OMRON

Built-in Power Supply Photoelectric Sensor E3JK <NEW>

Long-distance Photoelectric Sensor That Supports AC/DC Power Supplies

- Long sensing distance that is approximately 8 times that of our conventional model (for the Through-beam and Diffuse-reflective models). (Through-beam: 40 m, Retro-reflective: 7 m, and Diffuse-reflective: 2.5 m.)
- Improved visibility:
 - A red LED that makes the spot visible.
 - Large indicators that can be seen even from a distance.
- Improved operability. (Enlarged sensitivity adjuster and operation selector)
- Freely selectable power supply input (24 to 240 VDC, 24 to 240 VAC).

(Additional types added to the DC type lineup.)Models with infrared LEDs are also available.

Refer to the *Safety Precautions* on page 15.



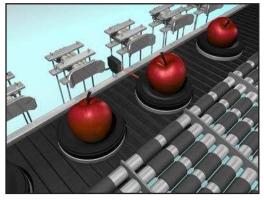
For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Applications



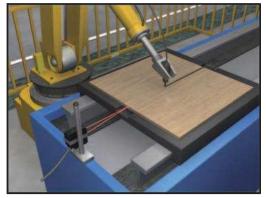


Pallet detection for agricultural produce conveyors





Workpiece detection for woodworking machines



E3JK **Ordering Information**

Sensors

Red light Infrared light

Sensors with Mounting Brackets and Reflectors (The model numbers contain ("-C.") A Mounting Bracket (E39-L40) is included. A Reflector (E39-R1) is included with Retro-reflective models.

Power supply voltage	Sensing method	Appearance	Sensing distance	Output configu- ration	Model
			40m		E3JK-TR11-C 2M Emitter: E3JK-TR11-L 2M Receiver: E3JK-TR11-D 2M
	Through-beam *1		5m		E3JK-TR12-C 2M Emitter: E3JK-TR12-L 2M Receiver: E3JK-TR12-D 2M
	(Emitter + Receiver)	, ► I → L &	\$40 m		E3JK-TR13-C 2M Emitter: E3JK-TR13-L 2M Receiver: E3JK-TR13-D 2M
			5 m	-	E3JK-TR14-C 2M Emitter: E3JK-TR14-L 2M Receiver: E3JK-TR14-D 2M
			7m *2 [100mm] (When using E39-R1)		
	Retro-reflective without MSR function Retro-reflective with MSR function		11m [100mm] (When using E39-R2)		E3JK-RR11-C 2M
AC/DC power			7 m [100 mm]	Relay	
supply selectable type			(When using E39-R1)		E3JK-RR13-C 2M
			(When using E39-R2)		
			6m ² [100mm] (When using E39 ¹ R1) 10m		E3JK-RR12-C 2M
			(When using E39-R2)		
			2.5m		E3JK-DR11-C 2M
	Diffuse-reflective		300mm		E3JK-DR12-C 2M
	Dinuse-reneetive		2.5 m		E3JK-DR13-C 2M
			300 mm		E3JK-DR14-C 2M

*1. Through-beam Sensors are sold in sets that include both the Emitter and Receiver.
*2. Values in parentheses indicate the minimum required distances between the Sensors and Reflectors.

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Sensors

Red light Infrared light

Sensors without Mounting Brackets or Reflectors A Mounting Bracket and Reflector are not included. Purchase a Mounting Bracket and Reflector separately to match the intended use of the Sensor.

Power supply voltage	Sensing method	Appearance	Sensing distance	Output configu- ration	Model
AC/DC power supply selectable type	Through-beam *1 (Emitter + Receiver)		40 m		E3JK-TR11 2M Emitter: E3JK-TR11-L 2M Receiver: E3JK-TR11-D 2M E3JK-TR12 2M Emitter: E3JK-TR12-L 2M Receiver: E3JK-TR12-D 2M E3JK-TR13 2M Emitter: E3JK-TR13-L 2M Receiver: E3JK-TR13-D 2M E3JK-TR14 2M Emitter: E3JK-TR14-L 2M Receiver: E3JK-TR14-D 2M
	Retro-reflective without MSR function		*3 7 m [100 mm] (When using E39-R1) 11 m [100 mm] (When using E39-R2)		E3JK-RR11 2M
			*3 7 m [100 mm] (When using E39-R1) 11 m [100 mm] (When using E39-R2)	Relay	E3JK-RR13 2M
	Retro-reflective with MSR function		*3 6 m [100 mm] (When using E39-R1) 10 m [100 mm] (When using E39-R2)		E3JK-RR12 2M
			2.5 m	-	E3JK-DR11 2M
	Diffuse-reflective		300 mm		E3JK-DR12 2M
	Dinuse-renective		2.5 m		E3JK-DR13 2M
			300 mm		E3JK-DR14 2M

*1. Through-beam Sensors are sold in sets that include both the Emitter and Receiver.
*2. A Reflector is not included. Purchase a Reflector separately to match the intended use of the Sensor.
*3. Values in parentheses indicate the minimum required distances between the Sensors and Reflectors.

Red light Infrared light

A Mounting Bracket and Reflector are not included. Purchase a Mounting Bracket and Reflector separately to match the intended use of the Sensor.

