



NB IoT – Cat-M1 Operated Low Power Pressure Transmitter for Corrosive Liquid and Gas 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 liquids and gases



TECHNICAL SPECIFICATION

Sensor

• Range:	Selectable between 0~0.5 to 0~200	bar
• Accuracy: (combined linearity, hysteresis, repeatability)	±0.5 (typ.)	%Span
• Resolution:	±0.01	%Span
• Pressure Reference:	Vented Gauge, Sealed Gauge, Absolute	
• Temperature Coefficient of Zero:	≤±0.02	%FS/°C
• Temperature Coefficient of Span:	≤±0.02	%FS/°C
• Long Term Stability (1 year):	≤ 0.2	%Span
• Pressure Overload:	300 (range <1bar); 150 (higher range)	%FS
• Pressure Cycles (Zero to Full Scale):	10+	Million
• Compensated Temperature:	-10 ~ +70	°C

Power

• Power Supply:	Built-in Replaceable Lithium Battery, External Power (option)	
• Rated Voltage	3.6	V
• Battery Lifetime:	Typ. 50,000+ readings / 10,000+ transmission (connected to ellenex platform and standard network quality)	

Physical Specification

• Materials:	Body: Hastelloy or PVDF, Diaphragm: Hastelloy or Ceramic (Al ₂ O ₃), Enclosure: PVDF/POM, O-ring: FKM/ FFKM	
• Process Connection:	G1/2 Male (or others on request)	
• Weight:	550	g
• Protection Rate:	IP66 /IP68, UV Protected	-

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	

PTC2-N Spec-sheet

• 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:	<ul style="list-style-type: none"> • 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, TagIO, 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



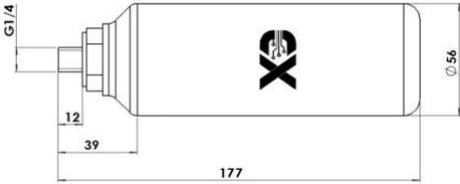
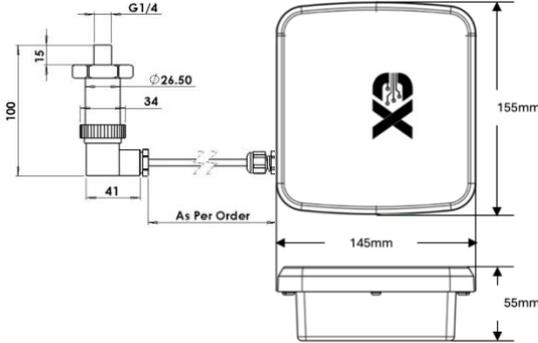
Scalable



Composable & API first

PTC2-N Spec-sheet

MODEL GUID

Model	Options:
<p>C Model:</p> 	 <p>C5: IP65 vented gauge sensor, compact, POM enclosure with on/off switch</p>
<p>E Model:</p> 	 <p>E5: IP65 sensor (vented gauge), wired, IP66 ASA enclosure and on/off switch</p>

Note: Ceramic sensor head is similar to the Hastelloy or will be confirmed by the order.

INDUSTRIES



Water & Environment



Agriculture & Farming



Oil & Gas



Marine & Oceanography



Mining & Construction



Smart Building & HVAC



Transport & Logistics



Food & Beverage



Hydraulics and Compressed Air Systems

APPLICATIONS

- Wastewater Pump Performance Monitoring
- Corrosive Liquid Pipeline Pressure Monitoring
- Pressurised System Monitoring
- Corrosive Liquid Storage Level Monitoring
- Spraying System Monitoring
- Compressed Corrosive Gas Monitoring

PTC2-N Spec-sheet



ORDERING CODE

PTC2-N									
Communication Type									
B: NB-IoT					C: Cat-M1				
Pressure Range									
0.5, 1, 2, 5, 10, 20, 50, 100, 200bar (or any other positive or negative ranges)									
Pressure Reference									
V (vented gauge)			S (sealed gauge)			A (absolute)			
Process Port									
G1/4 (1/4" BSPP male)					Others as specified				
Sensor Head Material									
H: Hastelloy diaphragm and process connection									
C: ceramic diaphragm with PVDF process connection									
Enclosure									
C5					E5				
Compact					With extended cable. Standard cable length: 3m (or other options on request)				
Device Activation									
S: on/off switch					X: No switch (always on)				
Antenna									
I: Internal					E: External				
Options									
(On request) ¹									
PTC2-N	B	0.5bar	V	G1/2	H	C5	S	I	

Sample Product Code:

- PTC2-N-B-0.5bar-V-G1/2-H-C5-S-I

NB IoT corrosion resistant pressure sensor, range of 0.5bar vented, wetted material of Hastelloy, process connection of G1/2, with C5 housing (compact and IP65 rated), activated by on-off switch and internal 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)

