

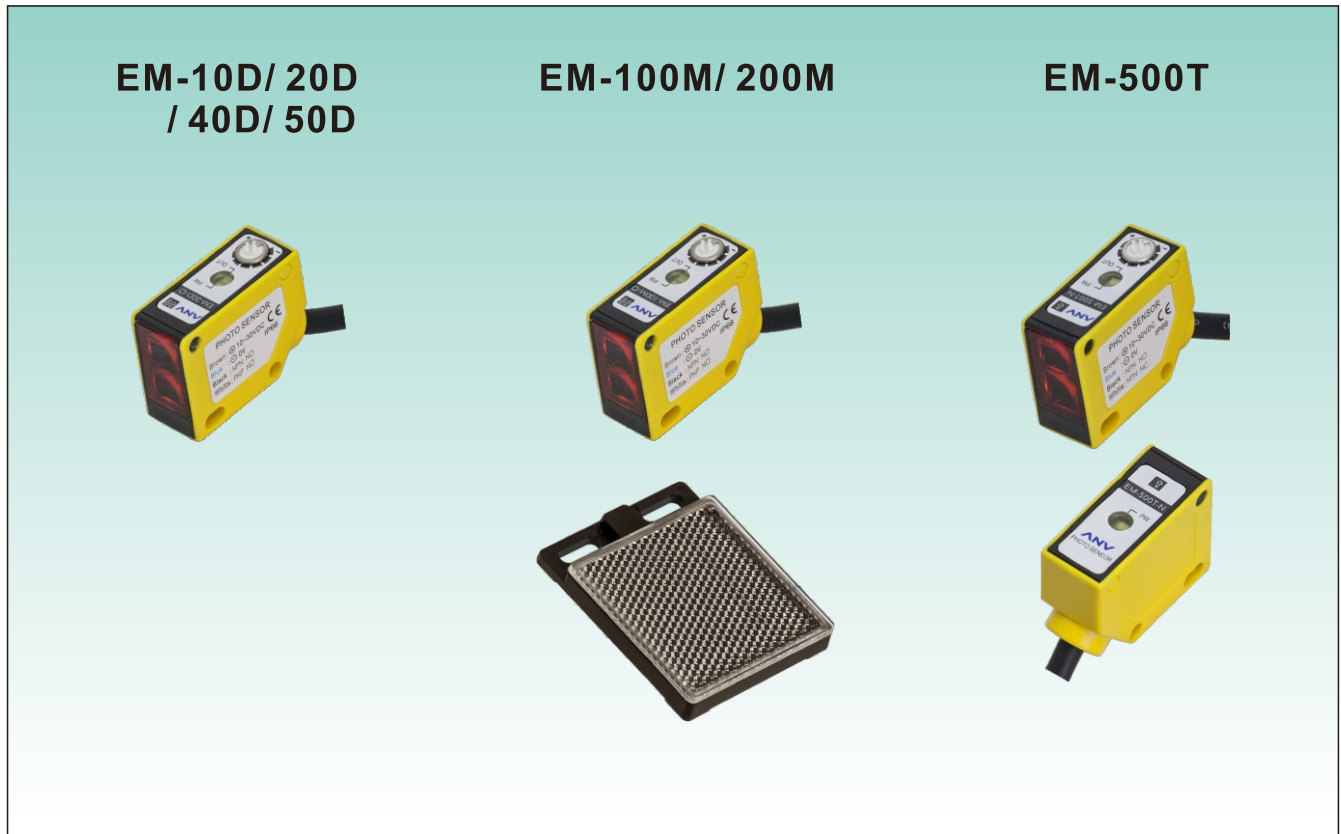


Photo sensor

EM Series (Flat type)

- Small size, 13.8(W) × 27.0(H) × 32.5(L)
- Power supply reverse polarity protection
- IP66