Power supply voltage	Sensing method	Appearance	Sensing distance	Output configu- ration	Model
				NPN	E3JK-TN11 2M Emitter: E3JK-TN11-L 2M Receiver: E3JK-TN11-D 2M
			40 n	PNP	E3JK-TP11 2M Emitter: E3JK-TP11-L 2M Receiver: E3JK-TP11-D 2M
			5 m	NPN	E3JK-TN12 2M Emitter: E3JK-TN12-L 2M Receiver: E3JK-TN12-D 2M
	Through-beam *1		5 11	PNP	E3JK-TP12 2M Emitter: E3JK-TP12-L 2M Receiver: E3JK-TP12-D 2M
	(Emitter + Receiver)		40 n	NPN	E3JK-TN13 2M Emitter: E3JK-TN13-L 2M Receiver: E3JK-TN13-D 2M
)_40 1	PNP	E3JK-TP13 2M Emitter: E3JK-TP13-L 2M Receiver: E3JK-TP13-D 2M
			5 m	NPN	E3JK-TN14 2M Emitter: E3JK-TN14-L 2M Receiver: E3JK-TN14-D 2M
				PNP	E3JK-TP14 2M Emitter: E3JK-TP14-L 2M Receiver: E3JK-TP14-D 2M
	Retro-reflective without MSR function	*2	*3 7 m [100 mm] (When using E39-R1)	NPN	E3JK-RN11 2M
)C			11 m [100 mm (When using E39-R2)] PNP	E3JK-RP11 2M
			*3 7 m [100 mm] (When using E39-R1)	NPN	E3JK-RN13 2M
			11 m [100 mm (When using E39-R2)] PNP	E3JK-RP13 2M
	Retro-reflective		6 m ^{*3} [100 mm] (When using E39-R1)	NPN	E3JK-RN12 2M
	with MSR function		10 m [100 mm] (When using E39-R2)	PNP	E3JK-RP12 2M
			25 ***	NPN	E3JK-DN11 2M
			2.5 m	PNP	E3JK-DP11 2M
			300 mm	NPN	E3JK-DN12 2M
	Diffuse-reflective			PNP	E3JK-DP12 2M
			2.5 m	NPN	E3JK-DN13 2M
				PNP NPN	E3JK-DP13 2M E3JK-DN14 2M

*1. Through-beam Sensors are sold in sets that include both the Emitter and Receiver.
*2. A Reflector is not included. Purchase a Reflector separately to match the intended use of the Sensor.
*3. Values in parentheses indicate the minimum required distances between the Sensors and Reflectors.

Accessories (Order Separately)

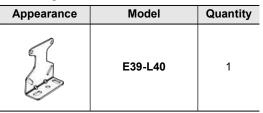
Reflectors (A Reflector is required for each Retro-reflective Sensor.) [Refer to Dimensions on page 17.] The E39-R1 is enclosed with Sensors with model numbers that contain "-C."

Name	Sensing distance (rated value)		Model	Quantity
	E3JK -R @11	7 m [100 mm] *		
	E3JK- R @12	6 m [100 mm] *	E39-R1	1
	E3JK -R @13	7 m [100 mm] *	_	
	E3JK -R @11	9 m [100 mm] *		
Reflectors	E3JK- R @12	7 m [100 mm] *	E39-R1S	1
	E3JK- R @13	9 m [100 mm] *	-	
	E3JK -R @11	11 m [100 mm] *		
	E3JK-R@12	10 m [100 mm] *	E39-R2	1
	E3JK-R@13	11 m [100 mm] *		

Note: Refer to *Engineering Data* on page 12 for details. *Values in parentheses indicate the minimum required distances between the Sensors and Reflectors.

Mounting Bracket [Refer to Dimensions on page 17.]

A Mounting Bracket is enclosed with Sensors with model numbers that contain "-C."



Note: 1. When using a Through-beam Sensor, order one Mounting Bracket for the Receiver and one for the Emitter. 2. For details, refer to Mounting Brackets on E39-L/E39-S/E39-R which can be accessed from your OMRON website.

E3JK Ratings and Specifications

	Sensing method	I Through-beam					
ltem	Model	E3JK-TR11-	E3JK-TR12-	E3JK-TR13-	E3JK-TR14-		
Sensing distar	nce	40 m	5 m	40 m	5 m		
Standard sens	ing object	Opaque: 17-mm dia. min	l.				
Differential tra	vel			-			
Directional and	gle	Both Emitter and Receive	er 3° min.				
Light source (wavelength)	Red LED (624 nm)		Infrared LED (850 nm)		
Power supply	voltage	24 to 240 VDC $\pm 10\%,$ ripple (p-p): 10% max. 24 to 240 VAC $\pm 10\%,$ 50)/60 Hz				
Power	DC	3 W max. (Emitter 1.5 W	max. Receiver 1.5 W	max.)			
consumption	AC	3 W max. (Emitter 1.5 W	max. Receiver 1.5 W	max.)			
Control output	t	Relay output SPDT, 250 5 VDC, 10 mA min., Light-ON/Dark-ON selec		1),			
Protection circ	cuits			_			
Life expectancy	Mechanical	50,000,000 times min. (s	witching frequency: 18	,000 times/h)			
(relay output)	Electrical	100,000 times min. (swit	ching frequency: 1,800	times/h)			
Response time	9	20 ms max.					
Sensitivity adj	ustment	One-turn adjuster Receiver (E3JK-TR1@-D) only					
Ambient illumi (Receiver side		Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max.					
Ambient temp	erature range	Operating: –25°C to 55°C, Storage: –40°C to 70°C (with no icing or condensation)					
Ambient humi	dity range	Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)					
Insulation resi	stance	20 MΩ min. at 500 VDC					
Dielectric stre	ngth	1,500 VAC, 50/60 Hz for 1 min					
Vibration	Destruction	10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions					
resistance	Malfunction	10 to 55 Hz with a 1.5 m	m double amplitude for	2 hours each in X, Y, and	Z directions		
Shock	Destruction	500 m/s ² for 3 times eacl	h in X, Y, and Z directio	ons			
resistance	Malfunction	100 m/s ² for 3 times eacl	h in X, Y, and Z directio	ons			
Degree of prot	ection	IEC 60529 IP64					
Connection m	ethod	Pre-wired (standard length: 2 m)					
Weight (packe	d state)	Approx. 350 g					
Case		ABS (Acrylonitrile Butadiene Styrene)					
Material	Lens/Display window	Methacrylic resin					
	Adjuster	РОМ					
	Cable	PVC					
Bending radiu	s of cable	R18					
Accessories		Instruction manual and Mounting Bracket (E3JK-TR1 -C only)					

