
Encrypted & ultra-low power	Integratable	Dynamic alerting
Multi-tenant	Scalable	Composable & API first

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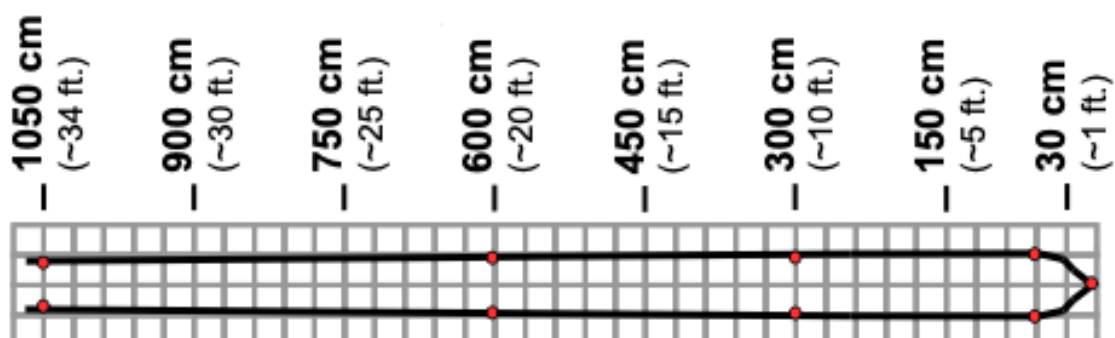
Typical beam patter for 30cm target mover left and right with the board parallel to the sensor face

DUS2-L Spec-sheet

MODEL GUIDE

Model	Option / Schematic
C Model	50.70 Ø 43.80 Ø 69.5 166 Cylindrical compact, POM enclosure
E Model	110 150 Ø 43.80 81.6 Rectangular ASA enclosure with on/off switch

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) (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)

Integrated IoT Solutions

E: sales@ellenex.com
W: www.ellenex.com