DUS3-N Spec-sheet

NB-IoT LTE-M

NB IoT – Cat-M1
Low Power Ultrasonic Distance
and Level Sensor

- Compatible with most standard communication Protocols (UDP, LwM2M, MQTT, NIDD, etc.)
- 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 (With UDP protocol/ More than 10 years for most applications)	

Physical Specification

• Materials:	Enclosure: POM	
• Weight:	~500	g
• Protection Rate:	IP68	-

Communication

• SIM Card Type	4FF Nano-SIM, from any Network Provider
• Firmware Update:	Over The Air, Locally via Wireless Connectivity
• Sampling Period:	Configurable via downlink (default 4 hours)
• Power Consumption:	Power Saving: < 5uA, Transmission: < 220mA

Communication Standards	Cat-NB1 (NB-IoT) Cat-M1 (option of back support by GPRS)
Communication Bands	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 and B39
Data Rates:	Cat-M1: 375Kbps (DL)/375Kbps (UL) NB-IoT: 32Kbps (DL)/70Kbps (UL)
TX Power:	23dBm
Min Receiver Sensitivity:	Cat-M1: -107dBm NB-IoT: -113dBm
Antenna:	Internal (Default)/ External (optional) (customised options available)
Optional Features:	• Attach without PDN (Packet Data Network) • Support for IPV6 • SMS communication • Mobility support (Cat-M1 only)

NETWORK CONNECTION AND VISUALISATION

Network Integration

Pre-configured or configurable to all main narrow band networks (3, A1, AT&T, China Mobile, DU, Etisalat, KPN, M1 Singapore, Optus, Orange, Proximus, Spark, Sprint, Swisscom, Telefonica, Telstra, T-Mobile, Verizon, Vodafone, 1NCE, Emnify 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

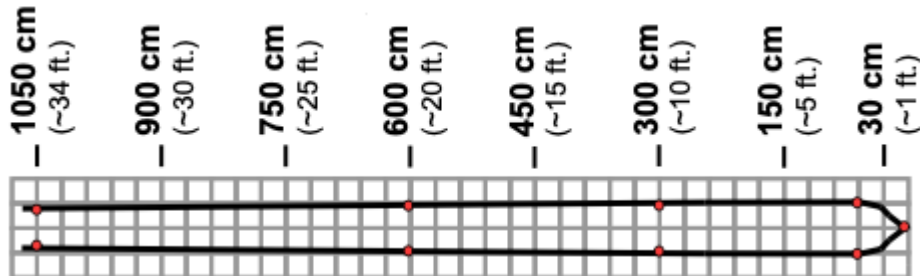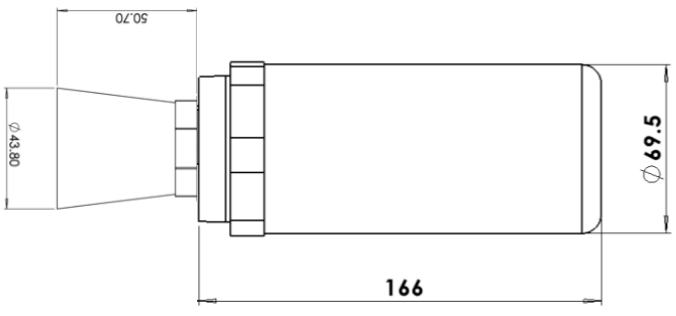|		
Encrypted & ultra-low power	Integratable	Dynamic alerting
Multi-tenant	Scalable	Composable& API first
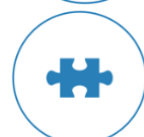
Beam pattern

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

MODEL GUIDE

Model	Options:
C Model:	 Cylindrical compact, POM enclosure

INDUSTRIES

- Water & Environment
- Agriculture & Farming
- Oil & Gas
- Marine& Oceanography
- Mining & Construction
- Smart Building & HVAC

APPLICATIONS

- Under Ground Water Tank Level Monitoring
- Under Ground Diesel Tank Level Monitoring
- Flood Monitoring

- Distance Measurement
- Long Range Object Detection
- Under Ground

ORDERING CODE

DUS3-N						
	Communication Type					
	B: NB-IoT		**C:** Cat-M1			
		Measurement Range				
		5, 10 meters				
			Device Activation			
			X: No switch (always on)	**Others** on request		
				Antenna		
				I: Internal	**E:** on request	
					Options	
					(On request)	
DUS3-N	**B**	**5m**	**X**	**I**		

Sample Product Code:

- **DUS3-N-B-5m-X-I**
  NB-IoT ultrasonic distance sensor, range of 5m, with cylindrical housing (compact and IP68 rated), always on and with internal antenna.

Integrated IoT Solutions

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