	Sensing method	Retro-reflective (wi	thout MSR function)	Retro-reflective (with MSR function)	
Item	Model	E3JK-RR11-	E3JK-RR13-	E3JK-RR12-	
Sensing distar	nce	7 m [100 mm]* (When using E39 (When using E39-R2)	6 m [100 mm]* (When using E39-R1), 10 m [100 mm]* (When using E39-R2)		
Standard sens	ing object	Opaque: 75-mm dia. min. (When	using E39-R1), Opaque: 100-n	nm dia. min. (When using E39-R2)	
Differential tra	vel		-		
Directional ang	gle	1.5° min.			
Light source (v	wavelength)	Red LED (624 nm)	Infrared LED (850 nm)	Red LED (624 nm)	
Power supply	voltage	24 to 240 VDC ±10%, ripple (p-p): 10% max. 24 to 240 VAC ±10%, 50/60 Hz			
Power	DC	2 W max.			
consumption	AC	2 W max.			
Control output	t	Relay output SPDT, 250 VAC, 3 5 VDC, 10 mA min., Light-ON/Dark-ON selectable	A max. (cosφ= 1),		
Protection circ	cuits	Mutual interference prevention fu	unction		
Life expectancy	Mechanical	50,000,000 times min. (switching	g frequency: 18,000 times/h)		
(relay output)	Electrical	100,000 times min. (switching fre	equency: 1,800 times/h)		
Response time	9	20 ms max.			
Sensitivity adj	ustment	One-turn adjuster			
Ambient illumi (Receiver side)		Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max.			
Ambient tempe	erature range	Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation)			
Ambient humi	dity range	Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)			
Insulation resi	stance	20 M Ω min. at 500 VDC			
Dielectric stre	ngth	1,500 VAC, 50/60 Hz for 1 min			
Vibration	Destruction	10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions			
resistance	Malfunction	10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions			
Shock	Destruction	500 m/s² for 3 times each in X, Y, and Z directions			
resistance	Malfunction	100 m/s² for 3 times each in X, Y, and Z directions			
Degree of prot	ection	IEC 60529 IP64			
Connection method		Pre-wired (standard length: 2 m)			
Weight (packed state)		Approx. 180 g			
Case		ABS (Acrylonitrile Butadiene Styrene)			
Material	Lens/Display window	Methacrylic resin			
	Adjuster	POM			
	Cable	PVC			
Bending radius	s of cable	R18			
Accessories		Instruction manual, Mounting Bracket (E3JK-RR1 -C only), and Reflector (E3JK-RR1 -C only)			

*Values in parentheses indicate the minimum required distances between the Sensors and Reflectors.

