

NO: PH-177 **PRODUCT:** E3F2 DC Photoelectric Sensors
DATE: May 2013 **TYPE:** Partial Discontinuation Notice

E3F2 Series DC Cylindrical M18 Photoelectric Sensors to be Discontinued March 2014; Replace with E3FA or E3FB



E3F2



E3FA

E3FB

Note: This discontinuation does not include AC power supply models (E3F2-□□Z□). All DC power supply models in plastic body, nickel-plated brass body and stainless steel body will be discontinued March 2014.

| Status | Product Discontinuation | Recommended Replacement |
|--|---|--|
| Body material | Cylindrical Photoelectric Sensor | Cylindrical Photoelectric Sensor |
| Plastic | Model E3F2-□□□□-□ | Model E3FA series |
| Nickel-plated brass | Model E3F2-□□□□-□□-M-□ | Model E3FB series |
| Stainless steel | Model E3F2-□□□□-□□-S-□ | No recommended replacement |
| Status | Product Discontinuation | Recommended Replacement |
| Through-beam | Model E3F2-10□-□ Model E3F2-7□-□ | Model E3F□-T□□1 Model E3F□-T□□1 |
| Diffuse reflective | Model E3F2-DS10□4-□ Model E3F2-DS30□4-□ Model E3F2-DS30□41-□ Model E3F2-D1□4-M | Model E3F□-D□□1 Model E3F□-D□□2 Model E3F□-D□□2 Model E3F□-D□□3 |
| Retro-reflective | Model E3F2-R2□4-□ Model E3F2-R2□41-□ Model E3F2-R4□4 | Model E3F□-R□□1 Model E3F□-R□□1 Model E3F□-R□□1 |
| Diffuse reflective Background suppression | Model E3F2-LS10□4 | Model E3F□-L□□1 |

Precautions on Installing the Recommended Replacement

1. Reflector E39-R1S used with retro-reflective models of E3FA/E3FB is sold separately.
2. The light source of diffuse reflective sensors has changed: E3F2-D1□ uses an infrared LED; the E3FA-D□ uses a visible red LED for easier alignment.
3. Operation selection for PNP output models has changed:
When the pink wire is open, E3F2 operates in Light-ON mode.
When the pink wire is open, E3FA/E3FB models operate in Dark-ON mode.

Affected Parts

Through-beam

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-10B4 2M | E3FA-TP11 2M |
| E3F2-10B4-M1-M | E3FB-TP21 |
| E3F2-10B4-M 2M | E3FB-TP11 2M |
| E3F2-10B4-P1 | E3FA-TP21 |
| E3F2-10DB4-M1-M | E3FB-TP21-D |
| E3F2-10LB-M1-M | E3FB-TP21-L |
| E3F2-7B4 10M | None available |
| E3F2-7B4 2M | E3FA-TP11 2M |
| E3F2-7B4 5M | E3FA-TP11 5M |
| E3F2-7B4-M 10M | None available |
| E3F2-7B4-M1-M | E3FB-TP21 |
| E3F2-7B4-M 2M | E3FB-TP11 2M |
| E3F2-7B4-M 5M | None available |
| E3F2-7B4-M 8M | E3FB-TP11 8M |
| E3F2-7B4-P1 | E3FA-TP21 |
| E3F2-7C4 10M | None available |
| E3F2-7C4 2M | E3FA-TN11 2M |
| E3F2-7C4 5M | None available |
| E3F2-7C4-M 10M | None available |
| E3F2-7C4-M1-M | E3FB-TN21 |
| E3F2-7C4-M 2M | E3FB-TN11 2M |

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-7C4-M 5M | None available |
| E3F2-7C4-M 8M | None available |
| E3F2-7C4-P1 | E3FA-TN21 |
| E3F2-7DB4 2M | E3FA-TP11-D 2M |
| E3F2-7DB4-M 10M | None available |
| E3F2-7DB4-M1-M | E3FB-TP21-D |
| E3F2-7DB4-M 2M | E3FB-TP11-D |
| E3F2-7DB4-M 5M | None available |
| E3F2-7DB4-P1 | E3FA-TP21-D |
| E3F2-7DC4 2M | E3FA-TN11-D 2M |
| E3F2-7DC4-M 10M | None available |
| E3F2-7DC4-M1-M | E3FB-TN21-D |
| E3F2-7DC4-M 2M | None available |
| E3F2-7DC4-M 5M | None available |
| E3F2-7DC4-P1 | E3FA-TN21-D |
| E3F2-7L 2M | E3FA-TP11-L 2M |
| E3F2-7L-M 10M | None available |
| E3F2-7L-M1-M | E3FB-TP21-L |
| E3F2-7L-M 2M | E3FB-TP11-L 2M |
| E3F2-7L-M 5M | None available |
| E3F2-7L-P1 | E3FA-TP21-L |

Diffuse Reflective

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-D1B4 2M | E3FA-DP13 2M |
| E3F2-D1B4-P1 | E3FA-DP23 |
| E3F2-D1B4-M 2M | E3FB-DP13 2M |
| E3F2-D1B4-M1-M | E3FB-DP23 |
| E3F2-D1B4-S 3.5M | None available |
| E3F2-D1C4 2M | E3FA-DN13 2M |
| E3F2-D1C4-P1 | E3FA-DN23 |
| E3F2-D1C4-M 2M | E3FB-DN13 2M |
| E3F2-D1C4-M1-M | E3FB-DN23 |
| E3F2-DS10B4-M1-M | E3FB-DP21 |
| E3F2-DS10B4-M 2M | E3FB-DP11 2M |
| E3F2-DS10B4-M 5M | None available |
| E3F2-DS10B4-M 7M | None available |
| E3F2-DS10B4-N 10M | None available |

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-DS10B4-N 2M | E3FA-DP11 2M |
| E3F2-DS10B4-N 5M | E3FA-DP11 5M |
| E3F2-DS10B4-N 7M | None available |
| E3F2-DS10B4-P1 | E3FA-DP21 |
| E3F2-DS10C4-M 10M | None available |
| E3F2-DS10C4-M1-M | E3FB-DN21 |
| E3F2-DS10C4-M 2M | E3FB-DN11 2M |
| E3F2-DS10C4-M 5M | None available |
| E3F2-DS10C4-N 10M | None available |
| E3F2-DS10C4-N 2M | E3FA-DN11 2M |
| E3F2-DS10C4-N 5M | E3FA-DN11 5M |
| E3F2-DS10C4-P1 | E3FA-DN21 |
| E3F2-DS30B4-1 | None available |
| E3F2-DS30B4 10M | None available |

Diffuse Reflective continued

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-DS30B41 2M | E3RA-DP22 |
| E3F2-DS30B41 5M | None available |
| E3F2-DS30B41-M1-M | E3RB-DP22 |
| E3F2-DS30B41-M 2M | E3RB-DP12 2M |
| E3F2-DS30B41-M 5M | None available |
| E3F2-DS30B41-P1 | E3RA-DN13 2M |
| E3F2-DS30B4 2M | E3FA-DP12 2M |
| E3F2-DS30B4 5M | E3FA-DP12 5M |
| E3F2-DS30B4-M 10M | None available |
| E3F2-DS30B4-M1-M | E3FB-DP22 |
| E3F2-DS30B4-M 2M | E3FB-DP12 2M |
| E3F2-DS30B4-M 5M | None available |
| E3F2-DS30B4-P1 | E3FA-DP22 |
| E3F2-DS30C4 10M | None available |

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-DS30C41 2M | E3RA-DN12 2M |
| E3F2-DS30C41 5M | None available |
| E3F2-DS30C41-M1-M | E3RB-DN22 |
| E3F2-DS30C41-M 2M | E3RB-DN12 2M |
| E3F2-DS30C41-M 5M | None available |
| E3F2-DS30C41-P1 | E3RA-DP12 2M |
| E3F2-DS30C4 2M | E3FA-DN12 2M |
| E3F2-DS30C4 5M | None available |
| E3F2-DS30C4-M 10M | None available |
| E3F2-DS30C4-M1-M | E3FB-DN22 |
| E3F2-DS30C4-M 2M | E3FB-DN12 2M |
| E3F2-DS30C4-M 5M | E3FB-DN12 5M |
| E3F2-DS30C4-P1 | E3FA-DN22 |
| E3F2-DS6B4-M 2M | E3FB-DP11 2M |

Retro-reflective

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-R2B4 10M | None available |
| E3F2-R2B4 2M | E3FA-RP11 2M |
| E3F2-R2B4 5M | E3FA-RP11 5M |
| E3F2-R2B4-E 10M | None available |
| E3F2-R2B4-E 2M | E3FA-RP11 2M |
| E3F2-R2B4-E 5M | E3FA-RP11 5M |
| E3F2-R2B4-P1 | E3FA-RP21 |
| E3F2-R2B4-P1-E | E3FA-RP21 |
| E3F2-R2C4 10M | None available |
| E3F2-R2C4 2M | E3FA-RN11 2M |
| E3F2-R2C4 5M | E3FA-RN11 5M |
| E3F2-R2C4-E 10M | None available |
| E3F2-R2C4-E 2M | E3FA-RN11 2M |
| E3F2-R2C4-E 5M | E3FA-RN11 5M |
| E3F2-R2C4-P1 | E3FA-RN21 |
| E3F2-R2C4-P1-E | E3FA-RN21 |
| E3F2-R2RB41 2M | E3RA-RN21 |
| E3F2-R2RB41 5M | E3RA-RP11 5M |
| E3F2-R2RB41-E1 2M | None available |
| E3F2-R2RB41-E 2M | E3RA-RP11 2M |
| E3F2-R2RB41-E 5M | E3RA-RP11 5M |
| E3F2-R2RB41-M1-M | E3RB-RP21 |
| E3F2-R2RB41-M1-M-E | E3RB-RP21 |
| E3F2-R2RB41-M 2M | E3RB-RP11 2M |
| E3F2-R2RB41-M 5M | None available |
| E3F2-R2RB41-M-E 2M | E3RB-RP11 2M |
| E3F2-R2RB41-M-E 5M | None available |
| E3F2-R2RB41-P1 | E3RA-RP21 |

