APG Sensors LPU-2428 Loop Powered Ultrasonic Sensor Installation Guide

Contents

APG
Automation Products Group, Inc.

APG Sensors LPU-2428 Loop Powered Ultrasonic Senso

Specifications

- **Model:** LPU-2428
- **Power Source:** Loop-powered
- **Certification:** CSA Class I, Division 1, Groups C & D and Class I, Division 2, Group
- **Application Setting:** Default – Distance
- **Warranty:** 24 months

Product Usage Instructions

Description:

The LPU-2428 loop-powered ultrasonic level sensor provides low-power, non-contact measurement suitable for hazardous areas in the US and Canada.

How To Read Your Label:

The label includes the model number, part number, and serial number for identification purposes. Contact customer support for assistance with identifying your product.

Warranty:

The product is covered by a 24-month warranty against defects. Visit the provided link for detailed warranty information.

Dimensions:

The product dimensions are as follows:

- **Length**: 7.25″ [184.15 mm]
- **Width:** 5.06″ [128.59 mm]
- **Height:** 2.65″ [67.24 mm]

Installation Guidelines:

Install the LPU-2428 indoors or outdoors following the provided conditions in the user manual.

Sensor and System Wiring Diagram:

Refer to the wiring diagram provided for proper installation of the LPU-2428 & RST-4101.

Default Application Setting:

The default setting for the LPU-2428 is Distance, suitable for various environments. Further configuration settings are available in the user manual.

General Care:

Periodically inspect the sensor face to ensure it is free of debris that may affect its functionality. Clean if necessary to avoid detection errors.

introduction

- **Description**
- The LPU-2428 loop-powered ultrasonic level sensor provides low-power, non-contact measurement you can count on. The LPU-2428 is certified for installation in hazardous areas in the US and Canada by CSA for Class I, Division 1, Groups C & D and Class I, Division 2, Group environments. The default Application setting for the LPU-2428 is Distance, which will work in a wide variety of settings. Please refer to the full user manual for further configuration settings.

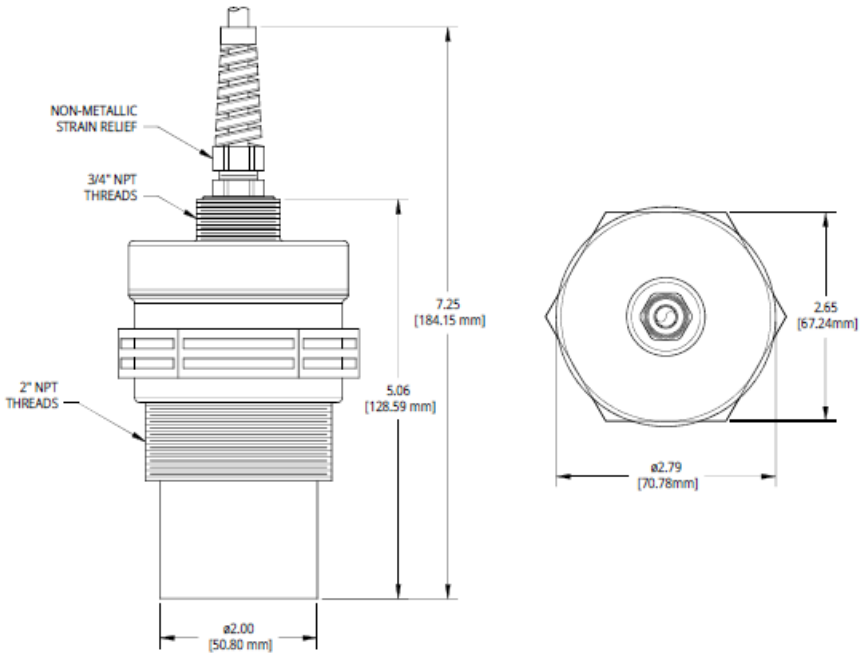
How To Read Your Label

- Each label comes with a full model number, a part number, and a serial number. The model number for the LPU-2428 will look something like this:
- **SAMPLE:** LPU-2428-C6
- The model number tells you exactly what you have. You can also call us with the model, part, or the serial number and we can help you. You'll also find all hazardous certification information on the label

Warranty

- This product is covered by APG's warranty to be free from defects in material and workmanship under normal use and service of the product for 24 months. For a full explanation of our Warranty, please visit www.apgsensors.com/resources/warranty-certifications/warranty-returns. Contact Technical Support to receive a Return Material Authorization before shipping your product back

Dimensions



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- **phone:** 888-525-7300
- **email:** sales@apgsensors.com