Soneing distance White paper White paper White paper White paper		Sensing method	thod Diffuse-reflective				
Sensing distance (300 × 300 mm): 2.5 m (100 × 100 mm): 300 mm (300 × 300 mm): 2.5 m (100 × 100 Standard sensing object - Differential trave 20% max. of sensing distance Directional angle - Kight source (wavelength) Red LED (624 nm) Power supply Vata 24 to 240 VDC ±10%, ripple (op:) 10% max. 24 to 240 VAC ±10%, 50/60 Hz Power consumption DC 2 W max. 24 to 240 VAC ±10%, 50/60 Hz Power consumption DC 2 W max. Control output Relay output SPDT, 250 VAC, 3 A max. (cosp= 1), 5 VDC, 10 mA min., Light-ON/Dark-ON selectable 5 VDC, 00 nA min., Supple Control output Protection circut Mechanical 50,000,000 times min. (switching frequency: 18,000 times/h) Response time 20 m max. 200 m max. Sensitivity adjust One-turn adjuster Ambient emperture range Ambient memperture range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icong or condensation) Ambient timumi to no to 56 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and 2 directions Shock resistance 20 M \u0 min. at 500 VDC Dielectric struction 10 to 56 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and 2 directions <	em	Model	E3JK-DR11- E3JK-DR12- E3JK-DR13- E3JK-DR14-				
Differential trave 20% max. of sensing distance Directional angle - Light source (wavelength) Red LED (624 nm) Infrared LED (850 nm) Power supply Voltage 24 to 240 VDC ± 10%, npiple (p-p): 10% max. 24 to 240 VAC ± 10%, 50/60 Hz Power consumption DC 2 W max. 24 to 240 VAC ± 10%, 50/60 Hz Power consumption DC 2 W max. 24 to 240 VAC ± 10%, 50/60 Hz Portection circution circution Relay output SPDT, 250 VAC, 3 A max. (cosop = 1), 5 VDC, 10 mA min., Light-ON/Dark-ON selectable 5 VDC, 10 mA min., Light-ON/Dark-ON selectable Protection circution Mechanical 50,000,000 times min. (switching frequency: 1,8000 times/h) Response time 20 ms max. One-turn adjuster Ambient illumination Incandescent lamp: 3,000 k max., Sunlight: 11,000 k max. Ambient numidity range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Insulation resistance 20 M □ min. at 500 VDC Dielectric strution Vibration Bestruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Resistance	ensing distanc	ce				White paper (100 × 100 mm): 300 mm	
Directional angle	andard sensin	ng object		-	_		
Light source (wavelength) Red LED (624 nm) Infrared LED (850 nm) Power supply 24 to 240 VDC ±10%, ripple (p-p): 10% max. 24 to 240 VAC ±10%, 50/60 Hz	fferential trave	el	20% max. of sensing di	stance			
Power supply voltage 24 to 240 VDC ±10%, ripple (p-p): 10% max. 24 to 240 VAC ±10%, 50/60 Hz Power consumption DC 2 W max. AC 2 W max. Control output Relay output SPDT, 250 VAC, 3 A max. (coso=1), 5 VDC, 10 m Amin, Light-ON/Dark-ON selectable Protection circuits Mechanical 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) Response time 20 ms max. Sensitivity adjustment One-turn adjuster Ambient illumination (Receiver side) Incandescent lamp: 3,000 k max., Sunlight: 11,000 k max. Ambient temperature range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Ambient humidity rang Operating: 3% to 85%, Storage: 35% to 95% (with no condensation) Insulation resistance 20 M Ω min. at 500 VDC Dielectric strength 1,500 VAC, 50/60 Hz for 1 min Vibration resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Maifunction 100 m/s² for 3 times each in X, Y, and Z directions Tesistance Destruction 100 m/s² for 3 times each in X, Y, and Z direct	rectional angl	le		-	_		
Power supply vitage ripple (p-p): 10% max. 24 to 240 VAC ±10%, 50/60 Hz Power consumption DC 2 W max. Control output Relay output SPDT, 250 VAC, 3 A max. (cosφ= 1), 5 VDC, 10 mA min., Light-ON/Dark-ON selectable Protection circurs Mutual interference prevention function Life expectancy (relay output) Mechanical 50,000,000 times min. (switching frequency: 18,000 times/h) Response tirur 20 ms max. 20 ms max. Sensitivity adjutt One-turn adjuster Incandescent lamp: 3,000 k max., Sunlight: 11,000 k max. Ambient illurituriture (receiver sid) Operating: 25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Insulation resistance 20 M P min. at 500 VDC Destruction Vibration resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Degree of pre-ture Approx. 180 g Approx. 180 g Approx. 180 g Canneetity Approx. 180 g Approx. 180 g Approx. 180 g Destruction Approx. 180 g Approx. 180 g Approx. 180	ght source (wa	avelength)	Red LED (624 nm)		Infrared LED (850 nm)		
AC 2 W max. Control output Relay output SPDT, 250 VAC, 3 A max. (cos₀= 1), 5 VDC, 10 mA min., Light-ON/Dark-ON selectable Protection circuts Mutual interference prevention function Life expectancy (relay output) Mechanical 50,000,000 times min. (switching frequency: 18,000 times/h) Response time 20 ms max. 20 ms max. Sensitivity adjustment One-turn adjuster Incandescent lamp: 3,000 k max., Sunlight: 11,000 k max. Ambient illumination (Receiver side) Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Insulation resistance 20 M Ω min. at 500 VDC Dielectric struter range Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) Number to be struction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Bonck resistance Destruction 100 m/s² for 3 times each in X, Y, and Z directions Material Case ABS (Acrylonitrile Butadiene Styrene) Approx. 180 g Material Case ABS (Acrylonitrile Butadiene Styrene) Approx. 180 g	ower supply vo	oltage	ripple (p-p): 10% max.	i0/60 Hz			
Control output Relay output SPDT, 250 VAC, 3 A max. (cosφ= 1), S VDC, 10 mA min., Light-ON/Dark-ON selectable Protection circuty (relay output) Mechanical 50,000,000 times min. (switching frequency: 18,000 times/h) Life expectancy (relay output) Mechanical 50,000,000 times min. (switching frequency: 18,000 times/h) Response time 20 ms max. 20 ms max. Sensitivity adjutment One-turn adjuster Ambient illumination (Receiver side) Incandescent lamp: 3,000 k max., Sunlight: 11,000 k max. Ambient temp=rature range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Insulation resistance 20 MΩ min. at 500 VDC Dielectric struction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Matifunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Degree of protetion IEC 60529 IP64 Connections Pre-wired (standard length: 2 m) Weight (pack=tate) Approx. 180 g ABS (Acrylonitrile Butadiene Styrene) Case ABS (Acrylonitrile Butadiene Styrene) Material	ower	DC	2 W max.				
Control output S VDC, 10 mA min., Light-ON/Dark-ON selectable Protection circus Mutual interference prevention function Life expectacy (relay output) Mechanical S0,000,000 times min. (switching frequency: 18,000 times/h) Response time (relay output) 20 ms max. 20 ms max. Sensitivity adjutment One-turn adjuster Ambient illumition (ncandescent lamp: 3,000 k max., Sunlight: 11,000 k max.) Ambient temperature range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Ambient numitiv range Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) Insulation resistance 20 MΩ min. at 500 VDC Dielectric struction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Begree of protune IEC 60529 IP64 Ecc 60529 IP64 Connection mid Mal function ABS (Acrylonitrile Butadiene Styrene) Material Approx. 180 g ABS (Acrylonitrile Butadiene Styrene) Material Approx. Approx. 180 g	onsumption	AC	2 W max.				
Life expectancy (relay output) Mechanical 50,000,000 times min. (switching frequency: 18,000 times/h) Electrical 100,000 times min. (switching frequency: 18,000 times/h) Iter treat Response time 20 ms max. Sensitivity adjustment One-turn adjuster Ambient illumination (Receiver side) Incandescent lamp: 3,000 k max., Sunlight: 11,000 k max. Ambient temperature range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Ambient humidity range Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) Insulation resistance 20 M Ω min. at 500 VDC Dielectric streeth 1,500 VAC, 50/60 Hz for 1 min Vibration resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Malfunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 500 m/s² for 3 times each in X, Y, and Z directions Degree of protection IEC 60529 IP64 Connections Connection method Pre-wired (standard length: 2 m) Weight (packet state) Approx. 180 g Ambient infolog Abs (Acrylonitrile Butadiene Styrene)	ontrol output		5 VDC, 10 mA min.,		,		
expectancy (relay output) information beside of expectance intermine (entermine requested): report antermine (entermine): report antermine (entermine): report antermine (receiver side) Response time 20 ms max. Sensitivity adjustment One-turn adjuster Ambient illumination (Receiver side) Incandescent lamp: 3,000 k max., Sunlight: 11,000 k max. Ambient temperature range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Ambient humidity range Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) Insulation resistance 20 M Ω min. at 500 VDC Dielectric streeth 1,500 VAC, 50/60 Hz for 1 min Vibration resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 100 m/s² for 3 times each in X, Y, and Z directions Degree of protection IEC 60529 IP64 Pre-wired (standard length: 2 m) Weight (packet state) Approx. 180 g ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Methacrylic resin	otection circu	uits	Mutual interference pre	vention function			
Response time 20 ms max. Sensitivity adjustment One-turn adjuster Ambient illumination (Receiver side) Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max. Ambient temperature range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Ambient humidity range Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) Insulation resistance 20 M Ω min. at 500 VDC Dielectric streeth 1,500 VAC, 50/60 Hz for 1 min Vibration resistance Destruction Malfunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction Malfunction 100 m/s² for 3 times each in X, Y, and Z directions Degree of protetion IEC 60529 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packet state) Approx. 180 g Amsterial Case ABS (Acrylonitrile Butadiene Styrene) Mathacrylic resin Methacrylic resin Adjuster POM		Mechanical	50,000,000 times min. ((switching frequency: 18,00	0 times/h)		
Sensitivity adjustment One-turn adjuster Ambient illumination (Receiver side) Incandescent lamp: 3,000 k max., Sunlight: 11,000 lx max. Ambient temperature range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Ambient humidity range Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) Insulation resistance 20 M Ω min. at 500 VDC Dielectric stresth 1,500 VAC, 50/60 Hz for 1 min Vibration resistance 0 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Malfunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 500 m/s² for 3 times each in X, Y, and Z directions Begree of protecton IEC 60529 IP64 Ec 60529 IP64 Connection method Pre-wired (standard length: 2 m) Prewired (standard length: 2 m) Weight (packet state) ABS (Acrylonitrile Butadiene Styrene) ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Methacrylic resin	elay output)						
Ambient illumination (Receiver side) Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max. Ambient temperature range Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation) Ambient humidity range Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) Insulation resistance 20 M Ω min. at 500 VDC Dielectric streyth 1,500 VAC, 50/60 Hz for 1 min Vibration resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Begree of protection 100 m/s² for 3 times each in X, Y, and Z directions Degree of protection IEC 60529 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packet state) Approx. 180 g ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Mathacrylic resin Methacrylic resin Adjuster POM	Response time 20 ms max.						
(Receiver side)Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max.Ambient temperature rangeOperating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation)Ambient humidity rangeOperating: 35% to 85%, Storage: 35% to 95% (with no condensation)Insulation resistance20 M Ω min. at 500 VDCDielectric streventy1,500 VAC, 50/60 Hz for 1 minVibration resistanceDestructionMalfunction10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directionsShock resistanceDestructionMalfunction100 m/s² for 3 times each in X, Y, and Z directionsDegree of protectionIEC 60529 IP64Connection methodPre-wired (standard length: 2 m)Weight (packet state)Approx. 180 gMaterialCaseAdjusterPOM	Sensitivity adjustment		One-turn adjuster				
Ambient humidity range Operating: 35% to 85%, Storage: 35% to 95% (with no condensation) Insulation resistance 20 M Ω min. at 500 VDC Dielectric stremgth 1,500 VAC, 50/60 Hz for 1 min Vibration resistance Destruction Malfunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction Malfunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction Malfunction 100 m/s² for 3 times each in X, Y, and Z directions Degree of protection IEC 60529 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packet state) Approx. 180 g ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Material POM		ation	Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max.				
Insulation resistance 20 M Ω min. at 500 VDC Dielectric stremgth 1,500 VAC, 50/60 Hz for 1 min Vibration resistance Destruction Malfunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction Malfunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction Malfunction 100 m/s² for 3 times each in X, Y, and Z directions Degree of protection 10 to 55.9 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packed state) Approx. 180 g Material Case ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Adjuster POM	nbient temper	rature range	Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation)				
Dielectric strength 1,500 VAC, 50/60 Hz for 1 min Vibration resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 500 m/s ² for 3 times each in X, Y, and Z directions Malfunction 100 m/s ² for 3 times each in X, Y, and Z directions Degree of protection IEC 60529 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packet state) Approx. 180 g Material Case ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Adjuster POM	mbient humidi	ity range	Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)				
Vibration resistanceDestruction10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directionsMalfunction10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directionsShock resistanceDestruction500 m/s² for 3 times each in X, Y, and Z directionsMalfunction100 m/s² for 3 times each in X, Y, and Z directionsDegree of protectionIEC 60529 IP64Connection mthodPre-wired (standard length: 2 m)Weight (packet state)Approx. 180 gLens/Display windowMethacrylic resinAdjusterPOM	sulation resist	tance	20 M Ω min. at 500 VDC				
resistance Malfunction 10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions Shock resistance Destruction 500 m/s ² for 3 times each in X, Y, and Z directions Malfunction 100 m/s ² for 3 times each in X, Y, and Z directions Degree of protection IEC 60529 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packet state) Approx. 180 g Lens/Display window Methacrylic resin Adjuster POM	electric streng	gth	1,500 VAC, 50/60 Hz for 1 min				
Maturation To to coord 2 with a 1.5 mini double ampirate for 2 modes calm in X, 1, and 2 directions Shock resistance Destruction 500 m/s ² for 3 times each in X, Y, and Z directions Degree of protection IEC 60529 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packed state) Approx. 180 g Case ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Adjuster POM			10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions				
Malfunction 100 m/s² for 3 times each in X, Y, and Z directions Degree of protection IEC 60529 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packed state) Approx. 180 g Case ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Adjuster POM	sistance I	Malfunction	10 to 55 Hz with a 1.5 r	nm double amplitude for 2	hours each in X, Y, and Z	Z directions	
Degree of protection IEC 60529 IP64 Connection method Pre-wired (standard length: 2 m) Weight (packed state) Approx. 180 g Lens/Display window Methacrylic resin Adjuster POM		Destruction	500 m/s ² for 3 times eac	ch in X, Y, and Z directions			
Connection method Pre-wired (standard length: 2 m) Weight (packed state) Approx. 180 g Case ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Adjuster POM	sistance	Malfunction	100 m/s ² for 3 times eac	ch in X, Y, and Z directions			
Weight (packed state) Approx. 180 g Case ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Adjuster POM			IEC 60529 IP64				
Case ABS (Acrylonitrile Butadiene Styrene) Lens/Display window Methacrylic resin Adjuster POM	onnection met	thod					
Material Lens/Display window Methacrylic resin Adjuster POM							
Material window Methacrylic resin Adjuster POM			ABS (Acrylonitrile Butadiene Styrene)				
			Methacrylic resin				
Cable PVC	1	Adjuster	РОМ				
	(Cable	PVC				
Bending radius of cable R18	Bending radius of cable		R18				
Accessories Instruction manual and Mounting Bracket (E3JK-DR1 -C only)	ccessories		Instruction manual and Mounting Bracket (E3JK-DR1 -C only)				

