



## NB IoT – Cat-M1 Operated IP68 Rated Low Power Pressure Transmitter for 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 liquids and gases compatible with SS



## TECHNICAL SPECIFICATION

### Sensor

|  |                                       |         |
|--|---------------------------------------|---------|
| • Range:   | Selectable between 0~0.5 to 0~1000    | bar     |
| • Accuracy:<br>(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. 50,000+ readings / 10,000+ transmission<br>(connected to ellenex platform and standard network quality) |   |

### Physical Specification

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

### Communication

|                      |   |
|----------------------|---|
| • SIM Card Type      | 4FF Nano-SIM, from any Network Provider     |
| • Firmware Update:   | Over The Air, Locally via Serial Port       |
| • Sampling Period:   | Configurable via downlink (default 4 hours) |
| • Power Consumption: | Power Saving: < 5uA, Transmission: < 220mA  |

# PTS3-N Spec-sheet

|                             |   |
|-----------------------------|---|
| • Communication Standards   | Cat-NB1 (NB-IoT)<br>Cat-M1<br>(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)<br>NB-IoT: 32Kbps (DL)/70Kbps (UL)  |
| • TX Power:                 | 23dBm   |
| • Min Receiver Sensitivity: | Cat-M1: -107dBm<br>NB-IoT: -113dBm  |
| • Antenna:                  | Internal (Default)/ External<br>(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)

### 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




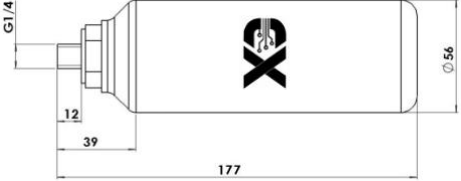

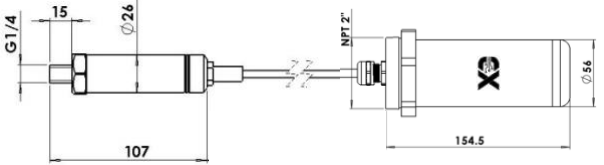
Scalable



Composable & API first

# PTS3-N Spec-sheet

## MODEL GUIDE

| Model   | Options:  |
|---|---|
| <p>Compact Model:</p>          |  <p><b>C8:</b> IP68 sealed gauge sensor, compact, POM enclosure<br/>(available for the range of more than 20bar with Sealed gauge sensor head)</p>  |
| <p>Extended cable Model:</p>  |  <ul style="list-style-type: none"> <li><b>C83:</b> IP68 sensor head, wired with IP68 POM enclosure without on/off switch<br/>(Available for the range of more than 20bar with Sealed gauge sensor head)</li> <li><b>C63:</b> IP68 sensor head, wired with IP66 POM enclosure with on/off switch<br/>(Available for all ranges of pressure)</li> </ul> |

## INDUSTRIES



Water & Environment



Agriculture & Farming



Oil & Gas



Marine & Oceanography



Mining & Construction



Smart Building & HVAC



Transport & Logistics



Food & Beverage



Hydraulics and Compressed Air Systems

# PTS3-N Spec-sheet

## APPLICATIONS

- Pump Performance Monitoring
- Water Pipeline Pressure Monitoring
- Pressurized System Monitoring
- Chiller and Cooling System Monitoring
- Hydraulic and Pneumatic Systems Monitoring
- Liquid Storage Level Monitoring
- Spraying System Monitoring
- Air Compressor Monitoring

## ORDERING CODE

|  |   |        |  |      |   |              |   |  |  |
|--|---|--------|--|------|---|--------------|---|--|--|
| PTS3-N   |   |        |  |      |   |              |   |  |  |
| Communication Type   |   |        |  |      |   |              |   |  |  |
| B: NB-IoT  |   |        |  |      | 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)<br><small>(standard option for the ranges less than 200bar)</small>        |   |        |  |      | G1/2 (1/2" BSPP male)<br><small>(standard option for the ranges more than 200bar)</small> |              |   |  |  |
| NPT1/4 (1/4" NPT male)   |   |        |  |      | Others as specified   |              |   |  |  |
| Enclosure  |   |        |  |      |   |              |   |  |  |
| C8   |   |        | C83  |      |   | C63          |   |  |  |
| Compact  |   |        | With extended cable. Standard cable length: 3m (or other options on request) |      |   |              |   |  |  |
| Device Activation  |   |        |  |      |   |              |   |  |  |
| X: No switch<br><small>(always on)</small>   |   |        |  |      | Others on request   |              |   |  |  |
| Antenna  |   |        |  |      |   |              |   |  |  |
| I: Internal  |   |        |  |      | E: External<br><small>(on request)</small>  |              |   |  |  |
| Options  |   |        |  |      |   |              |   |  |  |
| (On request)   |   |        |  |      |   |              |   |  |  |
| PTS3-N   | B | 400bar | S  | G1/2 | C8  | X            | I |  |  |

### Sample Product Code:

- **PTS3-N-B-400bar-S-G1/2-C8-S-I**

NB IoT pressure sensor, range of 400bar, sealed, process connection of G1/2, with C8 housing (compact and IP68 rated), without on-off switch and internal antenna.