Sick GE6-P4211S67

Sick GE6-P4211S67 Miniature PE Sensor Thru-Beam Receiver Instruction Manual

Model: GE6-P4211S67 | Brand: Sick

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the Sick GE6-P4211S67 Miniature Photoelectric (PE) Sensor, Thru-Beam Receiver. Please read this manual thoroughly before using the product.



Figure 1: The Sick GE6-P4211S67 Miniature PE Sensor, a thru-beam receiver unit. It features a blue housing, a red sensing window, and an M8 connector at the bottom for electrical connection.

2. Safety Information

Always observe general safety regulations and accident prevention rules. Installation and maintenance should only be performed by qualified personnel. Disconnect power before any installation or maintenance work.

- Ensure proper grounding.
- Do not exceed specified voltage and current ratings.
- Protect the sensor from mechanical damage and extreme environmental conditions.

3. Product Overview

The Sick GE6-P4211S67 is a miniature photoelectric thru-beam receiver. It is designed to detect objects when used in conjunction with a compatible thru-beam emitter. Its compact size and robust design make it suitable for various industrial automation tasks.

Key Features:

- Thru-beam operating principle (receiver only)
- Sensing range: 8 meters
- Switching frequency: 1 kHz
- Output type: DC PNP, Light/Dark switching
- Connection: 4-pin M8 connector
- Light source: 650 nm LED

4. Setup and Installation

Follow these steps for proper installation of the GE6-P4211S67 receiver.

4.1 Mounting

1. Select a stable mounting location for both the receiver and its corresponding emitter, ensuring they are aligned and within the specified 8m range.
2. Mount the sensor securely using appropriate fasteners through the mounting holes on the sensor body.
3. Ensure the sensing window is clear of obstructions.

4.2 Electrical Connection

The GE6-P4211S67 features a 4-pin M8 connector. Refer to the wiring diagram below for correct connections.

Table 1: M8 Connector Pin Assignment

Pin	Wire Color	Description
1	Brown	L+ (Supply Voltage)
3	Blue	M (Ground)
4	Black	Q (Switching Output)
2	White	Light/Dark Switching Input (L/D)

Connect the M8 connector cable to the sensor and then to the control system according to the pin assignment. Ensure the supply voltage is within the specified range for the sensor.

5. Operating Instructions

Once installed and connected, the GE6-P4211S67 receiver operates in conjunction with a compatible thru-beam emitter.

5.1 Alignment

For optimal performance, ensure precise alignment between the emitter and receiver. Most Sick thru-beam sensors include alignment indicators (e.g., LEDs) to assist with this process. The receiver's output will switch when the light beam from the emitter is interrupted by an object.

5.2 Light/Dark Switching

The sensor supports Light/Dark switching. This function determines whether the output is active when light is received (Light switching) or when the light beam is interrupted (Dark switching). This is typically configured via the L/D input (Pin 2, White wire) or an internal switch on the emitter/receiver pair, depending on the specific model configuration. Consult the emitter's manual for combined system setup.

6. Maintenance

The Sick GE6-P4211S67 sensor is designed for low maintenance. Regular checks can help ensure long-term reliable operation.

- **Cleaning:** Periodically clean the sensing window of both the receiver and emitter with a soft, damp cloth. Avoid abrasive cleaners or solvents.
- **Connection Check:** Verify that the M8 connector is securely fastened and that the cable is free from damage.
- **Alignment Check:** If performance degrades, re-check the alignment between the emitter and receiver.
- **Environmental Conditions:** Ensure the sensor operates within its specified temperature and humidity ranges.

7. Troubleshooting

If the sensor is not functioning as expected, refer to the following troubleshooting guide:

Table 2: Troubleshooting Guide

Problem	Possible Cause	Solution
No output signal	No power supply Incorrect wiring Emitter not powered or faulty Misalignment Sensing window dirty	Check power connections Verify wiring against diagram Check emitter power and function Re-align emitter and receiver Clean sensing window
Output always ON/OFF	Constant obstruction/no obstruction Incorrect Light/Dark setting Sensor faulty	Check for objects in beam path Verify Light/Dark switching configuration Replace sensor if necessary
Intermittent operation	Loose connection Vibrations Environmental interference	Secure M8 connector Ensure stable mounting Shield from strong light sources or electrical noise

8. Specifications

Detailed technical specifications for the Sick GE6-P4211S67 Miniature PE Sensor, Thru-Beam Receiver.

- **Model:** GE6-P4211S67
- **Part Number:** 2110029
- **Operating Principle:** Photoelectric Thru-Beam (Receiver only)

- **Sensing Range:** 0.005 m ... 8 m
- **Light Source:** LED, red (650 nm)
- **Switching Frequency:** 1,000 Hz
- **Output Type:** PNP
- **Switching Mode:** Light/Dark switching (selectable via control input or wiring)
- **Connection:** M8, 4-pin connector
- **Supply Voltage:** 10 V DC ... 30 V DC
- **Current Consumption:** Max. 20 mA
- **Housing Material:** ABS/PC
- **Enclosure Rating:** IP67
- **Operating Temperature:** -25 °C ... +55 °C
- **Weight:** Approximately 6.99 pounds
- **UPC:** 720158781049

9. Warranty and Support

For warranty information, please refer to the official Sick AG warranty policy available on their website or contact your local Sick representative. Technical support can be obtained through the official Sick support channels.
Manufacturer: Sick AG
For further assistance, visit the Sick AG official website.

© 2024 Sick AG. All rights reserved. Information subject to change without notice.