MODEL LIST

Appearance	Model	Control Method	Sensing Distance	Operating Voltage	Light Source
	EM-10D-O	NPN+PNP, NO	10cm	10~30VDC 4wire	Infrared
	EM-10D-C	NPN+PNP, NC			
	EM-20D-O	NPN+PNP, NO	20cm		
	EM-20D-C	NPN+PNP, NC			
	EM-40D-O	NPN+PNP, NO	40cm		
	EM-40D-C	NPN+PNP, NC			
	EM-50D-O	NPN+PNP, NO	50cm		
	EM-50D-C	NPN+PNP, NC			

PHOTO SENSOR(Flat type)

Appearance	Model	Control Method	Sensing Distance	Operating Voltage	Light Source
	EM-10D-OR	NPN+PNP, NO	10cm	10~30VDC 4wire	Red light LED
	EM-10D-CR	NPN+PNP, NC			
	EM-20D-OR	NPN+PNP, NO	20cm		
	EM-20D-CR	NPN+PNP, NC			
 	EM-100M-OR	NPN+PNP, NO	100cm	10~30VDC 4wire	Red light LED
	EM-100M-CR	NPN+PNP, NC			
	EM-200M-O	NPN+PNP, NO	200cm	10~30VDC 4wire	Infrared
	EM-200M-C	NPN+PNP, NC			
 	EM-500T-N	NPN, NO+NC	500cm	10~30VDC 4wire	Infrared