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-R2RB41-P1-E | E3RA-RP21 |
| E3F2-R2RC41 2M | E3RA-RN11 2M |
| E3F2-R2RC41 5M | None available |
| E3F2-R2RC41-E 2M | E3RA-RN11 2M |
| E3F2-R2RC41-E 5M | None available |
| E3F2-R2RC41-M1-M | E3RB-RN21 |
| E3F2-R2RC41-M1-M-E | E3RB-RN21 |
| E3F2-R2RC41-M 2M | E3RB-RN11 2M |
| E3F2-R2RC41-M 5M | None available |
| E3F2-R2RC41-M-E 2M | E3RB-RN11 2M |
| E3F2-R2RC41-M-E 5M | None available |
| E3F2-R2RC41-P1 | E3RA-RN21 |
| E3F2-R2RC41-P1-E | E3RA-RN21 |
| E3F2-R4B4 2M | E3FA-RP11 2M |
| E3F2-R4B4-E 2M | E3FA-RP11 2M |
| E3F2-R4B4F 2M | E3FA-RP11 2M |
| E3F2-R4B4F-E 2M | E3FA-RP11 2M |
| E3F2-R4B4-E 5M | E3FA-RP11 2M |
| E3F2-R4B4F-P1 | E3FA-RP21 |
| E3F2-R4B4F-P1-E | E3FA-RP21 |
| E3F2-R4B4-P1 | E3FA-RP21 |
| E3F2-R4B4-P1-E | E3FA-RP21 |
| E3F2-R4B4F-M 2M | E3FB-RP11 2M |
| E3F2-R4B4F-M-E 2M | E3FB-RP11 2M |
| E3F2-R4B4-M 2M | E3FB-RP11 2M |
| E3F2-R4B4-M-E 2M | E3FB-RP11 2M |
| E3F2-R4B4-M-E 5M | E3FB-RP11 2M |
| E3F2-R4B4F-M1-M | E3FB-RP21 |

Retro-reflective continued

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-R4B4F-M1-M-E | E3FB-RP21 |
| E3F2-R4B4-M1-M | E3FB-RP21 |
| E3F2-R4B4-M1-M-E | E3FB-RP21 |
| E3F2-R4B4-M1-S-E | None available |
| E3F2-R4B4-S-E 2M | None available |
| E3F2-R4B4-S-E 5M | None available |
| E3F2-R4C4 2M | E3FA-RN11 2M |
| E3F2-R4C4-E 2M | E3FA-RN11 2M |
| E3F2-R4C4F 2M | E3FA-RN11 2M |
| E3F2-R4C4F-E 2M | E3FA-RN11 2M |
| E3F2-R4C4F-P1 | E3FA-RN21 |
| E3F2-R4C4F-P1-E | E3FA-RN21 |
| E3F2-R4C4-P1 | E3FA-RN21 |
| E3F2-R4C4-P1-E | E3FA-RN21 |
| E3F2-R4C4 2M | E3FA-RN11 2M |
| E3F2-R4C4-E 2M | E3FA-RN11 2M |
| E3F2-R4C4F 2M | E3FA-RN11 2M |

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-R4C4F-E 2M | E3FA-RN11 2M |
| E3F2-R4C4F-P1 | E3FA-RN21 |
| E3F2-R4C4F-P1-E | E3FA-RN21 |
| E3F2-R4C4-P1 | E3FA-RN21 |
| E3F2-R4C4-P1-E | E3FA-RN21 |
| E3F2-R4C4F-M 2M | E3FB-RN11 2M |
| E3F2-R4C4F-M-E 2M | E3FB-RN11 2M |
| E3F2-R4C4-M 2M | E3FB-RN11 2M |
| E3F2-R4C4-M-E 2M | E3FB-RN11 2M |
| E3F2-R4C4-M-E 5M | E3FB-RN11 2M |
| E3F2-R4C4F-M1-M | E3FB-RN21 |
| E3F2-R4C4F-M1-M-E | E3FB-RN21 |
| E3F2-R4C4-M1-M | E3FB-RN21 |
| E3F2-R4C4-M1-M-E | E3FB-RN21 |
| E3F2-R4C4-M1-S-E | None available |
| E3F2-R4C4-S-E 2M | None available |

Diffuse Reflective Background Suppression

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-LS10B4 2M | E3FA-LP11 2M |
| E3F2-LS10B4 5M | E3FA-LP11 2M |
| E3F2-LS10B4-P1 | E3FA-LP21 |
| E3F2-LS10B4-M 2M | E3FB-LP11 2M |
| E3F2-LS10B4-M1-M | E3FB-LP21 |
| E3F2-LS10B4-M1-S | None available |
| E3F2-LS10B4-S 2M | None available |

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| E3F2-LS10C4 | E3FA-LN11 2M |
| E3F2-LS10C4-P1 | E3FA-LN21 |
| E3F2-LS10C4-M 2M | E3FB-LN11 2M |
| E3F2-LS10C4-M1-M | E3FB-LN11 2M |
| E3F2-LS10C4-M1-S | None available |
| E3F2-LS10C4-S 2M | None available |

Reference Documentation

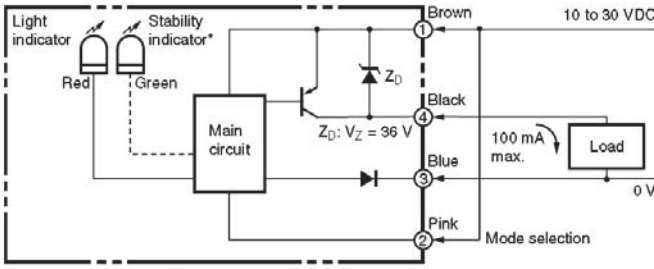

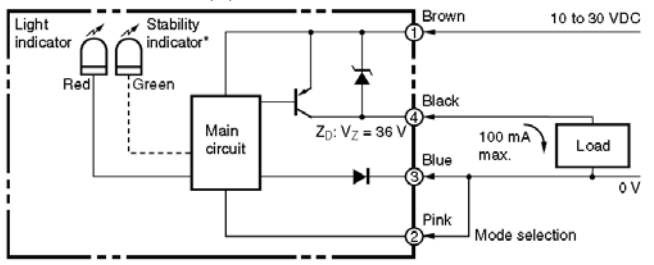

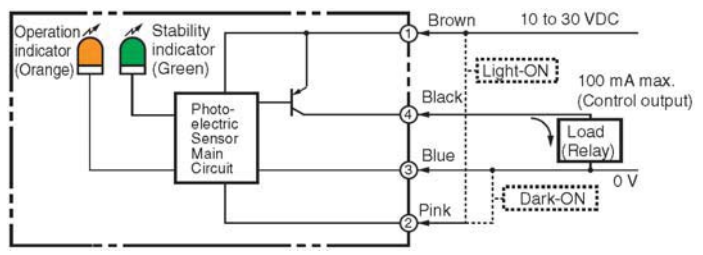
| Description | Media | Publication number |
|--|-------|-------------------------------|
| E3F2 M18 Cylindrical Photoelectric Sensors Data Sheet, DC models | PDF | E58E-EN-01 |
| E3FA/E3RA/E3FB/E3RB Data Sheet | PDF | E53I-E-01 |
| Migration Guide: E3FA Replacement of E3F2 - E3F3 - E3FN | PDF | MIG E3FA E3F2 |

See the following pages for a detailed comparison.

Body Color

| Product discontinuation Model E3F2 series | Recommended replacement Model E3FA/E3FB series |
|--|---|
| E3F2-□□□□-□: Light gray | E3FA series: Black |
| E3F2-□□□□-□□-□-□: Silver | E3FB series: Silver |

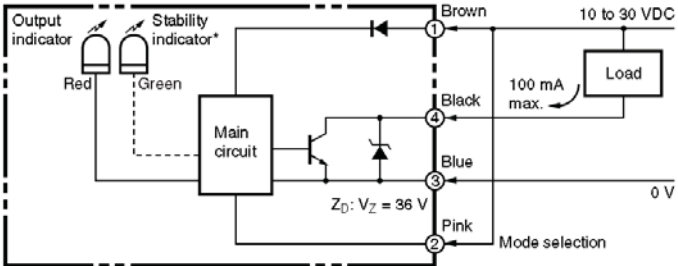

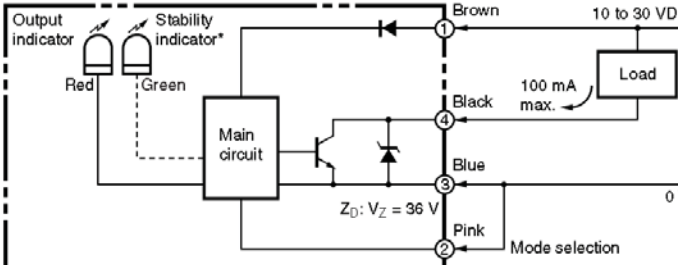

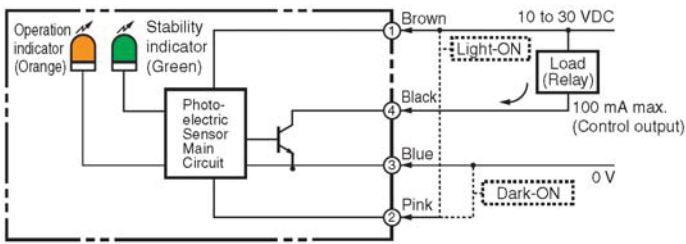

Wiring Diagrams

| Product discontinuation Model E3F2 series | Recommended replacement Model E3FA/E3FB series |
|--|---|
| <p>PNP models:</p> <p>E3F2-□□B4-□□-□ (except for E3F2-LS10B4-□□-□)</p> <p>Light-ON: Connect the pink Pin (2) and brown Pin (1) cords or open the pink cord Pin (2).</p>  <p style="text-align: center;">Connector Pin Arrangement</p> <p>* Only on models E3F2-R4B4-□ and E3F2-D1B4-□</p>  <p>Dark-ON: Connect the pink Pin (2) and blue Pin (3) cords.</p>  <p style="text-align: center;">Connector Pin Arrangement</p> <p>* Only on models E3F2-R4B4-□ and E3F2-D1B4-□</p>  | <p>E3F□-TP□□/DP□□/ RP□□</p> <p>Light-ON: Connect the pink wire Pin (2) to the brown Pin (1)</p> <p>Dark-ON: Connect the pink wire (Pin 2) to the blue Pin (3) or open the pink wire Pin (2)</p>  |

