

INDEM MFX180

INDEM MFX180 Universal Outdoor Photocell Pair Instruction Manual

1. INTRODUCTION AND OVERVIEW

This manual provides detailed instructions for the safe and effective installation, operation, and maintenance of the INDEM MFX180 Universal Outdoor Photocell Pair. These photocells are designed for use in gate and door automation systems, offering reliable obstacle detection.

The INDEM MFX180 is a universal model, compatible with a wide range of automation systems, ensuring broad applicability. Its compact design and adjustable orientation simplify installation and alignment.

2. SAFETY INFORMATION

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in injury or damage to the product.

- Installation must be performed by qualified personnel in accordance with local electrical codes and regulations.
- Disconnect power to the automation system before performing any installation or maintenance.
- Ensure proper grounding where required.
- Do not modify the product in any way. Unauthorized modifications may void the warranty and create safety hazards.
- Keep children and pets away from moving gates or doors during operation.

3. PRODUCT FEATURES

- **Universal Compatibility:** Adaptable to most automation systems (e.g., BFT, FAAC, CAME, NICE, APRIMATIC), excluding those using BUS communication or Normally Open (NO) contacts.
- **Compact Design:** Dimensions of 34x34x H111 mm for easy integration.
- **High Adjustability:** 180-degree horizontal orientation and 20-degree vertical orientation for versatile installation and precise alignment.
- **Simplified Mechanical Installation:** Features include external cable entry, easy front cover removal with two screws, predisposition for 16mm corrugated pipe at the rear, and a marked center at the bottom for cable passage.

- **Robust Construction:** Designed for outdoor use with IP54 protection.

4. SPECIFICATIONS

Parameter	Value
Model	MFx180
Power Supply	12-24 Vac/Vdc
Range	15 meters (optimal conditions)
Operating Temperature	-20°C to +55°C
Protection Rating	IP54
Horizontal Rotation Angle	+/- 90° (Total 180°)
Vertical Rotation Angle	+/- 10° (Total 20°)
Output Contacts	NC (Normally Closed)
Dimensions (WxDxH)	34 x 34 x 111 mm

5. INSTALLATION AND SETUP

5.1 Pre-Installation Checks

- Verify that your automation system is compatible with NC (Normally Closed) photocell contacts. This model is not suitable for systems using BUS communication or Normally Open (NO) contacts.
- Ensure the mounting surface is stable and free from obstructions.
- Plan the cable routing to ensure external cable entry to the rotation mechanism and utilize the predisposition for 16mm corrugated pipe if needed.

5.2 Mechanical Installation

1. Carefully remove the front cover of each photocell by unscrewing the two retaining screws. This design prevents damage to snap tabs.
2. Mount the photocell bases securely to the desired location. The compact dimensions (34x34x H111 mm) allow for flexible placement.
3. For cable passage from below, use the marked center point at the bottom of the unit. For rear cable entry, utilize the 16mm corrugated pipe predisposition.
4. Ensure the transmitter and receiver units are aligned facing each other across the gate or door opening.

5.3 Electrical Wiring

- Connect the power supply (12-24 Vac/Vdc) to the designated terminals on each photocell. Observe polarity for DC connections.
- Connect the NC (Normally Closed) output contacts of the receiver photocell to the appropriate input terminals on your automation control unit.
- Double-check all wiring connections for correctness and security before restoring power.

