PLS3-N Spec-sheet

NB-IoT   **LTE-M**

NB IoT – Cat-M1 Operated IP68
Low Power Level Transmitter
for Liquid Media

- Compatible with most standard communication Protocols (UDP, LwM2M, MQTT, NIDD, etc.)
- Wide range of industrial applications
- High accuracy
- Designed to meet outdoor applications
- Long-term durable performance in harsh environment
- Ultra-low power
- Suitable for liquids compatible with SS and Hastelloy

TECHNICAL SPECIFICATION

Sensor

Range:	1, 2, 5, 10 (or other ranges up to 200)	m H2O
Accuracy: (combined linearity, hysteresis, repeatability)	±0.25 (typ.)	%Span
Resolution:	±0.01	%Span
Pressure reference:	Sealed Gauge (with Built-in Atmospheric Pressure Sensor)	
Temperature Coefficient of Zero:	≤±0.03	%FS/°C
Temperature Coefficient of Span:	≤±0.03	%FS/°C
Long term stability (1 year):	≤ 0.2	%Span
Overload Protection:	150	%FS
Load Cycles (Zero to Full Scale):	10+	Million
Storage / Operation Temperature:	-20 ~ +85	°C
Compensated temperature:	0 ~ 60	°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:	O-ring: Viton, Body: SS304, Diaphragm: SS316, Oil: Silicon, Enclosure: POM	
Process Connection:	No Process Connection (or on request)	
Weight:	~1,300 (for 3m range)	g
Protection Rate:	IP68 and UV protected enclosure and sensor head	

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 (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

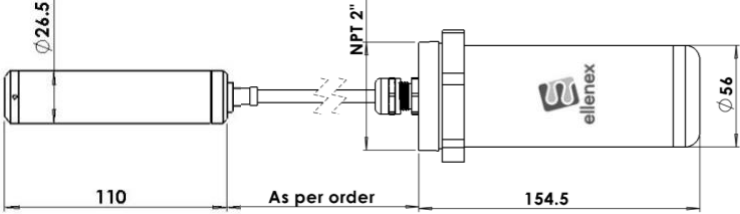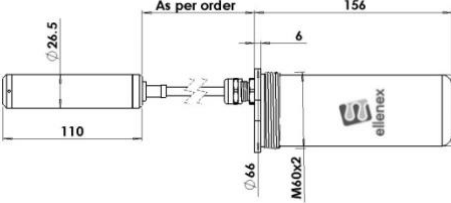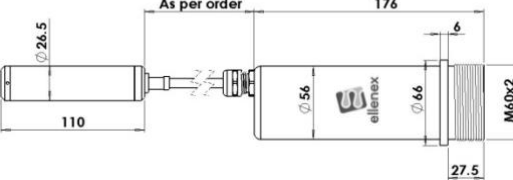|		
Encrypted & ultra-low power	Integratable	Dynamic alerting
Multi-tenant	Scalable	Composable& API first
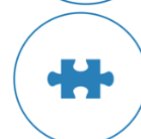
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MODEL GUIDE

Model	Options:
Standard Model:	 IP68 sensor head, connected to IP68 POM enclosure with on/off switch
Customised Models	**PLS3 with bottom mounting screw** **PLS3 with top mounting screw**

INDUSTRIES

- Water & Wastewater
- Agriculture & Farming
- Oil & Gas
- Marine & Oceanography
- Mining & Construction
- Transport & Logistics

APPLICATIONS

- Bore Hole Level
- Liquid Tanks
- Liquid Delivery Systems
- Wastewater Tank
- Flood Monitoring
- Water Resources Level

PLS3-N Spec-sheet

ORDERING CODE

PLS3-N								
	Communication Type							
	B: NB-IoT				**C:** Cat-M1			
		Measurement Range						
		1, 3, 10, 20, 50, 100, 200m H$_2$O (or any other non-standard range)						
			Cable Material					
			U: Polyurethane (suitable for water, oil and Diesel)			**Others**		
				Cable Length				
				S: approximately same as measurement range		**Others**		
					Device Activation			
					X: No switch (always on)		**Others**	
						Antenna		
						I: Internal	**E:** External	
							Options	
							(On request)[1]	
PLS3-N	**B**	**10m**	**U**	**S**	**X**	**I**		

Sample Product Code:

- **PLS3-N-B-10m-U-S-X-I**
  IP68 Level sensor operated on NB-IoT, measurement range of 10m H$_2$O, with stainless steel sensor head and Polyurethane cable, standard cable length, enclosure with bottom mounting thread, activated in the factory and equipped with internal antenna.

Integrated IoT Solutions

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