Installation Guidelines

The LPU-2428 should be installed in an area—indoors or outdoors—which meets the following conditions

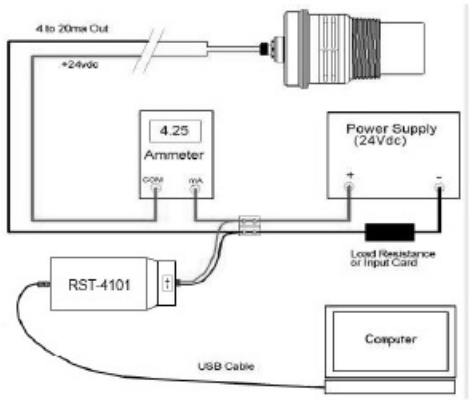
- Ambient temperature between -40°C and 60°C (-40°F to +140°F)
- Ample space for maintenance and inspection

Additional care must be taken to ensure:

- The sensor has a clear, perpendicular sound path to the surface being monitored.
- The sensor is mounted away from tank or vessel walls and inlets.
- The sound path is free from all obvious obstructions and as open as possible for the 9° off axis beam pattern.
- The sensor is tightened by hand to avoid cross-threading.
- **Important:** For user interface guide and sensor configuration see the full user manual.

Sensor and System Wiring Diagram

- **LPU-2428 & RST-4101 Wiring**



For normal operation, connect the provided cable to your control system:

- Connect the red wire to +24 VDC.
- Connect the black wire to 4-20 mA input. Circuit load resistance + input resistence must be greater than 150Ω. 249Ω is recommended for optimal signal tranmission.
- Refer to drawing 9002747 (section 10) for Intrinsically Safe installation.
- Refer to drawing 9002745 (section 10) for Hazardous Location installation.

For programming

- Connect (+) terminal of RST-4101 to +24 VDC supply of sensor (red wire).

- Connect (-) terminal of RST-4101 to 4-20 mA signal from sensor (black wire).
- Ensure that load resistor is between RST-4101 and control network or PLC, rather than between sensor and RST-4101.
- **IMPORTANT:** Refer to section 10 for Hazardous Location Wiring.

LPU-2428 Default Application Setting

- The default Application setting for the LPU-2428 is Distance, which will work in a wide variety of settings. The LPU-2428 has several additional Application settings that can be configured to meet your needs. All of the LPU-2428's adjustable settings are accessible through the LPU-2428A Software, which is available at **https://www.apgsensors.com/support.**

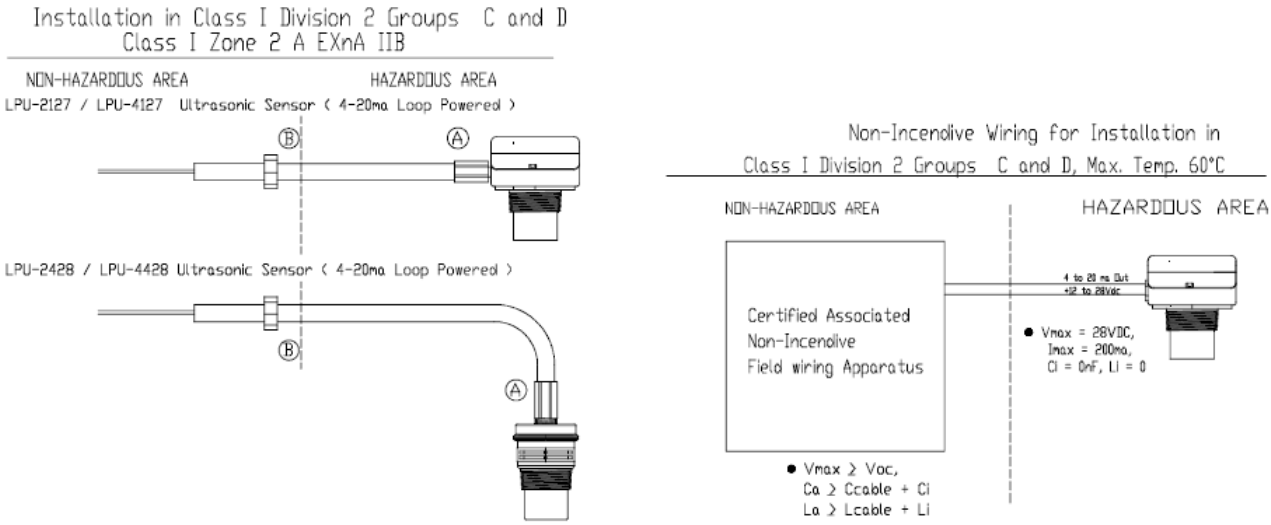
General Care

- Your level sensor is very low maintenance and will need little care as long as it was installed correctly. However, in general, you should periodically inspect your LPU-2428 sensor to ensure the sensor face is free of any buildup that might impede the function of the sensor. If sediment or other foreign matter becomes trapped on the sensor face, detection errors can occur. If you need to remove the sensor, be sure to store it in a dry place at a temperature between -40° and 180° F.

