



LoRaWAN Operated Low Power Level Transmitter for Corrosive Liquid Media

- 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 corrosive liquids



TECHNICAL SPECIFICATION

Sensor

• Range	1, 2, 3, 5, 10 (or other ranges up to 200)	m H2O
• Accuracy (combined linearity, hysteresis, repeatability)	±0.25 (typ.)	%Span
• 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	100,000+ readings and 20,000+ transmission (More than 10 years for most applications)	

Physical

• Materials	Body: Hastelloy or PVDF, Diaphragm: Hastelloy or Ceramic (Al2O3), Enclosure: ASA/ POM, O-ring: FKM/ FFKM	
• Process Connection	No Process Connection (or on request)	
• Weight	~1200 (for 5m range)	g
• Protection Rate	IP66, 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, Helium, 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, 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


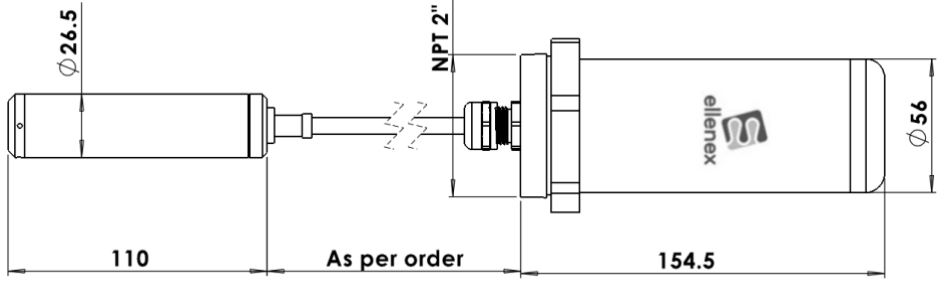

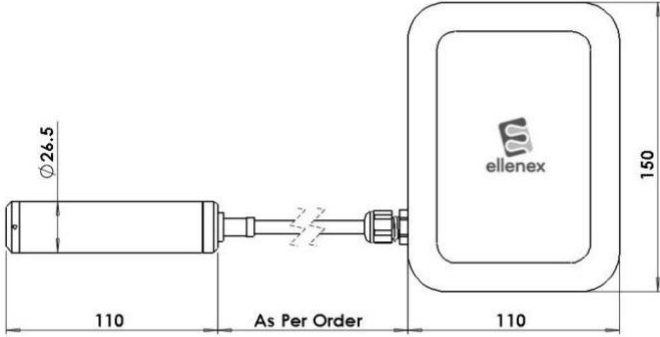


Scalable



Composable & API first

MODEL GUIDE

Model	Option / Schematic
<p>C Model</p> 	 <p>IP68 sensor head, connected to IP66 POM enclosure with on/off switch</p>
<p>E Model</p> 	 <p>IP68 sensor head, connected to IP65 ASA enclosure and on/off switch</p>

INDUSTRIES



Water & Wastewater



Agriculture & Farming



Oil & Gas



Marine & Oceanography



Mining & Construction



Smart Building



Transport & Logistics



Food & Beverage



Hydraulic Oil Storage

APPLICATIONS

- Chemical Tanks
- Liquid Delivery Systems
- Water Resources Level
- Flood Monitoring

- Diesel Tank
- Liquid Storage
- Hydraulic Containers
- Wastewater Tank

ORDERING CODE

PLC2-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)					
Measurement Range										
1, 2, 3, 5, 10, 20, 50, 100, 200m H2O (or any other non-standard range)										
Sensor Head Material										
H: Hastelloy diaphragm and process connection					C: Ceramic diaphragm with PVDF process connection					
Other options available on request										
Cable Material										
U: Polyurethane			T: Teflon coated			Others				
Cable Length										
S: Same as measurement length					Other options available on request					
Enclosure										
C5: Cylindrical					E5: Rectangular					
Device Activation										
S: With On/Off Switch					X: No Switch (Always On)					
Antenna Option										
E: External					I: Internal					
Options										
(On request) ¹										
PLC2-L	AS	A	3m	H	T	S	C5	S	E	

Sample Product Code:

- **PLC2-L-AS-A-3m-H-T-S-C5-S-E**

LoRaWAN® corrosive resistance level sensor, frequency of AS923, Over The Air Activated, measurement range of 3m H2O, with Hastelloy sensor head and Teflon coated cable and cylindrical enclosure, activated by on-off switch and external antenna.

1) Product Options:

- **EP:** sensor with external power supply connector for 12V supply (only for E type enclosure, adaptor is not included)
- **EPB:** connector for 12V supply with internal battery backup (only for E type enclosure)
- **HG:** high-gain external antenna
- **WF:** Active WiFi module on device for communication/ firmware update through Mobile phone NFC module (only for E type enclosure)
- **HCB:** high-capacity battery (only for E type enclosure)

All details are subject to change without prior notice
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