E3JM/E3JK

CSM_E3JM_E3JK_DS_E_9_1

Two Models Contribute to Overall Cost Reduction

E3JM Terminal Block Models

• Easy to wire and adjust.

E3JK Pre-wired Models

· Slim body is economically priced and full of functions.



Be sure to read Safety Precautions on page 10.

CE

Ordering Information

Sensors (Refer to Dimensions on page 12.)

E3JM

E3JM								Red light Infrared light
Sensing method	Appearance	Connection method	Sensing d	Sensing distance		Output configuration	Functions	Model
						Relay		E3JM-10M4-N Emitter E3JM-10L-N Receiver E3JM-10DM4-N
Through- beam (Emitter + Receiver) *		Terminal block					Timer	E3JM-10M4T-N Emitter E3JM-10L-N Receiver E3JM-10DM4T-N
				10 m	Light-ON Dark-ON (switch selectable)	DC CCD		E3JM-10S4-N Emitter E3JM-10L-N Receiver E3JM-10DS4-N
						DC SSR	Timer	E3JM-10S4T-N Emitter E3JM-10L-N Receiver E3JM-10DS4T-N
Retro-						Relay		E3JM-R4M4
reflective				1 4			Timer	E3JM-R4M4T
with MSR	W			4 m		DC SSR		E3JM-R4S4
function	E39-R1 (provided)						Timer	E3JM-R4S4T
						Relay		E3JM-DS70M4
Diffuse-			700 mm			licity	Timer	E3JM-DS70M4T
reflective	↓					DC SSR		E3JM-DS70S4
	-					23 0011	Timor	F3.IM-DS70S4T

^{*} Through-beam Sensors are normally sold in sets that include both the Emitter and Receiver. Orders for individual Emitters and Receivers are accepted.

OMRON

E3JK

Sensing method	Appearance	Connection method	Sen	sing di	stance		Operation mode		Output configuration	Model		
Through							Light-ON		Relay	Emitter E3JK-5L-N 2M Receiver E3JK-5DM1-N 2M		
Through- beam (Emitter + Receiver) *1						1	Dark-ON		riciay	E3JK-5M2-N 2M Emitter E3JK-5L-N 2M Receiver E3JK-5DM2-N 2M		
							Light-ON Dark-ON	Both selectable	DC SSR	E3JK-5S3-N 2M Emitter E3JK-5L-N 2M Receiver E3JK-5DS3-N 2M		
Retro-reflec-				*2		Light-ON		Relay	E3JK-R2M1 2M			
tive with MSR		Pre-wired (2 m)		2.5 (3 n	m		Dark-ON		пеіау	E3JK-R2M2 2M		
function		(2111)			(3)	(3 r	n)		Light-ON Dark-ON	Both selectable	DC SSR	E3JK-R2S3 2M
Retro-reflec-	E39-R1)			*2		Light-ON		Relay	E3JK-R4M1 2M		
tive without	(provided)				4 m		Dark-ON		riciay	E3JK-R4M2 2M		
MSR function	,				(5 m))	Light-ON Dark-ON	Both selectable	DC SSR	E3JK-R4S3 2M		
Diffuse- reflective							Light-ON		Relay	E3JK-DS30M1 2M		
			∏ 300 m	nm.		Ī	Dark-ON		liciay	E3JK-DS30M2 2M		
			<u> </u>	1111			Light-ON Dark-ON	Both selectable	DC SSR	E3JK-DS30S3 2M		

Note: UL-listed models have the -US suffix. Through-beam models have -US suffix instead of -N suffix. (Example: E3JM-10M4-US 2M). Tightening nuts, washers, and rubber bushings are not provided with these models.
Change: Shape of the E3JM conduit socket
Note, however, that DC-type E3JK SSR Output Models are not UL-listed.
*1. Through-beam Sensors are normally sold in sets that include both the Emitter and Receiver.

Accessories (Order Separately)

Slit (A Slit is not provided with the Sensor for through-beam. Order a Slit separately if required.) (Refer to Dimensions on page 12.)

