**IFM O1D100**

# IFM O1D100 Photoelectric Distance Sensor User Manual

Model: O1D100

## Introduction

This manual provides essential information for the safe and efficient use of the IFM O1D100 Photoelectric Distance Sensor. The O1D100 is designed for precise distance measurement in industrial applications, offering reliable performance for various automation tasks. Please read this manual thoroughly before installation and operation to ensure proper functionality and safety.

*Note:* This specific item is used and has been verified to be in working condition.

## Product Overview

**Figure 1:** Front view of the IFM O1D100 Photoelectric Distance Sensor, showing the main body and display area with control buttons.

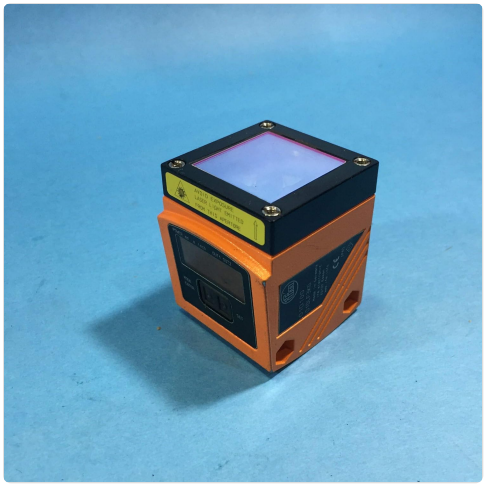

**Figure 2:** Top view of the sensor, highlighting the light emitter aperture and associated warning label regarding laser exposure.


**Figure 3:** Side view displaying the model number (O1D100 O1DLF3KG), manufacturer (ifm electronic), and IP65 protection rating.

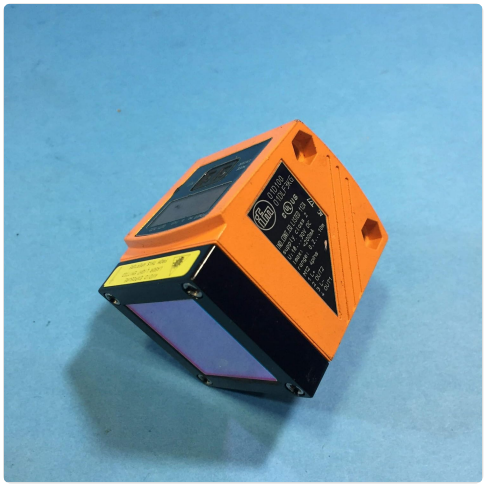

**Figure 4:** Angled view of the sensor, showing the threaded connection port and additional electrical specifications printed on the side, including supply voltage range.

## Safety Instructions

- Ensure power is disconnected before installation, maintenance, or any wiring adjustments.
- Observe all local and national electrical codes and regulations during installation.

- **Caution:** Do not look directly into the light emitter aperture. This device emits light that may be harmful to the eyes.
- Only qualified and authorized personnel should install, operate, and service this device.
- Protect the sensor from mechanical damage, excessive vibration, and extreme temperatures.

## Setup

### Mounting

The O1D100 sensor can be mounted using the integrated mounting holes. Ensure a stable and vibration-free surface for optimal performance and accurate measurements. The sensor should be positioned to have a clear, unobstructed line of sight to the target object within its specified detection range.

### Electrical Connection

Connect the sensor to a suitable power supply (typically 10-30V DC) and an I/O-Link master or control system according to the wiring diagram provided with your specific product variant. Ensure correct polarity and secure connections to prevent damage to the sensor or connected equipment.

*Note:* Refer to the specific wiring diagram for your O1D100 variant (e.g., O1DLF3KG) for detailed pin assignments and connection instructions.

## Operating

### Initial Power-Up

Upon initial power-up, the sensor will perform a self-test and initialization sequence. The integrated display will then show the current measured distance or a status message indicating its operational state.

### Parameter Setting

The O1D100 features integrated buttons, typically labeled 'MODE/ENTER' and 'SET', to configure various operational parameters. These parameters may include switching points, measurement range, output functions, and display settings. For detailed parameter adjustments and menu navigation:

- Press 'MODE/ENTER' to navigate through the menu options and confirm selections.
- Press 'SET' to adjust values or activate specific functions within a selected menu.

Consult the comprehensive programming guide or the sensor's specific data sheet for detailed instructions on configuring advanced parameters.

### IO-Link Communication

For advanced configuration, remote monitoring, and data acquisition, the O1D100 supports IO-Link communication. Connect the sensor to a compatible IO-Link master. Utilize the appropriate IO-Link software tools to access process data, modify device parameters, and retrieve diagnostic information, enabling seamless integration into industrial control systems.

