

Product Discontinuation Notices

Photoelectric Sensors

Issue Date
August 1, 2013

No. 2011235E(2)

Discontinuation Notice of Built-in power supply photoelectric sensor E3JK/E3JM/E3S-GS3/E3S-L/E3S special types.

<< REQUEST >>

There was modification in portion of Product Discontinuation notices of Product News No. 2011235E of August 2011 issue. What we have changed is as follows; the substitute of E3S-5DE4S-45 and E3S-5LE4S-45 is corrected. Please abolish old edition, replace the latest No. 2011235E(2).

Product Discontinuation

Built-in amplifier Photoelectric Sensor

Model E3JK-5D[]-N
Model E3JK-R[]M[]-E2/-E3
Model E3JM-10D[]4(T)/-10L/-M1J-N
Model E3JM-10D[]4-G/-US-N
Model E3JM-R3M1-01
Model E3S-GS3[]4
Model E3S-LS10X[]
Model E3S-LS20XE4
Model E3S-LS3C1D-30
Model E3S-LS3RC4-1
Model E3S-LS3P[]-M5J



Recommended Replacement

Built-in amplifier Photoelectric Sensor

Model E3JK-5[]-N
Model E3JK-R[]M[]
Model E3JM-10[]4(T)-N
Model E3JM-10[]4-N
Model E3JM-R4M1
Model E3S-GS3[]4
Model E3Z-LS[] series
Model E3Z-LL61 series
Model E3S-LS3N
Model E3S-LS3N
Model E3S-LS3P[]

[Discontinuation date]

The end of March, 2012

[Caution on recommended replacement]

E3JK/E3JM

- 1) Pay attention to the cable length while wire connection.
- 2) About -G/-US type, pay attention to the mounting hole and the body material changes from PC to ABS.
- 3) Receiver only or emitter only type will be changed to set type.

E3S-GS3

- 1) The cord specification is different.
Connector with cord type → Cord connected type (2 m in length)

- 2) There is not Special output specification.

Alarm output: E3S-GS3E4-1 series / Output reversing specification of pink wire: E3S-GS3E4-54 series

E3S-LS1[]/LS2[]

- 1) Current consumption changes. Please refer to the comparison of different performance.
- 2) Dimensions changes. Please refer to the Dimensions.
- 3) Mounting Dimensions changes. Please refer to the Mounting Dimensions.

E3S-LS3

- 1) Current consumption changes. Please refer to the comparison of different performance.

E3S

- 1) The output type changes.
The specification of the connection destination cannot use the voltage current type.
Please confirm it beforehand.
- 2) Please switch the floodlight projector and the photoreceiver to the penetration type by the set.

[Difference from discontinued product]

E3JK/E3JM

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charact-eristics	Operation ratings	Operation methods
E3JK-5□□-N	**	**	**	**	**	**	**
E3JK-R□M□	**	**	**	**	**	**	**
E3JM-10□4(T)-N	**	**	**	**	**	**	**
E3JM-10□4-N	**	--	--	**	**	--	**
E3JM-R4M1	**	--	--	**	**	--	**

** : Compatible
 * : The change is a little/Almost compatible
 -- : Not compatible
 - : No corresponding specification

E3S-GS3

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charact-eristics	Operation ratings	Operation methods
E3S-GS3□4	**	**	--	**	**	*	*

** : Compatible
 * : The change is a little/Almost compatible
 -- : Not compatible
 - : No corresponding specification

E3S-L

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charact-eristics	
E3Z-LS□	--	--	*	--	*	
E3Z-LL61	--	--	*	--	*	
E3S-LS3N	*	*	*	*	*	
E3S-LS3P	*	*	--	*	*	

** : Compatible
 * : The change is a little/Almost compatible
 -- : Not compatible
 - : No corresponding specification

E3S-2/-5/-DS/-R/-RS

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charact-eristics	Operation ratings	Operation methods
E3Z	--	--	*	--	*	*	*

** : Compatible
 * : The change is a little/Almost compatible
 -- : Not compatible
 - : No corresponding specification

[Product Discontinuation and recommended replacement]

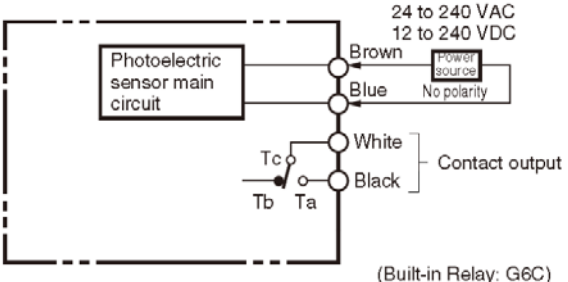
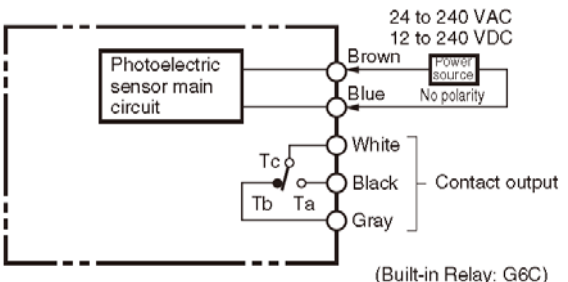
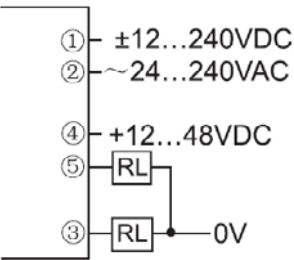
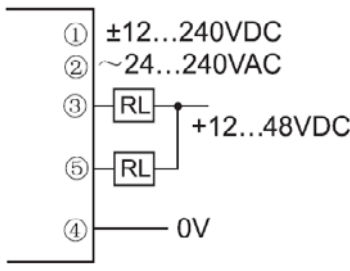
Product discontinuation	Recommended replacement
E3JK-R4M2 6M	E3JK-R4M2 2M
E3JK-R4M1 10M	E3JK-R4M1 5M
E3JK-R3M1-01 2M	None
E3JK-R2M1 6M	E3JK-R2M1 2M
E3JK-R4M1-E2 10M	E3JK-R4M1 2M
E3JK-R4M1-E3 10M	E3JK-R4M1 2M
E3JK-5M2 10M OMC	E3JK-5M2-N 5M
E3JK-5DM1-N 2M	E3JK-5M1-N 2M
E3JK-5DM1-N 5M	E3JK-5M1-N 5M
E3JK-5M2-N 10M	E3JK-5M2-N 5M
E3JK-5DS3-N 5M	E3JK-5S3-N 2M
E3JM-10DM4-US	E3JM-10M4-N
E3JM-10DM4T-US	E3JM-10M4T-N
E3JM-10L-US	E3JM-10M4-N
E3JM-10DS4-US	E3JM-10S4-N
E3JM-10DS4T-US	E3JM-10S4-N
E3JM-10DR4-US	E3JM-10S4-N
E3JM-10DR4T-US	E3JM-10S4-N
E3JM-10L-N	E3JM-10M4-N
E3JM-10DM4-N	E3JM-10M4-N
E3JM-10DM4T-N	E3JM-10M4T-N
E3JM-10DS4-N	E3JM-10S4-N
E3JM-10DS4T-N	E3JM-10S4-N
E3JM-10L-G-N	E3JM-10M4-N
E3JM-10DM4-G-N	E3JM-10M4-N
E3JM-10DM4T-G-N	E3JM-10M4T-N
E3JM-10DS4-G-N	E3JM-10S4-N
E3JM-10DS4T-G-N	E3JM-10S4-N
E3JM-10DR4-G-N	E3JM-10S4-N
E3JM-10DR4T-G-N	E3JM-10S4-N
E3JM-10L-M1J-N 0.3M	E3JM-10M4-N
E3JM-10DS4-M1J-N 0.3M	E3JM-10S4-N
E3S-LS3P-M5J 0.3M	E3S-LS3P 2M
E3S-LS3PT-M5J 0.3M	E3S-LS3P 2M
E3S-LS3PWT-M5J 0.3M	E3S-LS3PW 2M
E3S-LS10XE4 5M	E3Z-LS61 5M
E3S-LS20XE4 5M	E3Z-LL61 5M
E3S-LS10XB4 5M	E3Z-LS81 5M
E3S-LS10XB45 2M	E3Z-LS81 2M
E3S-LS3C1D-30 0.2M	E3S-LS3N 2M
E3S-LS3RC4-1 2M	E3S-LS3N 2M
E3S-LS20XE4-M3J 0.3M	E3Z-LL61 2M
E3S-GS3B4-M1J 0.5M	E3S-GS3B4 2M
E3S-GS3E4-1 2M	E3S-GS3E4 2M
E3S-GS3E4-54 2M	E3S-GS3E4 2M
E3S-GS3E4-54-M6J 0.6M	E3S-GS3E4 2M
E3S-GS3B4-M1J-1 0.3M	E3S-GS3B4 2M

Product discontinuation	Recommended replacement
E3S-GS3E4-M1J 0.6M	E3S-GS3E4 2M
E3S-GS3E4-M1J 0.2M	E3S-GS3E4 2M
E3S-GS3E4-54-M1J 0.3M	E3S-GS3E4 2M
E3S-GS3E4-M1J 0.3M	E3S-GS3E4 2M
E3S-RS30E4 5M	E3ZM-B61T 2M
E3S-RS30E42 5M	E3ZM-B61T 2M
E3S-2E41 5M	E3Z-T61 5M
E3S-2E41 10M	E3Z-T61 5M
E3S-5E4 5M	E3Z-T61 5M
E3S-5E41 5M	E3Z-T61 5M
E3S-R2E41 5M	E3Z-R61 5M
E3S-DS10E4 5M	E3Z-D61 5M
E3S-DS10E41 5M	E3Z-D61 5M
E3S-DS30E4 5M	E3Z-D62 5M
E3S-DS30E41 5M	E3Z-D62 5M
E3S-DS30E42 2M	E3Z-D62 2M
E3S-DS30E42 5M	E3Z-D62 5M
E3S-2B4 2M	E3Z-T81 2M
E3S-5B4 2M	E3Z-T81 2M
E3S-2B4 5M	E3Z-T81 5M
E3S-2B41 5M	E3Z-T81 5M
E3S-5B4 5M	E3Z-T81 5M
E3S-5B41 5M	E3Z-T81 5M
E3S-DS10B4 5M	E3Z-D81 5M
E3S-DS30B4 5M	E3Z-D82 5M
E3S-DS30B41 5M	E3Z-D82 5M
E3S-RS30B42-30-M1	E3ZM-B61T 2M
E3S-R2E45 2M	E3Z-R61 2M
E3S-DS10E45 2M	E3Z-D61 2M
E3S-DS30B42 2M	E3Z-D82 2M
E3S-R2E42 2M	E3Z-R61 2M
E3S-5E43 2M	E3Z-T61 2M
E3S-5E44 2M	E3Z-T61 2M
E3S-DS30E43 2M	E3Z-D62 2M
E3S-5E42 2M	E3Z-T61 2M
E3S-RS30E4-30 5M	E3ZM-B61T 2M
E3S-RS30E42-30 5M	E3ZM-B61T 2M
E3S-R1E4 5M	E3Z-B62 5M
E3S-R1E42 5M	E3Z-B62 5M
E3S-5E4-T 5M	E3Z-T61 5M
E3S-5E41-T 5M	E3Z-T61 5M
E3S-DS30E4-T 5M	E3Z-T61 5M
E3S-5LE4-40 2M	E3Z-T61 2M
E3S-R1B42 2M	E3Z-B82 2M
E3S-R2B42 2M	E3Z-R81 2M
E3S-2E4-M1J 0.3M	E3Z-T61-M1J 0.3M
E3S-2E41-M1J 0.3M	E3Z-T61-M1J 0.3M
E3S-5E4-M1J 0.3M	E3Z-T61-M1J 0.3M