	Sensing method	hod Through-beam					
Model	NPN output	E3JK-TN11	E3JK-TN12	E3JK-TN13	E3JK-TN14		
Item	PNP output	E3JK-TP11	E3JK-TP12	E3JK-TP13	E3JK-TP14		
Sensing distar	ice	40 m	5 m	40 m	5 m		
Standard sens	ing object	Opaque: 17-mm dia. mir	l.				
Differential tra	vel			-			
Directional ang	gle	Both Emitter and Receiv	er 3° min.				
Light source (v	wavelength)	Red LED (624 nm)		Infrared LED (850 nm)			
Power supply	voltage	10 to 30 VDC, including	ripple (p-p): 10%				
Power	DC	40 mA max. (Emitter 25	mA max. Receiver 15 m	nA max.)			
consumption	AC			-			
Control output	t			ent: 100 mA max., Residu model), Light-ON/Dark-O	al voltage: 3 V max., open- N selectable		
Protection circ	uits	Power supply reverse po protection	plarity protection, Output	short-circuit protection, a	nd Output reverse polarity		
Life expectancy	Mechanical			-			
(relay output)	Electrical			-			
Response time		1 ms max.					
Sensitivity adj		One-turn adjuster Receiver (E3JK-T@@@-D) only					
Ambient illumi (Receiver side)		Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max.					
Ambient tempe	erature range	Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation)					
Ambient humic	dity range	Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)					
Insulation resi	stance	20 M Ω min. at 500 VDC					
Dielectric stren	ngth	1,500 VAC, 50/60 Hz for 1 min					
Vibration	Destruction	10 to 55 Hz with a 1.5 m	m double amplitude for	2 hours each in X, Y, and	Z directions		
resistance	Malfunction		•	2 hours each in X, Y, and	Z directions		
Shock	Destruction	500 m/s ² for 3 times each in X, Y, and Z directions					
resistance	Malfunction	500 m/s ² for 3 times eac	h in X, Y, and Z direction	าร			
Degree of protection		IEC 60529 IP64					
Connection method		Pre-wired (standard length: 2 m)					
Weight (packed	d state)	Approx. 300 g					
Case		ABS (Acrylonitrile Butadiene Styrene)					
Material	Lens/Display window	Methacrylic resin					
	Adjuster	РОМ					
	Cable	PVC					
Bending radius	s of cable	R18					
Accessories		Instruction manual					

