



LoRaWAN® Operated Low Power Level Transmitter for Liquid 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 compatible with SS



TECHNICAL SPECIFICATION

Sensor

• Level Range:	2, 5, 10 (or other ranges up to 200)	m H ₂ O
• Level Accuracy: (combined linearity, hysteresis, repeatability)	±0.25 (typ.)	%Span
• Temperature Accuracy:	±2 (typ.) (temperature sensor is mounted on the back of pressure sensor and doesn't reflect the media temperature)	°C
• Resolution:	±0.01	%Span
• Pressure reference:	Vented Gauge	
• Temperature Coefficient of Zero:	≤±0.03	%FS/°C
• Temperature Coefficient of Span:	≤±0.03	%FS/°C
• Long term stability (1 year):	≤ 0.2	%Span
• Overload Protection:	150	%FS
• Load Cycles (Zero to Full Scale):	10+	Million
• Storage / Operation Temperature:	-20 ~ +85	°C
• 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 (More than 10 years for most applications)	

Physical Specification

• Materials:	O-ring: Viton, Body: SS304, Diaphragm: SS316, Oil: Silicon, Enclosure: ASA/POM	
• Process Connection:	No Process Connection (or on request)	
• Weight:	~1,200 (for 5m range)	g
• Protection Rate:	IP65 and UV protected enclosure and IP68 sensor head	

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

Integratable to all main networks (Actility, Alibaba, Cisco, Digita, Everynet, GeoWAN, Kerlink, kpn, Lorient, machine-Q, Objenious, Orange, Orbiwise, Proximus, Senet, Sens, Swisscom, TATA, The Things Network (TTN), TTI 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
- 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


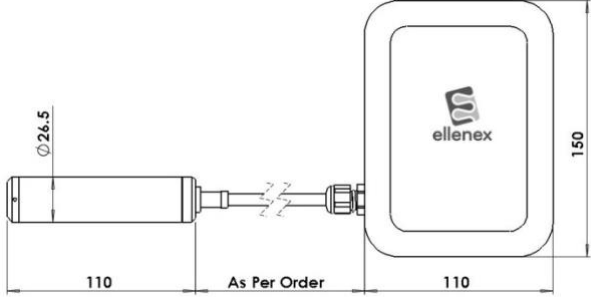

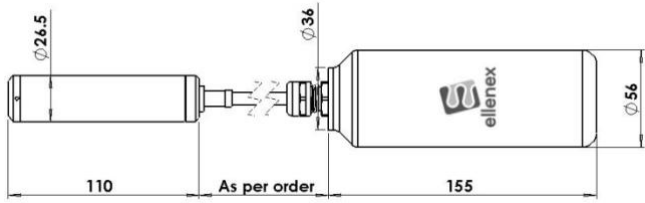


Scalable



Composable & API first

MODEL GUIDE

Model	Options:
<p>E Model:</p> 	 <p>IP68 sensor head, connected to IP65 ASA enclosure and on/off switch</p>
<p>C Model:</p> 	 <p>IP68 sensor head, connected to IP65POM enclosure and NFC activation</p>

INDUSTRIES



Water & Wastewater



Agriculture & Farming



Oil & Gas



Marine & Oceanography



Mining & Construction



Smart Building



Transport & Logistics



Food & Beverage



Hydraulic Oil Storage

APPLICATIONS

- Water Tank
- Chemical Tanks
- Liquid Delivery Systems
- Water Resources Level
- Flood Monitoring
- Diesel Tank
- Liquid Storage
- Hydraulic Containers
- Wastewater Tank
- Water Trough

ORDERING CODE

PLD2-L									
Frequency Zone									
AS (AS923)		EU (EU868)		USx (US902-928, sub-band x)		AUx (AU915-928, sub-band x)		Others	
LoRaWAN® Activation									
A (Over The Air Activation - OTAA)					P (Activation By Personalization ABP)				
Measurement Range									
1, 2, 5, 10, 20, 50, 100, 200m H ₂ O (or any other non-standard range)									
Cable Material									
U: Polyurethane (suitable for oil and Diesel)			E: Polyethylene (suitable for water)			Others			
Cable Length									
S: same as measurement range or 1m extra						Others			
Enclosure									
E: Rectangular Enclosure					C: Cylindrical Enclosure				
Device Activation									
S: on/off					N: NFC (by mobile phone)				
X: No switch (always on)					D: Dual switch (on/off + Trigger)				
Antenna									
I: Internal					E: External				
Options (On request)									
PLD2-L	AS	A	2m	U	S	E	S	E	

Sample Product Code:

- **PLD2-L-AS-A-2m-U-S-E-S-E**

Level- temperature sensor operated on LoRaWAN®, frequency of AS923, measurement range of 2m H₂O, with Polyurethane cable and rectangular enclosure, activated by on-off switch and external antenna.