Product discontinuation	Recommended replacement
E3S-5E41-M1J 0.3M	E3Z-T61-M1J 0.3M
E3S-DS10E4-M1J 0.3M	E3Z-D61-M1J 0.3M
E3S-DS30E4-M1J 0.3M	E3Z-D62-M1J 0.3M
E3S-DS30E41-M1J 0.3M	E3Z-D62-M1J 0.3M
E3S-R1B42-P1	E3Z-B82 2M
E3S-2E41-44 2M	E3Z-T61 2M
E3S-R2E42-J 5M	E3Z-R61 5M
E3S-DS30B4-T 5M	E3Z-D82 5M
E3S-5DB4-T 5M	E3Z-T81 5M
E3S-5LB4-T 5M	E3Z-T81 5M
E3S-5DB41-T 5M	E3Z-T81 5M
E3S-5LB41-T 5M	E3Z-T81 5M
E3S-5B4-T 5M	E3Z-T81 5M
E3S-5B41-T 5M	E3Z-T81 5M
E3S-DS30B41-T 5M	E3Z-D82 5M
E3S-5DE4S-45 2M	None
E3S-5LE4S-45 2M	None
E3S-5E4S-45 5M	E3Z-T61 5M
E3S-5E4S-45 10M	E3Z-T61 5M
E3S-5E42-M1J 0.2M	E3Z-T61 2M
E3S-R1B42-M1	E3Z-B82 2M
E3S-5E4-43-M1J 0.2M	E3Z-T61 2M
E3S-RS30E4-M1J 0.3M	E3ZM-B61T 2M
E3S-2LE4 5M	E3Z-T61 5M
E3S-2DE4 5M	E3Z-T61 5M
E3S-5LE4 5M	E3Z-T61 5M
E3S-5DE4 5M	E3Z-T61 5M
E3S-5LE41 5M	E3Z-T61 5M
E3S-5DE41 5M	E3Z-T61 5M
E3S-2LB4 2M	E3Z-T81 2M
E3S-2LB41 2M	E3Z-T81 2M
E3S-2DB4 2M	E3Z-T81 2M
E3S-2DB41 2M	E3Z-T81 2M
E3S-5LB4 2M	E3Z-T81 2M
E3S-5LB41 2M	E3Z-T81 2M
E3S-5DB4 2M	E3Z-T81 2M
E3S-5DB41 2M	E3Z-T81 2M
E3S-5LB4 5M	E3Z-T81 5M
E3S-5LB41 5M	E3Z-T81 5M
E3S-5DB4 5M	E3Z-T81 5M
E3S-5DB41 5M	E3Z-T81 5M
E3S-5LE43 2M	E3Z-T61 2M
E3S-5DE43 2M	E3Z-T61 2M
E3S-5LE4-T 5M	E3Z-T61 5M
E3S-5DE4-T 5M	E3Z-T61 5M
E3S-5LE41-T 5M	E3Z-T61 5M
E3S-5DE41-T 5M	E3Z-T61 5M

E3JK/E3JM

[Wire connection]

<p align="center">Product discontinuation Model E3JK-R3M1-01 Model E3JM-10DR4(T)-G/-US</p>	<p align="center">Recommendable replacement Model E3JK-R4[] Model E3JM-10S4(T)</p>
<p>E3JK-R3M1-01</p>  <p align="center">(Built-in Relay: G6C)</p>	<p>E3JK-R4[]</p>  <p align="center">(Built-in Relay: G6C)</p>
<p>E3JM-10DR4(T)-G/-US</p> 	<p>E3JM-10S4(T)</p> 

[Dimensions]

Product discontinuation Model E3JM-10L/-10D[4(T)-G/-US	Recommendable replacement Model E3JM-10[4(T)
<p>E3JM-10L/-10D[4(T)-G/-US</p> <p>Technical drawing showing dimensions for the discontinued model. Key dimensions include: 22, 6.4, 24.5, 6, 6 dia, 12.4, 30.5, 48.5, 6.4, 25, 4.1, 80, 65, 1.5, 1.6, 9, 20, 5, 40, 54.5, 75, 11.5, 3, 2-M4x30.</p>	<p>E3JM-10[4(T)</p> <p>Technical drawing showing dimensions for the replacement model. Key dimensions include: 22, 6.4, 24.5, 12.4, 39.5, 18, 6, 25, 4.1, 80, 65, 1.5, 1.6, 9, 20, 5, 40, 54.5, 75, 11.5, 3, 2-M4x30. Includes a mounting bracket with dimensions 8, 24.5, 6, 12.4, 5 dia, 18, 6, 39.5. Lens: 14.8 dia. Optical axis. Two, M4x30. Indicator *1. JIS B 0202 PF12. Hexagonal nut (Diagonal: 22) Applicable cable: 6 to 8 dia. Mounting Holes: Two, M6, 42.</p> <p>Emitter: E3JM-10L Receiver: E3JM-10D[4(T)</p> <p>*1. Emitter: Power indicator Receiver: Light indicator (without timer function) Operation indicator (with timer function) *2. Mounting Brackets can be used on the A side.</p> <p>Note: The operating mode switch and timer mode switch are located inside the cover.</p>

[Characteristics]

Item	Product discontinuation Model E3JK-R3M1-01	Recommendable replacement Model E3JK-R4[]
Power supply voltage	AC24V / DC24V	12 to 240VDC ± 10%, ripple(p-p): 10%max 24 to 240VAC ± 10%, 50/60Hz
Sensing distance	4 m	3 m

[Time Chart]

Product discontinuation Model E3JM-10D[4(T)-G/-US	Recommendable replacement Model E3JM-10S4
<p>Incident light</p> <p>No incident light</p> <p>L-ON (Ta) ON</p> <p>Operation light OFF</p> <p>D-ON (Ta) ON</p> <p>Operation light OFF</p>	<p>Incident light</p> <p>No incident light</p> <p>Light indicator (red) ON</p> <p>OFF</p> <p>L-ON (Ta) ON</p> <p>OFF</p> <p>D-ON (Ta) ON</p> <p>OFF</p>

E3S-GS3

[Body color]

Product discontinuation Model E3S-GS3 series(Special specification)	Recommendable replacement Model E3S-GS3[4]
Yellow	Yellow

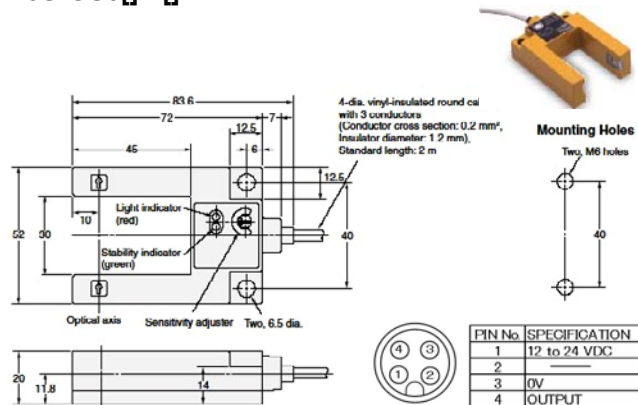
[Wire connection]

Product discontinuation Model E3S-GS3 series (Special specification)	Recommendable replacement Model E3S-GS3[4] series
<p>E3S-GS3E4-□ (NPN Output)</p> <p style="text-align: center;"> </p> <p>*1. Invert the connection to switch between Light-ON and Dark-ON. *2. Voltage output (when connecting a transistor circuit, etc.)</p>	<p>E3S-GS3E4 (NPN Output)</p> <p>*1. Invert the connection to switch between Light-ON and Dark-ON. *2. Voltage output (when connecting a transistor circuit, etc.)</p>
<p>E3S-GS3B4-□ (PNP Output)</p> <p style="text-align: center;"> </p> <p>* Invert the connection to switch between Light-ON and Dark-ON.</p>	<p>E3S-GS3B4 (PNP Output)</p> <p>* Invert the connection to switch between Light-ON and Dark-ON.</p>
<p>E3S-GS3E4-54 series (NPN Output)</p> <p style="text-align: center;"> </p>	<p>E3S-GS3E4 (NPN Output)</p> <p>*1. Invert the connection to switch between Light-ON and Dark-ON. *2. Voltage output (when connecting a transistor circuit, etc.)</p>
<p>E3S-GS3E4-1 series (NPN Output)</p>	

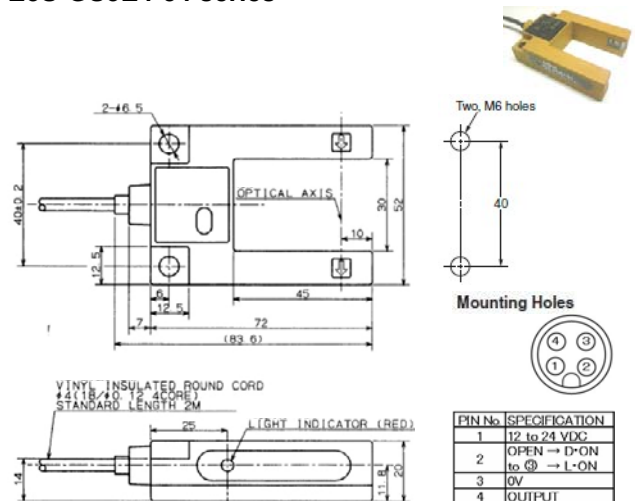
[Dimensions]

Product discontinuation
Model E3S-GS3 series (Special specification)

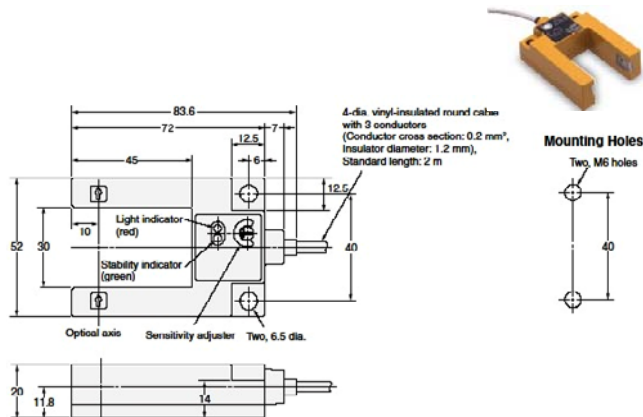
E3S-GS3[4]-□



E3S-GS3E4-54 series



Recommendable replacement
Model E3S-GS3E[4] series



[Characteristics]

Item	Product discontinuation			Recommendable replacement
	Model E3S-GS3E4-54 series	Model E3S-GS3E4-1 series	Model E3S-GS3[]4-M[]J series	Model E3S-GS3[]4
Sensing distance	30 mm			
Minimum detectable object	3 mm dia. min. (black mark on transparent sheet)			
Light source (wavelength)	Infrared LED (950 nm)			
Power supply voltage	12 to 24 VDC. including ripple(p-p) 10% max.			
Power consumption	40 mA max.			
Control output	NPN Open-collector output. Load current 80 mA max. (30 VDC max.) L-ON/D-ON operation with the connection of the pink code is selected.	[Control output] NPN Open-collector output. Load current 80 mA max. (24 VDC max.) [Alarm output] NPN Open-collector output. Load current 30 mA max. L-ON / D-ON cable connection selectable.	Load power supply voltage: 24 VDC max., Load current: 80 mA max., Residual voltage : 2 V max., L-ON / D-ON cable connection selectable [Voltage output type] E3S-GS3E4 series NPN voltage output Output current 1.5 to 4 mA [Open collector output type] E3S-GS3B4 series PNP Open-collector output	
Protection circuits	Reversed power supply polarity protection, Load short-circuit protection			
Response time	Operation or reset 1 ms max.			
Sensitivity adjustment	none	One-turn adjuster		
Ambient illumination (Receiver side)	Incandescent lamp: 3,000 lx max. Sunlight: 10,000 lx max.			
Ambient temperature	Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation)			
Ambient Humidity range	Operating: 35% to 80%, Storage: 35% to 95% (with no condensation)			
Insulation resistance	20MΩ min. at 500 VDC			
Dielectric strength	1,000 VAC at 50/60 Hz for 1 min.			
Vibration resistance (destruction)	10 to 55 Hz, 1.5-mm double amplitude for 2 h each in X, Y, and Z directions			
Shock resistance (destruction)	500 m/s ² for 3 times each in X, Y, and Z directions			
Degree of protection	IEC 60529: IP64	IEC 60529: IP67		
Connection method	Pre-wired (standard length :2 m)		Connector type (M12)	Pre-wired (standard length: 2 m)
Indicator	Light indicator (red)	Light indicator (red) Stability indicator (green)		
Material	Case	Zinc die-cast		
	Lens	Polycarbonate		

[Operation methods]

Product discontinuation Model E3S-GS3[]4-[]	Recommendable replacement Model E3S-GS3[]4
Operation with Sensitivity-adjuster and inverting the connection (Brown-Blue) .	Operation with Sensitivity-adjuster and inverting the connection (Brown-Blue) .

Product discontinuation Model E3S-GS3E4-54 series	Recommendable replacement Model E3S-GS3[]4
Operation with the connection of the pink code is selected.	Operation with Sensitivity-adjuster and inverting the connection (Brown-Blue) .

