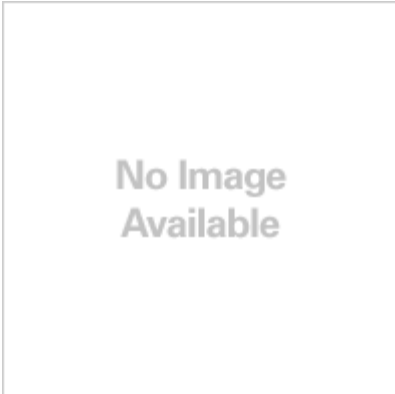


Built-in Amplifier Photoelectric Sensor (Medium Size)

E3S-AR11 2M



Image

Retro-reflective with M.S.R. function, Sensing distance 0.1 to 2 m, Detecting direction Top panel, NPN, Pre-wired models, 2 m

Sensing method	Retro-reflective with M.S.R. function
Sensing distance	When using the E39-R1: 0.1 to 2 m
Light source	Red LED (660 nm)
Connection method	Pre-wired models

Ratings/Performance

As of March 28, 2023

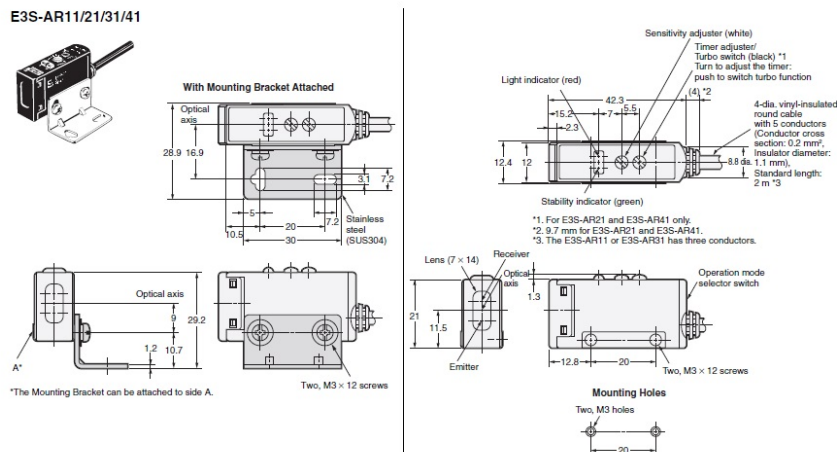
Shape	Square type
Sensing method	Retro-reflective with M.S.R. function
Sensing distance	When using the E39-R1: 0.1 to 2 m
Standard sensing object	Opaque: 75 mm dia. min.
Directional angle	3 to 10 °
Light source	Red LED (660 nm)
Power supply voltage	10 to 30 VDC ripple (p-p) 10% included
Current consumption	30 mA max.
Control output	NPN open collector 30 VDC max. 100 mA max. Residual voltage: 1 V max.
Operation mode	Light-ON/Dark-ON selectable
Protective circuit	Output short-circuit protection, Power supply reverse polarity protection
Response time	Operate or reset: 0.5 ms max.
Sensitivity setting	2-turn endless adjustment (with indicator)
Ambient illuminance	Incandescent lamp: 5,000 lx max. Sunlight: 10,000 lx max.
Ambient temperature range (Operating)	-25 to 55 °C (with no freezing or condensation)
Ambient temperature range (Storage)	-40 to 70 °C (with no freezing or condensation)
Ambient humidity range (Operating)	35 to 85 % (with no condensation)
Ambient humidity range (Storage)	35 to 95 % (with no condensation)
Insulation resistance	20 MΩ min. (500 VDC megger)

Dielectric strength	1000 VAC 50/60 Hz 1 min
Vibration resistance	Destruction: 10 to 55 Hz, 1.5 mm double amplitude each in X, Y, and Z directions for 2 h
Shock resistance	Destruction: 500 m/s ² 3 times each in X, Y and Z directions
Degree of protection	IEC: IP67 NEMA 4X (indoors only)
Connection method	Pre-wired models (Cable length 2 m)
Indicator	Light indicator (red), Stability indicator (green)
Weight	Package: Approx. 110 g
Accessories	Instruction manual, Mounting bracket, Sensitivity adjustment driver, Sensitivity adjusting knob, Reflector
Material	Case: Polybutylene terephthalate (PBT) Lens: Denatured Polyarylate Mounting Bracket: Stainless steel (SUS304)