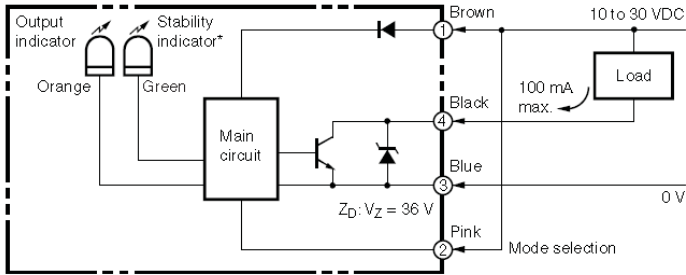

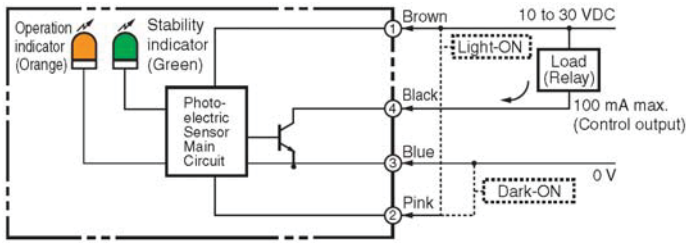
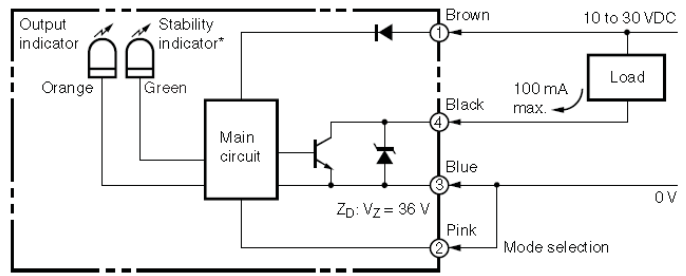

Wiring Diagrams continued

| <p align="center">Product discontinuation Model E3F2 series</p> | <p align="center">Recommended replacement Model E3FA/E3FB series</p> |
|--|--|
| <p>PNP models:</p> <p>E3F2-LS10B4-□□-□ Light-ON: Connect the pink Pin (2) and brown Pin (1) cords or open the pink cord Pin (2).</p> <p align="center">Connector Pin Arrangement</p> <p>Dark-ON: Connect the pink Pin (2) and blue Pin (3) cords.</p> <p align="center">Connector Pin Arrangement</p> | <p>E3F□-LP□1 Light-ON: Connect the pink wire Pin (2) to the brown Pin (1) Dark-ON: Connect the pink wire (Pin 2) to the blue Pin (3) or open the pink wire Pin (2)</p> <p>Note: There is no available replacement for the stainless steel body versions E3F2-LS10B4-M1-S and E3F2-LS10B4-S 2M.</p> |

Wiring Diagrams continued

| Product discontinuation Model E3F2 series | Recommended replacement Model E3FA/E3FB series |
|---|--|
| <p>NPN models:</p> <p>E3F2-□□C4-□□-□ (except for E3F2-LS10C4-□□-□)</p> <p>Light-ON: Connect the pink Pin (2) and brown Pin (1) cords or open the pink cord Pin (2).</p>  <p style="text-align: center;">Connector Pin Arrangement</p>  <p>* Only on models E3F2-R4C4-□ and E3F2-D1C4-□</p> <p>Dark-ON: Connect the pink Pin (2) and blue Pin (3) cords.</p>  <p style="text-align: center;">Connector Pin Arrangement</p>  <p>* Only on models E3F2-R4C4-□ and E3F2-D1C4-□</p> | <p>E3F□-T□□□/□-D□□□/□-R□□□</p> <p>Light-ON: Connect the pink wire Pin (2) to the brown Pin (1) or open the pink wire Pin (2).</p> <p>Dark-ON: Connect the pink wire Pin (2) to the blue Pin (3).</p>   |

Wiring Diagrams continued

| <p align="center">Product discontinuation Model E3F2 series</p> | <p align="center">Recommended replacement Model E3FA/E3FB series</p> |
|---|---|
| <p>E3F2-LS10C4-□□-□ Light-ON: Connect the pink Pin (2) and brown Pin (1) cords or open the pink cord Pin (2).</p>  <p align="center">Connector Pin Arrangement</p>  | <p>E3F□-LN□1 Light-ON: Connect the pink wire Pin (2) to the brown Pin (1) or open the pink wire Pin (2).</p> <p>Dark-ON: Connect the pink wire Pin (2) to the blue Pin (3).</p>  |
| <p>Dark-ON: Connect the pink Pin (2) and blue Pin (3) cords.</p>  <p align="center">Connector Pin Arrangement</p>  | <p>Note: There is no available replacement for the stainless steel body versions E3F2-LS10C4-M1-S and E3F2-LS10C4-S 2M.</p> |

Dimensions Unit: mm (inch)

**Product discontinuation
Model E3F2 series**

Cable types (plastic housing)
E3F2-10□ E3F2-7□
E3F2-R2□ E3F2-DS10□

E3F2-DS30□

**Recommended replacement
Model E3FA/E3FB series**

**Sensor
E3FA-□□1□**

Front view
 41, 34.5, 7 dia, 2, M18 x 30.5 P=1, 16.6 dia, 23, 30.5, Sensitivity adjuster *, Operation indicator (orange), Stability indicator (green), Vinyl insulated round cord 4 dia. 4 cores (conductor cross sectional area 0.128 mm² (AWG26) (Insulation outside diameter 0.85 dia.) standard length 2 m

Left side view
 15, Receiver, Emitter, Optical axis

Mounting Holes
 18.5* dia

Suitable models
 E3FA-R□11
 E3FA-D□1□
 E3FA-L□1□

*** Suitable models**
 E3FA-R□11
 E3FA-D□1□

Connector types (plastic housing)
E3F2-10□□-P1 E3F2-7□□-P1
E3F2-R2□□-P1 E3F2-DS10□-P1

E3F2-DS30□-P1

E3FA-□□2□

Front view
 45, 34.5, 7 dia, 2, M18 x 30.5 P=1, 16.6 dia, 23, 30.5, Sensitivity adjuster *, Operation indicator (orange), Stability indicator (green), M12 x 4 P=1

Right side view
 1, 2, 3, 4

Left side view
 15, Receiver, Emitter, Optical axis

Mounting Holes
 18.5* dia

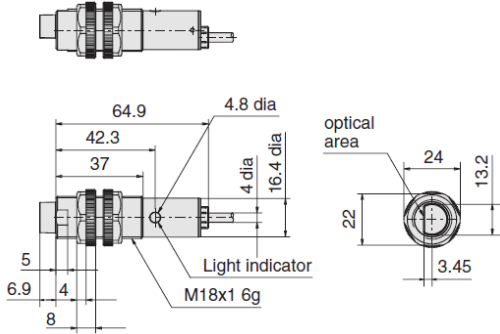
Suitable models
 E3FA-R□21
 E3FA-D□2□
 E3FA-L□21

*** Suitable models**
 E3FA-R□21
 E3FA-D□2□

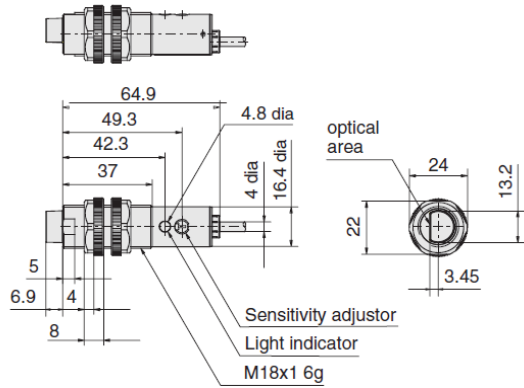
| Terminal No. | Specification |
|--------------|------------------------|
| 1 | +V |
| 2 | L/on · D/on selectable |
| 3 | 0V |
| 4 | Output |

**Product discontinuation
Model E3F2 series**

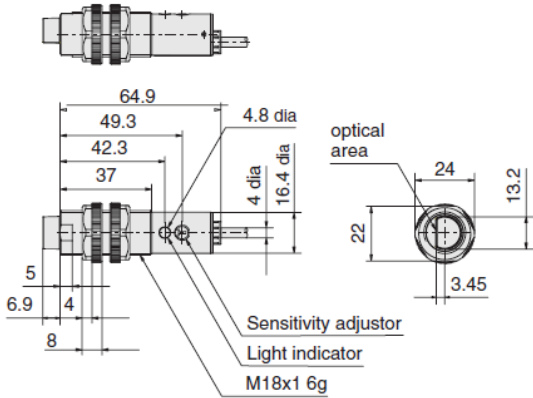
**Cable types (plastic housing)
E3F2-R2R□41**



