

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	$\leq \pm 2$	$^{\circ}\text{C}$
• Temperature Coefficient of Zero	$\leq \pm 0.05$	%FS/ $^{\circ}\text{C}$
• Temperature Coefficient of Span	$\leq \pm 0.05$	%FS/ $^{\circ}\text{C}$
• Long Term Stability (1 year)	$\leq \pm 0.05$	Pa
• Response Time	≤ 1	mS
• Pressure Overload	100	%FS
• Pressure Cycles (Zero to Full Scale)	10+	Million
• Compensated Temperature	$-20 \sim +85$	$^{\circ}\text{C}$

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	

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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 (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 Tectelic, 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, 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




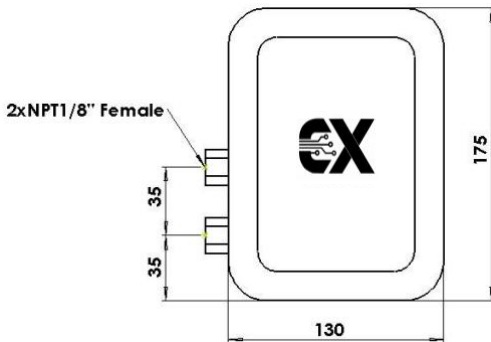


Scalable



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)	 <div> Static Pressure Tip </div> <div> Connector </div> <div> Valve </div>
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

- 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

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