As of March 28, 2023

Dimensions

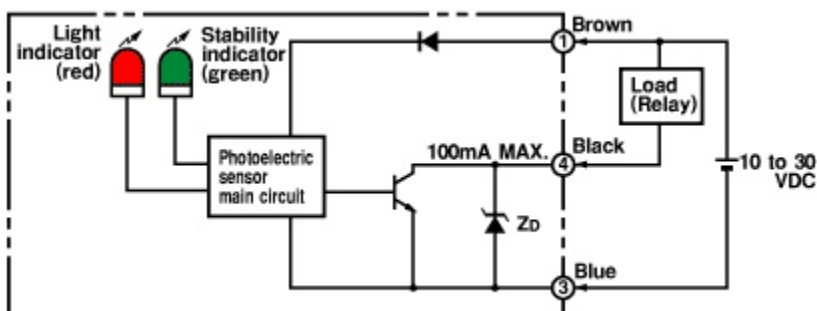
As of March 28, 2023



As of March 28, 2023

Output circuit diagram

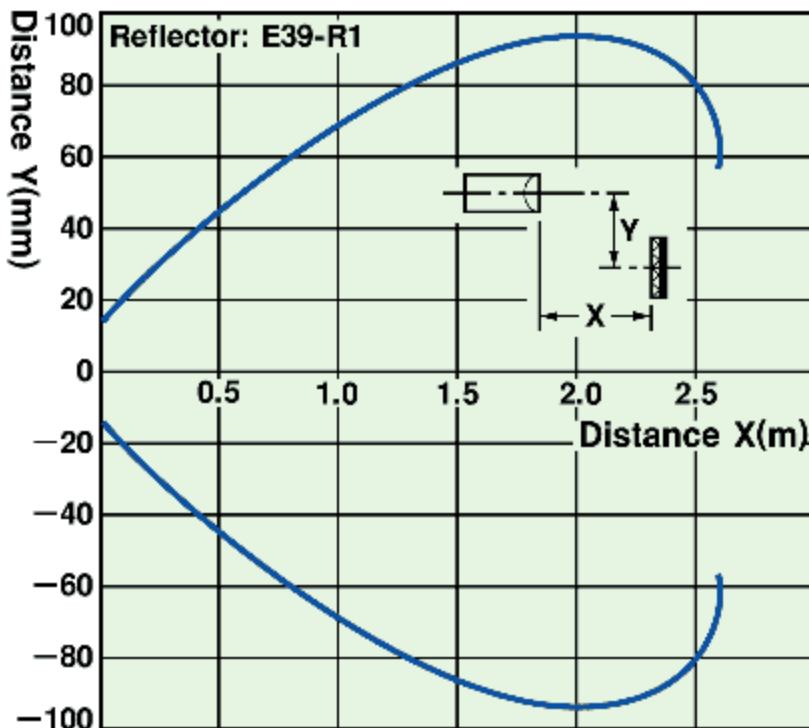
As of March 28, 2023



Timing chart

Operation mode	Timing chart	Mode switch
Light ON	<p>Incident light: [ON] [OFF]</p> <p>No incident light: [ON] [OFF]</p> <p>Light indicator (red): ON [ON] OFF [OFF]</p> <p>Output transistor: ON [ON] OFF [OFF]</p> <p>Load (Relay): Operate [ON] Reset [OFF]</p> <p>(Between brown(1) and black(4))</p>	L side (LIGHT ON)
Dark ON	<p>Incident light: [ON] [OFF] [ON]</p> <p>No incident light: [ON] [OFF]</p> <p>Light indicator (red): ON [ON] OFF [OFF]</p> <p>Output transistor: ON [ON] OFF [OFF]</p> <p>Load (Relay): Operate [ON] Reset [OFF]</p> <p>(Between brown(1) and black(4))</p>	D side (DARK ON)

Parallel operating range



Excess gain ratio vs. setting distance

