OMRON Industrial Automation | ▸**Global**   🖨 Print
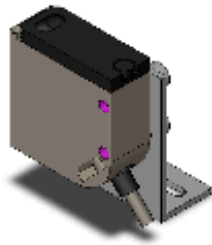
Distance-settable Photoelectric Sensor with Metal Case

E3S-CL2 2M

Sensing distance 5 to 500 mm, Cable length 2 m

Sensing method	Distance-setting
Sensing distance	White paper 200 x 200 mm, setting distance: 500 mm: 5 to 500 mm
Light source	Infrared LED (850 nm)
Connection method	Pre-wired models

Image

Ratings/Performance
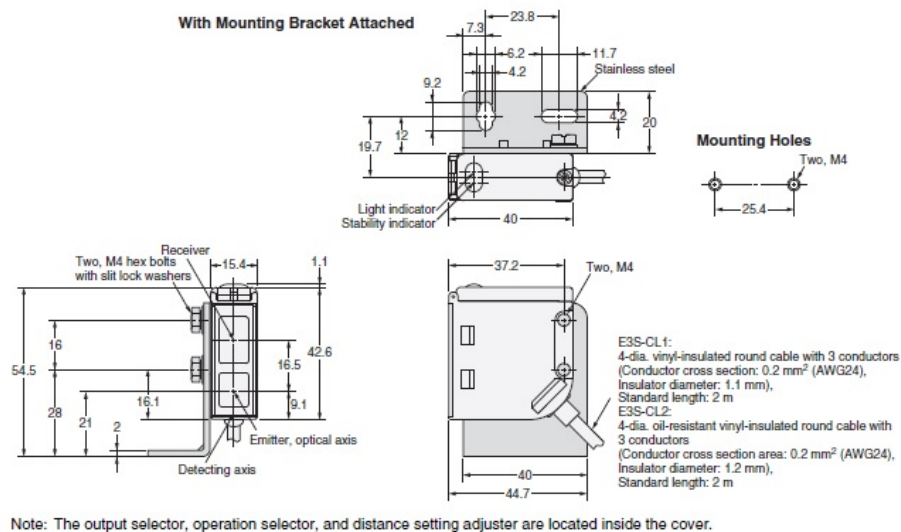
As of March 28, 2023

Shape	Square type
Sensing method	Distance-setting
Sensing distance	White paper 200 x 200 mm, setting distance: 500 mm: 5 to 500 mm
Setting range	White paper 200 x 200 mm: 50 to 500 mm
Differential distance	10% max. of setting distance
Reflectivity characteristic (black-white error)	10% max. of setting distance
Light source	Infrared LED (850 nm)
Power supply voltage	10 to 30 VDC ripple (p-p) 10% included
Current consumption	50 mA max.
Control output	NPN/PNP open collector (selectable) 30 VDC max. 100 mA max. Residual voltage: 1.2 V max.(NPN output) Residual voltage: 2 V max.(PNP output)
Operation mode	Light-ON/Dark-ON selectable
Protective circuit	Output short-circuit protection, Power supply reverse polarity protection
Response time	Operate or reset: 2 ms max.
Sensitivity setting	6-turn endless adjustment (with indicator)
Ambient illuminance	Incandescent lamp: 5,000 lx max. Sunlight: 10,000 lx max.

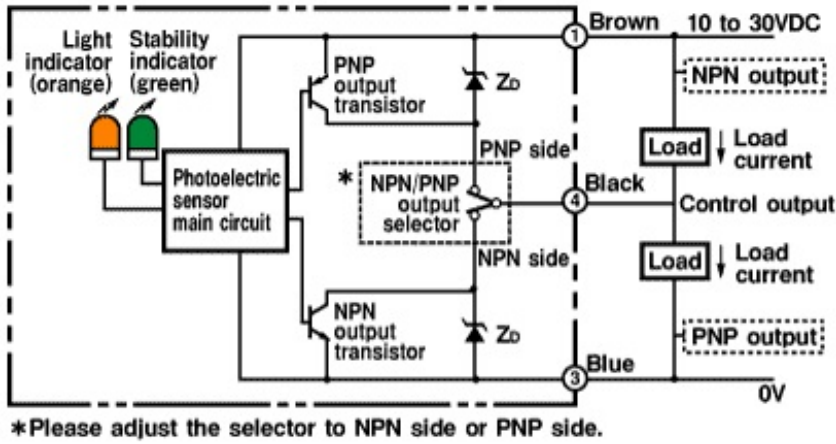| Ambient temperature range (Operating)	-25 to 55 ℃ (with no freezing or condensation)
Ambient temperature range (Storage)	-40 to 70 ℃ (with no freezing or condensation)
Ambient humidity range (Operating)	35 to 85 % (with no condensation)
Ambient humidity range (Strage)	35 to 95 % (with no condensation)
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: 6P (indoors only) Company standard: Oil-proof
Connection method	Pre-wired models (Cable length 2 m)
Indicator	Light indicator (orange), Stability indicator (green)
Weight	Package: Approx. 170 g
Accessories	Instruction manual, Mounting bracket, Adjustment driver, Hexagon bolt M4 x 12 (with Spring washers, Flat washers)
Material	Case: Zinc diecast Lens: Methacrylate resin Cover: Polyether sulfone Mounting Bracket: Stainless steel (SUS304)

As of March 28, 2023

Dimensions

As of March 28, 2023

Note: The output selector, operation selector, and distance setting adjuster are located inside the cover.

As of March 28, 2023

Output circuit diagram

As of March 28, 2023

*Please adjust the selector to NPN side or PNP side.