	Sensing method	Retro-reflective (w	vithout MSR function)	Retro-reflective (with MSR function)		
Model	NPN output	E3JK-RN11	E3JK-RN13	E3JK-RN12		
Item	PNP output	E3JK-RP11	E3JK-RP13	E3JK-RP12		
Sensing distan	ice	7 m [100 mm]* (When using E3 (When using E39-R2)	9-R1), 11 m [100 mm]*	6 m [100 mm]* (When using E39-R1), 10 m [100 mm]* (When using E39-R2)		
Standard sens	ing object	Opaque: 75-mm dia. min.				
Differential trav	vel		-			
Directional ang	gle	1.5° min.				
Light source (w	vavelength)	Red LED (624 nm)	Infrared LED (850 nm)	Red LED (624 nm)		
Power supply	voltage	10 to 30 VDC, including ripple (p-p): 10%			
Power	DC	30 mA max.				
consumption	AC		-			
Control output		Load power supply voltage: 30 \ collector output (NPN/PNP outp		ax., Residual voltage: 3 V max., open- ON/Dark-ON selectable		
Protection circ	uits	Power supply reverse polarity p prevention function, and Output		rotection, Mutual interference		
Life expectancy	Mechanical		_			
(relay output)	Electrical	-				
Response time)	1 ms max.				
Sensitivity adju	ustment	One-turn adjuster				
Ambient illumi (Receiver side)		Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max.				
Ambient tempe	erature range	Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation)				
Ambient humic	dity range	Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)				
Insulation resis	stance	20 M Ω min. at 500 VDC				
Dielectric strer	ngth	1,500 VAC, 50/60 Hz for 1 min				
Vibration	Destruction	10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions				
resistance	Malfunction	10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions				
Shock	Destruction	500 m/s ² for 3 times each in X, Y, and Z directions				
resistance	Malfunction	500 m/s ² for 3 times each in X, Y, and Z directions				
Degree of prot	ection	IEC 60529 IP64				
Connection method		Pre-wired (standard length: 2 m)				
Weight (packed state)		Approx. 160 g				
Case		ABS (Acrylonitrile Butadiene Styrene)				
Material	Lens/Display window	Methacrylic resin				
	Adjuster	РОМ				
	Cable	PVC				
Bending radius	s of cable	R18				
Accessories		Instruction manual				

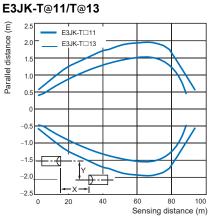
*Values in parentheses indicate the minimum required distances between the Sensors and Reflectors.

	Sensing method	Diffuse-reflective				
Model	-	E3JK-DN11	E3JK-DN12	E3JK-DN13	E3JK-DN14	
Item	PNP output	E3JK-DP11	E3JK-DP12	E3JK-DP13	E3JK-DP14	
Sensing dista	nce	White paper (300 × 300 mm): 2.5 m	White paper (100 × 100 mm): 300 mm	White paper (300 × 300 mm): 2.5 m	White paper (100 × 100 mm): 300 mm	
Standard sens	sing object			_	·	
Differential tra	vel	20% max. of sensing di	stance			
Directional an	gle			_		
Light source (wavelength)	Red LED (624 nm)		Infrared LED (850 nm)		
Power supply	voltage	10 to 30 VDC, including	ripple (p-p): 10%	·		
Power	DC	30 mA max.				
consumption	AC			_		
Control outpu	t		age: 30 V max., Load currer NP output depending on n			
Protection cire	cuits		olarity protection, Output s d Output reverse polarity p		lutual interference	
Life expectancy	Mechanical			-		
(relay output)	Electrical			_		
Response tim	e	1 ms max.				
Sensitivity adjustment One-turn adjuster						
Ambient illum (Receiver side		Incandescent lamp: 3,000 lx max., Sunlight: 11,000 lx max.				
Ambient temp	erature range	Operating: -25°C to 55°C, Storage: -40°C to 70°C (with no icing or condensation)				
Ambient humi	dity range	Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)				
Insulation resi	istance	20 M Ω min. at 500 VDC				
Dielectric stre	ngth	1,500 VAC, 50/60 Hz for 1 min				
Vibration	Destruction	10 to 55 Hz with a 1.5 mm double amplitude for 2 hours each in X, Y, and Z directions				
resistance	Malfunction	10 to 55 Hz with a 1.5 n	nm double amplitude for 2	hours each in X, Y, and	Z directions	
Shock	Destruction	500 m/s ² for 3 times eac	ch in X, Y, and Z directions			
resistance	Malfunction	500 m/s ² for 3 times eac	ch in X, Y, and Z directions	i		
Degree of prot	tection	IEC 60529 IP64				
Connection m	ethod	Pre-wired (standard length: 2 m)				
Weight (packe	Veight (packed state) Approx. 160 g					
Case ABS (Acrylonitrile Butadiene Styrene)						
Material	Lens/Display window	Methacrylic resin				
	Adjuster	РОМ				
	Cable	PVC				
Bending radiu	s of cable	R18				
Accessories		Instruction manual				

