



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: | 2, 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: | 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: POM | |
| • Process Connection: | No Process Connection (or on request) | |
| • Weight: | ~1,300 (for 5m range) | g |
| • Protection Rate: | IP68 and 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, GeoWAN, Kerlink, kpn, Loriot, 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


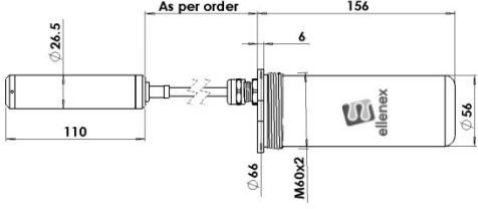
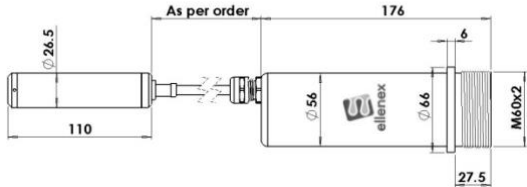

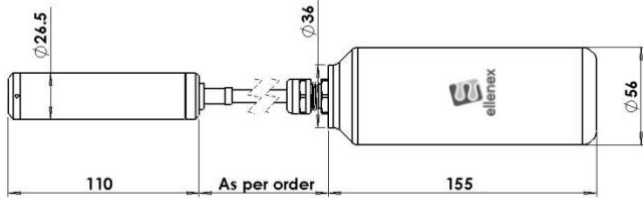


Composable & API first

PLS3-L Spec-sheet



MODEL GUIDE

| Model | Options: | |
|---|---|--|
|  |  <p data-bbox="496 775 850 801">PLS3 with bottom mounting screw</p> |  <p data-bbox="1051 775 1369 801">PLS3 with top mounting screw</p> |
|  |  <p data-bbox="799 1133 1107 1160">PLS3 without 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 | | | | | | | | | | |
| 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) | | | | | | | | | | |
| Sensor Head Material | | | | | | | | | | |
| S : SS304 orSS316L | | | | H : Hastelloy | | | Others | | | |
| Cable Material | | | | | | | | | | |
| U : Polyurethane (suitable for oil and Diesel) | | | | E : Polyethylene (suitable for fresh water) | | | Others | | | |
| Cable Length | | | | | | | | | | |
| S : same as measurement range or 1m extra | | | | | | Others | | | | |
| Mounting Thread | | | | | | | | | | |
| T : top mounting thread | | | | | | N : No mounting thread | | | | |
| B : bottom mounting thread | | | | | | Others | | | | |
| Device Activation | | | | | | | | | | |
| X : No switch (always on) | | | | | | N : NFC (by mobile phone) | | | | |
| Antenna | | | | | | | | | | |
| I : Internal | | | | | | E : External | | | | |
| Options | | | | | | | | | | |
| (on request) | | | | | | | | | | |
| PLS3-L | AS | A | 10m | S | U | S | B | X | E | |

Sample Product Code:

- **PLS3-L-AS-A-10m-S-U-S-B-X-E**

IP68 Level sensor operated on LoRaWAN®, frequency of AS923, Over The Air Activated, measurement range of 10m H₂O, with stainless steel sensor head and Polyurethane cable, standard cable length, enclosure with bottom mounting thread, activated in the factory and equipped with external antenna.