PDS2-N Spec-sheet

NB-IoT

NB IoT – Cat-M1 Operated Low Power Differential 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 0~0.1 to 25	bar
Accuracy: (combined linearity, hysteresis, repeatability)	±0.25 (typ.)	%Span
Resolution:	±0.01	%Span
Pressure Reference:	Differential	
Temperature Coefficient of Zero:	≤±0.02(range > 1bar), ≤±0.04 (range < 1bar)	%FS/°C
Temperature Coefficient of Span:	≤±0.02(range > 1bar), ≤±0.04 (range < 1bar)	%FS/°C
Long Term Stability (1 year):	≤ 0.3	%Span
Pressure Overload:	200 (positive side); 100(negative side, max 10bar)	%FS
Pressure Cycles (Zero to Full Scale):	10+	Million
Compensated Temperature:	0 ~ +60	°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 (More than 10 years for most applications)	

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:	IP65 /IP67, UV Protected	-

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	Dual mode (Cat-M1 and Cat-NB1) 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:	• Attach without PDN (Packet Data Network) • Support for IPV6 • SMS communication • Mobility support (Cat-M1 only)

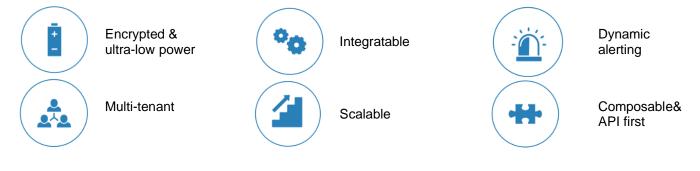## NETWORK CONNECTION AND VISUALISATION

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)

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, TagoIO, AllThingsTalk Maker, HPE IoT and any other major IoT platform).
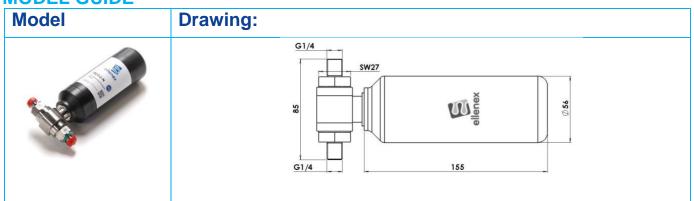
Ellenex Platform Main Features

- 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 thresholdsand 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

PDS2-N Spec-sheet

MODEL GUIDE

Model	Drawing:

INDUSTRIES

- Water & Environment
- Agriculture & Farming
- Oil & Gas
- Marine& Oceanography
- Mining & Construction
- Smart Building & HVAC
- Transport & Logistics
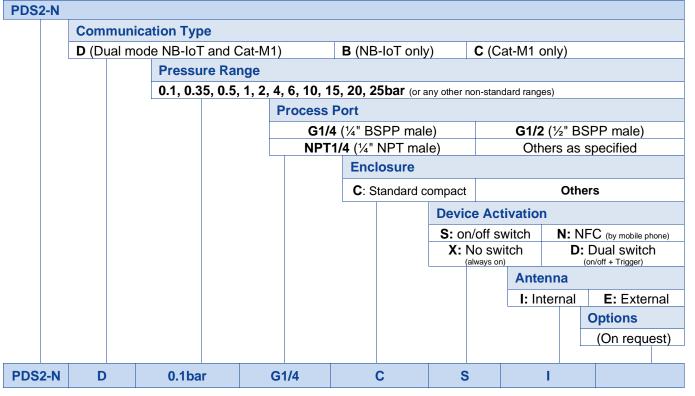- Food & Beverage
- Hydraulics and Compressed Air Systems

APPLICATIONS

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

ORDERING CODE

PDS2-N							
Communication Type							
D (Dual mode NB-IoT and Cat-M1)		**B** (NB-IoT only)	**C** (Cat-M1 only)				
Pressure Range							
0.1, 0.35, 0.5, 1, 2, 4, 6, 10, 15, 20, 25bar (or any other non-standard ranges)							
Process Port							
G1/4 (¼" BSPP male)		**G1/2** (½" BSPP male)					
NPT1/4 (¼" NPT male)		Others as specified					
Enclosure							
C: Standard compact		**Others**					
Device Activation							
S: on/off switch		**N:** NFC (by mobile phone)					
X: No switch (always on)		**D:** Dual switch (on/off + Trigger)					
Antenna							
I: Internal		**E:** External					
Options							
(On request)							

PDS2-N	D	0.1bar	G1/4	C	S	I	

Sample Product Code:

- **PDS2-N-D-0.1bar-G1/4-C-S-I**
  Differential Pressure sensor operated on dual mode of NB-IoT and LTE Cat M1, range of 0.1bar, process connection of G1/4, activated by on-off switch and internal antenna.

Integrated IoT Solutions

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