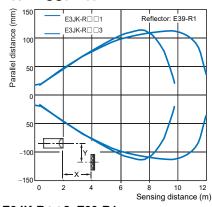
E3JK Engineering Data (Reference Value)

Parallel Operating Range

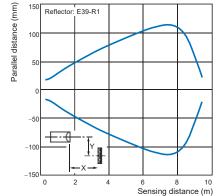
Through-beam



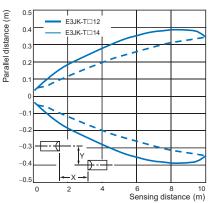
Retro-reflective E3JK-R@@1+E39-R1/ E3JK-R@@3+E39-R1



E3JK-R@@2+E39-R1



E3JK-T@12/T@14





E3JK-R@@2+E39-R1S

Reflector: E39-R1S

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10 15 Sensing distance (m)

distance (mm)

Parallel o

20

150

100

5

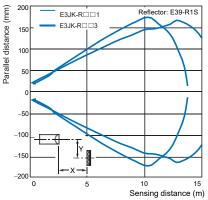
-5

-100

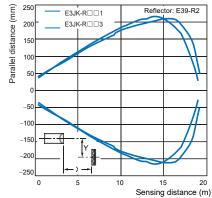
-150

-200

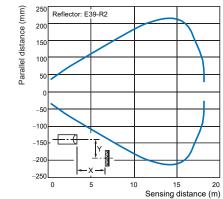
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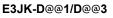


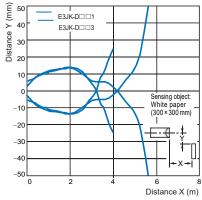
E3JK-R@@2+E39-R2



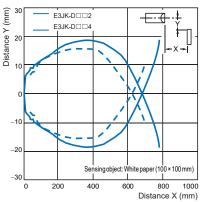
Operating Range

Diffuse-reflective





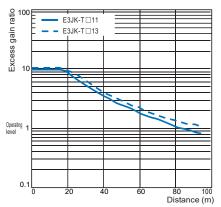
E3JK-D@@2/D@@4



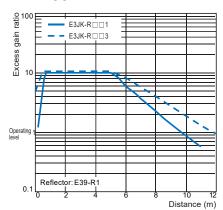
OMRON

Excess Gain Ratio vs. Set Distance

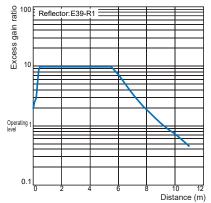
Through-beam E3JK-T@11/T@13



Retro-reflective E3JK-R@@1+E39-R1/ E3JK-R@@3+E39-R1

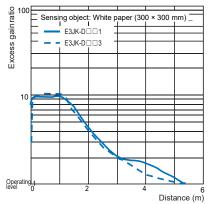


E3JK-R@@2+E39-R1

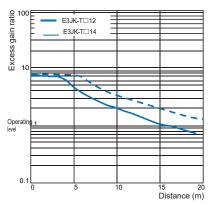


Diffuse-reflective

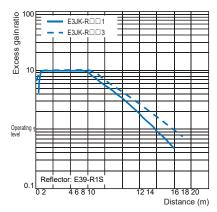
E3JK-D@@1/D@@3



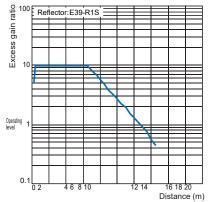
E3JK-T@12/T@14



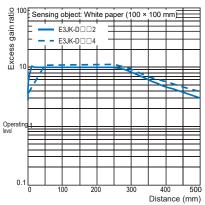
E3JK-R@@1+E39-R1S/ E3JK-R@@3+E39-R1S



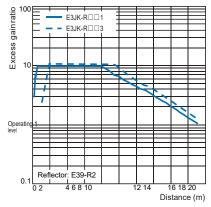
E3JK-R@@2+E39-R1S



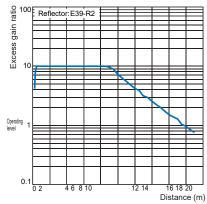
E3JK-D@@2/D@@4



E3JK-R@@1+E39-R2/ E3JK-R@@3+E39-R2



E3JK-R@@2+E39-R2



E3JK I/O Circuit Diagrams

Relay Output Models

Model	Timing	g chart	Output circuit
Woder	Light-ON	Dark-ON	
E3JK-TR11-L * E3JK-TR12-L * E3JK-TR13-L * E3JK-TR14-L *			Prover, Indicator (green) Photoelectric Sensor main Circuit Blue
E3JK-TR11-D * E3JK-TR12-D * E3JK-TR13-D * E3JK-TR14-D * E3JK-RR11 E3JK-RR12 E3JK-RR13 E3JK-DR11 E3JK-DR12 E3JK-DR13 E3JK-DR14	Incident light No incident light Operation Indicator ON (orange) OFF Relay Operate Reset Output Tc-Ta Conducting Output Tc-Ta Conducting Output Tc-Tb Conducting	Incident light No incident light Operation Indicator ON (orange) OFF Relay Operate Relay Reset Output Tc-Ta Conducting Output Tc-Tb Not conducting	Operation Indicator (orange) Brown Indicator (green) Photoelectric Sensor main Circuit Blue White Tc Gray Tb SVDC, 10 mA min.

