

PDG2-N Spec-sheet



NB IoT – Cat-M1 Operated Low Power Differential Pressure Transmitter for Liquid and Gas Media with built-in GPS Tracker

- 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

• Pressure 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:	Typ. 50,000+ readings / 10,000+ transmission (connected to ellenex platform and standard network quality)	

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:	IP66 /IP68, UV Protected	-

Geo-location/ GNSS Performance (autonomous at open sky)

• Features	GPS, GLONASS, BeiDou/ Compass, Galileo, QZSS	
• Sensitivity:	• Cold start: -146, Reacquisition: -157, Tracking: -157	dBm
• Time to First Fix (TTFF):	• Cold start at open sky: 31, Warm start: 21, Hot start: 2.7	s
• GNSS Accuracy:	< 5 (typ.)	m

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">• 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 with Advanced device inventory
- Integration APIs for enterprise systems and 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 and Transmission condition configuration
- Other configurations and customization available on request

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Encrypted & ultra-low power



Integratable



Dynamic alerting



Multi-tenant

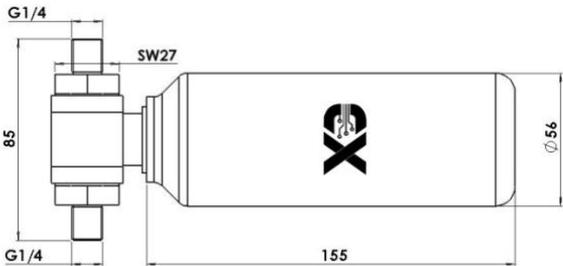


Scalable



Composable & API first

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

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ORDERING CODE

PDG2-N							
Communication Type							
C: Cat-M1							
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 (1/4" BSPP male)				G1/2 (1/2" BSPP male)			
NPT1/4 (1/4" NPT male)				Others as specified			
Enclosure							
C: Standard compact				Others			
Device Activation							
S: on/off switch				X: No switch (always on)			
Antenna							
I: Internal				E: External			
Options							
(On request)							
PDG2-N	C	0.1bar	G1/4	C	S	I	

Sample Product Code:

- **PDG2-N-C-0.1bar-G1/4-C-S-I**

Cat M1 differential Pressure sensor operated, with built-in GPS, range of 0.1bar, process connection of G1/4, activated by on-off switch and internal antenna.