Slit width	Sensing distance		Minimum detect- able object (typical)	Model	Quantity	Remarks	
1 mm × 20 mm	E3JM-10□4(T)-N	1.2 m		E39-S39	1 Slit each for the Emitter and	(Seal-type long slit) Can be used with the E3JM-10□4(T)-N and E3JK-5□□-N Through-beam Models.	
1 111111 × 20 111111	E3JK-5□-N 0.7 m		r-iiiii dia.	239-339	Receiver (2 Slits total)		

Reflectors (A Reflector is required for Retroreflective Sensors.)

A Reflector is provided with the E39-R1 Sensor. For other Sensors, order a Reflector separately if required. (Refer to Dimensions on E39-L/F39-L/E39-S/E39-R.)

Name	Sensing di	istance (typical)	Model	Quantity	Remarks	
	E3JM-R4□4(T)	4 m (rated value)			Provided with the E3JM-R4□4(T)	
	E3JK-R2□□	2.5 m (rated value)	E39-R1	1	Provided with the E3JK-R2□□ ′	
Reflectors	E3JK-R4□□	4 m (rated value)			Provided with the E3JK-R4□□	
	E3JK-R2□□	3 m	F00 B0			
	E3JK-R4□□	5 m	E39-R2	'		
Small Reflectors	E3JM-R4□4(T)	3.5 m	E39-R3	1		
Small hellectors	E3JK-R2□□	1 m (5 mm) *				
	E3JM-R4□4(T)	1 m (200 mm) *	E39-RS1	1	Enables MSR function.	
	E3JK-R2□□	750 mm (200 mm) *	E39-N31			
Tana Baflactora	E3JM-R4□4(T)	1.6 m (200 mm) *	E39-RS2	4		
Tape Reflectors	E3JK-R2□□	1.2 m (200 mm) *	E39-N32	'		
	E3JM-R4□4(T)	2 m (200 mm) *	E20 DC2	4		
	E3JK-R2□□	1.5 m (200 mm) *	E39-RS3	'		

Note: 1. When using any reflector other than the provided one, use a sensing distance of approximately 0.7 times the typical value as a guide.

Orders for individual Emitters and Receivers are accepted.

^{*2.} Values in parentheses indicate the sensing distance when using E39-R2 Reflectors.

^{2.} Refer to Reflectors on E39-L/F39-L/E39-S/E39-R for details.

^{*} Values in parentheses are the minimum required distance between the Sensor and Reflector.

Mounting Bracket

Some Mounting Brackets are provided with the Sensor. Order other Mounting Brackets separately if required. (Refer to E39-L/F39-L/E39-S/E39-R)

Appearance	Model	Quantity	Remarks
	E39-L53	1	Provided with the E3JM.
	E39-L40	1	Provided with the E3JK.
	E39-L51	1	Mounting Bracket designed for changing from he E3A-M, E3A2, E3A3, OA-5, or OA-5N to the E3JM.

Note: 1. When using a Through-beam Sensor, order one Connector for the Receiver and one for the Emitter. 2. Refer to *Mounting Brackets* on *E39-L/F39-L/E39-S/E39-R* for details.