## Maintenance

### Cleaning

Regularly clean the sensor's optical surfaces (lens and emitter/receiver windows) with a soft, lint-free cloth. Use a mild, non-abrasive cleaning solution if necessary. Do not use harsh chemicals, solvents, or abrasive materials, as these can damage the optical components. Ensure the surfaces are free from dust, dirt, moisture, and fingerprints to maintain optimal measurement accuracy.

### Inspection

Periodically inspect the sensor, its mounting, and all associated cabling for any signs of damage, wear, corrosion, or loose connections. Pay particular attention to the cable entry points and the sensor housing. Address any identified issues promptly to prevent operational failures or safety hazards.

## Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| No power/display off | Incorrect wiring, no power supply, faulty cable, internal fault. | Check power supply voltage and polarity. Verify all cable connections. Test cable continuity. If problem persists, contact support. |
| Inaccurate or unstable measurement | Dirty optical surfaces, incorrect parameter settings, target material/surface properties, external interference. | Clean optical surfaces thoroughly. Review and adjust sensor parameters (e.g., sensitivity, range). Consider target reflectivity. Minimize external light sources. |
| Sensor not responding to target | Target out of detection range, sensor misaligned, output configured incorrectly, target too small/transparent. | Ensure target is within the specified detection range. Realign sensor for optimal beam path. Check output settings (e.g., normally open/closed). Consider target material. |
| IO-Link communication issues | Incorrect IO-Link master configuration, faulty cable, incorrect IODD file. | Verify IO-Link master settings. Check IO-Link cable integrity. Ensure correct IODD file is loaded for the sensor. |

## Specifications

**Product Dimensions:** 1.77 x 1.65 x 2.05 inches (45 x 42 x 52 mm)

**Weight:** 10.23 ounces (290 grams)

**Item Model Number:** O1D100

**Manufacturer:** IFM

**ASIN:** 9820957036

**First Available:** October 31, 2019

**Protection Rating:** IP65 (Dust tight and protected against water jets)

**Supply Voltage:** 10-30V DC

**Output Type:** Configurable (e.g., switching, analog, IO-Link)

**Sensing Principle:** Photoelectric Distance Measurement

## Warranty and Support

For detailed warranty information, technical support, and service inquiries regarding your IFM O1D100 Photoelectric Distance Sensor, please contact IFM customer service directly or visit their official website. This product is designed for industrial use and typically comes with standard manufacturer warranties against defects in materials and workmanship.

*Note:* Extended protection plans or service agreements may be available for purchase separately. Refer to your point of purchase or IFM's official channels for specific details on available support options.



### Related Documents - O1D100

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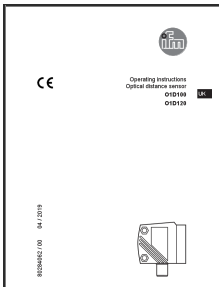
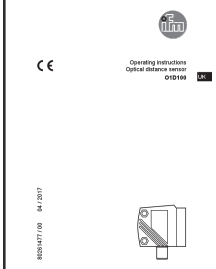
|---|---|
|  | ifm O1D100/O1D120 Optical Distance Sensor Operating Instructions<br>Comprehensive operating instructions for the ifm O1D100 and O1D120 optical distance sensors, covering installation, electrical connection, operation, menu structure, parameter settings, and troubleshooting. |
|  | ifm O1D100 Optical Distance Sensor Operating Instructions<br>Comprehensive operating instructions for the ifm O1D100 optical distance sensor, covering installation, functions, parameter settings, and troubleshooting. |

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|---|---|
|  | [ifm Photoelectric Distance Sensor OPD101 Software Manual]<br>Comprehensive software manual for the ifm Photoelectric Distance Sensor OPD101, detailing the use of the ifmVisionAssistant software for installation, configuration, monitoring, reference profiles, and troubleshooting. |
|  | [ifm Industrial Sensors and Controls Catalog]<br>Explore ifm's comprehensive range of industrial automation sensors and controls, featuring IO-Link technology, photoelectric sensors, inductive sensors, and more. Discover high-quality solutions for enhanced productivity and efficiency. |
|  | [ifm ZZ1060 IO-Link Master with USB Interface: Setup and Operation Guide]<br>Comprehensive guide for setting up and operating the ifm ZZ1060 IO-Link master with USB interface, including connection, parameter setting with ifm moneo\|configure free, and process data monitoring. |
|  | [ifm ExtendedController CR0233 Programming Manual]<br>Comprehensive programming manual for the ifm ExtendedController CR0233, detailing system setup, hardware/software configuration, interface protocols, and ifm function elements for application development with CODESYS V2.3. |