[Accessories]

Product discontinuation Model E3S-GS3 series (Special specification)	Recommendable replacement Model E3S-GS3[]4
1) Instruction sheet 2) Ajustment screwdriver 3) Sensitivity adjuster * A part of the product doesn't have accessories.	1) Instruction sheet 2) Ajustment screwdriver 3) Sensitivity adjuster

E3S-L

[Body color] * Built in amplifier Photoelectric sensor

Product discontinuation Model E3S-LS10X[] Model E3S-LS20XE4	Recommendable replacement Model E3Z-LS[] Model E3Z-LL61
Gray	Black

E3S-L

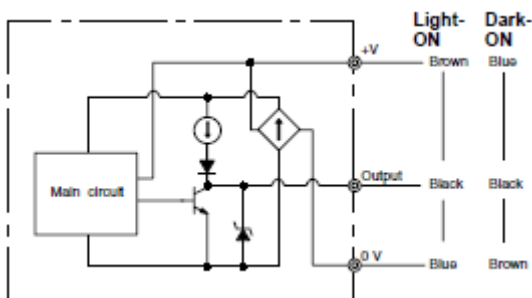
[Body color] * PCB sensor

Product discontinuation Model E3S-LS3C1D-30 Model E3S-LS3RC4-1 Model E3S-LS3P[]-M5J	Recommendable replacement Model E3S-LS3N Model E3S-LS3P[]
Black	Black

[Wire connection]

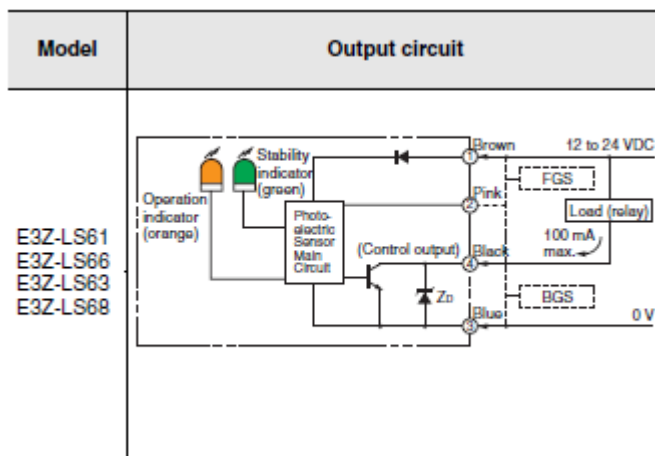
Product discontinuation
Model E3S-LS10X[]/-LS20XE4

E3S-LS10X[] series
E3S-LS20XE4 series

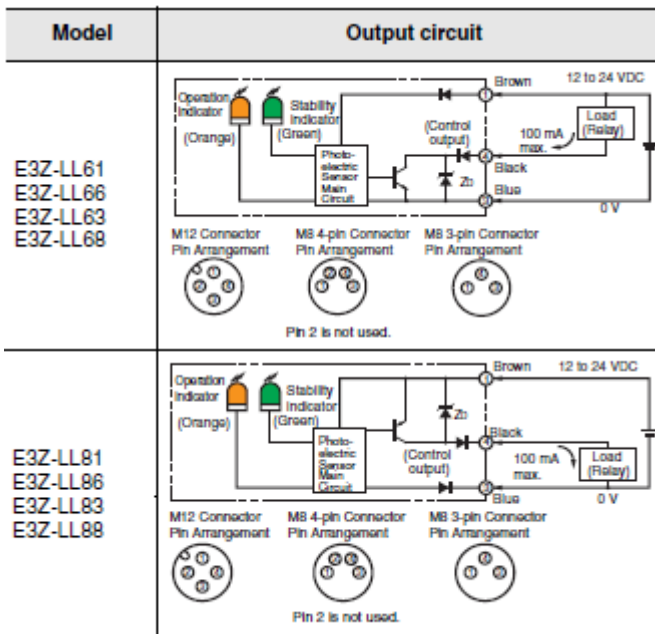


Recommendable replacement
Model E3Z-LS[]/-LL61

E3Z-LS[] series



E3Z-LL61 series



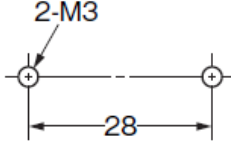
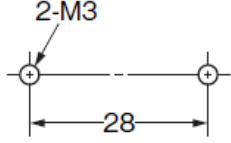
[Wire connection]

Product discontinuation Model E3S-LS3C1D-30/-LS3RC4-1/-LS3P[]-M5J		Recommendable replacement Model E3S-LS3N/-LS3P[]																
<p>E3S-LS3C1D-30 series E3S-LS3RC4-1 series</p> <table border="1"> <thead> <tr> <th>Output configuration</th> <th>Model</th> <th>Output circuit</th> </tr> </thead> <tbody> <tr> <td rowspan="3">NPN output</td> <td>E3S-LS3C1D</td> <td></td> </tr> <tr> <td rowspan="2">E3S-LS3RC4</td> <td></td> </tr> <tr> <td></td> </tr> </tbody> </table>		Output configuration	Model	Output circuit	NPN output	E3S-LS3C1D		E3S-LS3RC4			<p>E3Z-LS3N series</p> <table border="1"> <thead> <tr> <th>Model</th> <th>Output circuit</th> </tr> </thead> <tbody> <tr> <td>E3S-LS3N E3S-LS3NW</td> <td></td> </tr> <tr> <td>E3S-LS3NT E3S-LS3NWT</td> <td></td> </tr> </tbody> </table>		Model	Output circuit	E3S-LS3N E3S-LS3NW		E3S-LS3NT E3S-LS3NWT	
Output configuration	Model	Output circuit																
NPN output	E3S-LS3C1D																	
	E3S-LS3RC4																	
Model	Output circuit																	
E3S-LS3N E3S-LS3NW																		
E3S-LS3NT E3S-LS3NWT																		
<p>E3S-LS3P[]-M5J series</p> <table border="1"> <thead> <tr> <th>Model</th> <th>Output circuit</th> </tr> </thead> <tbody> <tr> <td>E3S-LS3P E3S-LS3PW</td> <td rowspan="2"></td> </tr> <tr> <td>E3S-LS3PT E3S-LS3PWT</td> </tr> </tbody> </table>		Model	Output circuit	E3S-LS3P E3S-LS3PW		E3S-LS3PT E3S-LS3PWT	<p>E3Z-LS3P[] series</p> <table border="1"> <thead> <tr> <th>Model</th> <th>Output circuit</th> </tr> </thead> <tbody> <tr> <td>E3S-LS3P E3S-LS3PW</td> <td rowspan="2"></td> </tr> <tr> <td>E3S-LS3PT E3S-LS3PWT</td> </tr> </tbody> </table>		Model	Output circuit	E3S-LS3P E3S-LS3PW		E3S-LS3PT E3S-LS3PWT					
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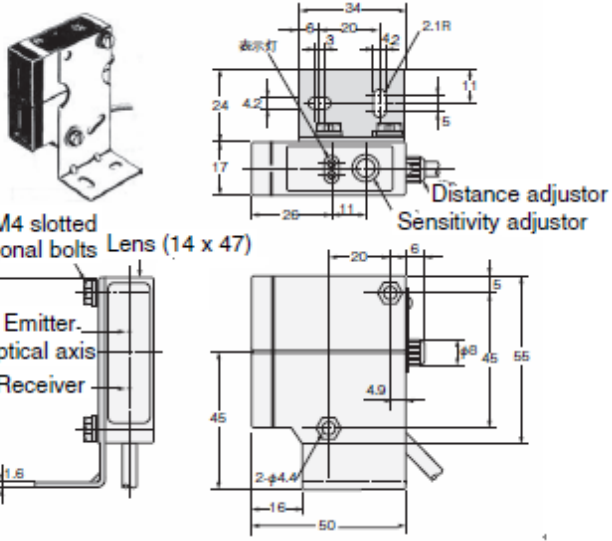
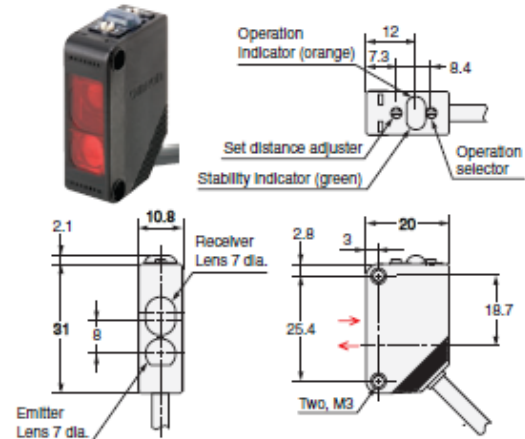
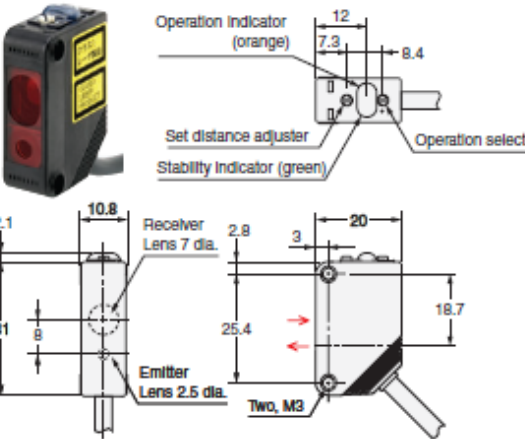
[Mounting dimensions] * Built in amplifier Photoelectric sensor

Product discontinuation Model E3S-LS10X[]/-LS20XE4	Recommendable replacement Model E3Z-LS[]/-LL61

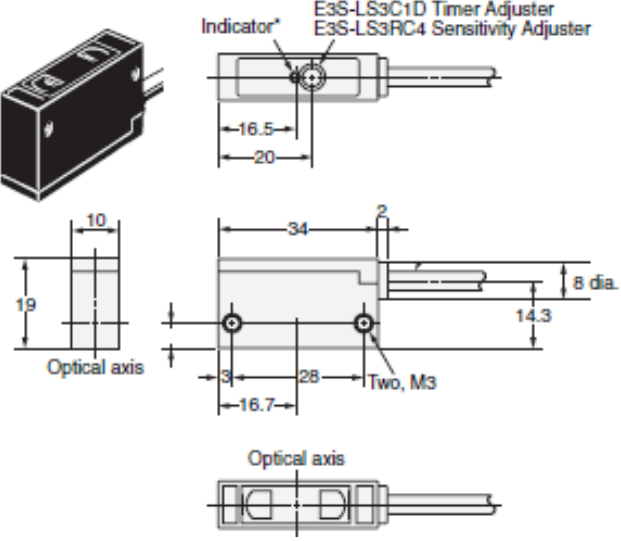
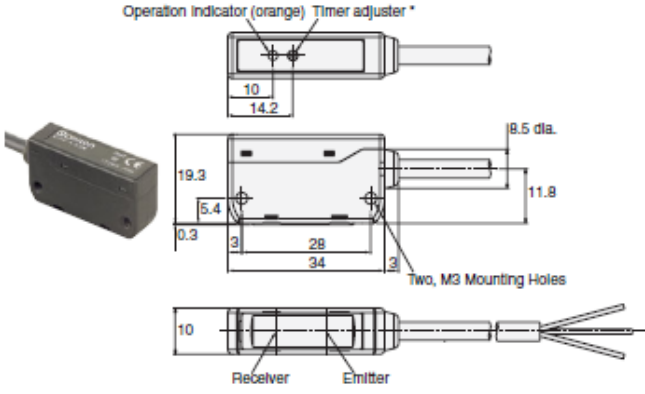
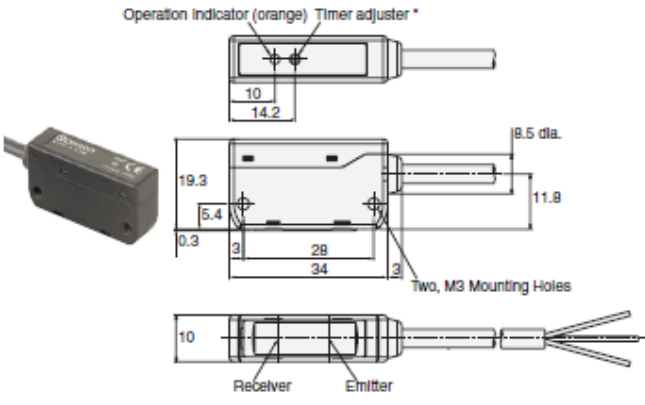
[Mounting dimensions] * PCB sensor

Product discontinuation Model E3S-LS3C1D-30/-LS3RC4-1/-LS3P[]	Recommendable replacement Model E3S-LS3N/-LS3P[]
	

[Dimensions] * Built in amplifier Photoelectric sensor

Product discontinuation Model E3S-LS10X[]/-LS20XE4	Recommendable replacement Model E3S-LS[]/-LL61
<p>E3S-LS10X[] series E3S-LS20XE4 series</p>  <p>Two, M4 slotted hexagonal bolts Lens (14 x 47)</p> <p>Emitter Optical axis Receiver</p>	<p>E3Z-LS[] series</p>  <p>E3Z-LS[] series</p> 

[Dimensions] * PCB sensor

<p>Product discontinuation Model E3S-LS3C1D-30/-LS3RC4-1/-LS3P[]-M5J</p>	<p>Recommendable replacement Model E3S-LS3N/-LS3P[]</p>
<p>E3S-LS3C1D-30 series E3S-LS3RC4-1 series</p>  <p>E3S-LS3P[]-M5J series</p> 	<p>E3Z-LS3N series E3Z-LS3P[] series</p> 

[Characteristics] * Built in amplifier Photoelectric sensor

Item		Product discontinuation Model E3S-LS10X[]	Recommendable replacement Model E3Z-LS[]
Light source		Infrared LED (950 nm)	RED LED (680 nm)
Current consumption		40 mA max.	30 mA max.
Sensing Distance		30 to 100 mm (variable with Distance adjuster)	[BGS] White or Black paper(100 × 100 mm): 20 mm to set distance [FGS] White paper (100 × 100 mm): 200 mm min. Black paper (100 × 100 mm): 160 mm min.
Control output		Voltage output: 1.5 to 4 mA Load current: 80 mA	Load power supply voltage: 26.4 VDC max. Load current: 100 mA max. Open collector output
Sensitivity adjustment		Adjustable	—
Indicators		Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material	Case	Zinc Die Cast	Polybutylene
	Lens	Polycarbonate	Denatured Polyarylate

