

PTD2-L Spec-sheet



LoRaWAN® Operated Low Power Pressure Transmitter for Liquid and Gas Media with Built-in Temperature Sensor

- Compatible with all LoRaWAN® frequencies
- 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 0~0.5 to 0~1000	bar
• Accuracy	±0.25 (typ.) <i>(combined linearity, hysteresis, repeatability)</i>	%Span
• Temperature Accuracy	±0.2 (typ.) <i>(temperature sensor is mounted on the back of pressure sensor and doesn't reflect the media temperature)</i>	°C
• Resolution	±0.01	%Span
• Pressure Reference	Vented Gauge, Sealed Gauge, Absolute	
• Temperature Coefficient of Zero	≤±0.02	%FS/°C
• Temperature Coefficient of Span	≤±0.02	%FS/°C
• Long Term Stability (1 year)	≤ 0.2	%Span
• Pressure Overload	300 (range <1bar); 150 (higher range)	%FS
• Pressure Cycles (Zero to Full Scale)	10+	Million
• Compensated Temperature	-10 ~ +70	°C

Power

• Power Supply	Built-in Replaceable Lithium Battery, External Power (option)	
• Rated Voltage	3.6	V
• Battery Lifetime	Typ. 50,000+ readings / 20,000+ transmission <i>(connected to ellenex platform and standard network quality)</i>	

Physical

• 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

physical

• Protection Rate	IP66, UV Protected	
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Communication

• LoRaWAN® Version, Class	1.0.2revB, Class A (Class C on request)	
• LoRaWAN® Frequency Zone	AS923, EU868, US902-928, AU915-928 <i>(other zones available on request)</i>	

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• LoRaWAN® Activation Type	OTA (default), ABP
• Sampling Type	Periodic (default), Event triggered
• Sampling Period	Configurable via downlink (default 4 hours)
• Transmission Type	Per sample (default), Event triggered, Conditional
• Parameter Configuration	Over-the-air via LoRaWAN® downlinks Locally via wireless connectivity
• Firmware Update	Locally via Wireless Connectivity, Over The Air

NETWORK CONNECTION AND VISUALISATION

Network Integration

- Pre-configured to ellenex LNS or configurable to all main network servers (AWS, Netmore, ChirpStack, Helium, Kerlink, Kona Tektelic, Lorient, machine-Q, Orange, Orbiwise, Proximus, Swisscom, TATA, The Things Network (TTN), TTI 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
- 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 thresholds and multi-channel alerting
- Sampling and transmission interval configuration
- Transmission condition configuration
- Other configurations and customization available on request



Encrypted & ultra-low power



Integratable



Dynamic alerting



Multi-tenant



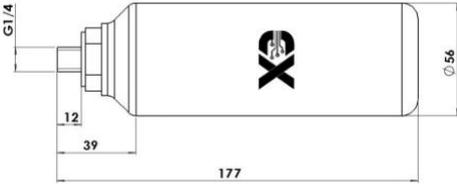
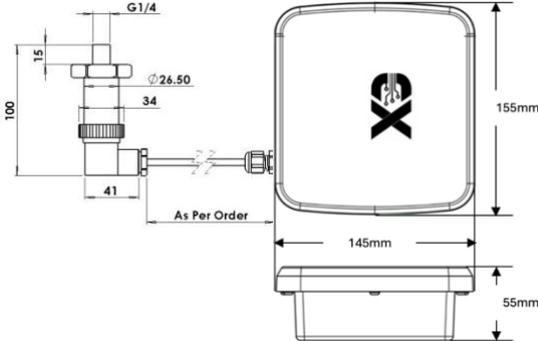
Scalable



Composable & API first

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MODEL GUIDE

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

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
- Pressurized 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

PTD2-L										
LoRaWAN Frequency Zone										
AS (AS923)		AUx (AU915-928) (Sub Band x)			EU (EU868)		USx (US902-928) (Sub Band x)			
LoRaWAN Activation										
A (Over the air activation - OTAA)					P (Activation By Personalization - ABP)					
Pressure Range										
0.5, 1, 2, 5, 10, 20, 50, 100, 200, 400, 700, 1000bar (or any other positive or negative values)										
Pressure Reference										
V (Vented Gauge)			S (Sealed Gauge)				A (Absolute)			
Process Port										
G1/4 (1/4" BSPP Male) <small>(Standard Option for the ranges less than 200bar)</small>			G1/2 (1/2" BSPP Male) <small>(Standard Option for the ranges more than 200bar)</small>				NPT1/4 (1/4" NPT Male)			
Other options available on request										
Enclosure										
C5: Cylindrical					E5: Sensor head connected to housing with 3m cable					
Device Activation										
S: With On/Off Switch						X: No Switch <small>(Always On)</small>				
Antenna Option										
E: External					I: Internal					
Options <small>(On request)¹</small>										
PTD2-L	AS	A	1bar	V	G1/4	C5	S	E		

Sample Product Code:

- **PTD2-L-AS-A-1bar-V-G1/4-C5-S-E**

LoRaWAN® pressure-temperature sensor, frequency of AS923, Over The Air Activated, pressure range of 1bar vented, process connection of G1/4, with C5 housing (compact and IP65 rated), activated by on-off switch and equipped with external antenna.

¹⁾ Product Options:

- **EPB:** sensor with external power supply connector for 12V supply with internal battery backup (only for E type enclosure, adaptor is not included)
- **HG:** high-gain external antenna
- **HCB:** high-capacity battery (only for E type enclosure)

