

PLPFUDVDZZ UM30-213113

PLPFUDVDZZ UM30-213113 Ultrasonic Proximity Sensor User Manual

Model: UM30-213113 | Brand: PLPFUDVDZZ

1. INTRODUCTION

This manual provides essential information for the safe and effective use of the PLPFUDVDZZ UM30-213113 Ultrasonic Proximity Sensor. Please read this manual thoroughly before installation, operation, or maintenance to ensure proper functionality and prevent damage.

2. SAFETY INFORMATION

- Ensure the power supply voltage is within the specified range (DC 10V-30V) to prevent damage to the sensor.
- Do not attempt to disassemble or modify the sensor. Unauthorized modifications can lead to malfunction and void the warranty.
- Install the sensor in a location free from excessive vibration, extreme temperatures, or corrosive environments.
- Always disconnect power before performing any wiring or maintenance tasks.
- Proper grounding practices should be followed to ensure electrical safety.

3. PRODUCT OVERVIEW

The PLPFUDVDZZ UM30-213113 is a robust ultrasonic proximity sensor designed for reliable distance measurement and object detection. It features a cylindrical metal shell and offers various output options, including NPN NO/NC, PNP NO/NC, 0-10V, and 4-20mA, making it versatile for different industrial applications.

Key Features:

- **Cylindrical Type, Metal Shell:** Durable construction for industrial environments.
- **Inductive Proximity Switch:** Reliable object detection.
- **Integrated Protection:** Includes short circuit protection, reverse polarity protection, and open collector.
- **Adjustable Sensing Distance:** Allows for fine-tuning after installation.

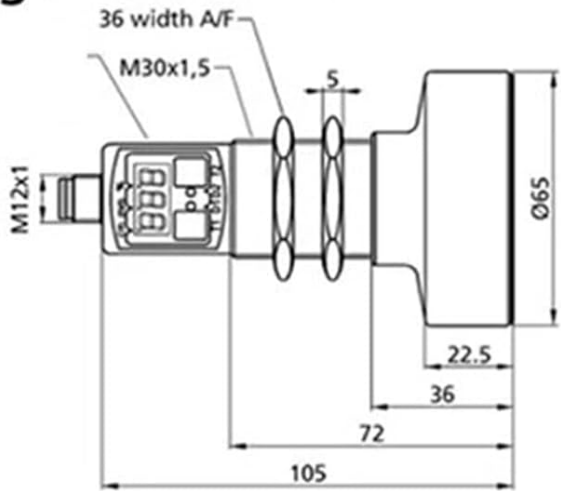
Product Components and Dimensions:

UBX600-GM30-V4-H5

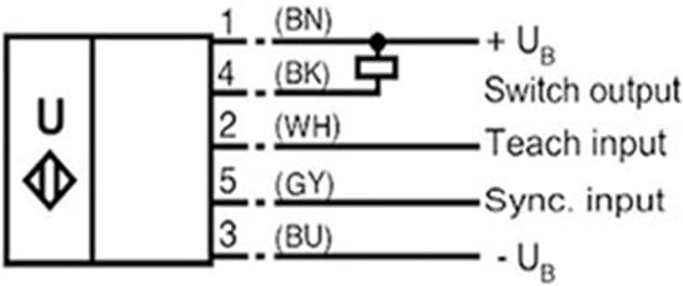


Output type: NPN NO/NC

Voltage: 10-30vdc



2 meter connecting cable



This image displays the PLPFUDVDZZ UM30-213113 ultrasonic sensor, including its physical dimensions, the M12x1 connector, and a detailed wiring diagram for NPN NO/NC output. The diagram shows connections for power supply (UB), switch output, teach input, and sync input. The sensor is labeled UBX600-GM30-V4-H5, indicating an output type of NPN NO/NC and a voltage range of 10-30VDC. A 2-meter connecting cable with an M12 5-pin connector is also shown.

4. SETUP

4.1 Mounting

The sensor features a cylindrical design with an M30 x 1.5 thread for easy mounting. Secure the sensor firmly using appropriate mounting hardware. Ensure the sensing face is unobstructed and pointed towards the target area.

4.2 Wiring

The UM30-213113 sensor uses an M12 5-pin connector. Refer to the wiring diagram in the Product Overview section for correct connections. The standard wiring color code is as follows:

- **Pin 1 (Brown - BN):** +UB (Positive Power Supply, DC 10V-30V)
- **Pin 2 (Black - BK):** Switch Output (NPN NO/NC for this variant)
- **Pin 3 (Blue - BU):** -UB (Negative Power Supply / Ground)
- **Pin 4 (White - WH):** Teach Input
- **Pin 5 (Gray - GY):** Sync Input

Ensure all connections are secure and insulated to prevent short circuits.