Ratings and Specifications

E3JM

Sensing method Item Model		Through-beam model	Retro-reflective model (with MSR function)	Diffuse-reflective model				
		E3JM-10□4(T)-N	E3JM-R4□4(T)	E3JM-DS70□4(T)				
Sensing distance		10 m	4 m (When using E39-R1)	White paper (200 × 200 mm): 700 mm				
Standard sensin	g object	Opaque: 14.8-mm dia. min.	Opaque: 75-mm dia. min.					
Differential trave	I	-		20% max. of sensing distance				
Directional angle	•	Both Emitter and Receiver 3° to 20°	1° to 5°					
Light source (wa	velength)	Infrared LED (950 nm)	Red LED (660 nm)	Infrared LED (950 nm)				
Power supply vo	Itage	12 to 240 VDC±10%, ripple (p-p): 1 24 to 240 VAC±10%, 50/60 Hz	0% max.					
Power con-	DC	3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.)	2 W max.					
sumption	AC	3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.)	2 W max.					
Control output		Relay output (E3JM-□□M4 (T) mo DC SSR output (E3JM-□□S4 (T) n Light-ON/Dark-ON selectable						
	Mechanical	50,000,000 times min. (switching frequency: 18,000 times/h)						
expectancy relay output)	Electrical	100,000 times min. (switching frequency: 1,800 times/h)						
	Relay output	(E3JM-□□M4 (T) models) Operate or reset: 30 ms max.						
Response time	DC SSR output	(E3JM-□□S4 (T) models) Operate	or reset: 5 ms max.					
Sensitivity adjus	tment	-		One-turn adjuster				
Timer function *		ON-delay/OFF-delay/One-shot delay switch selectable Delay time: 0.1 to 5 s (adjustable), only for E3JM-□□□4T						
Ambient illumina (Receiver side)	ation	Incandescent lamp: 3,000 lx max.						
Ambient tempera	ature range	Operating: -25°C to 55°C, Storage: -30°C to 70°C (with no icing or condensation)						
Ambient humidit	y range	Operating: 45% to 85% (with no condensation), Storage: 35% to 95% (with no condensation)						
nsulation resista	ance	20 MΩ min. at 500 VDC						
Dielectric streng	th	2,000 VAC, 50/60 Hz for 1 min.						
/ibration	Destruction	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions						
!	Malfunction	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions						
Shock	Destruction	500 m/s² 3 times each in X, Y, and Z directions						
	Malfunction	100 m/s ² 3 times each in X, Y, and Z directions						
Degree of protect	tion	IEC 60529: IP66						
Connection meth	nod	Terminal block						
Weight (packed s	state)	Approx. 270 g	Approx. 160 g					
	Case	ABS (Acrylonitril Butadiene Styrene)						
	Lens	Methacrylic resin						
Matarial	Cover	Polycarbonate						
	Mounting Bracket	Iron						
Accessories		Mounting Bracket (with screw), Nut ing -US Models), Instruction manua						

^{*} The timer cannot be disabled for models with timer functions (E3JM-\(\square\) 4T).

E3JK

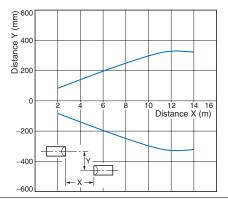
Sensing method		Through-b	eam model		ctive model R function)		ctive model SR function)	Diffuse-reflective model		
Item	Model	E3JK -5M□-N	E3JK -5S3-N	E3JK -R2M□	E3JK -R2S3	E3JK -R4M□	E3JK -R4S3	E3JK -DS30M□	E3JK -DS30S3	
Sensing	distance	5 m		2.5 m (When u	sing E39-R1)	4 m (When usi	ng E39-R1)	White paper (1 300 mm	00 × 100 mm):	
Standard object	sensing	Opaque: 14.8-r	mm dia. min.	Opaque: 75-mi	m dia. min.		-			
Differenti	ial travel			_				20% max. of se	ensing distance	
Direction	al angle	Both Emitter an 20°	d Receiver 3° to	1° to 5°				-		
Light sou (wavelen		Infrared LED (9	950 nm)	Red LED (660	nm)			Infrared LED (9	950 nm)	
Power su voltage	ipply		±10%, ripple (p- _l ±10%, 50/60 Hz							
Power con-	DC	3 W max. (Em max. Receive		2 W max.						
sump- tion	AC	3 W max. (Em max. Receive		2 W max.						
Control o	output	Relay output SPDT, 250 VAC, 3 A max. (coso= 1) 5 VDC, 10 mA min.	DC SSR out- put, Negative: common 48 VDC, 100 mA max. Leakage cur- rent: 0.1 mA max. With load short-circuit protection	Relay output SPDT, 250 VAC, 3 A max. (cosφ= 1) 5 VDC, 10 mA min.	DC SSR out- put, Negative: common 48 VDC, 100 mA max. Leakage cur- rent: 0.1 mA max. With load short-circuit protection	Relay output SPDT, 250 VAC, 3 A max. (cosφ= 1) 5 VDC, 10 mA min.	DC SSR out- put, Nega- tive: common 48 VDC, 100 mA max. Leakage cur- rent: 0.1 mA max. With load short-circuit protection	Relay output SPDT, 250 VAC, 3 A max. (cosφ= 1) 5 VDC, 10 mA min.	DC SSR output, Negative: common 48 VDC, 100 mA max. Leakage current: 0.1 mA max. With load short-circuit protection	
Life ex- pectan-	Mechani- cal	50,000,000 tim	es min. (switchir	ng frequency: 18	,000 times/h)					
cy (relay output)	Electrical	100,000 times min. (switching frequency: 1,800 times/h)								
Respons	e time	30 ms max.	10 ms max.	30 ms max.	5 ms max.	30 ms max.	5 ms max.	30 ms max.	5 ms max.	
Sensitivit adjustme									ter	
tion	mbient illumina- on Incandescent lamp: 3,000 lx max.									
Ambient temperat	ure range	Operating: -25	°C to 55°C, Stor	age: -30°C to 70	0°C (with no icing	g or condensation	n)			
Ambient humidity	range	Operating: 45%	% to 85% (with no	o condensation),	Storage: 35% to	95% (with no co	ondensation)			
Insulation resistanc		20 M Ω min. at	500 VDC							
Dielectric	strength	1,500 VAC, 50	/60 Hz for 1 min.							
Vibra- tion re-	Destruc- tion	10 to 55 Hz, 1.	5-mm double am	nplitude for 2 hou	ırs each in X, Y,	and Z directions				
sistance	Malfunc- tion	10 to 55 Hz, 1.	5-mm double am	nplitude for 2 hou	ırs each in X, Y,	and Z directions				
Shock	Destruc- tion	500 m/s ² 3 time	es each in X, Y,	and Z directions						
resis- tance	Malfunc- tion	100 m/s ² 3 times each in X, Y, and Z di- rections	500 m/s² 3 times each in X, Y, and Z di- rections	100 m/s ² 3 times each in X, Y, and Z di- rections	500 m/s ² 3 times each in X, Y, and Z di- rections	100 m/s ² 3 times each in X, Y, and Z di- rections	500 m/s ² 3 times each in X, Y, and Z di- rections	100 m/s ² 3 times each in X, Y, and Z di- rections	500 m/s ² 3 times each in X, Y, and Z di- rections	
Degree of protection IEC 60529 IP64							•			
Connection method Pre-wired (standard length: 2			dard length: 2 m	1)						
Weight (packed s	state)	Approx. 420 g		Approx. 250 g						
	Case	ABS (Acrylonit	ril Butadiene S	tyrene)						
Material	Lens	Methacrylic res	in							
	Mounting Bracket	Iron								
Accessoi	ries	Mounting Brack	ket (with screws)	, Nuts, Instructio	n manual, Refle	ctor (Retro-reflec	tive Models only	/)		

