



## 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:	50,000+ readings and 10,000+ transmission (With UDP protocol/ More than 10 years for most applications)	

### Physical Specification

• Materials:	Body: Hastelloy or PVDF, Diaphragm: Hastelloy or Ceramic (Al2O3), 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	
• 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"><li>• Attach without PDN (Packet Data Network)</li><li>• Support for IPV6</li><li>• SMS communication</li><li>• Mobility support (Cat-M1 only)</li></ul>

## 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


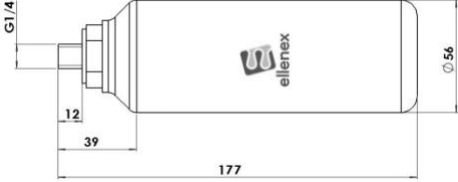

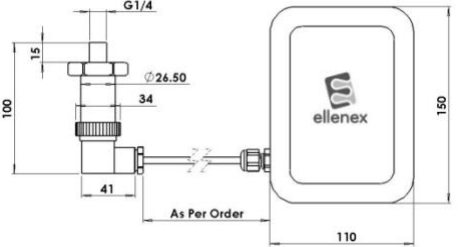


Scalable



Composable & API first

## MODEL GUIDE

Model	Options:
<p>C Model:</p> 	 <p><b>C5:</b> IP65 vented gauge sensor, compact, POM enclosure with on/off switch</p>
<p>E Model:</p> 	 <p><b>E5:</b> 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

## ORDERING CODE

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

- **EP**: sensor with external power supply connector for 12V supply (only for E type enclosure, adaptor is not included)
- **EPB**: connector for 12V supply with internal battery backup (only for E type enclosure)
- **HG**: high-gain external antenna
- **WF**: Active WiFi module on device for communication/ firmware update through Mobile phone NFC module (only for E type enclosure)
- **HCB**: high-capacity battery (only for E type enclosure)