[Characteristics] * Built in amplifier Photoelectric sensor

Item		Product discontinuation Model E3S-LS20XE4	Recommendable replacement Model E3Z-LL61
Light source		RED LED (680 nm)	RED LD (655 nm)
Current consumption		40 mA max.	30 mA max.
Sensing Distance		50 to 250 mm (variable with Distance adjuster)	White paper (100 × 100 mm): 20 to 300 mm Black paper (100 × 100 mm): 20 to 160 mm
Control output		Voltage output: 1.5 to 4 mA Load current: 80 mA	Load power supply voltage: 26.4 VDC max. Load current: 100 mA max. Open collector output
Sensitivity adjustment		Adjustable	Five-turn endless adjuster
Indicators		Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material	Case	Zinc Die Cast	Polybutylene
	Lens	Polycarbonate	Denatured Polyarylate

[Characteristics] * PCB sensor

Item	Product discontinuation		Recommendable replacement Model
	Model E3S-LS3C1D-30	Model E3S-LS3RC4-1	Model E3S-LS3N
Light source	Infrared LED (890 nm)	Red LED (660 nm)	Red LED (660 nm)
Current consumption	40 mA max.	40 mA max.	25 mA max.
Sensing distance	30 ± 5 mm (White paper 10 × 10)	30 ± 5 mm (Black paper 10 × 10)	White paper: 20 to 35 mm/ Black paper: 20 to 30 mm (80 × 80 mm)
Response time	Operate: 3 ms max. Reset: 100 ms max.	Operate or reset: 1 ms max.	Operate or reset: 1 ms max.
Control output	Load power supply voltage: 24 VDC max. Load current: 30 mA max. (Residual voltage: 1 V max.) NPN open collector output	Load power supply voltage: 24 VDC max. Load current: 50 mA max. (Residual voltage: 1 V max.) NPN open collector output	Load power supply voltage: 24 VDC max. Load current: 50 mA max. (Residual voltage: 1 V max.) NPN open collector output
Timer function	OFF- delay range: 0.1 to 1.0 s (adjustable)	—	OFF-delay range: 0.1 to 1.0 s (adjustable)
Ambient illumination	Incandescent lamp: 1,000 lx max. Sunlight: 3,000 lx max.	Incandescent lamp: 3,000 lx max. Sunlight: 10,000 lx max.	Incandescent lamp: 5,000 lx max.
Response time	Operate: 3 ms max. Reset: 100 ms max.	Operate or reset: 1 ms max.	Operate or reset: 1 ms max.
Indicators	Operation indicator (red)	Light indicator (red)	Operation indicator (orange)
Material	Case	Heat-resistant ABS	ABS
	Lens	Polycarbonate	Methacrylate
			Heat-resistant ABS
			Polycarbonate

* Product discontinuation E3S-LS3P[] recommended replacement for the differences in performance and is not recommended.

E3S-2/-5/-DS/-R/-RS

[Body color]

Product discontinuation Model E3S-2/DS10 series	Recommendable replacement Model E3Z-T61/T81 series
Black	Black

Product discontinuation Model E3S-5/-DS30/-R/-RS series	Recommendable replacement Model E3Z-T61/T81 series
Yellow + Black	Black

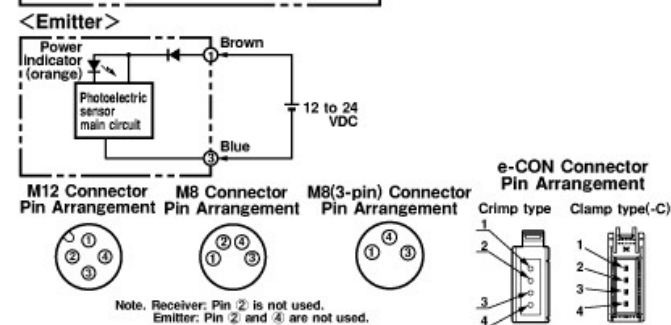
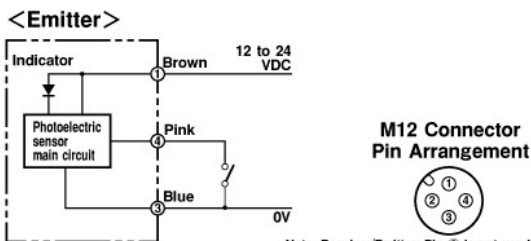
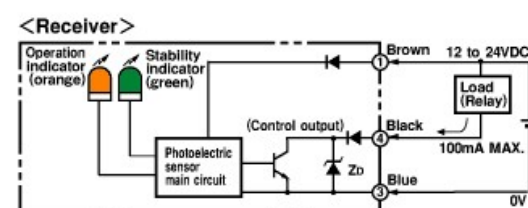
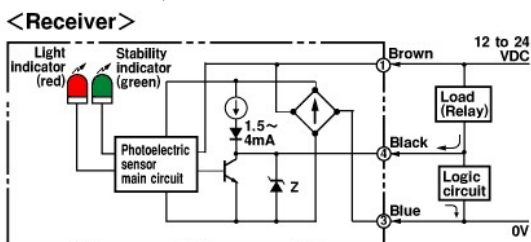
[Wire connection]

Product discontinuation
Model E3S-2/-5 series
 (Example of representative)

Recommendable replacement
Model E3Z-T61/T81 series
 (Example of representative)

Model E3S-2E4, E3S-5E4

Model E3Z-T61

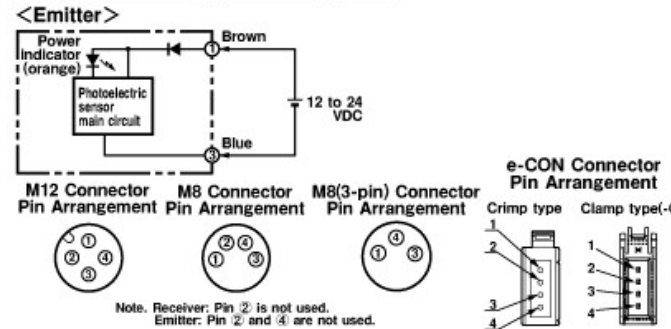
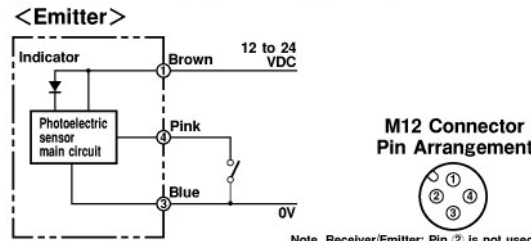
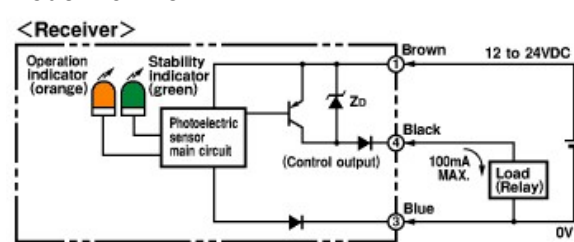
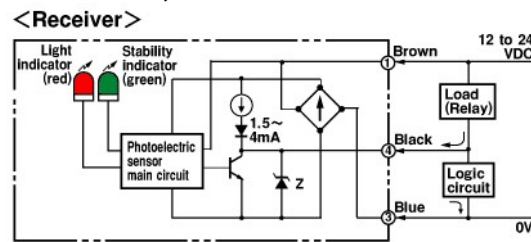


It becomes **Power Indicator**,
 if the pink cord of the emitter connects with the 0V of the emitter.
 It becomes **Light Indicator**,
 if the pink cord of the emitter connects with the output of the receiver.

Note. Receiver: Pin ② is not used.
 Emitter: Pin ② and ④ are not used.

Model E3S-2B4, E3S-5B4

Model E3Z-T81



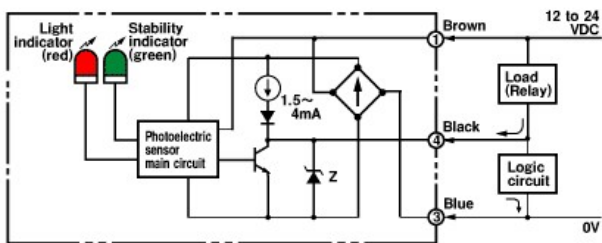
It becomes **Power Indicator**,
 if the pink cord of the emitter connects with the 0V of the emitter.
 It becomes **Light Indicator**,
 if the pink cord of the emitter connects with the output of the receiver.

Note. Receiver: Pin ② is not used.
 Emitter: Pin ② and ④ are not used.

Product discontinuation
Model E3S-DS/-DS30/-LS20XE4 series
 (Example of representative)

Recommendable replacement
Model E3Z-D/-LL61 series
 (Example of representative)

Model E3S-DS10E4, DS30E4

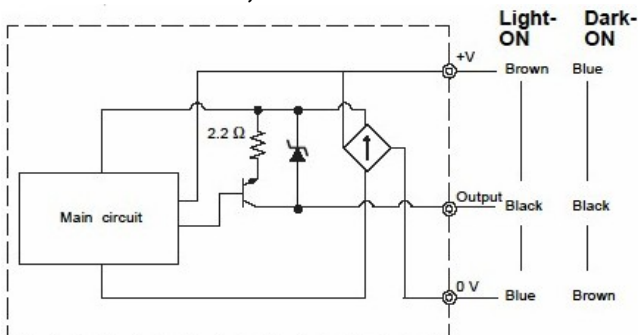


M12 Connector
Pin Arrangement

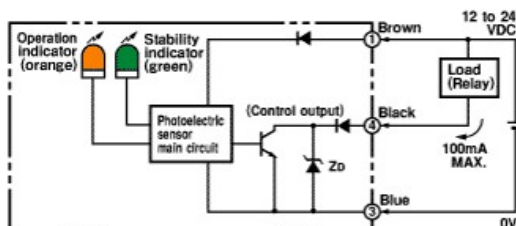


Note. Pin ② is not used.

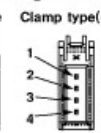
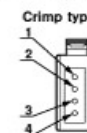
Model E3S-DS10B4, DS30B4



Model E3Z-D61, D62

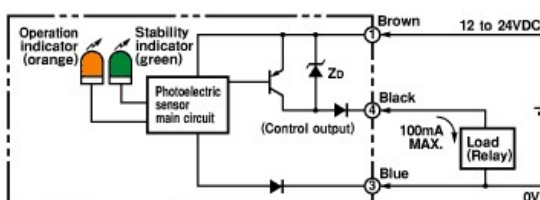


M12 Connector Pin Arrangement **M8 Connector Pin Arrangement** **M8(3-pin) Connector Pin Arrangement** **e-CON Connector Pin Arrangement**

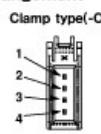
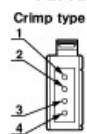


Note. Receiver: Pin ② is not used.

Model E3Z-D81, D82

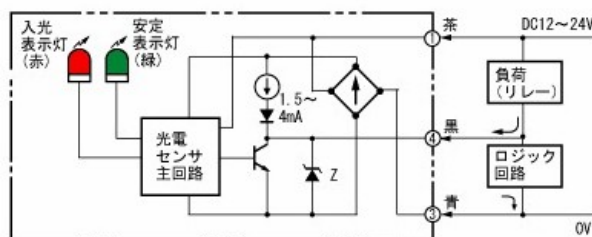


M12 Connector Pin Arrangement **M8 Connector Pin Arrangement** **M8(3-pin) Connector Pin Arrangement** **e-CON Connector Pin Arrangement**



Note. Receiver: Pin ② is not used.

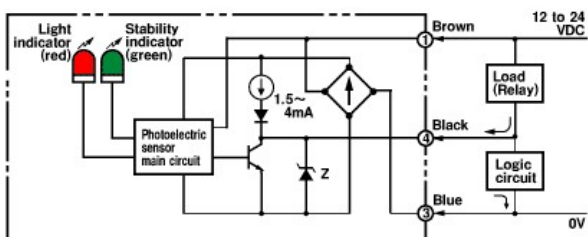
Model E3S-LS20XE4



M3J

Product discontinuation
Model E3S-R series
(Example of representative)

Model E3S-R1E4/-R2E4/-RS30E4

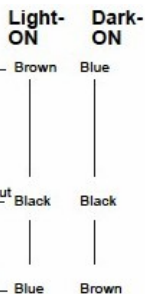
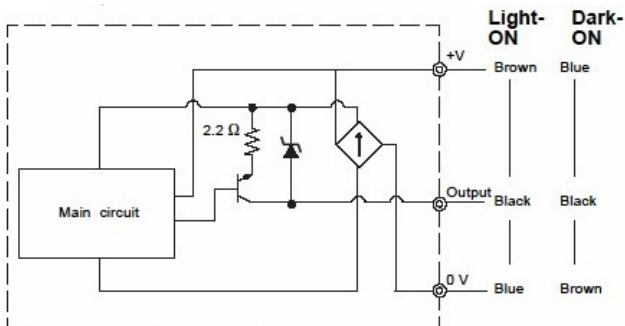


M12 Connector
Pin Arrangement



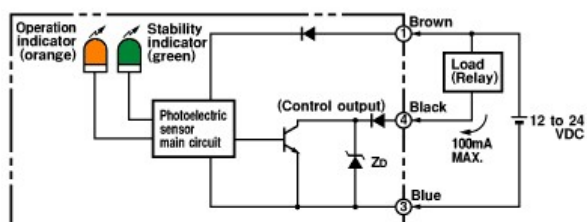
Note. Pin ② is not used.