Engineering Data (Typical)

Parallel Operating Range

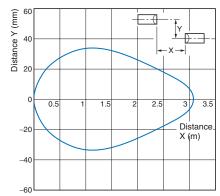
Through-beam

E3JM-10□4(T)-N

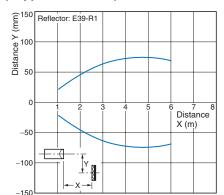


Through-beam

E3JM-10□4(T)-N + E39-S39 (Optional Slit) E3JM-R4□4(T) + E39-R1 (A Slit is mounted to the Emitter and Receiver.) (Supplied Reflector)



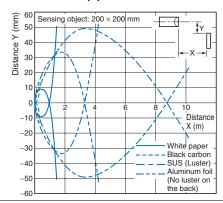
Retro-reflective



Operating Range

Diffuse-reflective

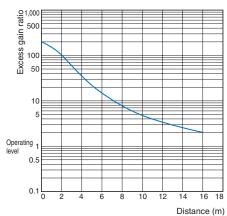
E3JM-DS70 □ 4(T)



Excess Gain Ratio vs. Set Distance

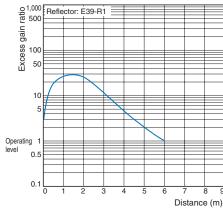
Through-beam

E3JM-10□4(T)-N

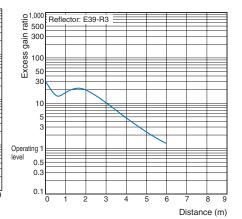


Retro-reflective

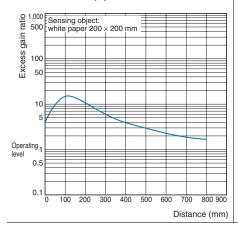
E3JM-R4□4(T) + E39-R1 (Supplied Reflector)



E3JM-R4□4(T) + E39-R3 (Optional Reflector)

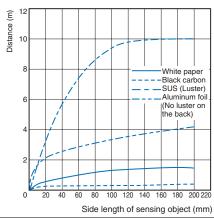


Diffuse-reflective E3JM-DS70□4(T)



