

PDT2-L Spec-sheet



LoRaWAN Operated Low Power Differential Pressure Transmitter with Built-in Temperature Sensor for Pressure and Flow Measurement of Gas Media

- Compatible with all LoRaWAN frequencies
- 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: ±500 (or other ranges on request)	Pa
• Accuracy (combined linearity, hysteresis, repeatability)	±0.2 (typ.)	%Span
• Resolution	±0.02	%Span
• Pressure Reference	Bi-directional Differential	
• Temperature Accuracy	≤±2	°C
• Temperature Coefficient of Zero	≤±0.05	%FS/°C
• Temperature Coefficient of Span	≤±0.05	%FS/°C
• Long Term Stability (1 year)	≤±0.05	Pa
• Response Time	≤1	mS
• Pressure Overload	100	%FS
• 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	100,000+ readings and 20,000+ transmission (More than 10 years for most applications)	

Physical

• Media Compatibility	Air, Inert Gas	
• Process Connection	NPT1/8 Female (or others on request)	
• Weight	450	g
• Protection Rate	IP66, UV Protected	

PDT2-L Spec-sheet



Communication

• LoRaWAN® Version, Class	1.0.2revB, Class A (Class C on request)
• LoRaWAN® Frequency Zone	AS923, EU868, US902-928, AU915-928 (other zones available on request)
• 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, Loriot, 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, ALSO AllThingsTalk, 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 customisation available on request



Encrypted & ultra-low power



Integratable



Dynamic alerting



Multi-tenant



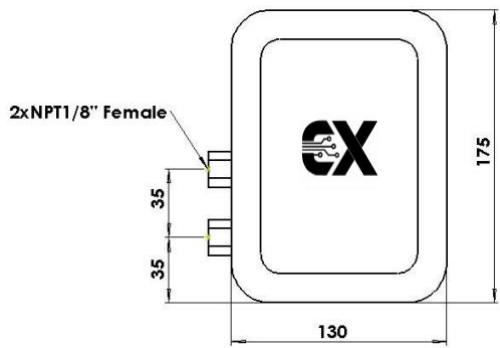
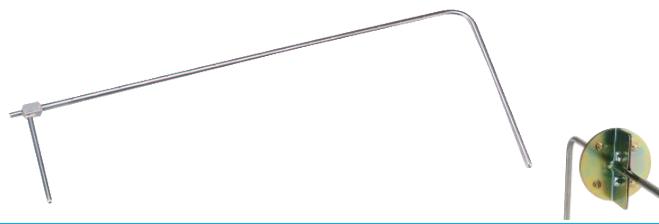
Scalable



Composable & API first

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MODEL GUIDE

Model	Option / Schematic
Standard Model	 
Installation kit (optional) For differential pressure monitoring (Static pressure tip, connector, valve)	 Static Pressure Tip Connector Valve
Installation kit (optional) 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

<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Leakage Monitoring Systems • Heat Recovery Systems • Air Velocity Monitoring • Blower Vacuum Monitoring • Fan pressure indication
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ORDERING CODE

PDT2-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											
500Pa: ±500Pa (standard)				125Pa: ±125Pa									
Other options available on request													
Process Port													
		NPT1/8: 1/8 inch NPT Female			Other options available on request								
					Device Activation								
		S: With On/Off Switch			X: No Switch (Always On)								
					Antenna Option								
		E: External			I: Internal								
					Options								
					(On request) ¹								
PDT2-L	AS	A	500Pa	NPT1/8	S	E							

Sample Product Code:

- PDT2-L-AS-A-500Pa-NPT1/8-S-E

LoRaWAN® differential Pressure sensor operated, frequency of AS923, Over The Air Activated, range of 500Pa, process connection of NPT1/8 female, activated by on-off switch and external antenna

¹ Product Options:

- EP: sensor with external power supply connector for 12V supply
- EPB: connector for 12V supply with internal battery backup
- HG: high-gain external antenna
- WF: Active WiFi module on device for communication/ firmware update through Mobile phone NFC module
- HCB: high-capacity battery