4.3 Initial Adjustment

After physical installation and wiring, the sensing distance may need adjustment. This can typically be done using the 'Teach input' or through an integrated LED display, depending on the specific model configuration. Refer to the Operating Instructions for details on adjusting the sensing range.

5. OPERATING INSTRUCTIONS

5.1 Power On

Once wired correctly, apply power (DC 10V-30V) to the sensor. The integrated LED display, if present, will illuminate to indicate power and operational status.

5.2 Sensing Function

The UM30-213113 uses ultrasonic waves to detect objects within its sensing range (up to 6 meters for this variant). When an object enters the detection zone, the sensor's output will change state according to its configuration (NPN NO/NC, PNP NO/NC, 0-10V, or 4-20mA).

5.3 Teach Function (White Wire)

The 'Teach input' (White wire) allows for easy adjustment of the sensing range. Consult the sensor's specific programming guide for detailed steps on how to use the teach function to set the desired detection distance. Typically, this involves applying a momentary signal to the teach input while the target is at the desired distance.

5.4 Output Types

- **NPN NO/NC:** NPN (Negative-Positive-Negative) output. NO (Normally Open) means the output is open when no object is detected and closes when an object is detected. NC (Normally Closed) means the output is closed when no object is detected and opens when an object is detected.
- **PNP NO/NC:** PNP (Positive-Negative-Positive) output. Functions similarly to NPN but switches the positive line.
- **0-10V Analog Output:** Provides a voltage output proportional to the detected distance.
- **4-20mA Analog Output:** Provides a current output proportional to the detected distance.

6. MAINTENANCE

The UM30-213113 sensor is designed for low maintenance. However, regular checks can prolong its lifespan and ensure optimal performance.

- **Cleaning:** Periodically clean the sensing face of the sensor to remove dust, dirt, or debris that may interfere with ultrasonic wave transmission. Use a soft, damp cloth; avoid abrasive cleaners.
- **Inspection:** Regularly inspect the sensor's mounting and wiring for any signs of damage, corrosion, or loose connections.
- **Environmental Check:** Ensure the operating environment remains within the specified conditions (temperature, humidity, absence of corrosive agents).