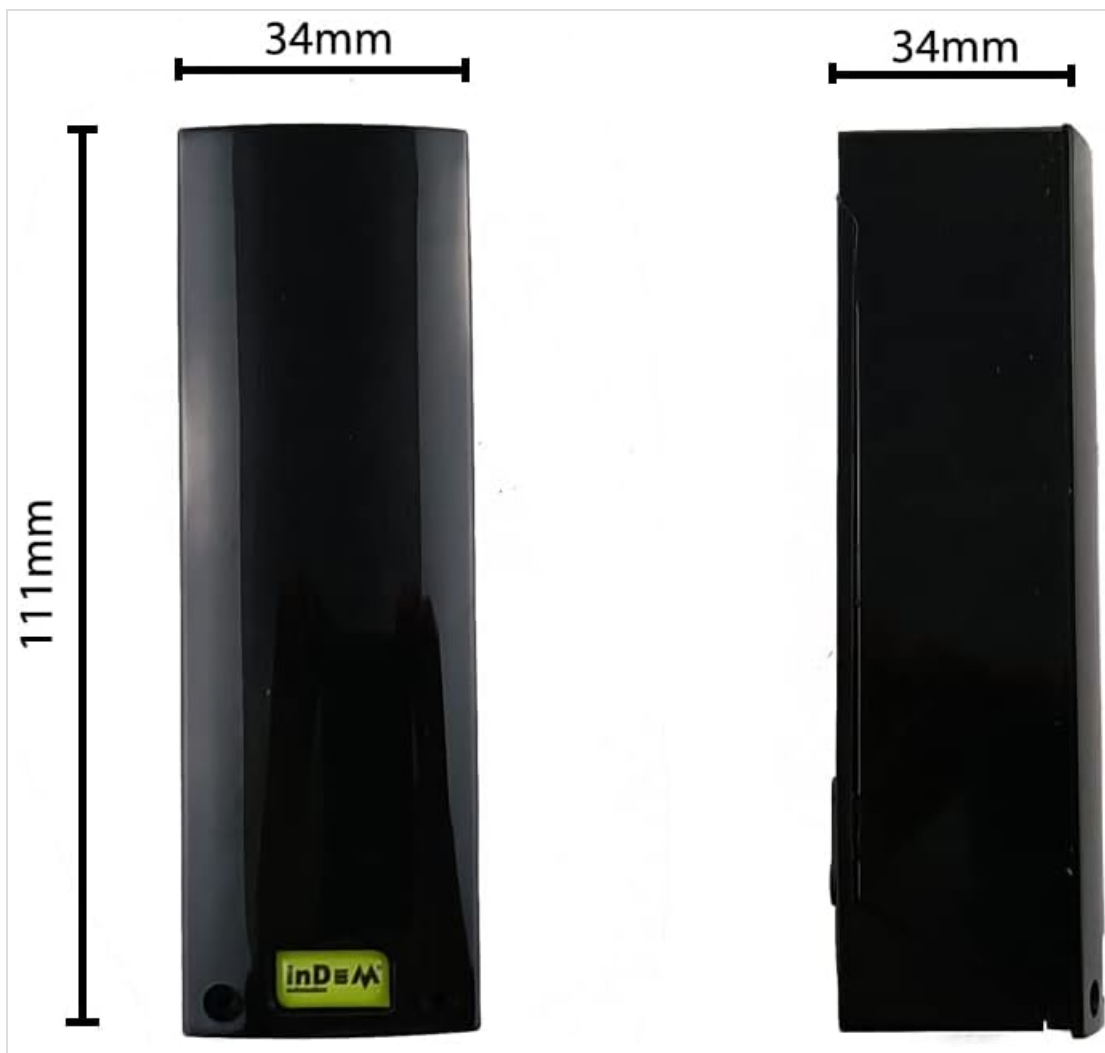
5.4 Alignment

The MFX180 photocells offer significant adjustability to facilitate alignment:

- **Horizontal Adjustment:** The internal mechanism allows for a 180-degree ($\pm 90^\circ$) horizontal rotation. Adjust the internal optical unit until the transmitter beam is accurately directed at the receiver.
- **Vertical Adjustment:** A 20-degree ($\pm 10^\circ$) vertical adjustment is also available to fine-tune the beam's height.
- Most photocells include an LED indicator that illuminates or changes state when proper alignment is achieved. Refer to the specific indicator on your unit.



This image displays the internal components of the INDEM MFX180 photocell, highlighting the circuit board, power and output terminals, and indicating the 180-degree horizontal adjustment capability.



This image illustrates the compact dimensions of the INDEM MFX180 photocell, measuring 34mm in width and 111mm in height, facilitating easy placement.

6. OPERATION

Once properly installed and aligned, the INDEM MFX180 photocell pair operates by emitting an infrared beam from the transmitter unit to the receiver unit. When this beam is interrupted by an obstacle (e.g., a person, vehicle, or object) within its 15-meter range, the receiver's NC contact changes state. This signal is then sent to the gate or door automation control unit, which typically halts or reverses the movement of the gate/door to prevent collision.

The system is designed to provide a safety barrier, ensuring that the gate or door does not close if an obstruction is detected in its path.

7. MAINTENANCE

Regular maintenance helps ensure the longevity and reliable operation of your photocells.

- **Cleaning:** Periodically clean the optical lenses of both the transmitter and receiver units using a soft, damp cloth. Dust, dirt, spiderwebs, or debris can obstruct the infrared beam and cause false detections or system malfunctions.
- **Alignment Check:** Occasionally verify that the photocells remain properly aligned. Strong winds or physical impacts can sometimes shift their position. Re-align if necessary, following the steps in Section 5.4.
- **Cable Inspection:** Check all wiring for signs of wear, damage, or loose connections. Ensure that cable glands are secure to maintain the IP54 protection rating.
- **Functionality Test:** Regularly test the photocells by intentionally interrupting the beam with an object (e.g., your hand or a small box) while the gate/door is closing. The gate/door should stop or reverse immediately.

8. TROUBLESHOOTING

If your photocells are not functioning correctly, consider the following common issues:

- **Gate/Door Not Closing:**
 - Check for obstructions in the beam path.
 - Verify proper alignment of the transmitter and receiver.
 - Inspect the photocell lenses for dirt or debris.
 - Ensure power is supplied to both photocells and all wiring connections are secure.
- **Intermittent Operation:**
 - Poor alignment can cause intermittent issues, especially in varying weather conditions.
 - Loose wiring connections.
 - External light interference (rare, but possible in some installations).
- **No Power to Photocell:**
 - Check the power supply from the control unit.
 - Inspect power cables for damage.

If troubleshooting steps do not resolve the issue, contact qualified technical support.

9. WARRANTY AND SUPPORT

The INDEM MFX180 photocell pair comes with a **24-month product warranty** from the date of purchase. This warranty covers manufacturing defects under normal use conditions.

For technical assistance, spare parts, or warranty claims, please contact your authorized INDEM dealer or the supplier. All spare parts for this product are available from Atecnica.

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