Sensing Object Size vs. Sensing Distance

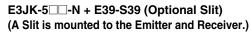
E3JM-DS70□4(T)

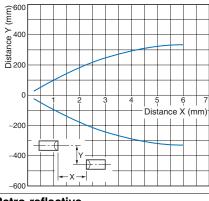


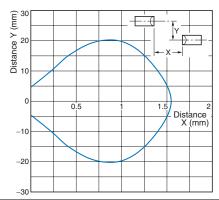
Parallel Operating Range

Through-beam

E3JK-5□□-N

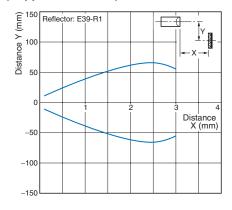




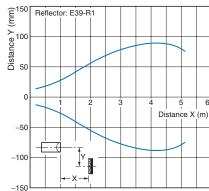


Retro-reflective

E3JK-R2□□ + E39-R1 (Supplied Reflector)



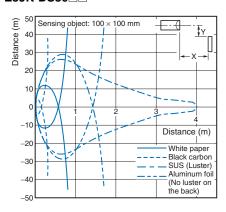
E3JK-R4□□ + E39-R1 (Supplied Reflector)



Operating Range

Diffuse-reflective

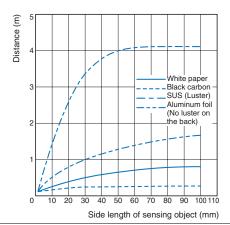
E3JK-DS30□□



Sensing Object Size vs. Sensing Distance

Diffuse-reflective

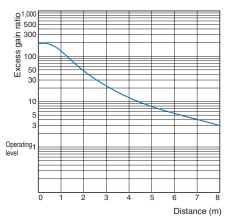
E3JK-DS30□□



Excess Gain Ratio vs. Set Distance

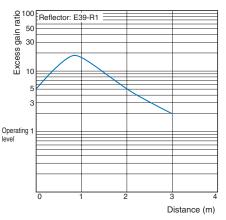
Through-beam

E3JK-5□□-N



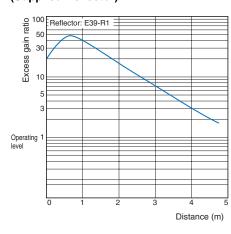
Retro-reflective

E3JK-R2□□ + E39-R1 (Supplied Reflector)

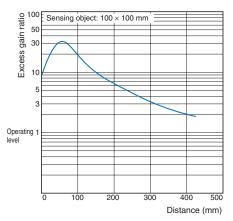


Diffuse-reflective

E3JK-R4□□ + E39-R1 (Supplied Reflector)



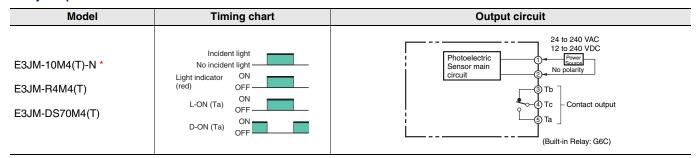
E3JK-DS30□□



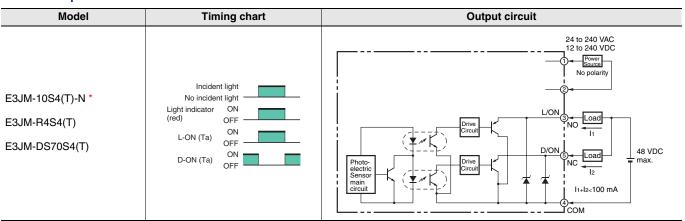
I/O Circuit Diagrams

E3JM

Relay Output Models



DC SSR Output Models



Note: Connect terminal 1 to any polarity and terminal 2 to the power supply because there is no polarity on the Emitter side.

