DUC2-L Spec-sheet

ex
ELLENEX LPWAN SOLUTIONS

LoRaWAN®

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	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, Sensor Head: Parylene coating applied to the surface of the Aluminum 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		

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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, Loriot, 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, TagoIO, 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

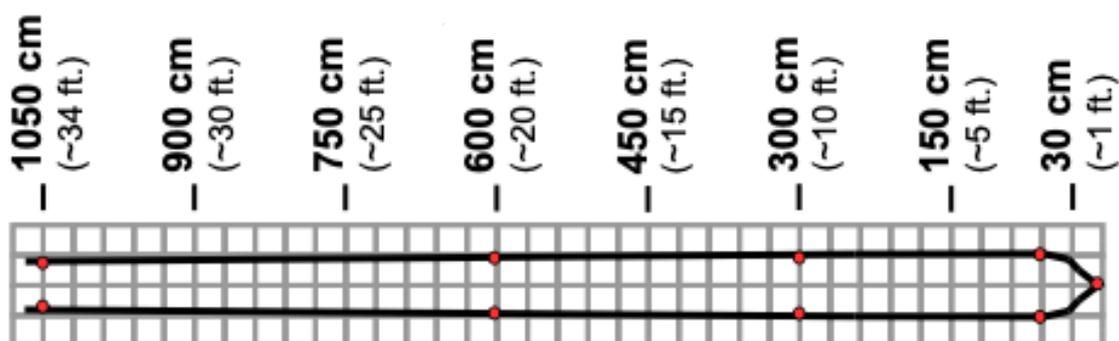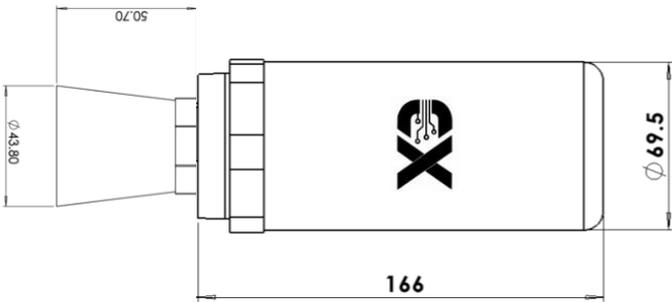|		
Encrypted & ultra-low power	Integratable	Dynamic alerting
Multi-tenant	Scalable	Composable & API first

BEAM PATTERN

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

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MODEL GUIDE

Model	Options:
C Model:	 Cylindrical compact, POM enclosure 50.70 Ø43.80 Ø69.5 166

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

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ORDERING CODE

DUC2-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				
			10 meters				
				Enclosure			
				C5: Cylindrical	**E5:** Rectangular, on request		
					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
DUC2-L	**AS**	**A**	**10m**	**C5**	**X**	**E**	

Sample Product Code:

- **DUC2-L-AS-A-10m-C5-X-E**

    LoRaWAN® corrosion resistant ultrasonic distance sensor, frequency AS923, over the air activation, measurement range of 10m, with C5 housing (compact and IP65 rated), always on and with 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)

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