PDG2-N Spec-sheet

NB-IoT **LTE-M**

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:	50,000+ readings and 10,000+ transmission (With UDP protocol/ 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:	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:	• 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 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 thresholdsand multi-channel alerting
- Sampling and transmission interval configuration and Transmission condition configuration
- Other configurations and customisation available on request

Encrypted & ultra-low power	Integratable	Dynamic alerting
Multi-tenant	Scalable	Composable& API first

PDG2-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

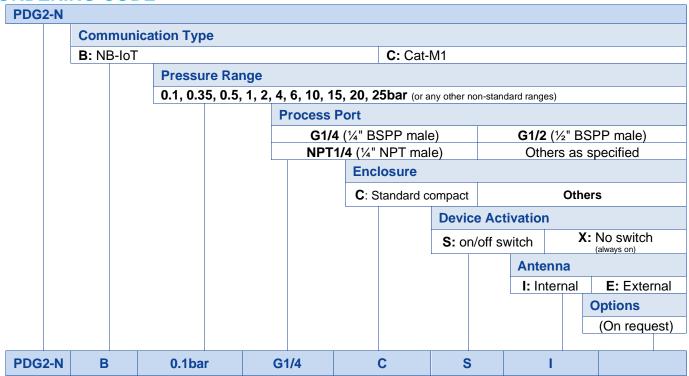 Hydraulics and Compressed Air Systems

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

PDG2-N								
	Communication Type							
	B: NB-IoT		**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 (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	**X:** No switch (always on)		
						Antenna		
						I: Internal	**E:** External	
							Options	
							(On request)	
PDG2-N	B	0.1bar	G1/4	C	S	I		

Sample Product Code:

- **PDG2-N-B-0.1bar-G1/4-C-S-I**
  NB-IoT 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.