Model E3S-R1B4/-R2B4/-RS30B4

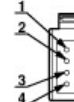


Recommendable replacement
Model E3Z-B/-R series, E3ZM-B61T series
(Example of representative)

Model E3Z-B62/-R61

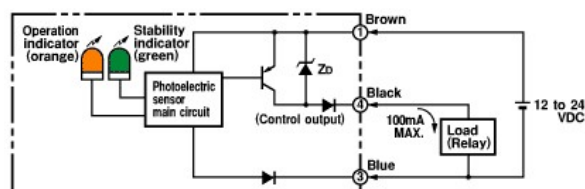


M12 Connector **M8 Connector** **M8(3-pin) Connector** **e-CON Connector**
Pin Arrangement **Pin Arrangement** **Pin Arrangement** **Pin Arrangement**



Note. Pin ② is not used.

Model E3Z-B62/-R61

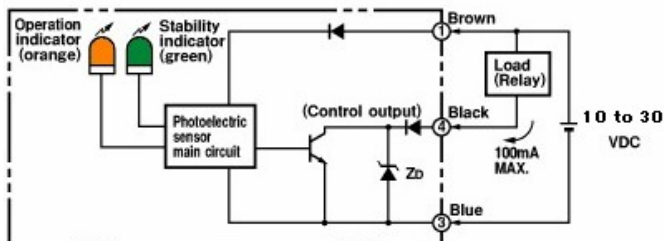


M12 Connector **M8 Connector** **M8(3-pin) Connector**
Pin Arrangement **Pin Arrangement** **Pin Arrangement**

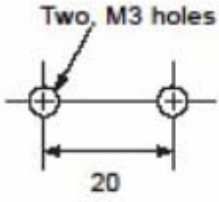
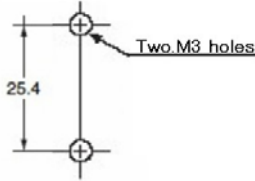
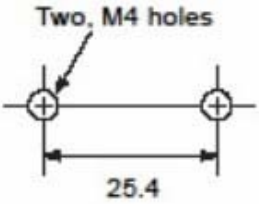
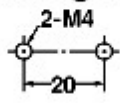


Note. Pin ② is not used.

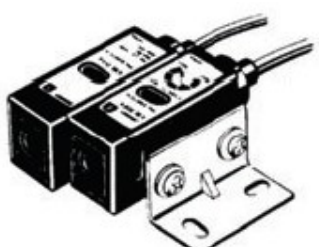
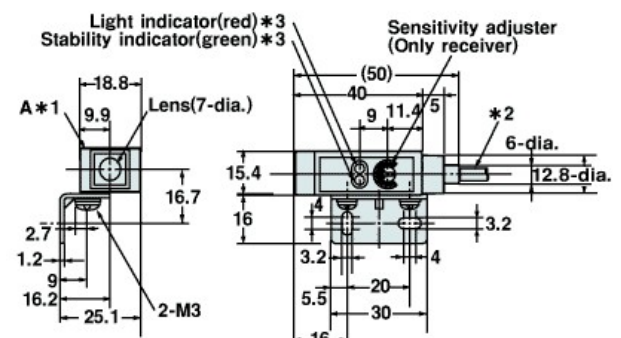

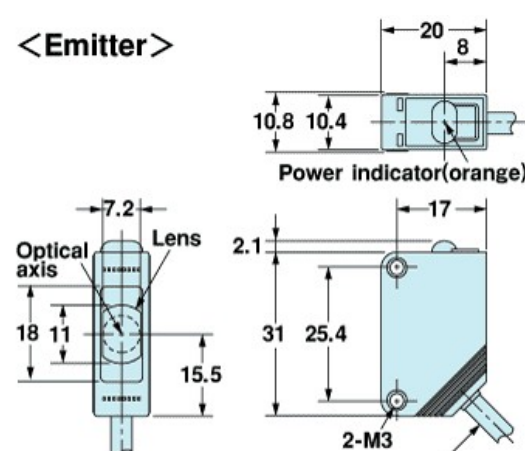
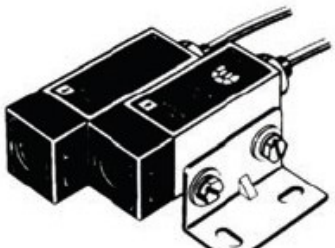
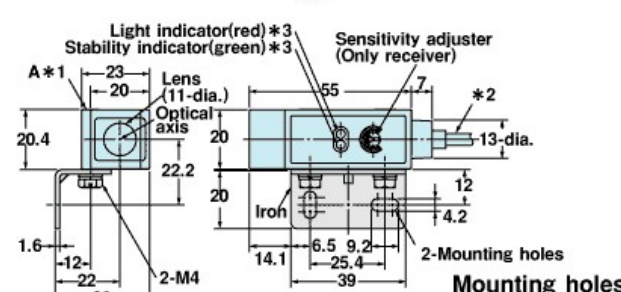
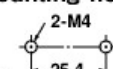
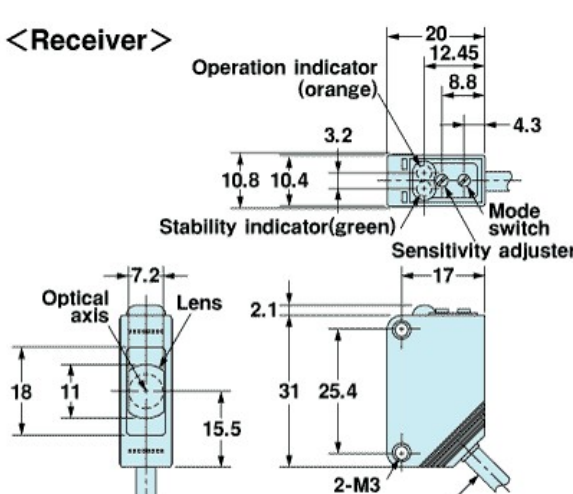
Model E3ZM-B61T



[Mounting dimensions]

<p>Product discontinuation Model E3S-2/-DS10 series Model E3S-5/-DS30/-R1/-R2/-RS30 series</p>	<p>Recommendable replacement Model E3Z-T/-R/-D/-B series Model E3Z-B61T series Model E3Z-LL61 series Model E3S-LS20XE4 series</p>
<p>Model E3S-2/-DS10 series</p>  <p>Two, M3 holes</p> <p>20</p>	<p>Model E3Z-T/-R/-D/-B series Model E3ZM-B61T series Model E3Z-LL61 series</p>  <p>Two, M3 holes</p> <p>25.4</p>
<p>Model E3S-5/-DS30/-R1/-R2/-RS30 series</p>  <p>Two, M4 holes</p> <p>25.4</p>	<p>Model E3S-LS20XE4 series</p> <p>Mounting holes</p>  <p>2-M4</p> <p>20</p>

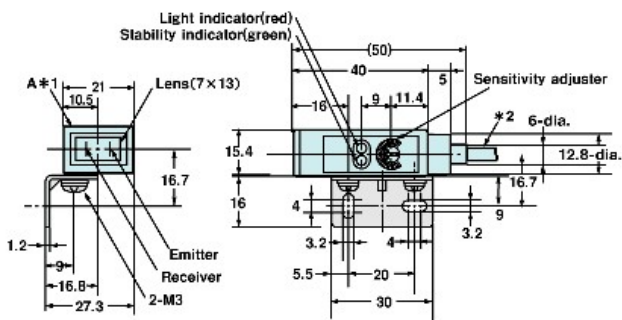
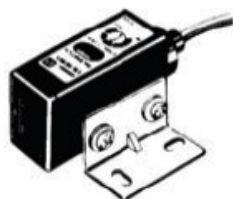
[Dimensions]

<p>Product discontinuation Model E3S-2 series Model E3S-5 series</p>	<p>Recommendable replacement Model E3Z-T61/-T81 series Model E3S-2 series</p>
<p>Model E3S-2 series</p>   <p>*1. The mounting bracket can be attached to side A. *2. 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.1mm) Standard length: 2m *3. Emitter has only power indicator(red).</p>	<p>Model E3Z-T61, T81 series</p>  <p><Emitter></p>  <p>4-dia. Vinyl -insulated round cable with 2 conductors (conductor cross section:0.2mm², insulator diameter: 1.1mm) Standard length: 2m</p>
<p>Model E3S-5 series</p>   <p>Mounting holes</p>  <p>*1. The mounting bracket can be attached to side A. *2. 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.1mm) Standard length: 2m *3. Emitter has only power indicator(red).</p>	<p><Receiver></p>  <p>4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.1mm) Standard length: 2m</p>

Product discontinuation
Model E3S-DS10 series
Model E3S-DS30 series

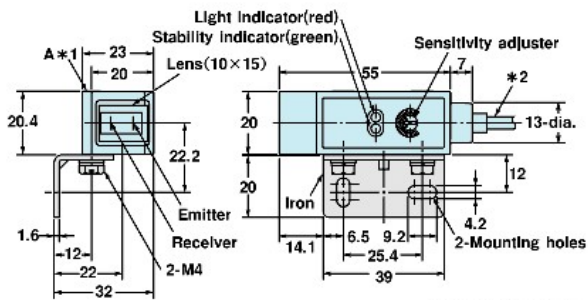
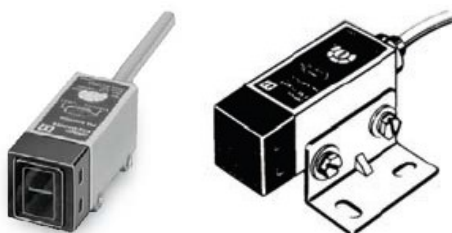
Recommendable replacement
Model E3Z-D61/-D81 series
Model E3Z-D62/-D82 series

Model E3S-DS10 series

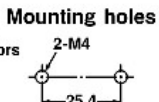


- *1. The mounting bracket can be attached to side A.
- *2. 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.2mm) Standard length: 2m

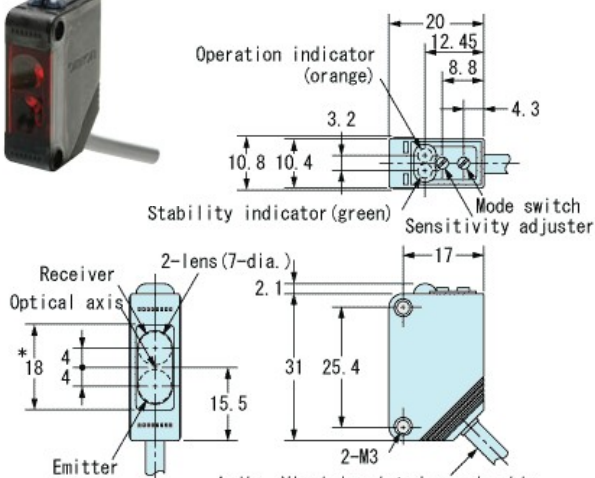
Model E3S-DS30 series



- *1. The mounting bracket can be attached to side A.
- *2. 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.2mm) Standard length: 2m

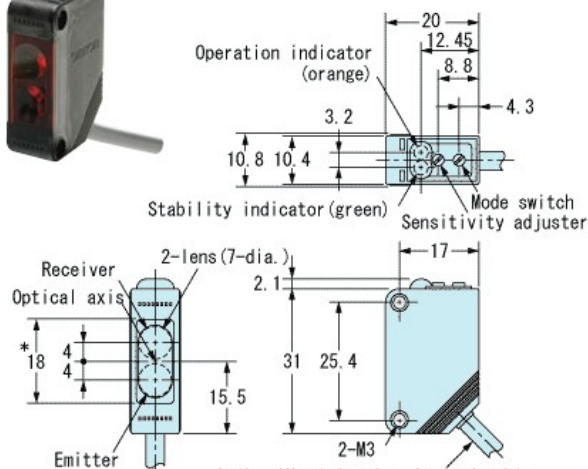


Model E3Z-D61,D81 series



- *E3Z-R□□ is 18.6.
- 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.1mm) Standard length: 2m