Repair Information

- If your LPU-2428 ultrasonic sensor or RST-4101 programming module needs repair, contact us via email, phone, or online chat on our website. We will issue you an RMA number with instructions.
- Phone: **888-525-7300**
- Email: **sales@apgsensors.com**
- Online chat at **www.apgsensors.com**

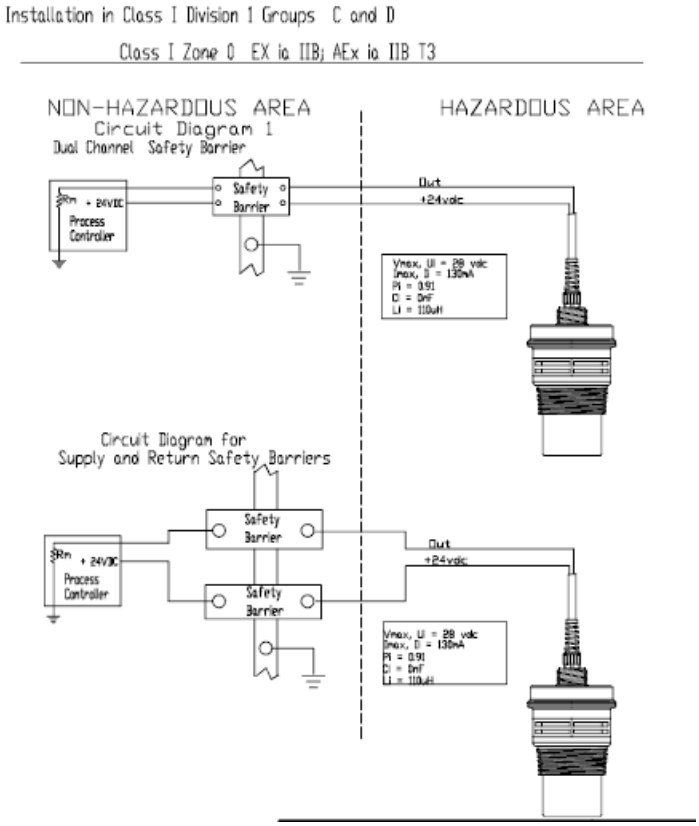
Hazardous Location Wiring



- Install by Section 18 of the CEC or Article 500 of the NEC.
- CSA listed or NRTL/UL listed conduit seal at locations A &B as required by Local Authority
- The cable Is terMlna ted In the sensor and runs continuously from the sensor through the Hazardous area and

Into the Non-Hazardous area,

- Electrical equipment connected to associate apparatus should not generate More than 250 V rMs,
- Tampering or replaceMent with non-factory components May adversely affect the safe use of the system
- **WARNING** – POTENTIAL ELECTROSTATIC CHARGING HAZARD – Clean with only a damp cloth
- **DO NOT** DISCONNECT WHILE THE CIRCUIT IS ALIVE UNLESS THE AREA IS KNOWN TO BE NON-HAZARDOUS



- Install by CEC, NEC articles 504, 505, and ISA RP12.6 Recommended Procedure for the Installation of Intrinsically Safe Circuits.
- **WARNING**: EXPLOSION HAZARD -Do NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS
- **WARNING** – POTENTIAL ELECTROSTATIC CHARGING HAZARD – Clean only with a damp cloth
- **WARNING:** SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY

FAQs

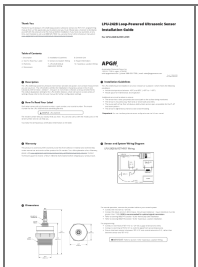
Q: Where can I find the full user manual for further configuration settings?

A: You can find the full user manual at www.apgsensors.com/resources/product-resources/user-manuals.

Q: How can I access and configure additional Application settings for the LPU-2428?

A: All adjustable settings are accessible through the LPU-2428A Software, available at https://www.apgsensors.com/support.

Documents / Resources

	APG Sensors LPU-2428 Loop Powered Ultrasonic Sensor [pdf] Installation Guide LPU-2428 Loop Powered Ultrasonic Sensor, LPU-2428, Loop Powered Ultrasonic Sensor, Powered Ultrasonic Sensor, Ultrasonic Sensor

References

- User Manual