Sensing method		Through-beam model		Retro-reflective model (with MSR function)		Retro-reflective model (without MSR function)		Diffuse-reflective model	
Item	Model	E3JK -5M□	E3JK -5S3	E3JK -R2M□	E3JK -R2S3	E3JK -R4M□	E3JK -R4S3	E3JK -DS30M□	E3JK -DS30S3
Sensing distance		5 m		2.5 m (When using E39-R1)		4 m (When using E39-R1)		White paper (100 × 100 mm): 300 mm	
Standard sensing object		Opaque: 14.8-mm dia. min.		Opaque: 75-mm dia. min.				---	
Differential travel		---						20% max. of sensing distance	
Directional angle		Both Emitter and Receiver 3° to 20°		1° to 5°				---	
Light source (wavelength)		Infrared LED (950 nm)		Red LED (660 nm)				Infrared LED (950 nm)	
Power supply voltage		12 to 240 VDC±10%, ripple (p-p): 10% max. 24 to 240 VAC±10%, 50/60 Hz							
Power consumption	DC	3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.)		2 W max.					
	AC	3 W max. (Emitter 1.5 W max. Receiver 1.5 W max.)		2 W max.					
Control output		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	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	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	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 expectancy (relay output)	Mechanical	50,000,000 times min. (switching frequency: 18,000 times/h)							
	Electrical	100,000 times min. (switching frequency: 1,800 times/h)							
Response 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.
Sensitivity adjustment		---						One-turn adjuster	
Ambient illumination (Receiver side)		Incandescent lamp: 3,000 lx max.							
Ambient temperature range		Operating: –25°C to 55°C, Storage: –30°C to 70°C (with no icing or condensation)							
Ambient humidity range		Operating: 45% to 85% (with no condensation), Storage: 35% to 95% (with no condensation)							
Insulation resistance		20 MΩ min. at 500 VDC							
Dielectric strength		1,500 VAC, 50/60 Hz for 1 min.							
Vibration resistance	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 resistance	Destruction	500 m/s² 3 times each in X, Y, and Z directions							
	Malfunction	100 m/s² 3 times each in X, Y, and Z directions	500 m/s² 3 times each in X, Y, and Z directions	100 m/s² 3 times each in X, Y, and Z directions	500 m/s² 3 times each in X, Y, and Z directions	100 m/s² 3 times each in X, Y, and Z directions	500 m/s² 3 times each in X, Y, and Z directions	100 m/s² 3 times each in X, Y, and Z directions	500 m/s² 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. 420 g		Approx. 250 g					
Material	Case	ABS (Acrylonitril Butadiene Styrene)							
	Lens	Methacrylic resin							
	Mounting Bracket	Iron							