As of March 28, 2023

Timing chart

As of March 28, 2023

NPN/PNP output selector	Operation mode	Timing chart	Mode switch
NPN output	Light ON	Incident light / No incident light; Light indicator (orange) ON/OFF; Output transistor ON/OFF; Load (Relay) Operate/Reset [Between brown(1) and black(4)]	L.ON (LIGHT ON)
	Dark ON	Incident light / No incident light; Light indicator (orange) ON/OFF; Output transistor ON/OFF; Load (Relay) Operate/Reset [Between brown(1) and black(4)]	D.ON (DARK ON)
PNP output	Light ON	Incident light / No incident light; Light indicator (orange) ON/OFF; Output transistor ON/OFF; Load (Relay) Operate/Reset [Between blue(3) and black(4)]	L.ON (LIGHT ON)
	Dark ON	Incident light / No incident light; Light indicator (orange) ON/OFF; Output transistor ON/OFF; Load (Relay) Operate/Reset [Between blue(3) and black(4)]	D.ON (DARK ON)

As of March 28, 2023

Operating range

As of March 28, 2023

Setting distance: 300mm、500mm
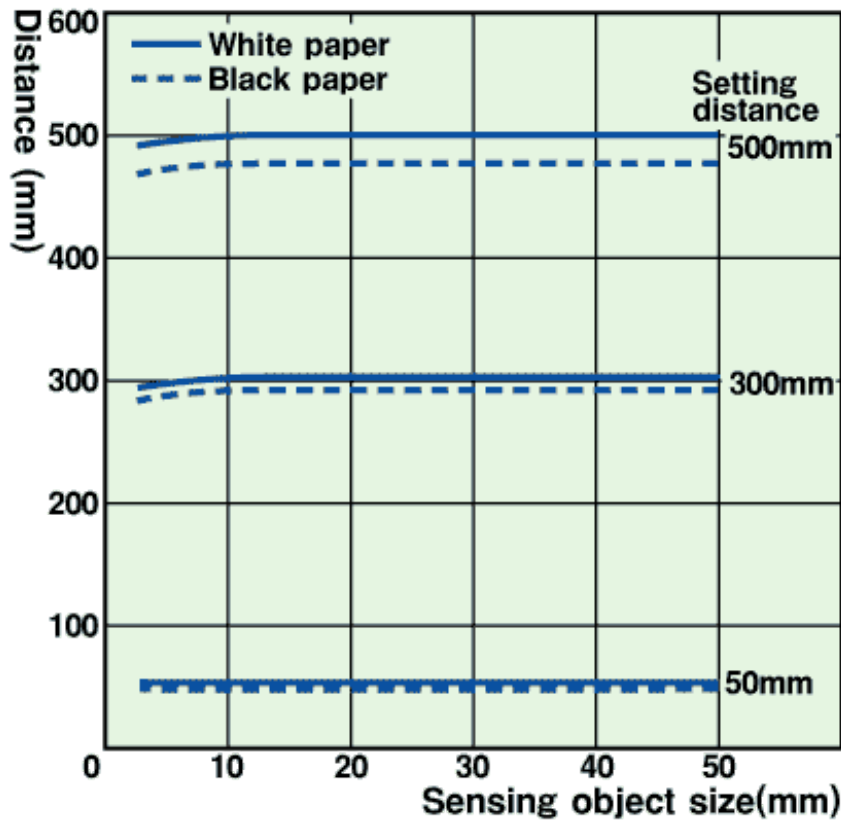**Sensing object: White paper 200×200mm**
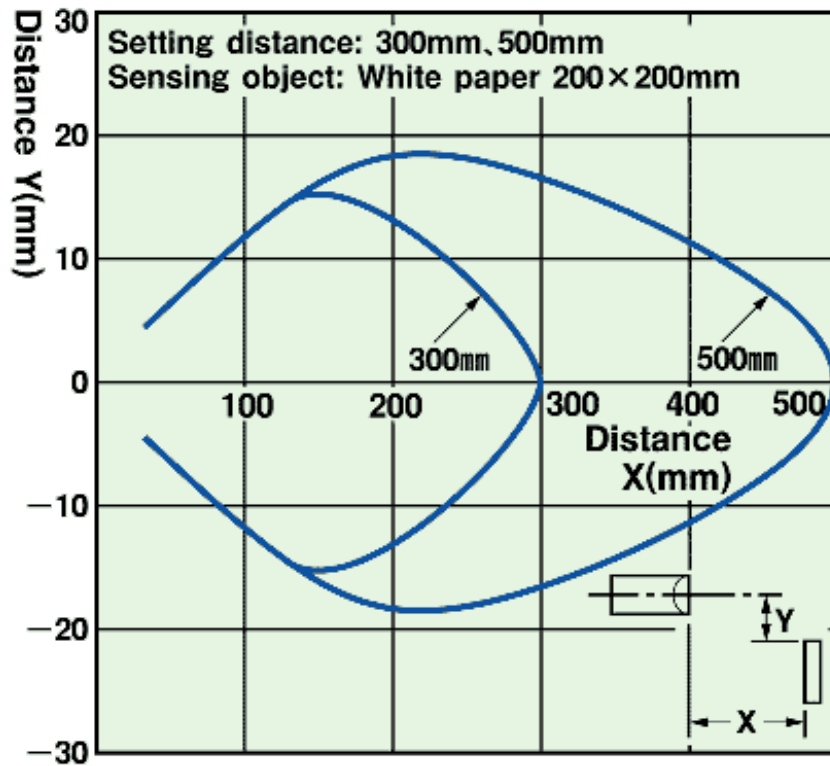
As of March 28, 2023

Setting distance

As of March 28, 2023

Sensing object size vs. setting distance