Model E3Z-D62, D82 series



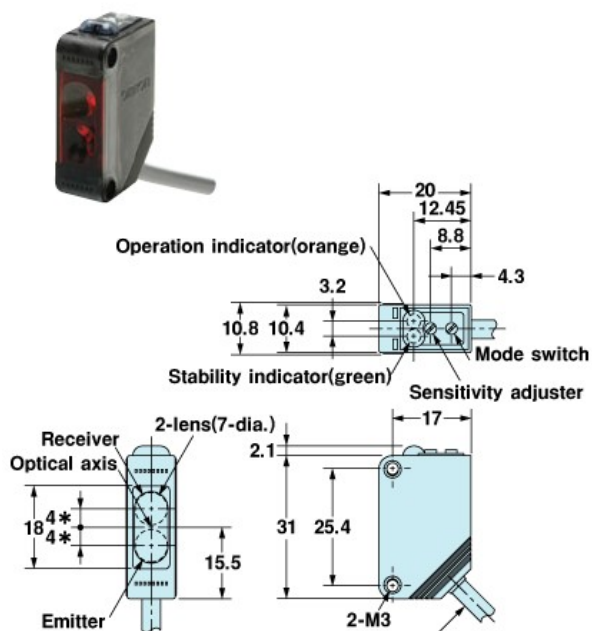
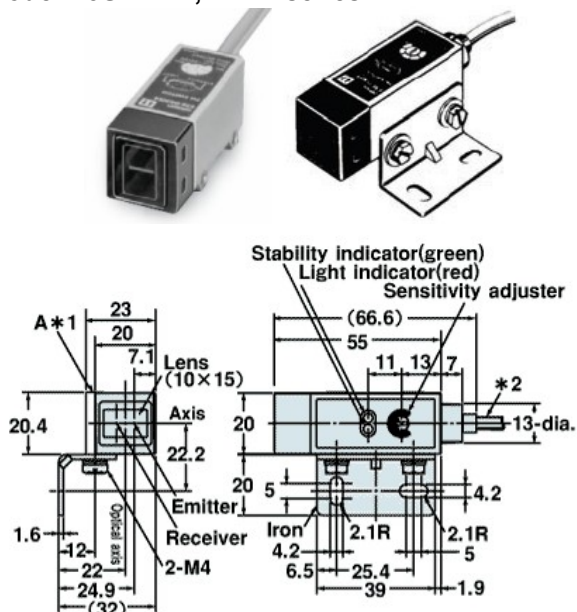
- *E3Z-R□□ is 18.6.
- 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.1mm) Standard length: 2m

Product discontinuation
Model E3S-R1E4/-R1B4 series
Model E3S-R2E4/-R2B4 series

Recommendable replacement
Model E3Z-B62/-B82 series
Model E3Z-R61/-R81 series

Model E3S-R1E4, R1B4 series

Model E3Z-B62, B82 series

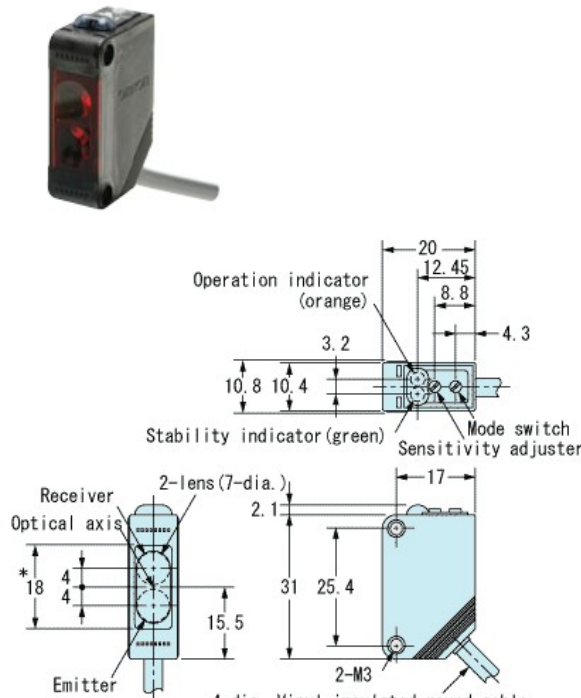
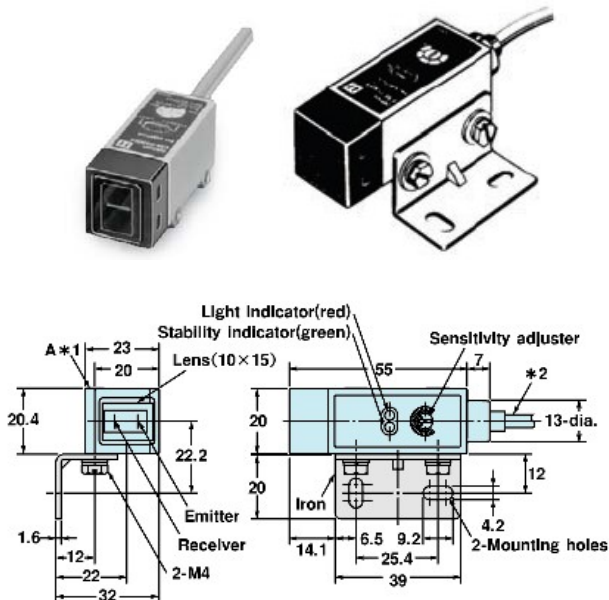


Mounting holes *1. The mounting bracket can be attached to side A.
 *2. 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.2mm) Standard length: 2m

*Model E3Z-B□2: 3.75
 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.1mm) Standard length: 2m

Model E3S-R2E4, R2B4 series

Model E3Z-R61, R81 series



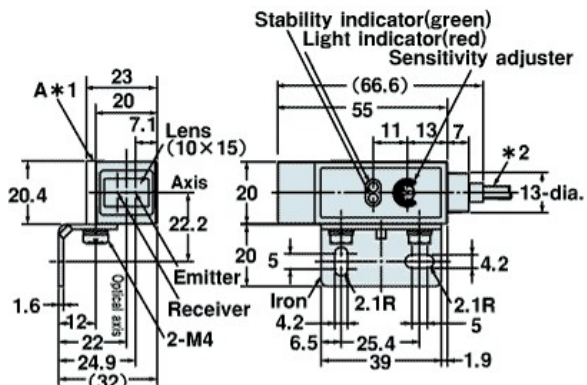
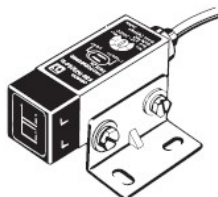
Mounting holes *1. The mounting bracket can be attached to side A.
 *2. 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.2mm) Standard length: 2m

*E3Z-R□□ is 18.6.
 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter: 1.1mm) Standard length: 2m

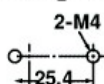
**Product discontinuation
Model E3S-RS30 series**

**Recommendable replacement
Model E3ZM-B61T series
Model E3S-LS20XE4 series**

Model E3S-RS30 series



Mounting holes



- *1. The mounting bracket can be attached to side A.
- *2. 4-dia. Vinyl-insulated round cable with 3 conductors (conductor cross section: 0.2mm², insulator diameter:1.2mm) Standard length: 2m

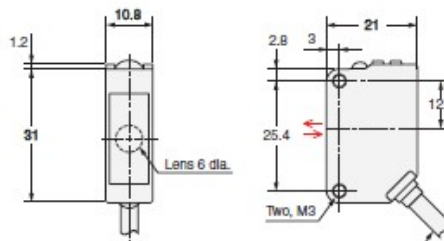
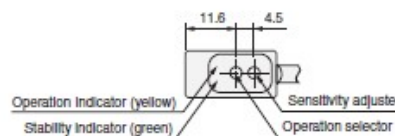
Model E3ZM-B61T series



Retro-reflective Models

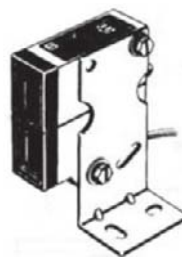
Pre-wired Models

- E3ZM-B61T(-C)
- E3ZM-B81T(-C)

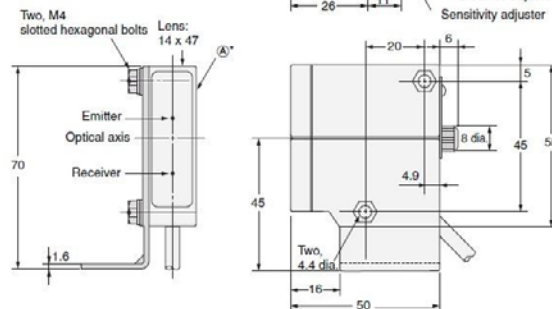
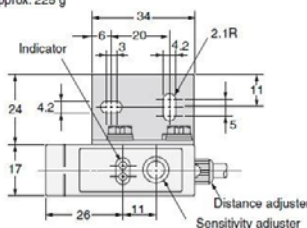


4 dia. vinyl-insulated round cable with 3 conductors (Conductor cross section:0.2 mm² (AWG24), Insulator diameter:1.1 mm), Standard length: 2 m

Model E3S-LS20XE4 series



vinyl-insulated round cable with 3 conductors
conductor cross section: 0.2 mm², Insulator diameter: 1.1 mm,
Standard length: 2 m
Weight: Approx. 225 g



* The mounting bracket can also be used on side (B).

[Characteristics]

Item	Product discontinuation Model E3S-2E4, 2B4 series	Recommendable replacement Model E3Z-T61, T81 series
Sensing distance	0 m to 2 m	0 m to 15 m
Standard sensing object	Opaque: 7 mm Min.	Opaque: 12 mm dia. Min.
Directional angle	Emitter:3 to 10 DEG Receiver:3 to 10 DEG	Emitter:3 to 15 DEG Receiver:3 to 15 DEG
Light source	Infrared LED (950 nm)	Infrared LED (870 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)
Current consumption	Emitter: 25 mA DC Max., Receiver: 25 mA DC Max.	Emitter: 15 mA DC Max., Receiver: 20 mA DC Max.
Control output (Output type)	NPN voltage-current output (2E4) PNP open collector output (2B4)	NPN open collector output (T61) PNP open collector output (T81)
Control output (Load current)	0 to 80 mA	0 to 100 mA
Control output (Residual voltage)	(DC) 1 V Max. (Load current: 80 mA Max.)	(DC) 1 V Max. (Load current: Less than 10 mA) (DC) 2 V Max. (Load current: 10 to 100 mA)
Operation mode	Light-ON/Dark-ON selectable	Light-ON/Dark-ON selectable
Protective circuit	Surge suppressor Output short-cut protection Power supply reverse polarity protection	Surge suppressor Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection
Response time	3 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500 m/s ² for 3 times each in X, Y, and Z directions	500 m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP65	IEC60529: IP67
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired models (Cable length: 2 m)
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material (case)	PBT (Polybutylene terephthalate)	PBT (Polybutylene terephthalate)
Material (lens)	Polycarbonate	Polycarbonate

Item	Product discontinuation Model E3S-5E4, 5B4 series	Recommendable replacement Model E3Z-T61, T81 series
Sensing distance	0 m to 5 m	0 m to 15 m
Standard sensing object	Opaque: 11 mm Min.	Opaque: 12 mm dia. Min.
Directional angle	Emitter: 3 to 10 DEG Receiver: 3 to 10 DEG	Emitter: 3 to 15 DEG Receiver: 3 to 15 DEG
Light source	Infrared LED (950 nm)	Infrared LED (870 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)
Current consumption	Emitter: 25 mA DC Max., Receiver: 25 mA DC Max.	Emitter: 15 mA DC Max., Receiver: 20 mA DC Max.
Control output (Output type)	NPN voltage-current output (5E4) PNP open collector output (5B4)	NPN open collector output (T61) PNP open collector output (T81)
Control output (Load current)	0 to 80 mA	0 to 100 mA
Control output (Residual voltage)	(DC) 1 V Max. (Load current: 80 mA Max.)	(DC) 1 V Max. (Load current: Less than 10 mA) (DC) 2 V Max. (Load current: 10 to 100 mA)
Operation mode	Light-ON/Dark-ON selectable	Light-ON/Dark-ON selectable
Protective circuit	Surge suppressor Output short-cut protection Power supply reverse polarity protection	Surge suppressor Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection
Response time	3 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500 m/s ² for 3 times each in X, Y, and Z directions	500 m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP67	IEC60529: IP67
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired models (Cable length: 2 m)
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material (case)	Zinc diecast	PBT (Polybutylene terephthalate)
Material (lens)	Polycarbonate	Denatured Polyarylate

