PLS2-N Spec-sheet

ellenex

NB-IoT

NB IoT – Cat-M1 Operated 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

TECHNICAL SPECIFICATION

Sensor

Range:	2, 5, 10 (or other ranges up to 200)	m H_2O
Accuracy: (combined linearity, hysteresis, repeatability)	±0.25 (typ.)	%Span
Resolution:	±0.01	%Span
Pressure reference:	Vented Gauge	
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 (More than 10 years for most applications)	

Physical Specification

Materials:	O-ring: Viton, Body: SS304, Diaphragm: SS316, Oil: Silicon, Enclosure: ASA/POM
Process Connection:	No Process Connection (or on request)
Weight:	~1,200 (for 5m range) g
Protection Rate:	IP65 and UV protected enclosure and IP68 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	Dual mode (Cat-M1 and Cat-NB1) 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:
E Model:	IP68 sensor head, connected to IP65 ASA enclosure and on/off switch
C Model:	IP68 sensor head, connected to IP65POM enclosure and NFC activation
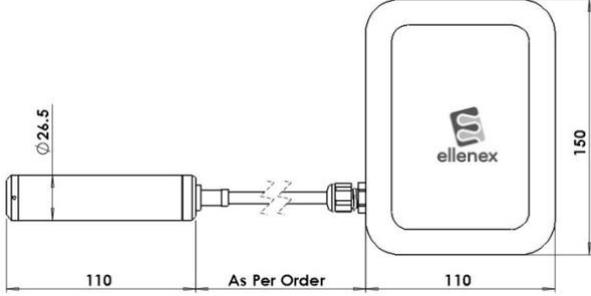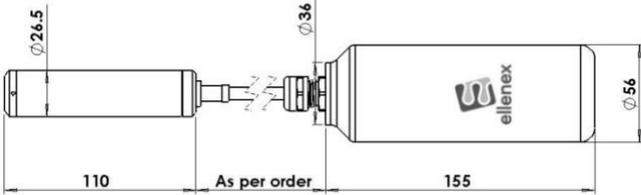
INDUSTRIES

- Water & Wastewater
- Marine & Oceanography
- Transport & Logistics
- Agriculture & Farming
- Mining & Construction
- Food & Beverage
- Oil & Gas
- Smart Building
- Hydraulic Oil Storage

APPLICATIONS

- Water Tank
- Chemical Tanks
- Liquid Delivery Systems
- Water Resources Level
- Flood Monitoring

- Diesel Tank
- Liquid Storage
- Hydraulic Containers
- Wastewater Tank
- Water Trough

PLS2-N Spec-sheet

ORDERING CODE

PLS2-N									
	Communication Type								
	D (Dual mode NB-IoT and Cat-M1)			B (NB-IoT only)	C (Cat-M1 only)				
		Measurement Range							
		1, 2, 5, 10, 20, 50, 100, 200m H_2O (or any other non-standard range)							
			Cable Material						
			U: Polyurethane (suitable for oil and Diesel)	E: Polyethylene (suitable for water)	**Others**				
				Cable Length					
				S: same as measurement range or 1m extra	**Others**				
					Enclosure				
					E: Rectangular Enclosure	C: Cylindrical Enclosure			
						Device Activation			
						S: on/off switch — N: NFC (by mobile phone) — X: No switch (always on) — D: Dual switch (on/off + Trigger)			
							Antenna		
							I: Internal — E: External		
								Options	
								(On request)	
PLS2-N	D	2m	U	S	E	S	I		

Sample Product Code:

- **PLS2-N-D-2m-U-S-E-S-I**
  Level sensor operated on dual mode of NB-IoT and LTE Cat-M1, measurement range of 2m H_2O, with Polyurethane cable and rectangular enclosure, activated by on-off switch and internal antenna.

Integrated IoT Solutions

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