



Industrial NB IoT – Cat-M1 Operated Low Power Earth and Sludge Pressure Transmitter

- Compatible with most standard communication Protocols (UDP, LwM2M, MQTT, NIDD, etc.)
- Wide range of industrial applications
- High accuracy
- Long-term durable performance in harsh environment
- Ultra-low power



TECHNICAL SPECIFICATION

Sensor

• Range:	Selectable between 0~0.5 to 0~20	Kg/cm ²
• Accuracy:	±0.5 (typ.)	%Span
• Non-linearity:	±1	%Span
• Long term stability (1 year):	≤ 0.2	%Span
• Pressure overload:	120	%FS
• 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:	Special Stainless-Steel, high-grade epoxy potting Enclosure: ASA/ POM	
• Weight:	2 ~4.5 (depends on the range)	kg
• Protection rate:	Sensor head: waterproof for 300m H2O Enclosure: IP66/ IP68 and UV protected	-
• Size:	Φ230mm (OD), Thickness: 10.5mm (for the range of 2kg/cm ²)	
• Cable:	Φ10 mm, 0.5mm ² × 5C shielded PVC sheath cable	

Communication

• 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

PTE2-N Spec-sheet

• 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

APPLICATIONS

- | | |
|---|--|
| <ul style="list-style-type: none"> • Land movement monitoring • Road overload monitoring • Pavement foundation movement • Soil level monitoring | <ul style="list-style-type: none"> • Sludge level monitoring in water channels • Rail foundation movement monitoring • Under-ground water in soil level monitoring • Overload monitoring |
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PTE2-N Spec-sheet

INDUSTRIES



Land Movement Monitoring



Agriculture & Farming



City & Councils



Marine & Oceanography



Mining



Rail Industry



Environmental Monitoring



Construction



Road

MODEL GUIDE

Housing			
C Model:		E Model:	
	<p>C model comes with cylindrical shape housing suitable for battery operated applications with IP65 or IP68 rate and clamp mounting.</p>		<p>E model comes with rectangular shape housing suitable for battery or external power operated applications with IP66 rate, and wall mounting.</p>

PTE2-N Spec-sheet

ORDERING CODE

PTE2-N							
Communication Type							
B: NB-IoT				C: Cat-M1			
Measurement range							
0.5, 1, 2, 5, 10, 20 kg/cm ² (or any other positive or negative ranges)							
Enclosure							
C: Cylindrical				E: Rectangular			
Cable Length							
S: 3m				Others			
Device Activation							
S: On/Off switch				X: No switch (Always on)			
Antenna							
I: Internal				E: External			
Options							
(on request) ¹							
PTE2-N	B	0.5	C	S	S	I	

Sample Product Code:

- **PTE2-N-B-0.5-C-S-S-I**

NB IoT Earth pressure sensor with range of 0.5kg/cm², with cylindrical housing, 3m cable, and activated by on-off switch comes with 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)