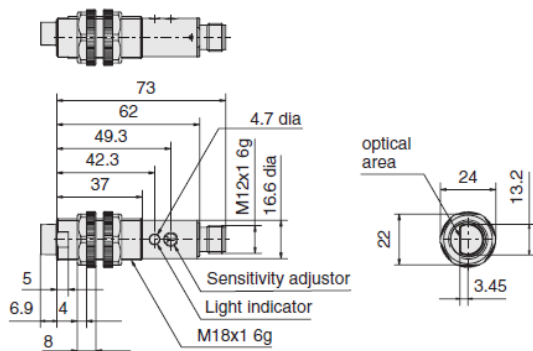
E3F2-DS30□41



**Connector types (plastic housing)
E3F2-R2R□41-P1**

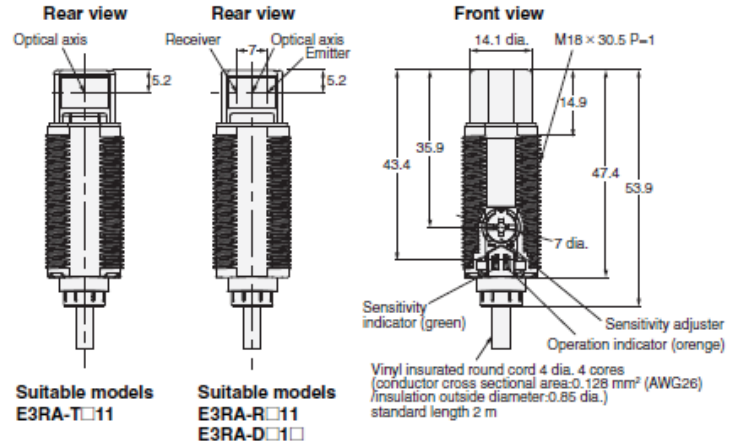


E3F2-DS30□41-P1

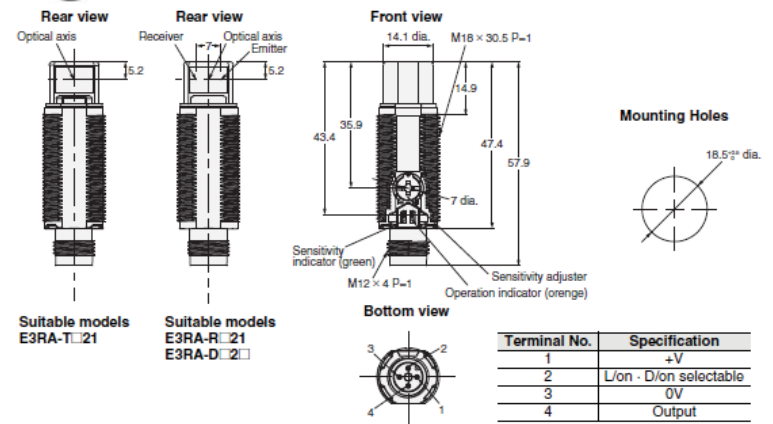


**Recommended replacement
Model E3FA/E3FB series**

E3RA-□□1□



E3RA--□□2□

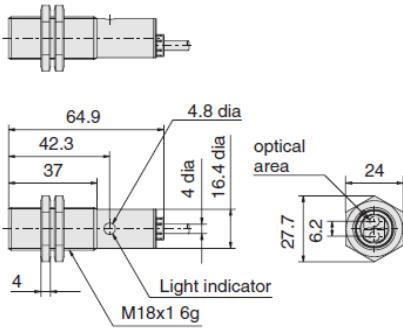


| Terminal No. | Specification |
|--------------|------------------------|
| 1 | +V |
| 2 | L/on · D/on selectable |
| 3 | 0V |
| 4 | Output |

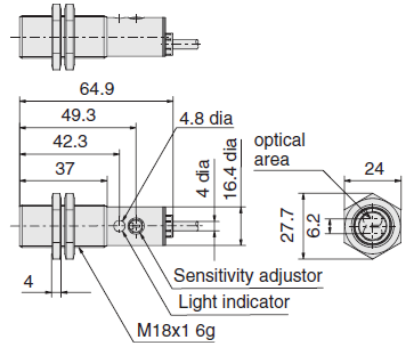
**Product discontinuation
Model E3F2 series**

Cable types (metal housing)

E3F2-10□-M-□
E3F2-7□-M-□
E3F2-DS10□-M-□

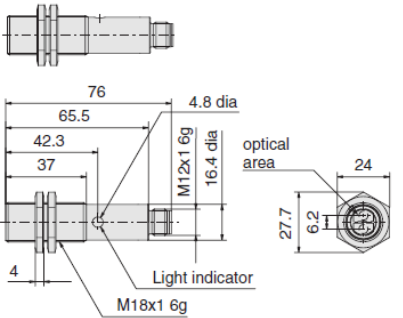


E3F2-DS30□-M-□

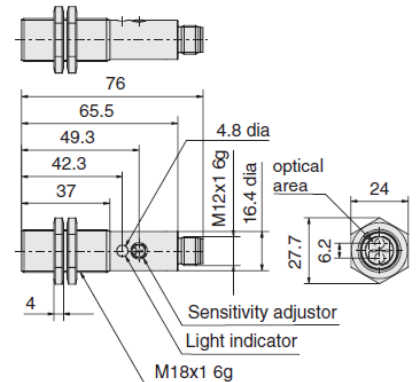


Connector types (metal housing)

E3F2-10□-M1-M
E3F2-7□-M1-M
E3F2-DS10□-M1-M

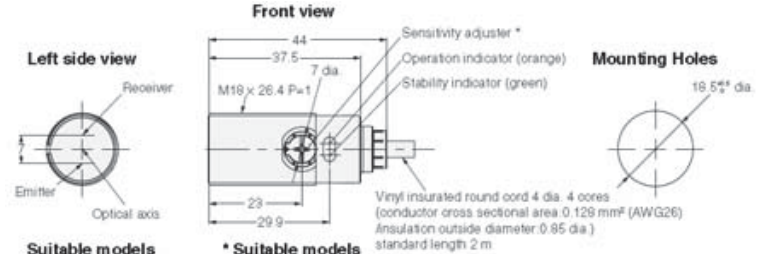


E3F2-DS30□-M1-M



**Recommended replacement
Model E3FA/E3FB series**

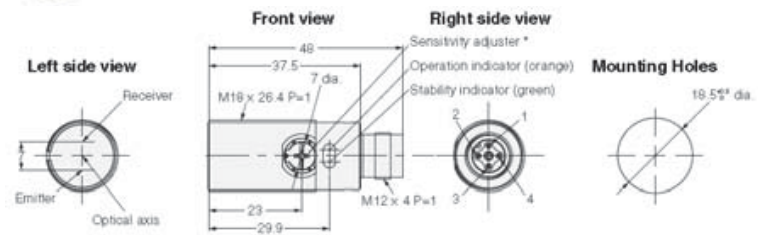
E3FB-□□1□



Suitable models
E3FB-R□11
E3FB-D□1□
E3FB-L□11

*** Suitable models**
E3FB-R□11
E3FB-D□1□

E3FB-□□2□



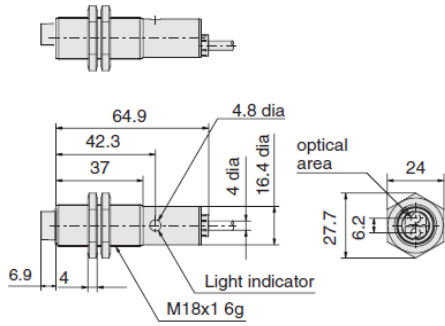
Suitable models
E3FB-R□21
E3FB-D□2□
E3FB-L□21

*** Suitable models**
E3FB-R□21
E3FB-D□2□

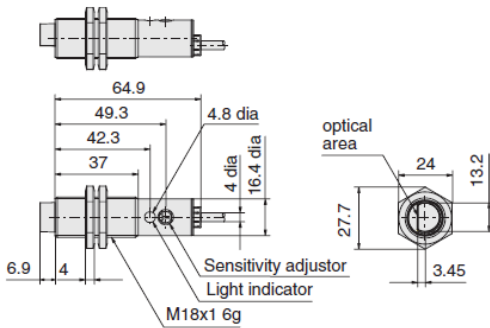
| Terminal No. | Specification |
|--------------|------------------------|
| 1 | +V |
| 2 | L/on · D/on selectable |
| 3 | 0V |
| 4 | Output |

Product discontinuation
Model E3F2 series

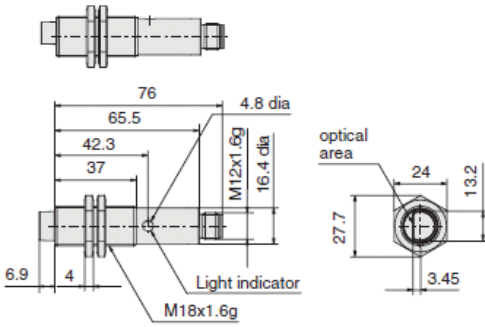
Cable types (metal housing)
E3F2-R2R□41-M-□



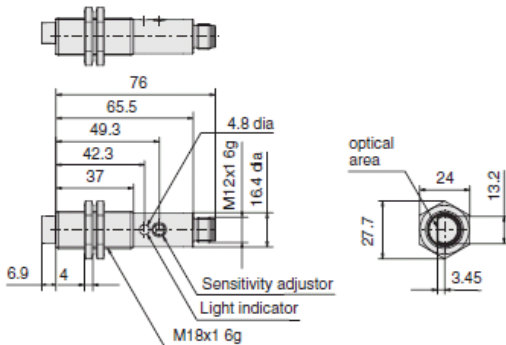
E3F2-DS30□41-M-□



Connector types (metal housing)
E3F2-R2R□41-M1-M

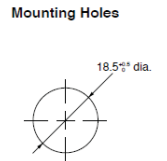
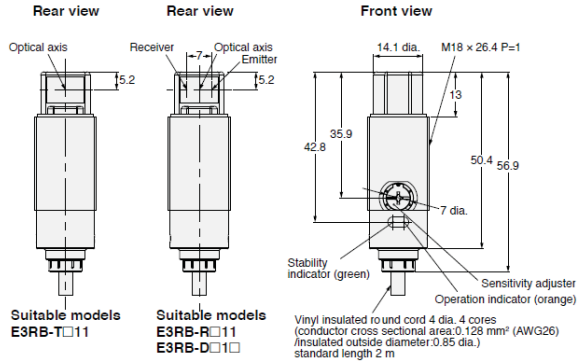