Item	Product discontinuation Model E3S-5E4, 5B4 series	Recommendable replacement Model E3Z-T61, T81 series
Sensing distance	0 m to 5 m	0 m to 15 m
Standard sensing object	Opaque: 11 mm Min.	Opaque: 12 mm dia. Min.
Directional angle	Emitter: 3 to 10 DEG Receiver: 3 to 10 DEG	Emitter: 3 to 15 DEG Receiver: 3 to 15 DEG
Light source	Infrared LED (950 nm)	Infrared LED (870 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)
Current consumption	Emitter: 25 mA DC Max., Receiver: 25 mA DC Max.	Emitter: 15 mA DC Max., Receiver: 20 mA DC Max.
Control output (Output type)	NPN voltage-current output (5E4) PNP open collector output (5B4)	NPN open collector output (T61) PNP open collector output (T81)
Control output (Load current)	0 to 80 mA	0 to 100 mA
Control output (Residual voltage)	(DC) 1 V Max. (Load current: 80 mA Max.)	(DC) 1 V Max. (Load current: Less than 10 mA) (DC) 2 V Max. (Load current: 10 to 100 mA)
Operation mode	Light-ON/Dark-ON selectable	Light-ON/Dark-ON selectable
Protective circuit	Surge suppressor Output short-cut protection Power supply reverse polarity protection	Surge suppressor Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection
Response time	3 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500m/s ² for 3 times each in X, Y, and Z directions	500m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP67	IEC60529: IP67
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired models (Cable length: 2 m)
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material (case)	Zinc diecast	PBT (Polybutylene terephthalate)
Material (lens)	Polycarbonate	Denatured Polyarylate

Item	Product discontinuation Model E3S-DS10E4, DS10B4 series	Recommendable replacement Model E3Z-D61, D81 series
Sensing distance	0 mm to 100 mm (White paper 50 × 50 mm)	5 mm to 100 mm (White paper 100 × 100 mm)
Differential distance	20% Max. of sensing distance	20% Max. of sensing distance
Light source	Infrared LED (950 nm)	Infrared LED (860 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)
Current consumption	40 mA DC Max.	30 mA DC Max.
Control output (Output type)	NPN open collector output (DS10E4) PNP open collector output (DS10B4)	NPN open collector output (D61) PNP open collector output (D81)
Control output (Load current)	0 to 80 mA	0 to 100 mA
Control output (Residual voltage)	(DC) 1 V Max. (Load current: 80 mA Max.)	(DC) 1 V Max. (Load current: Less than 10 mA) (DC) 2 V Max. (Load current: 10 to 100 mA)
Operation mode	Light-ON/Dark-ON selectable	Light-ON/Dark-ON selectable
Protective circuit	Surge suppressor Output short-cut protection Power supply reverse polarity protection Mutual interference prevention	Surge suppressor Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection Mutual interference prevention
Response time	1 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500 m/s ² for 3 times each in X, Y, and Z directions	500 m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP65	IEC60529: IP67
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired models (Cable length: 2 m)
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material (case)	PBT (Polybutylene terephthalate)	PBT (Polybutylene terephthalate)
Material (lens)	Polycarbonate	Polycarbonate

Item	Product discontinuation Model E3S-DS30E4, DS30B4 series	Recommendable replacement Model E3Z-D62, D82 series
Sensing distance	0 mm to 300 mm (White paper 100 × 100 mm)	0 m to 1 m (White paper 300 × 300mm)
Differential distance	20% Max. of sensing distance	20% Max. of sensing distance
Light source	Infrared LED (950 nm)	Infrared LED (860 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)
Current consumption	40 mA DC Max.	30 mA DC Max.
Control output (Output type)	NPN open collector output (DS30E4) PNP open collector output (DS30B4)	NPN open collector output (D62) PNP open collector output (D82)
Control output (Load current)	0 to 80 mA	0 to 100 mA
Control output (Residual voltage)	(DC) 1 V Max. (Load current: 80 mA Max.)	(DC) 1 V Max. (Load current: Less than 10 mA) (DC) 2 V Max. (Load current: 10 to 100 mA)
Operation mode	Light-ON/Dark-ON selectable	Light-ON/Dark-ON selectable
Protective circuit	Surge suppressor Output short-cut protection Power supply reverse polarity protection Mutual interference prevention	Surge suppressor Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection Mutual interference prevention
Response time	1 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500 m/s ² for 3 times each in X, Y, and Z directions	500 m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP67	IEC60529: IP67
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired models (Cable length: 2 m)
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material (case)	Zinc diecast	PBT (Polybutylene terephthalate)
Material (lens)	Polycarbonate	Denatured Polyarylate

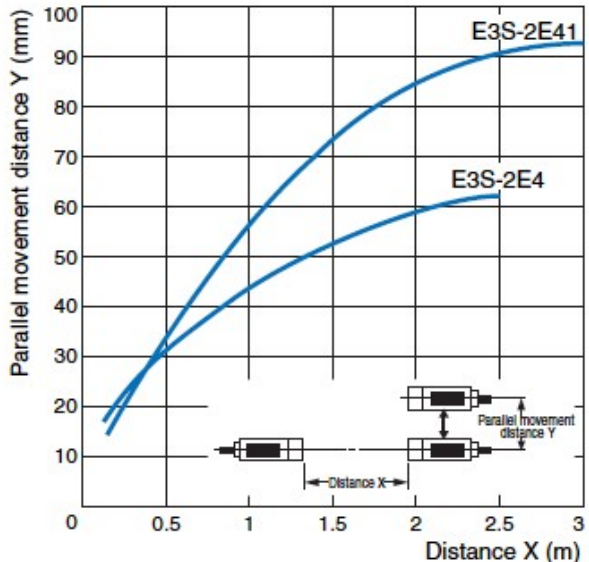
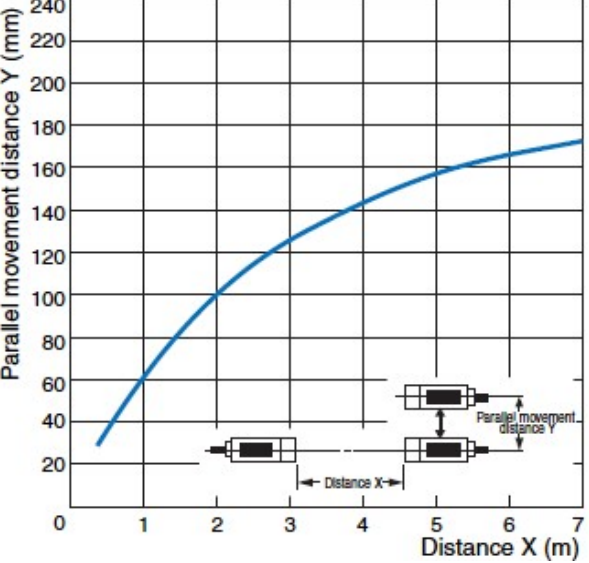
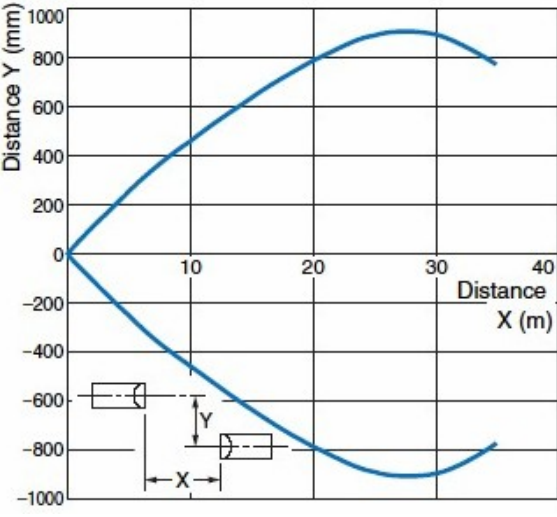
Item	Product discontinuation Model E3S- R1E4, R1B4 series	Recommendable replacement Model E3Z-B62, B82 series
Sensing distance	0 m to 1 m (When using the E39-R1)	0.5 m to 2 m (When using the E39-R1S)
Standard sensing object	Opaque, Glass tube (10-mm dia. thickness:1-mm length:30-mm): 75 mm dia. Min.	Transparent round PET bottle 500 ml: 65 mm dia. Min.
Directional angle	Sensor: 3 to 10 DEG Reflector: 30 DEG Min.	Sensor: 2 to 10 DEG Reflector: 30 DEG Min.
Light source	Infrared LED (950 nm)	Red LED (660 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)
Current consumption	40 mA DC Max.	30 mA DC Max.
Control output (Output type)	NPN voltage-current output (R1E4) PNP open collector output (R1B4)	NPN open collector output (B62) PNP open collector output (B82)
Control output (Load current)	0 to 80 mA	0 to 100 mA
Control output (Residual voltage)	(DC) 2 V Max. (Load current 80 mA Max.)	(DC) 1 V Max. (Load current: Less than 10 mA) (DC) 2 V Max. (Load current: 10 to 100 mA)
Operation mode	Light-ON/Dark-ON selectable	Light-ON/Dark-ON selectable
Protective circuit	Output short-cut protection Power supply reverse polarity protection Mutual interference prevention	Surge suppressor Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection Mutual interference prevention
Response time	1 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500 m/s ² for 3 times each in X, Y, and Z directions	500 m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP67	IEC60529: IP67
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired models (Cable length: 2 m)
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material (case)	Zinc diecast	PBT (Polybutylene terephthalate)
Material (lens)	Polycarbonate	Denatured Polyarylate

Item	Product discontinuation Model E3S-R2E4, R2B4 series	Recommendable replacement Model E3Z-R61, R81 series
Sensing distance	0 m to 1 m (When using the E39-R1)	0.1 m to 4 m (When using the E39-R1S)
Standard sensing object	Opaque, Glass tube (10-mm dia. thickness:1-mm length:30-mm): 75 mm dia. Min.	Opaque: 75 mm dia. Min.
Directional angle	Sensor: 3 to 10 DEG Reflector: 30 DEG Min.	Sensor: 2 to 10 DEG Reflector: 30 DEG Min.
Light source	Infrared LED (950 nm)	Red LED (660 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)
Current consumption	40 mA DC Max.	30 mA DC Max.
Control output (Output type)	NPN voltage-current output (R2E4) NPN open collector output (R2B4)	NPN open collector output (R61) PNP open collector output (R81)
Control output (Load current)	0 to 80 mA	0 to 100 mA
Control output (Residual voltage)	(DC) 2 V Max. (Load current 80 mA Max.)	(DC) 1 V Max. (Load current: Less than 10 mA) (DC) 2 V Max. (Load current: 10 to 100 mA)
Operation mode	Light-ON/Dark-ON selectable	Light-ON/Dark-ON selectable
Protective circuit	Output short-cut protection Power supply reverse polarity protection Mutual interference prevention	Surge suppressor Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection Mutual interference prevention
Response time	1 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500 m/s ² for 3 times each in X, Y, and Z directions	500 m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP67	IEC60529: IP67
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired models (Cable length: 2 m)
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material (case)	Zinc diecast	PBT(Polybutylene terephthalate)
Material (lens)	Polycarbonate	

Item	Product discontinuation Model E3S-RS30E4	Recommendable replacement Model E3ZM-B61T series
Sensing distance	0 mm to 300 mm (When using the E39-R1)	100 to 500 mm (Using E39-RP1)
Standard sensing object	Opaque, Glass tube (10-mm dia. thickness: 1-mm length: 30-mm): 75 mm dia. Min.	500-ml, transparent, round PET bottle (65-mm dia.)
Directional angle	Sensor: 3 to 10 DEG, effector: 30 DEG Min.	Sensor: 3° to 10°, effector: 30°
Light source	Infrared LED (950 nm)	Red LE D (650 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	10 to 30 VDC, including 10% ripple (p-p)
Current consumption	40 mA DC Max.	450 mW max. (current consumption for a 30-V power supply voltage: 15 mA max.)
Control output (Output type)	NPN voltage-current output	Open-collector output (NPN/PNP output depending on model)
Control output (Load current)	0 to 80 mA	0 to 100 mA
Control output (Residual voltage)	(DC) 2 V Max. (Load current 80 mA Max.)	Load power supply voltage: 30 VDC max., Load current: 100 mA max. (Residual voltage: 2 V max.)
Operation mode	Light-ON/Dark-ON selectable	Light ON/Dark ON switch selectable
Protective circuit	Output short-cut protection Power supply reverse polarity protection Mutual interference prevention	Surge suppressor Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection Mutual interference prevention
Response time	1 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -40 to 60°C (*3), Storage: -40 to 70°C (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500 m/s ² for 3 times each in X, Y, and Z directions	500 m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP67	IEC IP67, DIN 40050-9: IP69K
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired cable (standard length: 2 m) or M8 4-pin connector
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (orange) Stability indicator (green)
Material (case)	Zinc diecast	SUS316L
Material (lens)	Polycarbonate	Methacrylate resin

