

## Omron E3R-5DE4

# Omron E3R-5DE4 Photoelectric Sensor Detector User Manual

Model: E3R-5DE4 | Brand: Omron

## INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Omron E3R-5DE4 Photoelectric Sensor Detector. The E3R-5DE4 is designed for reliable object detection in various industrial applications. Please read this manual thoroughly before using the product to ensure safe and correct operation.



Figure 1: Omron E3R-5DE4 Photoelectric Sensor Detector as supplied, showing the sensor, cable, and original packaging.

## SETUP

The Omron E3R-5DE4 is a corded electric photoelectric sensor. Proper installation is crucial for optimal performance and safety.

### Mounting

Securely mount the sensor in the desired location, ensuring it is stable and free from excessive vibration. Consider the detection range and the type of object to be detected when positioning the sensor.

### Wiring Connections

Connect the sensor to the power supply and control system according to the wiring diagram provided on the sensor's label. The sensor operates on a corded electric power source. Ensure all connections are secure and insulated to prevent electrical hazards.





Figure 2: Detailed view of the E3R-5DE4 sensor, highlighting the sensitivity adjustment and the wiring diagram for connection.

Refer to the diagram for specific wire color assignments and their functions (e.g., power input, output signal). Incorrect wiring can damage the sensor or connected equipment.

## OPERATING

Once installed and powered, the E3R-5DE4 sensor is ready for operation. The sensor features indicators and an adjustment dial for fine-tuning performance.

### Sensitivity Adjustment

The sensor includes a sensitivity adjustment dial (labeled "Min" to "Max"). Rotate this dial to optimize the detection threshold for your specific application. Adjusting sensitivity allows the sensor to reliably detect objects while minimizing false triggers from environmental factors.

### Status Indicators

- **Stability Indicator:** This indicator provides feedback on the stability of the detection. A stable indication suggests reliable operation.

- **Light Indicator:** This indicator illuminates when the sensor detects an object or when light is received (depending on the operating mode, Light-ON or Dark-ON).

Observe these indicators during operation to confirm proper functioning and to assist in troubleshooting.

## MAINTENANCE

Regular maintenance helps ensure the longevity and reliable performance of your Omron E3R-5DE4 sensor.

- **Cleaning:** Periodically clean the sensor lens and housing with a soft, dry cloth. Avoid using abrasive cleaners or solvents that could damage the sensor's surface.
- **Inspection:** Regularly inspect the sensor and its connecting cables for any signs of physical damage, wear, or loose connections.
- **Environmental Conditions:** Ensure the sensor operates within its specified environmental conditions (temperature, humidity) to prevent premature failure.

## TROUBLESHOOTING

If the Omron E3R-5DE4 sensor is not functioning as expected, consider the following troubleshooting steps:

Problem	Possible Cause	Solution
Sensor not detecting objects	<ul style="list-style-type: none"><li>◦ Incorrect sensitivity setting</li><li>◦ Obstructed lens</li><li>◦ Misalignment</li><li>◦ Power supply issue</li></ul>	<ul style="list-style-type: none"><li>◦ Adjust sensitivity dial</li><li>◦ Clean sensor lens</li><li>◦ Realign sensor with target</li><li>◦ Check power connections and voltage</li></ul>
Sensor detecting objects intermittently or falsely	<ul style="list-style-type: none"><li>◦ Excessive ambient light</li><li>◦ Vibration</li><li>◦ Sensitivity too high</li></ul>	<ul style="list-style-type: none"><li>◦ Shield sensor from strong light sources</li><li>◦ Secure mounting to reduce vibration</li><li>◦ Reduce sensitivity</li></ul>
No power indicator light	<ul style="list-style-type: none"><li>◦ No power supply</li><li>◦ Incorrect wiring</li><li>◦ Damaged cable/sensor</li></ul>	<ul style="list-style-type: none"><li>◦ Verify power source</li><li>◦ Check wiring against diagram</li><li>◦ Inspect cable and sensor for damage</li></ul>

If problems persist after attempting these solutions, contact Omron technical support or a qualified technician.

## SPECIFICATIONS

Feature	Specification
Model Number	E3R-5DE4

Feature	Specification
Product Type	Photoelectric Sensor Detector
Brand	Omron
Power Source	Corded Electric
Product Dimensions	3 x 6 x 2 inches
Item Weight	0.01 Ounces
Date First Available	June 23, 2019

## WARRANTY AND SUPPORT

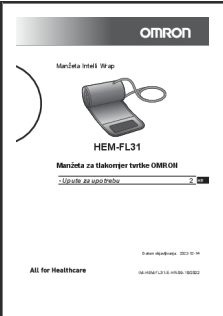
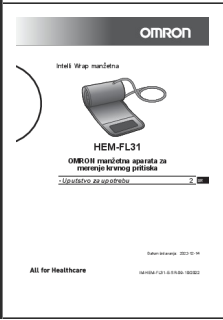
For specific warranty information regarding your Omron E3R-5DE4 Photoelectric Sensor Detector, please refer to the documentation provided at the time of purchase or contact Omron directly. Warranty terms may vary based on region and seller.





If you require technical assistance or support, please visit the official Omron website or contact their customer service department. For purchases made through third-party sellers, please consult their return and support policies. For example, some sellers may offer a 30-day free return policy for certain conditions.

**Omron Official Website:** [www.omron.com](http://www.omron.com)

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This manual is for informational purposes only. Specifications are subject to change without notice.