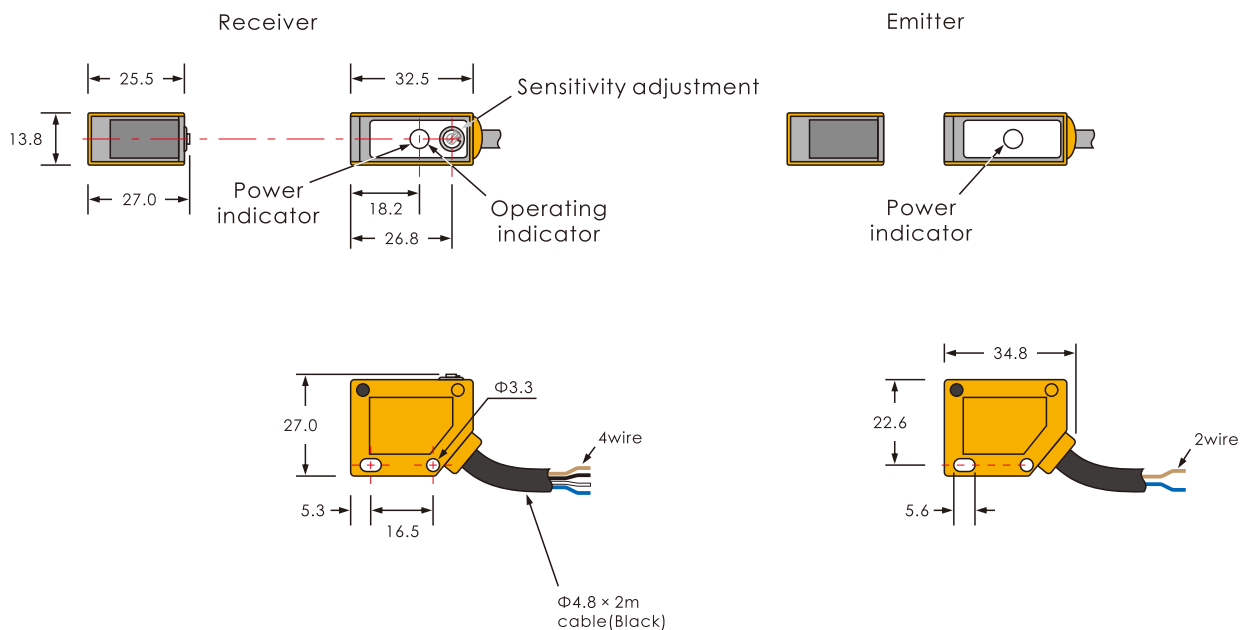
SPECIFICATIONS

SENSING METHOD	Diffuse-reflective	Mirror reflex	Through-beam
LIGHT SOURCE	Infrared/ Red light LED		Infrared
RESPONSE FREQUENCY	400Hz		
DIFFERENTIAL TRAVEL	10% max. of sensing distance		
CONTROL OUTPUT	NPN+PNP NO / NPN+PNP NC		NPN NO+NC
OPERATING VOLTAGE	10~30VDC ripple(P-P) 10% max.		
LEAKAGE CURRENT	< 30mA		
RESET TIME	1ms		
LOAD CURRENT	DC 30V 100mA max.		
INDICATOR	Operation indicator(red), Power indicator(green)		
PROTECTION CIRCUITS	Reverse polarity and Load short-circuit protection, Surge suppressor		
AMBIENT TEMPERATURE	-25°C to 70°C		
AMBIENT HUMIDITY	35 to 95%RH		
AMBIENT ILLUMINATION	Incandescent lamp: 5000 lx max./ Sunlight: 10000 lx max.		
INSULATION RESISTANCE	20MΩ or more between input terminals and case(ground) at DC 500V		
DIELECTRIC STRENGTH	1000VAC for 1 min between charged parts and noncharged parts		
VIBRATION RESISTANCE	Destruction: 10 to 55 Hz, 1.5mm double amplitude for 2 hours each in X,Y and Z directions		
SHOCK RESISTANCE	Destruction: 500 m/S ² 3 time each in X,Y and Z directions		
DEGREE OF PROTECTION	IP66 / Oil resistant		
MATERIALS	Case: ABS Sensing face: Acrylic Screw and Nut: Nickel plated brass Mounting bracket: Nickel plated iron Screwdriver : Plastic steel		
CONNECTION METHOD	Pre-wired Φ4.8 × 2m × 4wire PVC		Pre-wired Φ4.8 × 2m PVC (Emitter 2wire/ Receiver 4wire)
WEIGHT	Approx. 90g	Approx. 110g	Approx. 180g
ACCESSORIES	Mounting bracket Screwdriver Screws × 2	Reflector Mounting bracket Screwdriver Screws × 2	Mounting bracket × 2 Screwdriver Screws × 4

DIMENSIONS

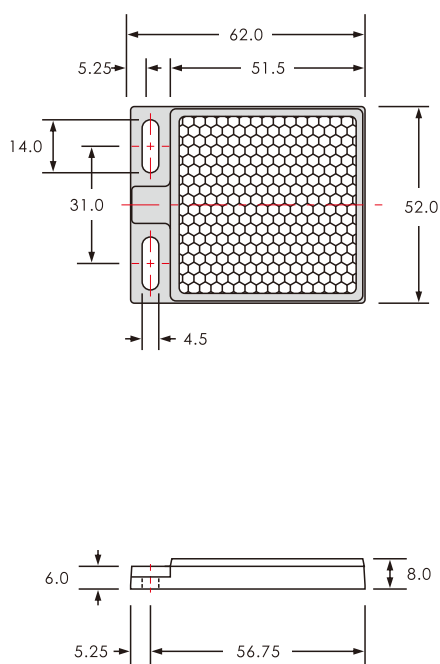
(Units: mm)