E3F2-DS30□41-M1-M

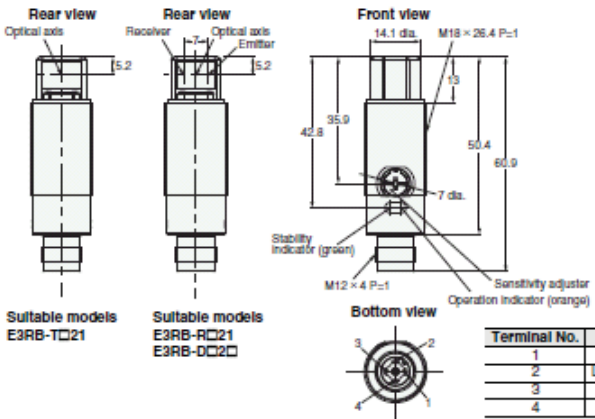


Recommended replacement
Model E3FA/E3FB series

E3RB-□□1□



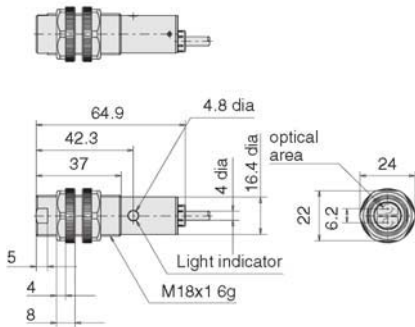
E3RB-□□2□



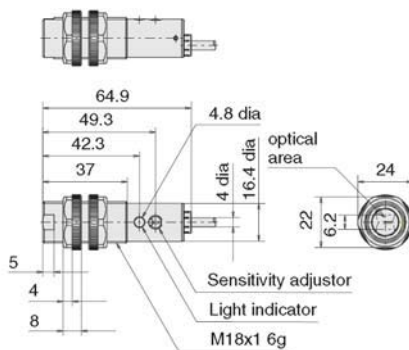
| Terminal No. | Specification |
|--------------|--------------------------|
| 1 | +V |
| 2 | U/Ion - D/Ion selectable |
| 3 | 0V |
| 4 | Output |

Product discontinuation
Model E3F2 series

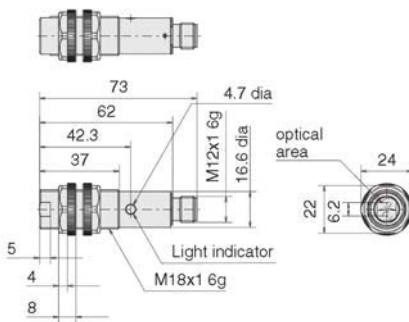
Sensor
E3F2-LS10□4
E3F2-R4□4F-□



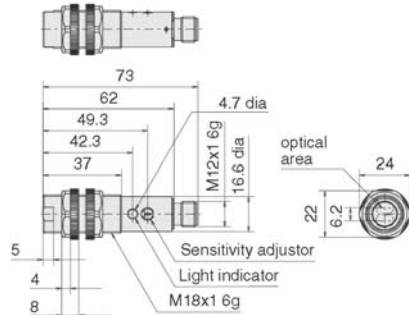
E3F2-D1□4
E3F2-R4□4-□



E3F2-LS10□4-P1
E3F2-R4□4F-P1-□



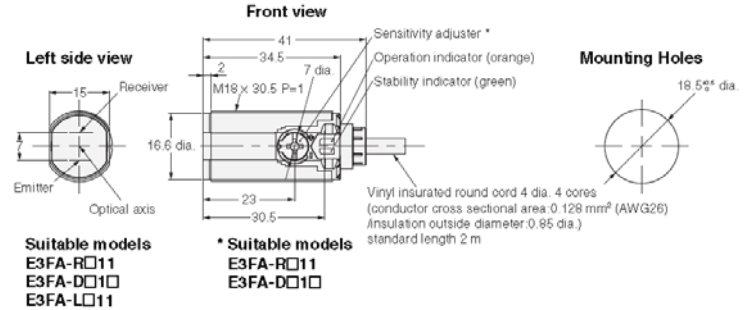
E3F2-D1□4-P1
E3F2-R4□4-P1-□



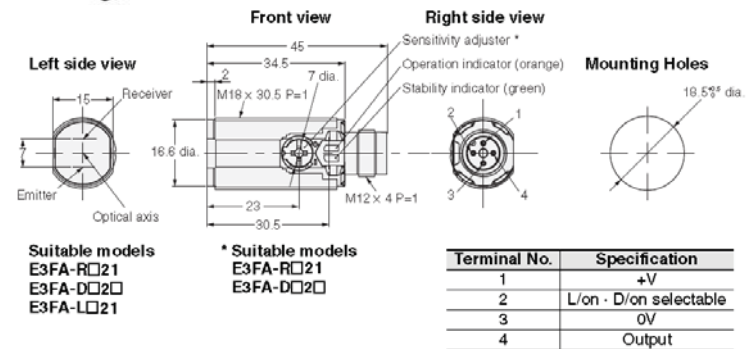
Product discontinuation

Recommended replacement
Model E3FA/E3FB series

Sensor
E3FA-□□1□



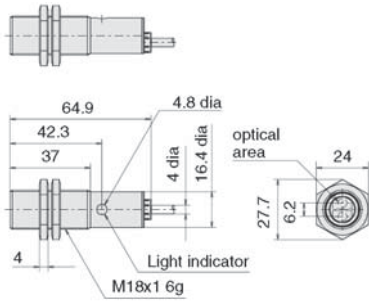
E3FA-□□2□



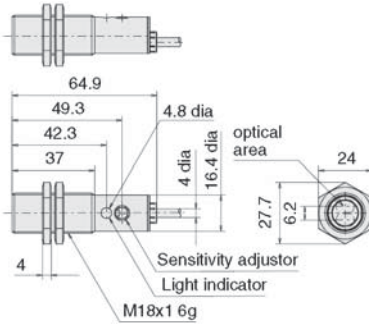
Recommended replacement

Model E3F2 series

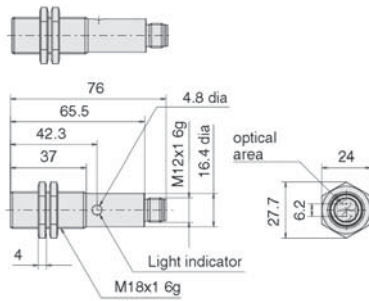
**E3F2-LS10□4-M
E3F2-R4□4F-M-□**



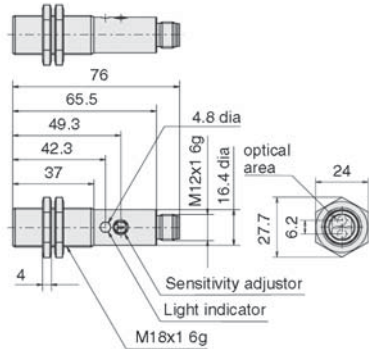
**E3F2-D1□4-M
E3F2-R4□4M-□**



**E3F2-LS10□4-M1-M
E3F2-R4□4F-M1-M-□**

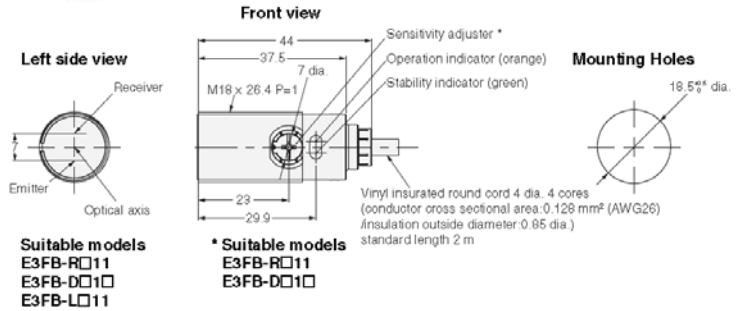


**E3F2-D1□4-M1-M
E3F2-R4□4M1-M-□**

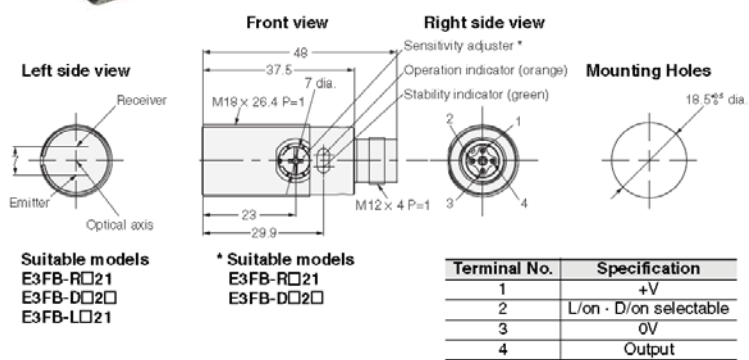


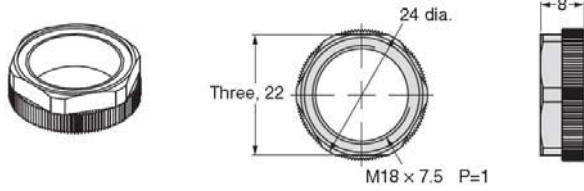
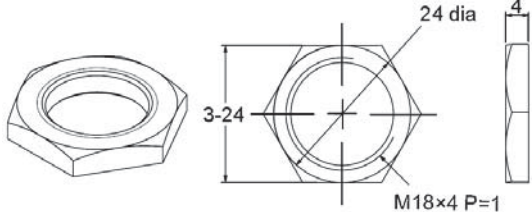
Model E3FA/E3FB series