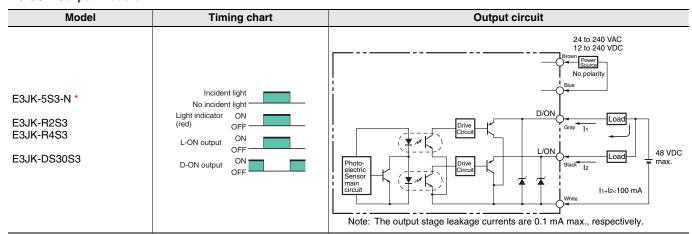
* Models numbers for Through-beam Sensors (E3JM-10□4(T)-N) are for sets that include both the Emitter and Receiver. The model number of the Emitter is E3JM-10L-N for all models. The model number of the Receiver, by adding "D" (example: E3JM-10DM4-N). Refer to Ordering Information to confirm model numbers for Emitter and Receivers.

E3JK

Relay Output Models

Model	Timing chart	Output circuit
E3JK-5M1-N * E3JK-5M2-N *	Incident light	- 24 to 240 VAC 12 to 240 VDC Photoelectric Brown Power
E3JK-R2M1 E3JK-R2M2 E3JK-R4M1 E3JK-R4M2	No incident light Light indicator ON (red) OFF L-ON (Ta) ON (E3UK-□□M1) OFF	Sensor main circuit Blue No polarity
E3JK-DS30M1 E3JK-DS30M2	D-ON (Ta) ON (E3JK-□□M2) OFF	Tb Ta Gray Gray (Built-in Relay: G6C)

DC SSR Output Models



Note: Connect the brown cable to any polarity and the blue cable to the power supply because there is no polarity on the Emitter side.

* Models numbers for Through-beam Sensors (E3JK-5□□-N 2M) are for sets that include both the Emitter and Receiver.

The model number of the Emitter is E3JK-5L-N 2M for all models. The model number of the Receiver, by adding "D" (example: E3JK-5DM1-N 2M). Refer to Ordering Information to confirm model numbers for Emitter and Receivers.

Safety Precautions

Refer to Warranty and Limitations of Liability.



This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.



Precautions for Correct Use

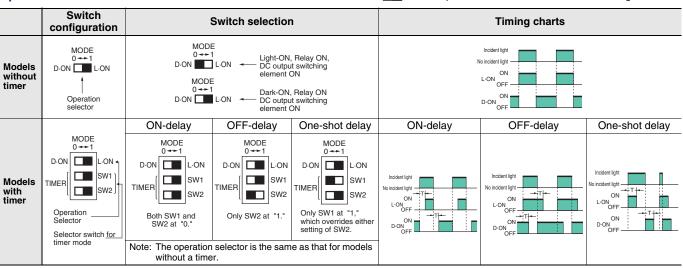
Do not use the product in atmospheres or environments that exceed product ratings.

E3JM

Designing

Operation

Note: The white part of the DIP switch indicates which setting is selected.



Output Relay Contact

If E3JM/E3JK is connected to a load with contacts that spark when the load is turned OFF (e.g., a contactor or valve), the normally-closed side may be turned ON before the normally-open side is turned OFF or vice-versa. If both normally-open output and normally-closed output are used simultaneously, apply an surge suppressor to the load.

Refer to OMRON's PCB Relays Catalog (X33) for typical examples of surge suppressors.

Wiring

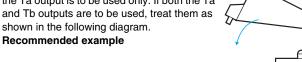
Connecting and Wiring

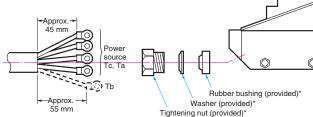
- We recommend connecting a cable with a conductor cross-section of 0.3 mm² and an outer diameter of 6 to 8 mm.
- Be sure to firmly tighten the cover in order to maintain waterproof and dustproof properties. The screw size of the conduit sockets is shown in the following table.

Model	Conduit socket thread size
E3JM-□	PF1/2

Cable End Treatment

Adjust the four wires to the same length when the Ta output is to be used only. If both the Ta and Tb outputs are to be used, treat them as shown in the following diagram.





* These parts are not provided with models with a -US suffix.

Recommended Crimp Terminal Dimensions (Unit: mm)

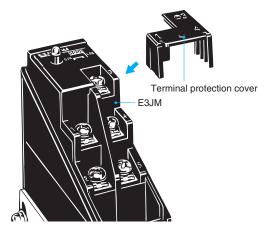
Round type	Fork type
7 max. 7 max. 3.6 dia. min. 19 max. 1	7 max. 3.6 dia. min. 19 max.
(After crimping)	(After crimping)

Note: Use terminals with insulation tube (recommended crimp terminal: 1.25 to 3.5)

Others

Terminal Protection Cover (Provided)

The terminal protection cover is designed to improve safety by maintaining the sensitivity properties of the product and by preventing any contact with charged sections while it is being operated with the mode set to the timer mode. Mount the product as shown in the following diagram (mount the Through-beam Model on the Receiver side).