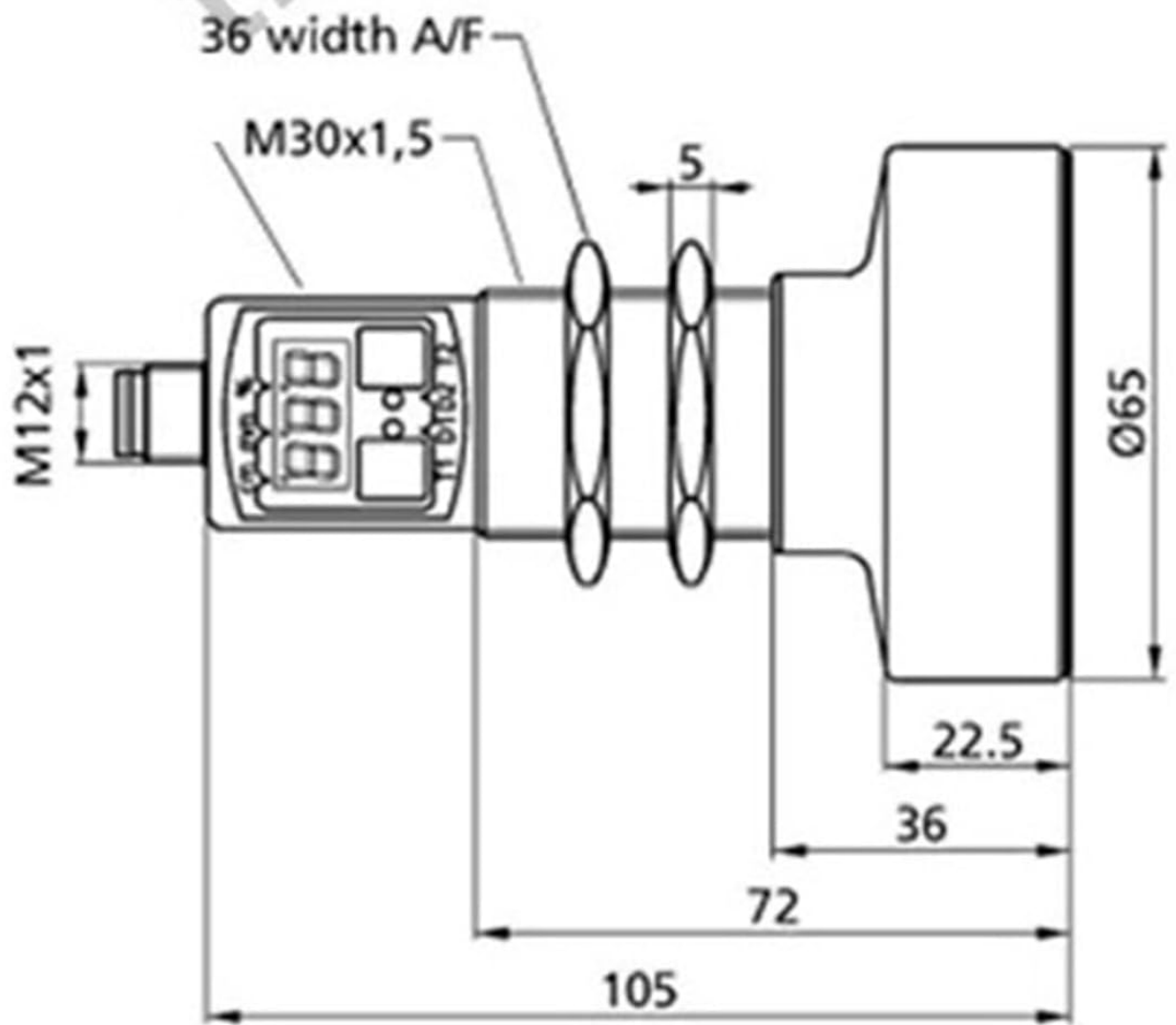
7. TROUBLESHOOTING

If the sensor is not functioning as expected, consider the following troubleshooting steps:

- **No Power/LED Off:** Check the power supply connections and ensure the voltage is within the DC 10V-30V range. Verify that the power source is active.
- **No Output/Incorrect Reading:**
 - Verify all wiring connections are correct and secure according to the diagram.
 - Ensure the target object is within the 6-meter sensing range.
 - Check for any obstructions between the sensor and the target.
 - Re-adjust the sensing distance using the 'Teach input' function.
 - Confirm the output type (NPN NO/NC, PNP NO/NC, 0-10V, 4-20mA) matches your control system's input.
- **Intermittent Detection:** This could be due to unstable power, environmental interference, or a target object that is too small or acoustically absorbent.
- **Sensor Damage:** If the sensor shows physical damage, it may need replacement.

8. SPECIFICATIONS

The following table outlines the technical specifications for the PLPFUDVDZZ UM30-213113 Ultrasonic Proximity Sensor:



Protection circuit ; Anti-reverse connection
protection overvoltage protection in time

No-load current <25MA

Load Voltage output: 21KQ

This image provides detailed dimensions of the sensor, including its length (105mm), diameter (65mm), and thread size (M30x1.5). It also lists key electrical specifications: Protection circuit includes anti-reverse connection and overvoltage protection. No-load current is less than 25mA. Load for voltage output is 21KΩ.

Parameter	Specification
Model Number	UM30-213113
Brand	PLPFUDVDZZ
Type	Ultrasonic Proximity Sensor

Parameter	Specification
Output Type (This Variant)	NPN NO/NC
Available Output Types	NPN NO/NC, PNP NO/NC, 0-10V, 4-20mA
Supply Voltage	DC 10V-30V
Sensing Distance	6 meters
Frequency	25kHz
Connection	M12 5-pin connector
Construction	Cylindrical, M30 x 1.5 Thread, Metal Shell
Dimensions (Length x Diameter)	105mm x 65mm
No-load Current	<25mA
Load (Voltage Output)	21KΩ
Protection Circuit	Short circuit protection, Reverse polarity protection, Overvoltage protection
Item Weight	7.1 ounces

9. WARRANTY INFORMATION

Specific warranty details for the PLPFUDVDZZ UM30-213113 Ultrasonic Proximity Sensor are not provided in the product data. For information regarding warranty coverage, terms, and conditions, please contact the manufacturer or your point of purchase directly.

10. SUPPORT AND CONTACT INFORMATION

Specific support and contact information for PLPFUDVDZZ is not provided in the product data. For technical assistance, product inquiries, or customer support, please refer to the contact details provided by your seller or visit the official PLPFUDVDZZ website if available.

ASK A QUESTION ABOUT THIS MANUAL

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question