E3FB-□□1□



E3FB-□□2□

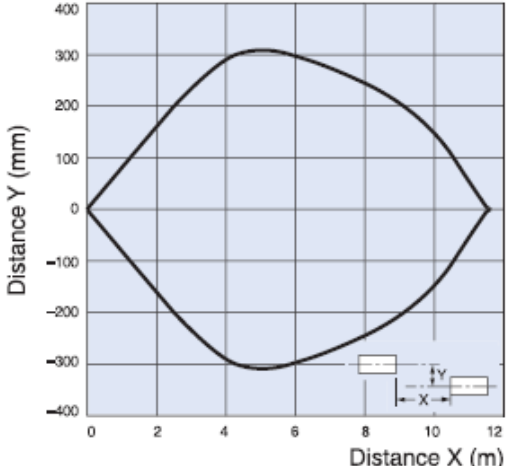
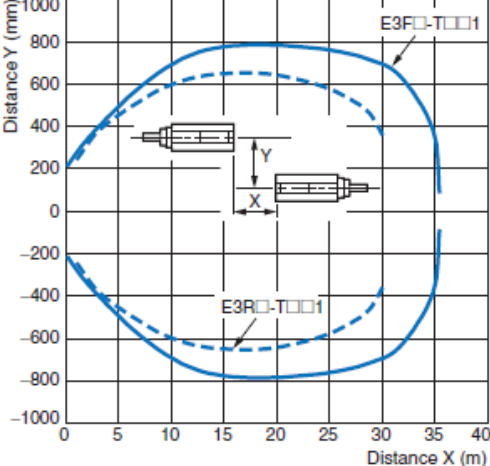
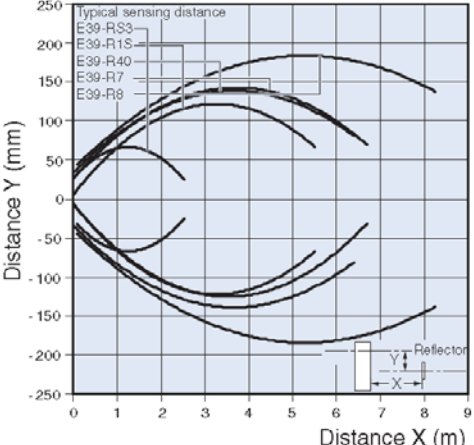
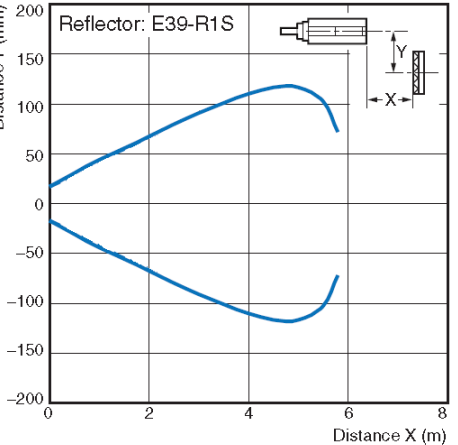
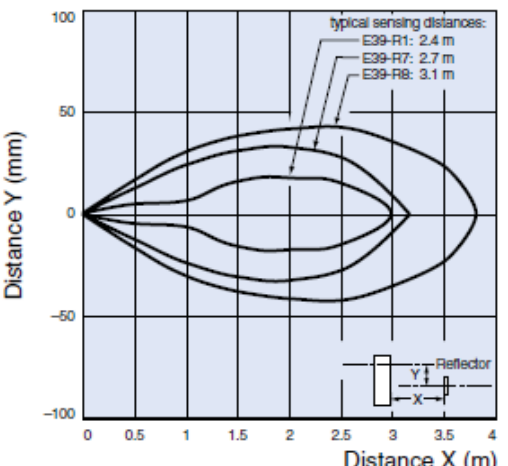
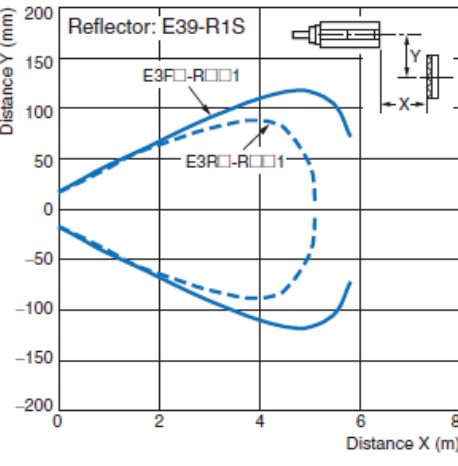


| Product discontinuation Model E3F2 series | Recommended replacement Model E3FA/E3FB series |
|---|--|
| Nut E3F2-□□□□  | Nut E3FA-□□□□  |

Specifications

| Item | Product discontinuation Model E3F2 series | Recommended replacement Model E3FA/E3FB series |
|--------------------------------------|---|--|
| Sensing distance | E3F2-7□: 7 m (no adjustment) E3F2-10□: 10 m (no adjustment) E3F2-DS10□: 100 mm (no adjustment) (white mat paper: 50 x 50 mm) E3F2-DS30□: 300 mm (adjustable) E3F2-DS30□41: 300 mm (adjustable) (white mat paper: 100 x 100 mm) E3F2-D1□4: 1 m (adjustable) (white mat paper: 300 x 300 mm) E3F2-R2□: 2 m (no adjustment) E3F2-R2R□41: 2 m (no adjustment) E3F2-R4□: 0.1 to 4 m (adjustable) E3F2-LS10□: 100 mm (white mat paper: 100 x 100 mm) | E3F□-T□□1: 20 m (adjustable) E3F□-T□□1: 20 m (adjustable) E3F□-D□□1: 100 mm (adjustable) (white mat paper: 300 x 300 mm) E3F□-D□□2: 300 mm (adjustable) E3R□-D□□2: 300 mm (adjustable) (white mat paper: 100 x 100 mm) E3F□-D□□3: 1 m (adjustable) (white mat paper: 300 x 300 mm) E3F□-R□□1: 4 m (adjustable) E3R□-R□□1: 3 m (adjustable) E3F□-RN□1: 0.1 to 4 m (adjustable) E3F□-L□□1: 100 mm (white mat paper: 300 x 300 mm) |
| Standard sensing object | E3F2-R4□: Opaque: 56 mm dia. min. | E3F-R□□1: Opaque: 75 mm dia. min. |
| Directional angle | E3F2-R4□: 3° to 20° | E3F□-R□□1: 2° min. |
| Different travel (hysteresis) | E3F2-LS10□: 5% max. | E3F□-L□□1: 20% max. |
| Light source (wavelength) | E3F2-7□/E3F2-10□: Infrared LED (950 nm) E3F2-DS10□/E3F2-DS30□/E3F2-D1□: Infrared LED (880 nm) E3F2-R□/E3F2-LS10□: Red LED (660 nm) | E3F□: Red LED (624 nm) |
| Current consumption | E3F2-7□/E3F2-10□: 50 mA max. E3F2-D□/E3F2-R□: 30 mA max. | E3F□-T□□1: 40 mA max. E3F□-R□/E3F□-D□: 25 mA max |
| Control output | E3F2-□: Residual voltage: 2 V max. | E3F□: Residual voltage: 3 V max. |
| Response time | E3F2-7□/E3F2-10□: 2.5 ms E3F2-R2□/E3F2-R4□: 1 ms E3F2-DS10□/E3F2-DS30□: 2.5 ms E3F2-D1□/E3F2-LS□: 1 ms | E3F□: 0.5 ms |
| Indicators | E3F2-R4□/E3F2-D1□ Light incident (red) Stability (green) | E3F□ Operation indicator (orange) Stability indicator (green) |
| Sensitivity adjustment | E3F2-7□/E3F2-10□: Fixed E3F2-R4□4F-□: Adjustable E3F2-DS10□/E3F2-LS□: Fixed E3F2-DS30□/E3F2-D1□: Adjustable | E3F□-T□□1/ E3F□-R□□1/ E3F□-D□: One-turn adjuster E3F□-L□□1: Multi-turn adjuster |
| Circuit protection | Output short-circuit and power supply reverse polarity | Reversed power supply polarity protection, Output short-circuit protection and Reversed output polarity protection |

Operation ratings

| <p align="center">Product discontinuation Model E3F2 series</p> | <p align="center">Recommended replacement Model E3FA/E3FB series</p> |
|---|--|
| <p>Parallel Operating Range (Typical) Through-beam Models E2F2-7□</p>  | <p>Parallel Operating Range (Typical) Through-beam Models E3F□-T□1</p>  |
| <p>Parallel Operating Range (Typical) Retroreflective Models E3F2-R4□</p>  | <p>Parallel Operating Range (Typical) Retroreflective Models E3F□-R□1</p> <p>Reflector: E39-R1S</p>  |
| <p>Parallel Operating Range (Typical) Retroreflective Models E3F2-R2R□41□ radial types</p>  | <p>Parallel Operating Range (Typical) Retroreflective Models E3R□-R□1 radial types</p> <p>Reflector: E39-R1S</p>  |

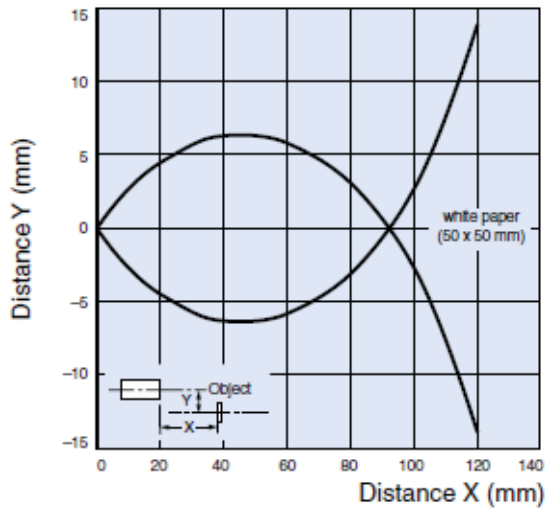
Product discontinuation
Model E3F2 series