EM Series



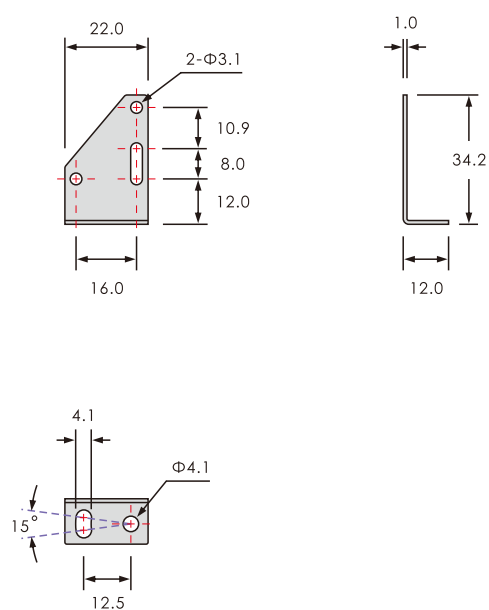
Reflector

Type: RM-1

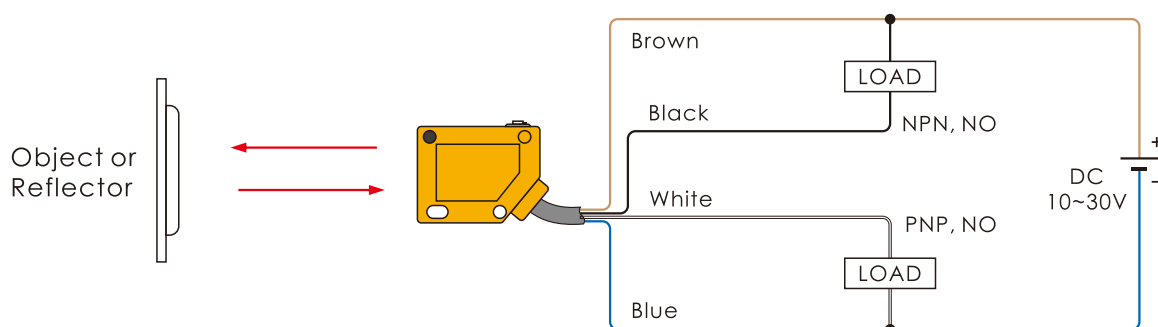
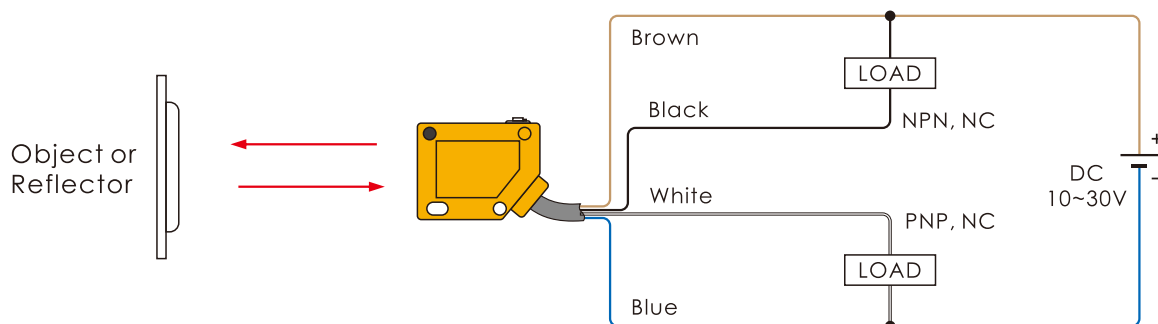
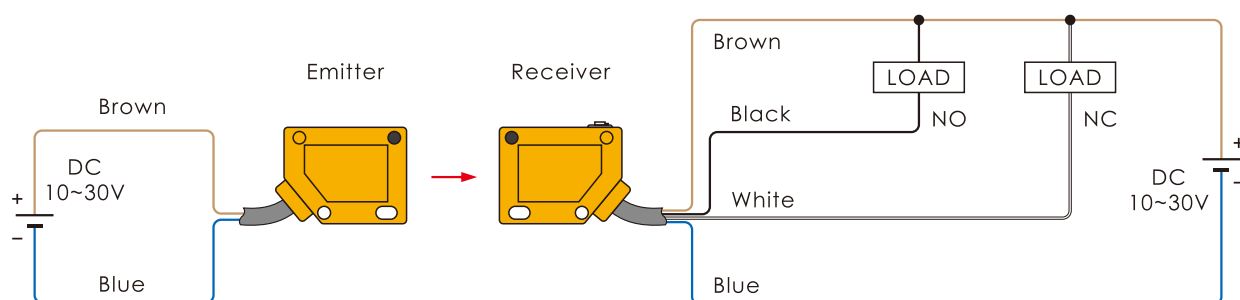


Mounting Bracket

Type: MB-L22



CONNECTION DIAGRAMS

 Diffuse-reflective or Mirror reflex type **NPN+PNP NO**

 Diffuse-reflective or Mirror reflex type **NPN+PNP NC**

 Through-beam type **NPN NO+NC**

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