PTC2-N

NB-IoT **LTE-M**

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

Power

• Power Supply:	Built-in Replaceable Lithium Battery, External Power (option)
• Rated Voltage (V)	3.6
• 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: (g)	550
• Protection Rate: (-)	IP66 /IP68, UV Protected

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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 (option of back support by GPRS)	Cat-NB1 (NB-IoT) Cat-M1
•	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 vailable)
•	Optional Features:	• Attach without PDN (Packet Data Network) • Support for IPV6 • SMS communication • Mobility support (Cat-M1 only)

NETWORK CONNECTION AND VISUALIZATION

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

10Sorex 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).

10Sorex Platform Main Features

- Encrypted ultra-low power communication protocol
- Integration APIs for enterprise systems
- Data export and import
- Multi-channel, rule-based alerting
- Transmission condition configuration
- Advanced device inventory
- Multi-tenant role-based access control
- White-label platform for enterprises on private account
- Sampling and transmission interval configuration
- Other configurations and customization available on request

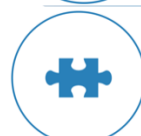Encrypted & ultra-low power

Integratable

Dynamic alerting

Multi-tenant

Scalable

Composable& API first
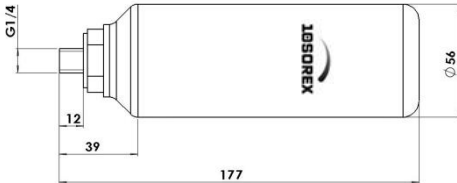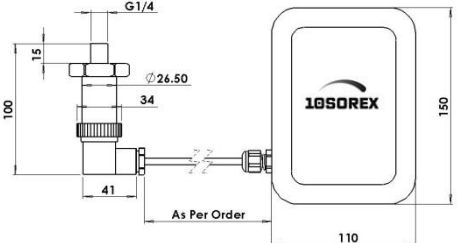
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MODEL GUIDE

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

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
- Pressurized System Monitoring
- Corrosive Liquid Storage Level Monitoring
- Spraying System Monitoring
- Compressed Corrosive Gas Monitoring

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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:

- **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)

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