



LoRaWAN® Operated IP68 Low Power Level Transmitter for 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 liquids compatible with SS and Hastelloy



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	Sealed Gauge (with Built-in Atmospheric Pressure Sensor)	
• 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	O-ring: Viton, Body: SS304, Diaphragm: SS316, Oil: Silicon, Enclosure: POM	
• Process Connection	No Process Connection (or on request)	
• Weight	~1300 (for 5m range)	g
• Protection Rate	IP68, UV Protected enclosure and 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, Orbiswise, 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


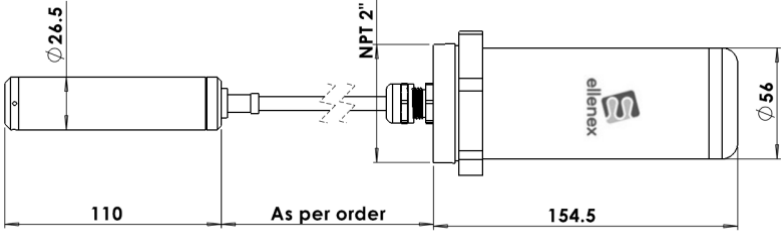

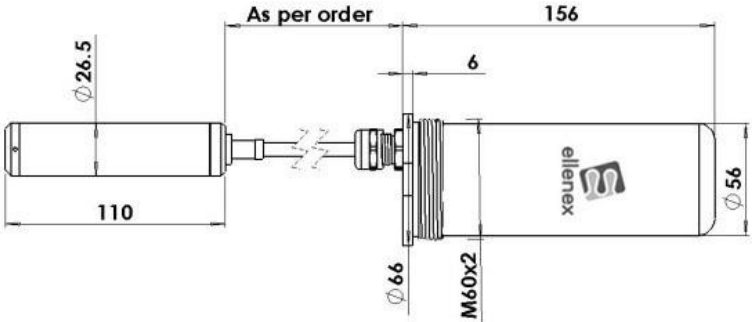

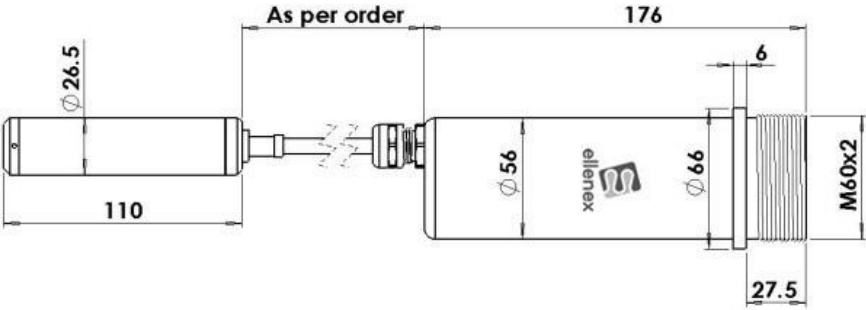


Composable & API first

PLS3-L Spec-sheet



MODEL GUIDE

Model	Option / Schematic
<p>Standard Model</p> 	 <p>IP68 sensor head, connected to IP68 POM enclosure with on/off switch</p>
<p>Customised Model</p> 	 <p>PLS3-L with bottom mounting screw</p>
<p>Customised Model</p> 	 <p>PLS3-L with top mounting screw</p>

INDUSTRIES



Water & Wastewater



Agriculture & Farming



Oil & Gas



Marine & Oceanography



Mining & Construction



Transport & Logistics

APPLICATIONS

- Bore Hole Level
- Liquid Tanks
- Liquid Delivery Systems
- Wastewater Tank
- Flood Monitoring
- Water Resources Level

ORDERING CODE

PLS3-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)									
Cable Material									
U: Polyurethane					Other options available on request				
Cable Length									
S: Same as measurement length					Other options available on request				
Device Activation									
X: No Switch (always on)									
Antenna Option									
E: External					I: Internal				
Options									
(On request)									
PLS3-L	AS	A	3m	U	S	X	I		

Sample Product Code:

- **PLS3-L-AS-A-3m-U-S-X-I**

LoRaWAN® operated IP68 rated level sensor, frequency of AS923, Over The Air Activated, measurement range of 3m H2O, with stainless steel sensor head and Polyurethane cable and cylindrical enclosure with standard mounting thread, activated in the factory and equipped with internal antenna.