Recommended replacement
Model E3FA/E3FB series

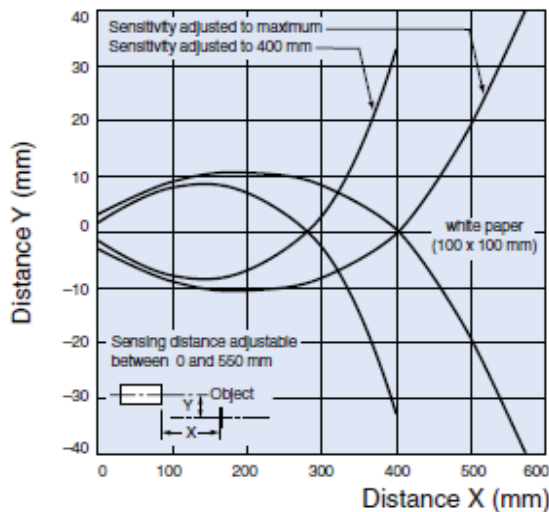
Operating Range (Typical)

Diffuse-reflective Models

E3F2-DS10□



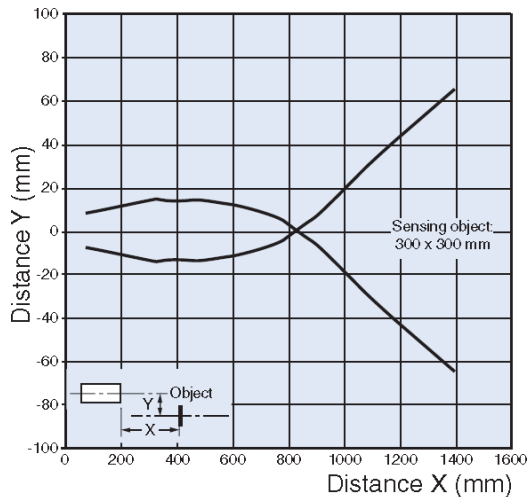
E3F2-DS30□



Operating Range (Typical)

Diffuse-reflective Models

E3F2-D1□

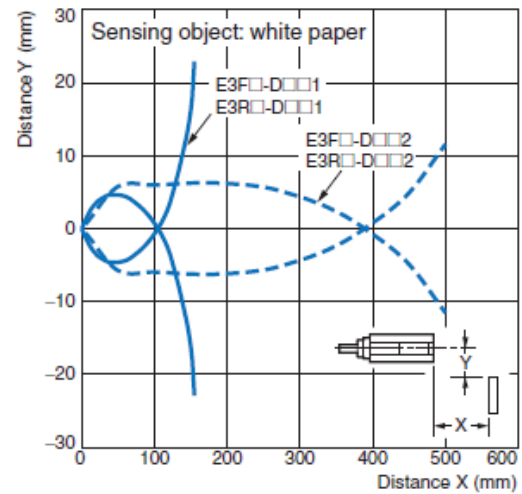


Operating Range (Typical)

Diffuse-reflective Models

E3F□-D□□1

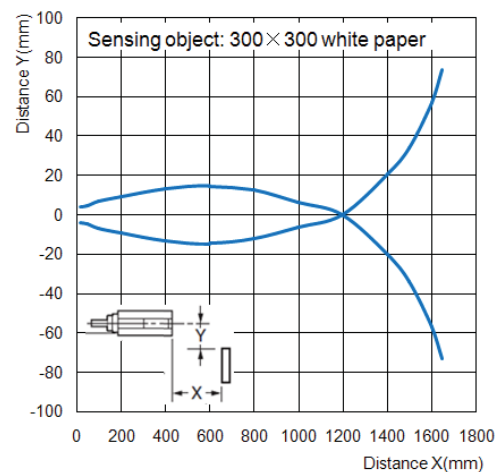
E3F□-D□□2



Operating Range (Typical)

Diffuse-reflective Models

E3F□-D□□3



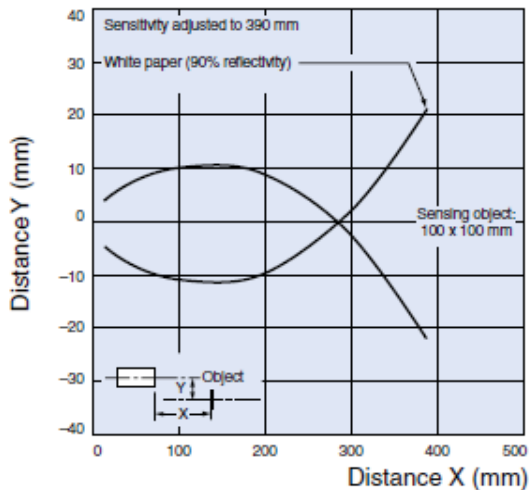
Product discontinuation
Model E3F2 series

Recommended replacement
Model E3FA/E3FB series

Operating Range (Typical)

Diffuse-reflective Models

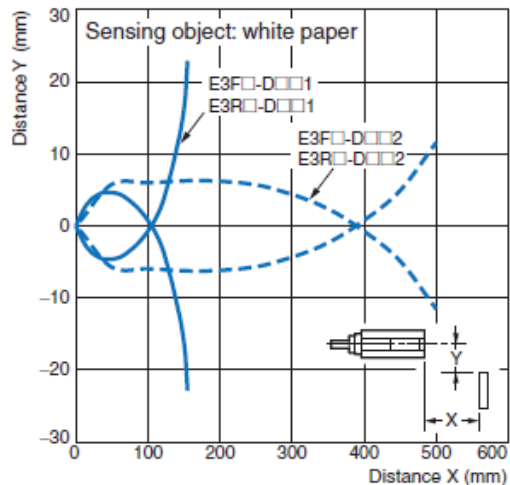
E3F2-DS30□41□ (radial types)



Operating Range (Typical)

Diffuse-reflective Models

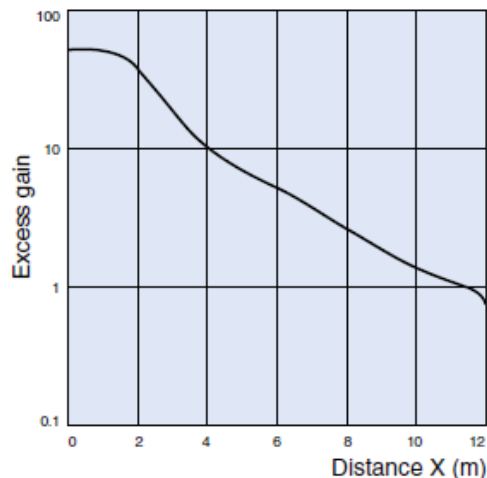
E3F□-D□□2



Excess Gain Ratio vs. Set Distance (Typical)

Through-beam Models

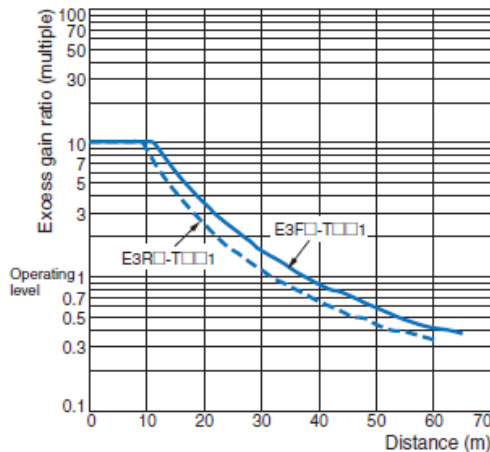
E3F2-7□



Excess Gain Ratio vs. Set Distance (Typical)

Through-beam Models

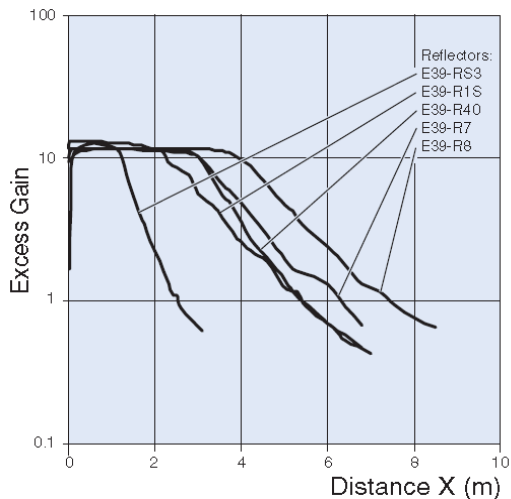
E3F□-T□□1



Excess Gain Ratio vs. Set Distance (Typical)

Retroreflective Models

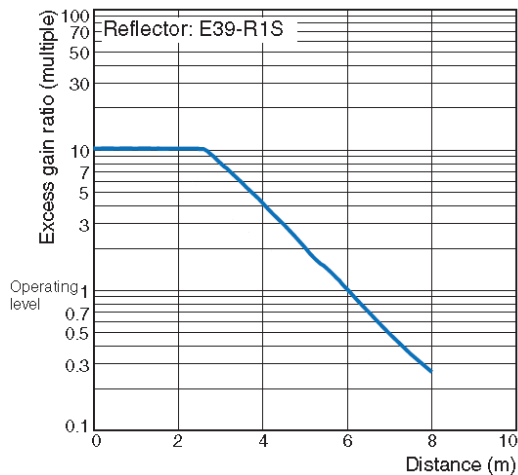
E3F2-R4□



Excess Gain Ratio vs. Set Distance (Typical)