### Related Documents - E3R-5DE4

	<p><a href="#">OMRON HEM-FL31 Manžeta Intelli Wrap - Upute za upotrebu</a></p> <p>Ovaj priručnik pruža detaljne upute za upotrebu OMRON Intelli Wrap manžete, model HEM-FL31, za precizno mjerenje krvnog tlaka. Sadrži informacije o pravilnom postavljanju, povezivanju, održavanju i tehničkim specifikacijama.</p>
	<p><a href="#">OMRON HEM-FL31 Intelli Wrap Manžetna - Uputstvo za upotrebu</a></p> <p>Ovo uputstvo pruža informacije o korišćenju OMRON HEM-FL31 Intelli Wrap manžetne za merenje krvnog pritiska, uključujući specifikacije, održavanje i bezbednosne informacije.</p>

	<p><a href="#">OMRON HEM-FL31 Intelli Wrap Cuff: Instrucțiuni de utilizare și Specificații</a></p> <p>Ghid complet pentru manșonul OMRON HEM-FL31 Intelli Wrap, incluzând instrucțiuni de utilizare, întreținere, specificații tehnice și descrierea simbolurilor. Asigură o măsurare corectă a tensiunii arteriale.</p>
	<p><a href="#">OMRON ET6250 Wireless Digital Thermometer Instruction Manual   User Guide</a></p> <p>Comprehensive instruction manual for the OMRON ET6250 Wireless Digital Thermometer. Learn how to use, pair with smart devices, troubleshoot, and maintain your thermometer for accurate temperature readings.</p>
	<p><a href="#">OMRON HEM-6181 Wrist Blood Pressure Monitor: User Guide &amp; Safety Instructions</a></p> <p>Comprehensive instruction manual for the OMRON HEM-6181 Wrist Blood Pressure Monitor. Learn how to accurately measure blood pressure and pulse rate at home, understand readings, and troubleshoot common issues.</p>
	<p><a href="#">OMRON E3NX-CA8 Fiber Amplifier: Specifications, Accessories, and Downloads</a></p> <p>Comprehensive details for the OMRON E3NX-CA8 fiber optic amplifier, including technical specifications, compatible accessories, and available documentation such as datasheets and manuals. Ideal for industrial automation and color mark detection applications.</p>

Documents - Omron – E3R-5DE4

PRODUCT NEWS

Product Discontinuation Notices

August 1, 2011

Photoelectric Sensors

No. 2011E029

Discontinuation Notice of Transparent bottle sensor E3R series (for China area only)

Product Discontinuation

Recommended Replacement

E3R series

E3Z-T/D/R

Discontinuation date : The end of March, 2012

Caution on recommended replacement

There are changes in the mounting dimensions and external dimension.

Physical voltage will change from 12V to 24V.

The output will change from voltage output type to open collector output type.

The reflector (E3Z-RD) does not come with the recommended replacement. The customer are requested to place an order for that separately.

Indicator will change from Light indicator (red) to Operation indicator (orange).

Difference from discontinued product

Model	Body Color	Mounting Dimension	Mounting Dimension	Mounting Dimension	Mounting Dimension	Mounting Dimension	Mounting Dimension	Mounting Dimension	Mounting Dimension
E3Z-T01	...	...	...	...	...	...	...	...	...
E3Z-D02	...	...	...	...	...	...	...	...	...
E3Z-R01	...	...	...	...	...	...	...	...	...

OMRON Corporation

Industrial Automation Company

[pdf] Specifications Dimension Guide

Product News 2011 8 IAB for ENG PRDN OMRON E3R E3Z T D R linkoing tinchan |||  
PRODUCT NEWS Product Discontinuation Notices Photoelectric Sensors August 1, 2011 No. 2011E029 Di ... omation Company Product Discontinuation and recommended replacement Product discontinuation Model **E3R-5DE4** 2M E3R-5E4 2M E3R-5E4 5M E3R-5L 2M E3R-DS30E4 2M E3R-R2E4 2M Recommended replacement Model...

lang:en score:24 filesize: 622.15 K page\_count: 8 document date: 2011-07-26

OMRON


Built-in Amplifier Photoelectric Sensor

E3R

Low-cost, Compact Photoelectric Sensor

READ AND UNDERSTAND THIS CATALOG:

Please read and understand the catalog before purchasing the products. Information may change without notice. OMRON assumes no responsibility for errors or omissions.



Ordering Information

E3R

Sensing method	Sensing distance	Operating mode	Model
Through beam	5 m	Light ON, Dark ON (continuous)	E3R-DE4
Diffuse reflection	0.1 to 2 m		E3R-DE4C
Diffuse reflection	30 cm		E3R-DE4C1

Note: The through-beam model consists of the E3R-5L Emitter and E3R-5DE4 Receiver.

E3R-5E4 with slit

Slit width	Sensing distance	Model
1 mm	1 m (dark ON)	E3R-DS
3 mm	1.5 m (dark ON)	

Note: The above sensing distance is possible with a slit attached to both the Emitter and the Receiver. Refer to Engineering Data for details.

Accessories (Order Separately)

Part	Model
Nonconnector	E3R-5L

[pdf] Specifications Datasheet Dimension Guide Accessories Catalog

Sensing Photoelectric Sensors E230 E1 03 0805 0 5C 0997 M OMRON Built in Amplifier Sensor E3R 5

Dimensions Note All units are millimeters unless otherwise indicated Emitter 4 mm dia 12 x 18 2 cores

Standard length m Receiver 1905091 farnell datasheets

Built-in Amplifier Photoelectric Sensor Low-cost, Compact Photoelectric Sensor READ AND UNDERSTAND ... to 2 m Diffuse reflective 30 cm Note: The through-beam model consists of the E3R-5L Emitter and **E3R-5DE4** Receiver. E3R-5E4 with Slit Model E3R-5E4 E3R-R2E4 E3R-DS30E4 Slit width Sensing distanc...

lang:en score:20 filesize: 165.89 K page\_count: 9 document date: 2012-06-13