

# PDT2-N Spec-sheet



## NB IoT – Cat-M1 Operated Low Power Differential Pressure Transmitter With Built-in Temperature Sensor for Pressure and Flow Measurement of Gas Media

- Compatible with most standard communication Protocols (UDP, LwM2M, MQTT, NIDD, etc.)
- Pressure range of 500Pa (or others)
- Wide range of industrial applications
- High accuracy and Ultra-low power
- Designed to meet outdoor applications
- Compatible with air and other non-conductive and non-corrosive Media



## TECHNICAL SPECIFICATION

### Sensor

• Range:	Standard Range: $\pm 500$ (or other ranges on request)	Pa
• Accuracy: (combined linearity, hysteresis, repeatability)	$\pm 2$ (typ.)	%Span
• Resolution:	$\pm 0.02$	%Span
• Pressure Reference:	Bi-directional Differential	
• Temperature Accuracy:	$\leq \pm 2$	°C
• Temperature Coefficient of Zero:	$\leq \pm 0.05$	%FS/°C
• Temperature Coefficient of Span:	$\leq \pm 0.05$	%FS/°C
• Long Term Stability (1 year):	$\leq \pm 0.05$	Pa
• Response time:	$\leq 1$	ms
• Pressure Overload:	100	kPa
• Pressure Cycles (Zero to Full Scale):	10+	Million
• Compensated Temperature:	-20 ~ +85	°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

• Media Compatibility:	Air, Inert Gas	
• Process connection:	NPT1/8" Female (or others on request)	
• Weight:	$\sim 450$	g
• Protection Rate:	IP66, 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	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 to ellenex SIM 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, 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, Tagolo, AllThingsTalk Maker, HPE IoT and any other major IoT platform).

### Ellenex Platform Main Features

- Encrypted ultra-low power communication protocol with Advanced device inventory
- Integration APIs for enterprise systems
- White-label platform for enterprise runs on private account
- Multi-tenant role-based access control
- 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



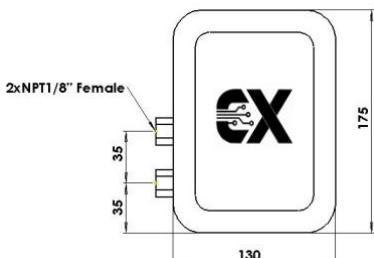
Scalable



Composable&  
API first

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## MODEL GUIDE

Standard Model	Drawing
	
<b>Installation kit (optional)</b> For differential pressure monitoring (Static pressure tip, connector, valve)	
<b>Installation kit (optional)</b> For airflow monitoring (Pitot tube with static and dynamic pressure tip, assembly plate)	

## INDUSTRIES



Smart Building & HVAC



Food & Beverage



Oil & Gas



Transport & Logistics



Mining & Construction



Hydraulics and Compressed Air Systems

## APPLICATIONS

- HVAC and Air Conditioning Systems
- Air Filter Performance Monitoring
- Fan and Ventilation System Performance Monitoring
- Pressurised Chambers Monitoring
- Clean Rooms positive pressure indication
- Burner and Boiler Monitoring Systems

- Leakage Monitoring Systems
- Heat Recovery Systems
- Air velocity monitoring
- Blower vacuum monitoring
- Fan pressure indication

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## ORDERING CODE

PDT2-N										
Communication Type										
	B: NB-IoT		C: Cat-M1							
		Pressure Range								
±500Pa (standard), ±125Pa (or any other positive or negative ranges)										
Process Port								Device Activation		
NPT1/8(1/8" NPT female)								Others as specified		
S: on/off switch								X: No switch (always on)		
Antenna								I: Internal	E: External	
Options (On request) <sup>1</sup>										
PDT2-N	B	500Pa	NPT1/8	S	I					

### Sample Product Code:

- PDT2-N-B-500Pa-NPT1/8-S-I

NB-IoT differential pressure sensor operated, range of 500Pa, process connection of NPT1/8 female, activated by on-off switch and internal antenna.

### <sup>1</sup>) 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)