DC SSR Output Models

Model	Timing	g chart	Output circuit	
woder	Light-ON	Dark-ON		
E3JK-TN11-L * E3JK-TP11-L * E3JK-TP12-L * E3JK-TP12-L * E3JK-TP13-L * E3JK-TP13-L * E3JK-TP14-L *			Power Brown 10 to 30 VDC Indicator (green) Photoelectric Sensor main Circuit Blue 0 V	
E3JK-TN11-D * E3JK-TN12-D * E3JK-TN13-D * E3JK-TN14-D * E3JK-RN11 E3JK-RN12 E3JK-RN13 E3JK-DN11 E3JK-DN12 E3JK-DN13 E3JK-DN14	Incident light No incident light Operation Indicator ON (orange) OFF Output ON Utput ON Load Operate (e.g., relay) Reset	Incident light No incident light Operation Indicator ON (orange) OFF Output ON transistor OFF Load Operate (e.g., relay) Reset	Stability Indicator (green) Photoelectric Black Black Black Blue 0 V	
E3JK-TP11-D * E3JK-TP12-D * E3JK-TP13-D * E3JK-TP14-D * E3JK-RP11 E3JK-RP12 E3JK-RP13 E3JK-DP11 E3JK-DP12 E3JK-DP13 E3JK-DP14	Incident light No incident light Operation Indicator ON (orange) OFF Output ON transistor OFF Load Operate (e.g., relay) Reset	Incident light No incident light Operation Indicator ON (orange) OFF Output ON transistor OFF Load Operate (e.g., relay) Reset	Stability Indicator (green)	

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. *For the Through-beam Sensor, the Emitter is listed as E3JK-T@11-L, E3JK-T@12-L and the Receiver is listed as E3JK-T@11-D, E3JK-T@12-D in the table. Confirm the models to order in "Ordering Information."

Safety Precautions

Refer to Warranty and Limitations of Liability.

<u> W</u>ARNING

This product is not designed or rated for ensuring safety of persons either directly or indirectly.

Do not use it for such purposes.

A Caution

Do not wire the product incorrectly. Do not use this product with a damaged case or cable.



Do not disassemble, repair, or modify this product.



Doing so may lead to explosion, fire, or product failure.

Precautions for Safe Use

The following precautions must be observed to ensure safe operation of the Sensor.

- 1. Do not use the Sensor in environments subject to flammable, explosive or corrosive gases.
- 2. Do not use this product in an environment in which oilor chemicals are present.
- 3. Do not use this product under water, in the rain, or outdoors.
- 4. Do not use this product under conditions that exceed orin an environment that exceeds the ratings.
- 5. When using an AC power supply, do not use a power supply that includes high frequencies (such as an inverter).
- 6. Do not use this product in a location subject todirect sunlight.
- 7. Do not use this product in a location in which the product will be subject to direct vibrations or impacts.
- 8. Do not use thinner, alcohol, or other organic solvents with this product.
- 9. When disposing of the Sensor, treat it as industrial waste.

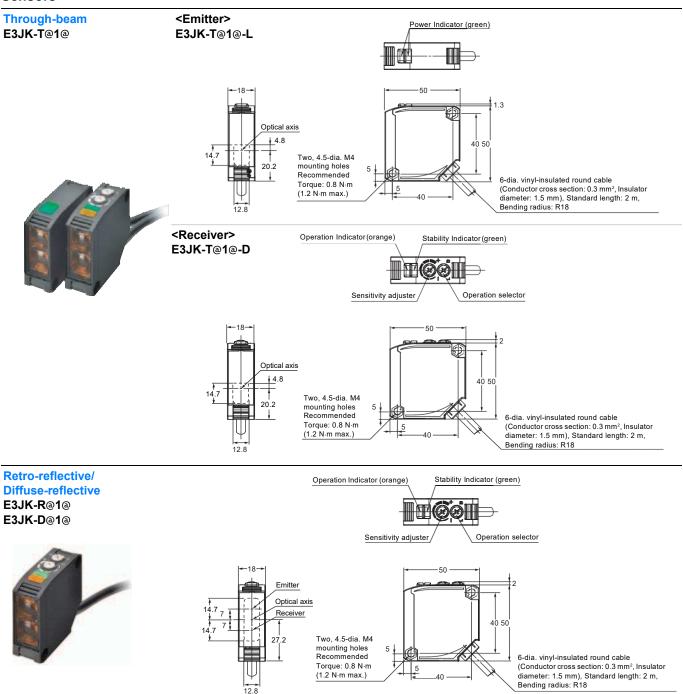
Precautions for Correct Use

- If the product is wired to high-voltage power lines and power lines in the same pipe or the same duct, the product may malfunction or be damaged due to induction. Therefore, in principle, perform these two types of wiring separately or use shielded cords.
- Do not apply excessive force to the cables.
- When using a commercially available switchingregulator, be sure to install an FG (frame ground terminal).
- The time between the product being turned ON and sensing being possible is 100 ms, so wait at least 100 ms after turning the product ON before using it. If the load and the product are connected to different power supplies, be sure to turn the product ON first.
- An output pulse may be generated when the product is turned OFF, so we recommend turning the load or the load line OFF first.

E3JK

Dimensions

Sensors

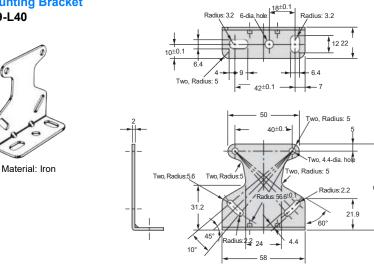


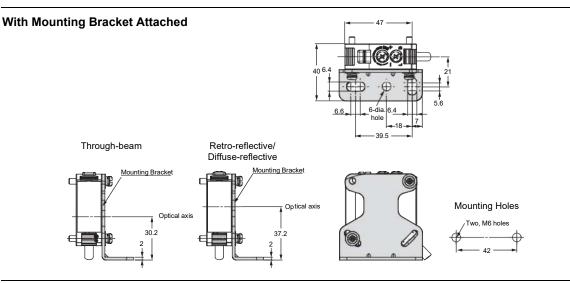
Accessories

Mounting Bracket (Order separately)

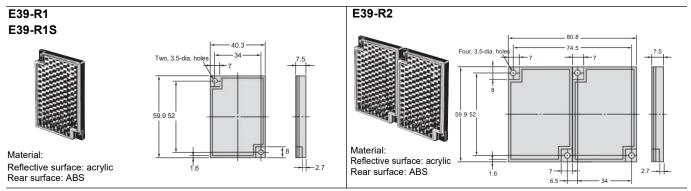
Mounting Bracket E39-L40

fla





Reflector (Order separately)



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