Item	Product discontinuation Model E3S-LS20XE4-M3J	Recommendable replacement Model E3S-LS20XE4
Sensing distance	50 mm to 250 mm (White paper 50 × 75 mm)	50 mm to 250 mm (White paper 50 × 75 mm)
Standard sensing object	—	—
Differential distance	5% Max. of sensing distance	5% Max. of sensing distance
Light source	Infrared LED (950 nm)	Infrared LED (950 nm)
Power supply voltage	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)	12 to 24 VDC -10% to 10% (ripple(p-p): 10% Max.)
Current consumption	40 mA DC Max.	40 mA DC Max.
Control output (Output type)	NPN voltage-current output	NPN voltage-current output
Control output (Load current)	0 to 80 mA	0 to 80 mA
Control output (Residual voltage)	(DC) 2 V Max. (Load current 80 mA Max.)	(DC) 2 V Max. (Load current 80 mA Max.)
Operation mode	Light-ON/Dark-ON selectable	Light-ON/Dark-ON selectable
Protective circuit	Surge suppressor Output short-cut protection Power supply reverse polarity protection Mutual interference prevention	Surge suppressor Output short-cut protection Power supply reverse polarity protection Mutual interference prevention
Response time	1 ms Max.	1 ms Max.
Ambient temperature	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)	Operating: -25 to 55 CEL Storage: -40 to 70 CEL (with no icing or condensation)
Ambient humidity	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)	Operating: 35 to 85 %RH Storage: 35 to 95 %RH (with no condensation)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	500m/s ² for 3 times each in X, Y, and Z directions	500m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC60529: IP67	IEC60529: IP67
Connection method	Pre-wired models (Cable length: 2 m)	Pre-wired models (Cable length: 2 m)
Indicators	Light indicator (red) Stability indicator (green)	Light indicator (red) Stability indicator (green)
Material (case)	Zinc diecast	Zinc diecast
Material (lens)	Polycarbonate	Polycarbonate

[Operation ratings]

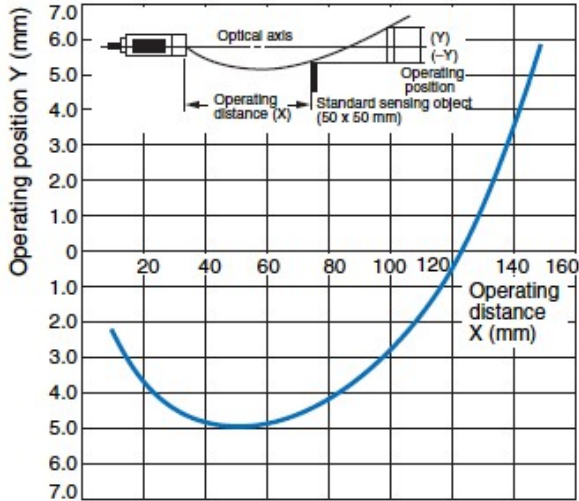
<p>Product discontinuation Model E3S-2E4(41) Model E3S-5E4(41), (42)</p>	<p>Recommendable replacement Model E3Z-T□1(T□6)</p>
<p>Parallel Operating Range E3S-2E4 (41)</p>  <p>E3S-5E4 (41) (42)</p> 	<p>Parallel Operating Range E3Z-T□1(T□6)</p> 

[Operation ratings]

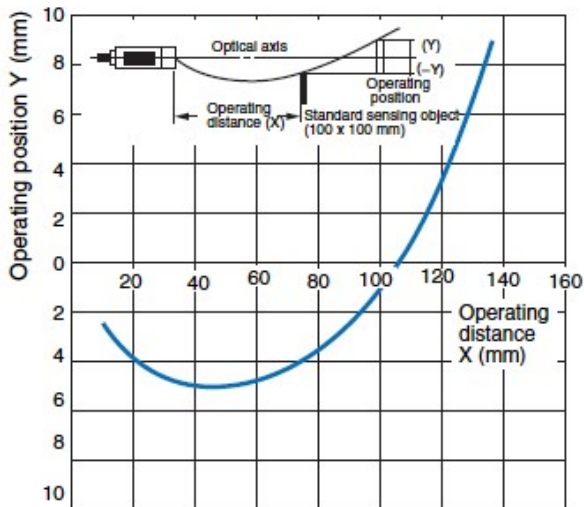
Product discontinuation
 Model E3S-DS10E4(41)
 Model E3S-DS30E4(41), (42)

Recommendable replacement
 Model E3Z-D□1(D□6)
 Model E3Z-D□2(D□7)

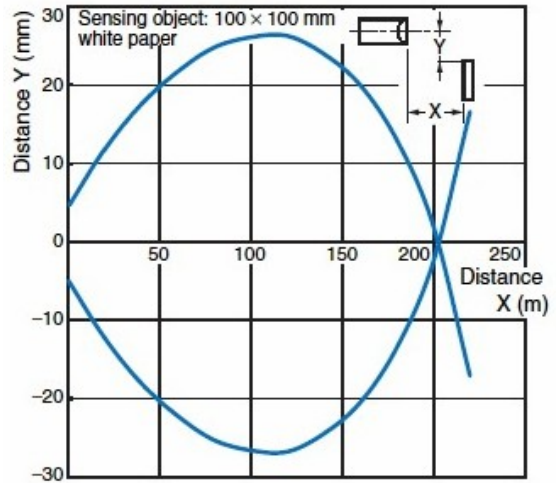
Operating Range
 E3S-DS10E4 (41)



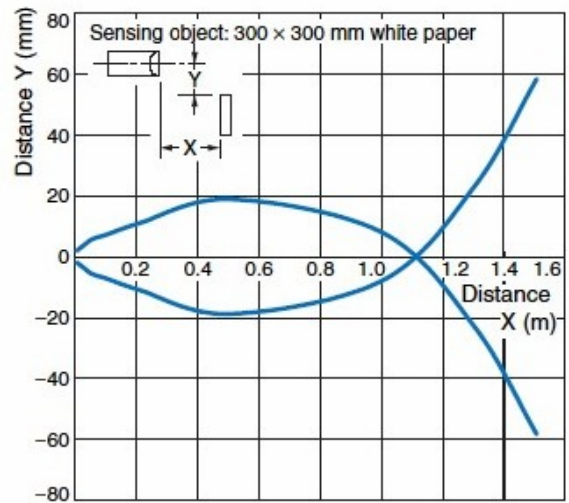
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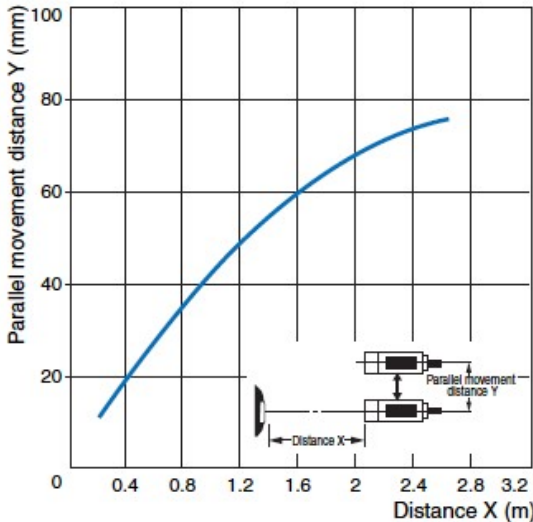
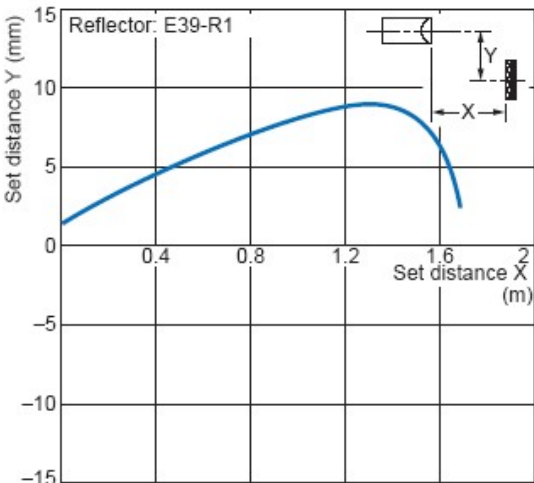
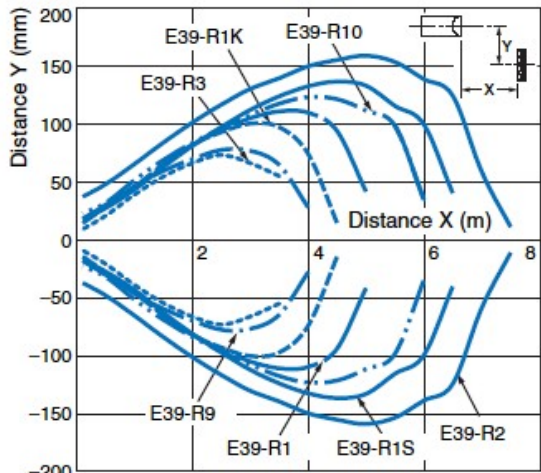
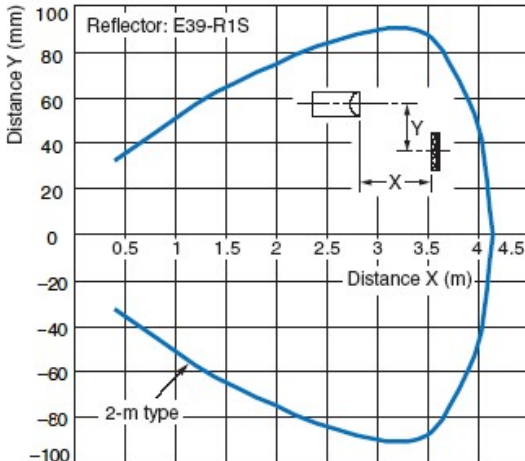
Operating Range
 E3Z-D□1(D□6)



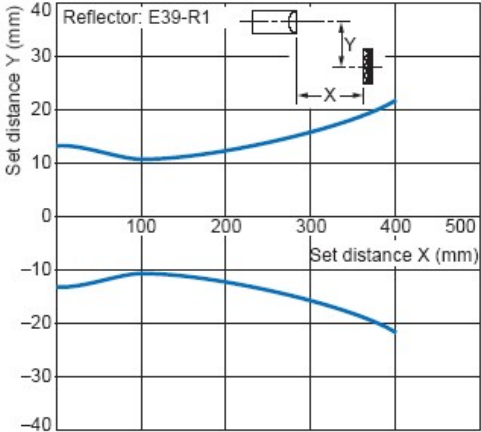
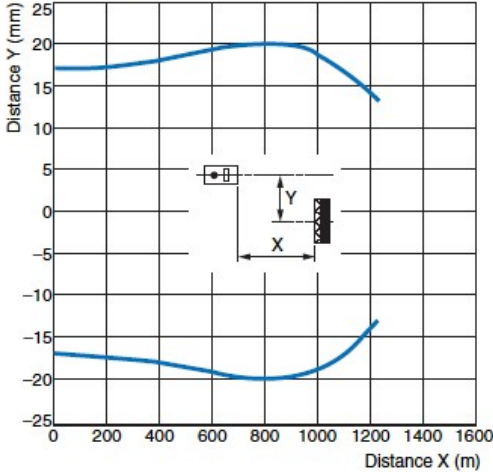
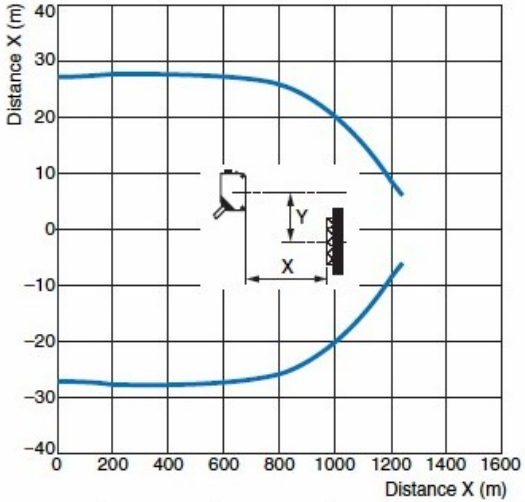
E3Z-D□2(D□7)



[Operation ratings]

<p>Product discontinuation Model E3S-R2E4(41), (42) Model E3S-R1E4[] + E39-R1</p>	<p>Recommendable replacement Model E3Z-R[]1(R[]6) and Reflector Model E3Z-B[]2/B[]7 + E39-R1S</p>
<p>Parallel Operating Range E3S-R2E4 (41) (42)</p>  <p>E3S-R1E4[] + E39-R1 (Supplied Reflector)</p> 	<p>Retro-reflective Models E3Z-R[]1(R[]6) and Reflector</p>  <p>E3Z-B[]2/B[]7 + E39-R1S Reflector (Order Separately)</p> 

[Operation ratings]

<p>Product discontinuation Model E3S-RS30E4[] + E39-R1</p>	<p>Recommendable replacement Model E3ZM-B[]1/B[]6 + E39-RP1</p>
<p>E3S-RS30E4[] + E39-R1 (Supplied Reflector)</p> 	<p>Parallel Operating Range (Horizontal) E3ZM-B[]1/B[]6 + E39-RP1 (Special Reflector)</p>  <p>E3ZM-B[]1/B[]6 + E39-RP1 (Special Reflector)</p> 

[Operation methods]

<p>Product discontinuation Model E3S-2, 5, DS, R, RS, LS series</p>	<p>Recommendable replacement Model E3Z-T, R, D, B, E3ZM-B61T series</p>
<p>Operation with Sensitivity-adjuster and inverting the connection (Brown-Blue) .</p>	<p>The operation mode is switched with the operation switch.</p>

Specifications and prices in this product news are as of the issue date and are subject to change without notice. Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.