E3JK

Designing

Power Reset Time

The Sensor is ready to detect within 200 ms after it is turned ON. If the Sensor and load are connected to separate power supplies, be sure to turn ON the Sensor first.

Items Common to E3JM and E3JK

Wiring

Connecting and Wiring DC SSR Output Models

When using the DC SSR output model, the total of the load current for the Light-ON output (NO) and that for the Dark-ON (NC) should be 100 mA max. If the total exceeds 100 mA, the load short-circuit protection function will be activated (this function will be reset when the power of the Photoelectric Sensor is turned OFF).

Others

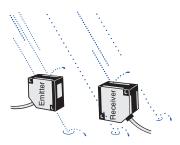
Ambient Conditions (Installation Area)

The E3JM will malfunction if installed in the following places.

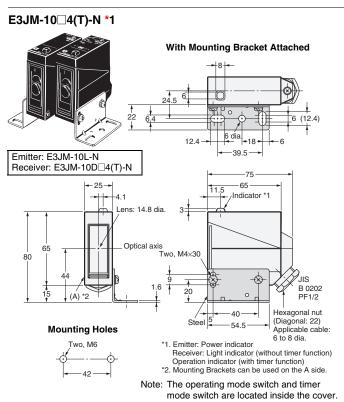
- Places where the E3JM is exposed to a dusty environment.
- Places where corrosive gases are produced.

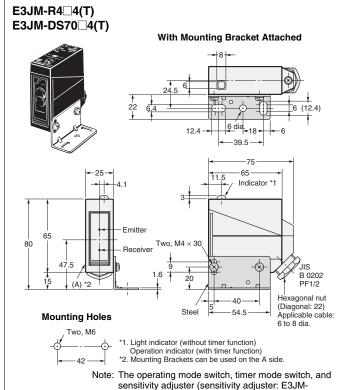


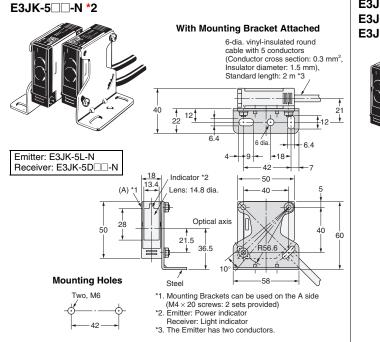
 Places where the E3JM is directly exposed to water, oil, or chemicals.

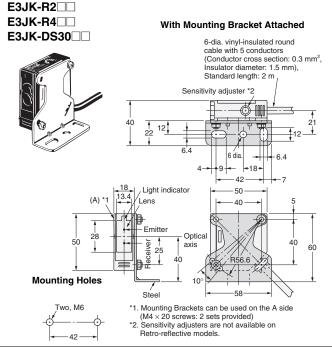


Sensors









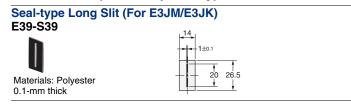
DS70 ☐ 4(T) only) are located inside the cover.

- *1. Models numbers for Through-beam Sensors (E3JM-10□4(T)-N) are for sets that include both the Emitter and Receiver.

 The model number of the Emitter is E3JM-10L-N for all models. The model number of the Receiver, by adding "D" (example: E3JM-10DM4-N). Refer to Ordering Information to confirm model numbers for Emitter and Receivers.
- *2. Models numbers for Through-beam Sensors (E3JK-5□□-N) are for sets that include both the Emitter and Receiver.

 The model number of the Emitter is E3JK-5L-N 2M for all models. The model number of the Receiver, by adding "D" (example: E3JK-5DM1-N 2M). Refer to Ordering Information to confirm model numbers for Emitter and Receivers.

Accessories (Order separately)



Mounting Brackets

Refer to E39-L/F39-L/E39-S/E39-R for details.

Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- · Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

ERRORS AND OMISSIONS

The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

2010.10

In the interest of product improvement, specifications are subject to change without notice.