Retroreflective Models

E3F□-R□□1

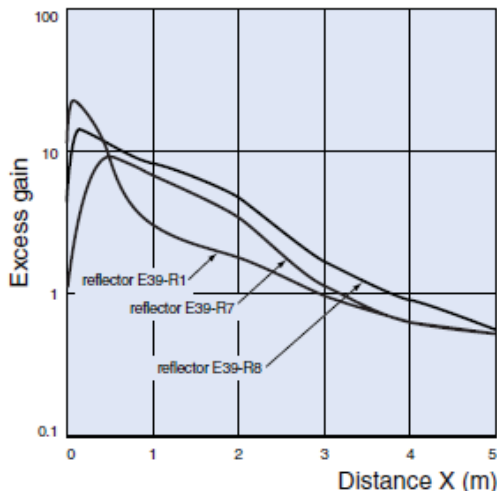


**Product discontinuation
Model E3F2 series**

**Recommended replacement
Model E3FA/E3FB series**

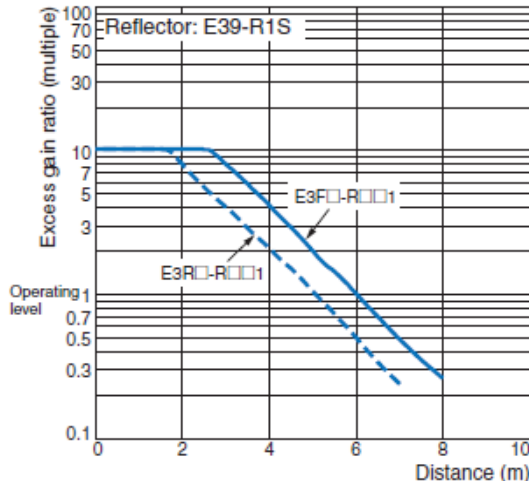
Excess Gain Ratio vs. Set Distance (Typical)

Retroreflective Models
E3F2-R2R□41□-□ (radial models)



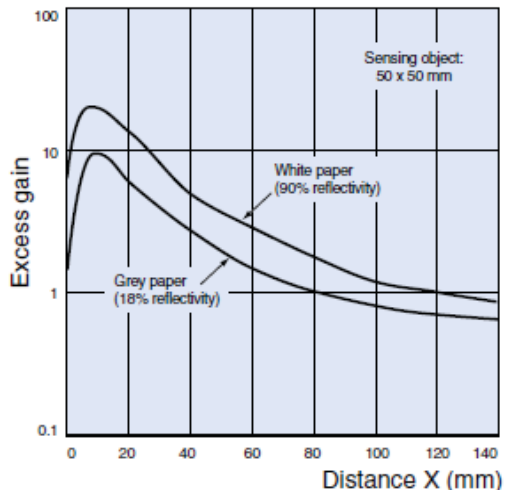
Excess Gain Ratio vs. Set Distance (Typical)

Retroreflective Models
E3R□-R□□1



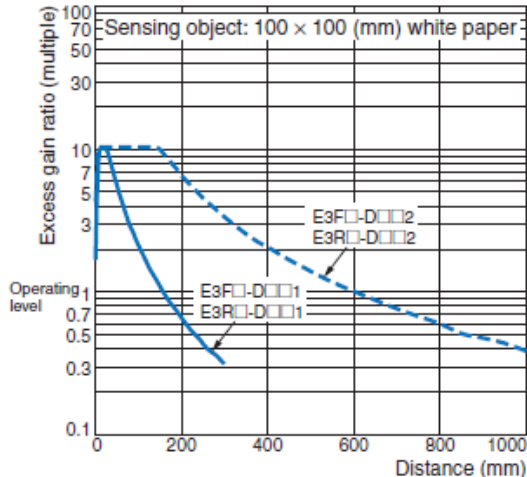
Excess Gain Ratio vs. Set Distance (Typical)

Diffuse Reflective Models
E3F2-DS10□



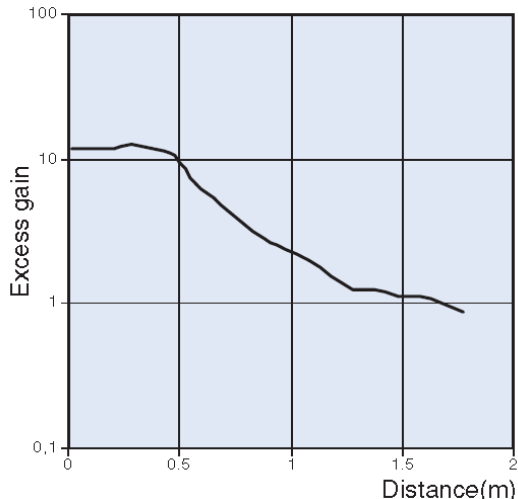
Excess Gain Ratio vs. Set Distance (Typical)

Diffuse Reflective Models
E3F□-D□□1



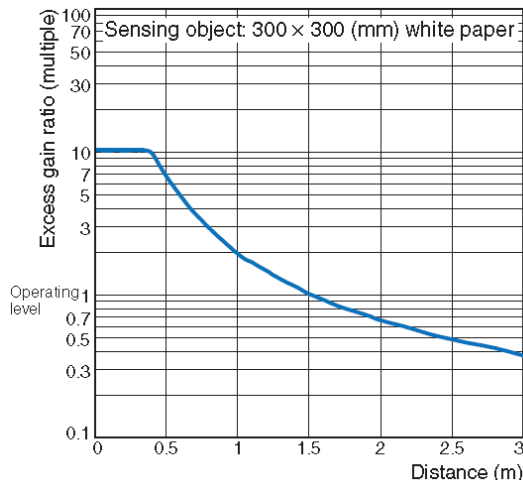
Excess Gain Ratio vs. Set Distance (Typical)

Diffuse Reflective Models
E3F2-D1□



Excess Gain Ratio vs. Set Distance (Typical)

Diffuse Reflective Models
E3F□-D□□1



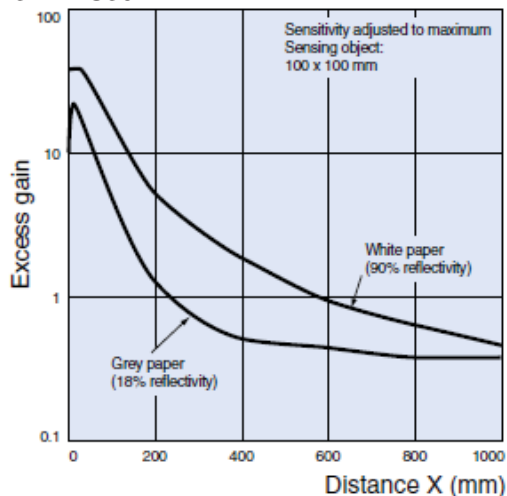
**Product discontinuation
Model E3F2 series**

**Recommended replacement
Model E3FA/E3FB series**

Excess Gain Ratio vs. Set Distance (Typical)

Diffuse Reflective Models

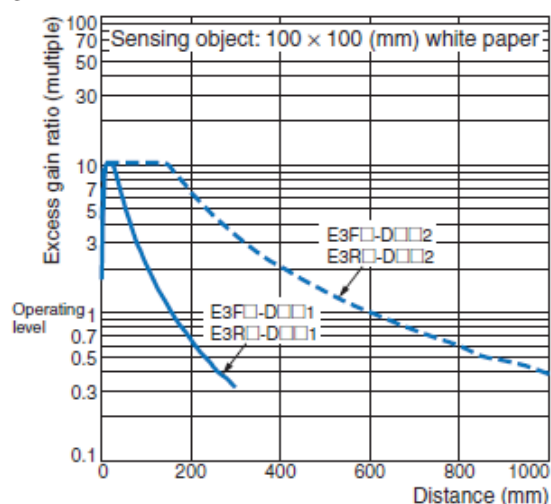
E3F2-DS30□



Excess Gain Ratio vs. Set Distance (Typical)

Diffuse Reflective Models

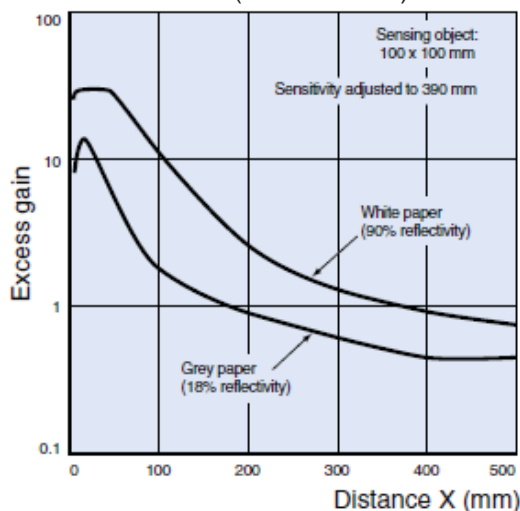
E3F□-D□□2



Excess Gain Ratio vs. Set Distance (Typical)

Diffuse Reflective Models

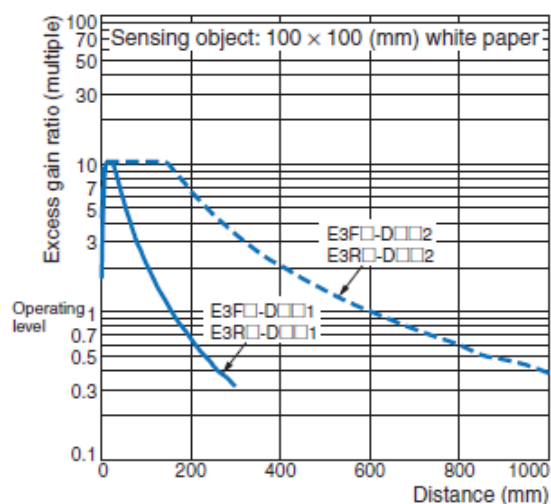
E3F2-DS30□41-□ (radial models)



Excess Gain Ratio vs. Set Distance (Typical)

Diffuse Reflective Models

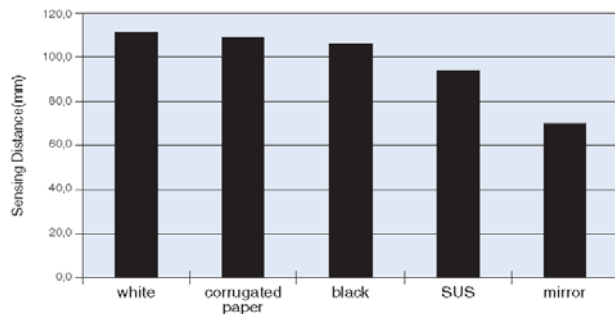
E3R□-D□□2



Object material vs. sensing distance

Background suppression Models

E3F2-LS□



Object material vs. sensing distance

Background suppression Models

E3F□-L□□1

