



NB IoT – Cat-M1 Operated IP68 Corrosive Resistant 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 Corrosive Media



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:	Typ. 40,000+ readings / 10,000+ transmission (connected to ellenex platform and standard network quality)

Physical Specification

• Materials:	Body: Hastelloy or PVDF, Diaphragm: Hastelloy or Ceramic (Al2O3), Enclosure: POM, O-ring: FKM/ FFKM
• 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

PLC3-N Spec-sheet



• 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)

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

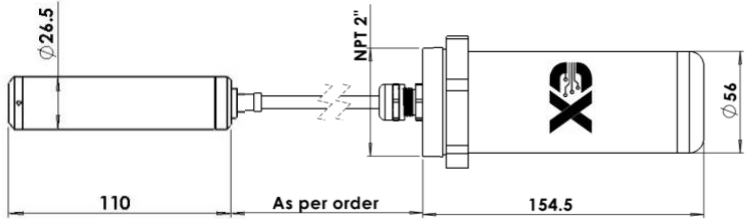


Composable &
API first

PLC3-N Spec-sheet



MODEL GUIDE

Model	Options:
Standard Model: 	 IP68 sensor head, connected to IP68 POM enclosure with on/off switch

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

PLC3-N Spec-sheet



ORDERING CODE

PLC3-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)									
Sensor Head Material									
H: Hastelloy diaphragm and process connection				C: ceramic diaphragm with PVDF process connection			Others		
Cable Material									
U: Polyurethane			T: Teflon coated			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									
PLC3-N	B	3m	S	T	S	X	I		

Sample Product Code:

- **PLC3-N-B-3m-S-T-S-X-I**

NB IoT corrosive resistance IP68 level sensor, measurement range of 3m H₂O, with Hastelloy sensor head and Teflon coated cable and rectangular enclosure, activated by on-off switch and internal antenna.

