



NB IoT – Cat-M1 Operated Low Power Pressure Transmitter for Liquid and Gas Media with Built-in GPS Tracker

- 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
- Suitable for liquids and gases compatible with SS316



TECHNICAL SPECIFICATION

Sensor

• Pressure Range:	Selectable between 0~0.5 to 0~1000	bar
• Accuracy: (combined linearity, hysteresis, repeatability)	±0.25 (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. 20,000+ readings / 5,000+ transmission (connected to ellenex platform and standard network quality)	

Physical Specification

• Materials:	O-ring: Viton, Body: SS304, Diaphragm: SS316, Oil: Silicon / Olive, Enclosure: ASA/POM	
• Process Connection:	G1/4 Male (or others on request)	
• Weight:	550	g
• Protection Rate:	IP66 /IP68, UV Protected	-

Geo-location/ GNSS Performance (autonomous at open sky)

• Features	GPS, GLONASS, BeiDou/ Compass, Galileo, QZSS	
• Sensitivity:	<ul style="list-style-type: none"> • Cold start: -146 • Reacquisition: -157 • Tracking: -157 	dBm
• Time to First Fix (TTFF):	<ul style="list-style-type: none"> • Cold start at open sky: 31 • Warm start: 21 • Hot start: 2.7 	s
• GNSS Accuracy:	< 5 (typ.)	m

PTG2-N Spec-sheet

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"> • 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



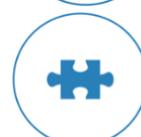
Dynamic alerting



Multi-tenant



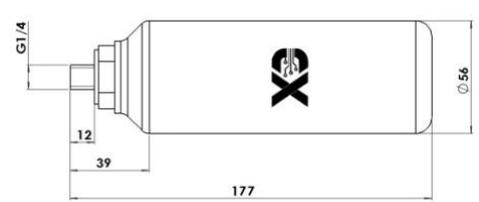
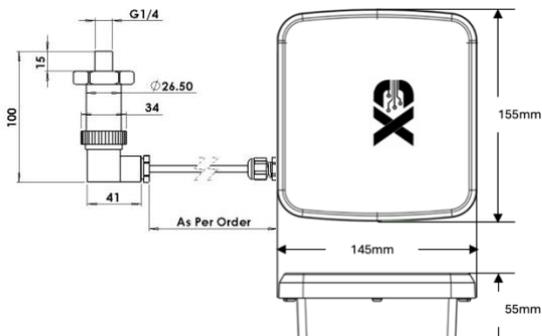
Scalable



Composable & API first

MODEL GUIDE

PTG2-N Spec-sheet

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>

INDUSTRIES



Transport & Logistics



Mining & Construction



Agriculture & Farming



Water & Environment



Marine & Oceanography



Oil & Gas



Hydraulics and Compressed Air Systems



Food & Beverage



Smart Building & HVAC

APPLICATIONS

- High Value Remote Pressurised Asset
- Mobile Hydraulic Systems
- Truck Overload Monitoring
- Chiller and Cooling System Monitoring

- Water Delivery Systems
- Diesel Delivery Systems
- Gas and Liquid Delivery Systems
- Mobile Air Compressor Monitoring

PTG2-N Spec-sheet



ORDERING CODE

PTG2-N									
Communication Type									
C: Cat-M1									
Pressure Range									
0.5, 1, 2, 5, 10, 20, 50, 100, 200, 400, 700, 1000bar (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)					G1/2 (1/2" BSPP male)				
NPT1/4 (1/4" NPT male)					Others as specified				
Enclosure									
C5					E5				
Cylindrical					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									
PTG2-N	C	0.5bar	V	G1/4	C5	S	I		

Sample Product Code:

- **PTG2-N-C-0.5bar-V-G1/4-C5-S-I**

Cat M1 pressure sensor with built-in GPS, range of 0.5bar vented, process connection of G1/4, 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)

