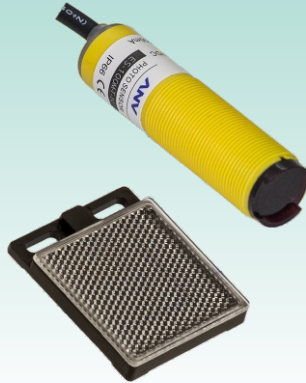


ES-10D/ 20D/ 40D/ 100D



ES-100M/ 300M

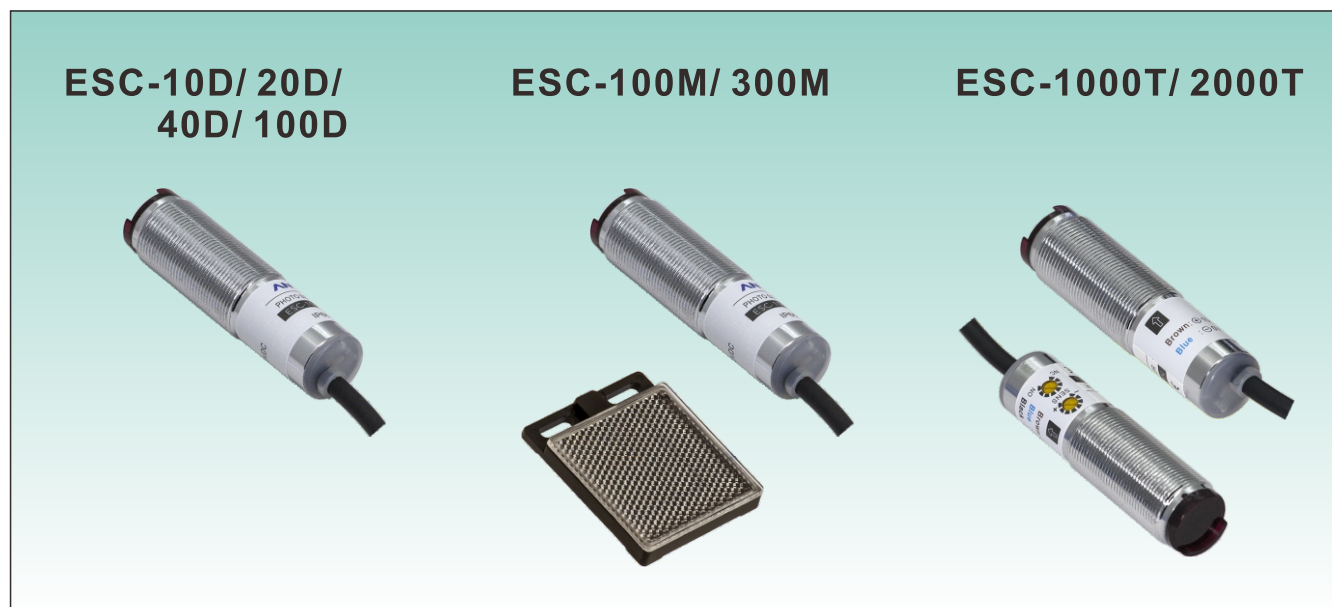


ES-1000T/ 2000T



MODEL LIST

Appearance	Model	Control Method	Sensing Distance	Diameter	Length	Light Source
	ES-10D-N	NPN, NO+NC	10cm	18mm	62mm	Infrared
	ES-10D-P	PNP, NO+NC				
	ES-40D-N	NPN, NO+NC	40cm			
	ES-40D-P	PNP, NO+NC				
	ES-100D-N	NPN, NO+NC	100cm			
	ES-100D-P	PNP, NO+NC				
	ES-10D-NR	NPN, NO+NC	10cm	18mm	62mm	Red LED
	ES-10D-PR	PNP, NO+NC				
	ES-20D-NR	NPN, NO+NC	20cm			
	ES-20D-PR	PNP, NO+NC				
	ES-100M-N	NPN, NO+NC	100cm	18mm	62mm	Infrared
	ES-100M-P	PNP, NO+NC				
	ES-300M-N	NPN, NO+NC	300cm			
	ES-300M-P	PNP, NO+NC				
	ES-100M-NR	NPN, NO+NC	100cm	18mm	62mm	Red LED
	ES-100M-PR	PNP, NO+NC				
	ES-1000T-N	NPN, NO+NC	1000cm	18mm	62mm	Infrared
	ES-1000T-P	PNP, NO+NC				
	ES-2000T-N	NPN, NO+NC	2000cm			
	ES-2000T-P	PNP, NO+NC				



MODEL LIST

Appearance	Model	Control Method	Sensing Distance	Diameter	Length	Light Source
	ESC-10D-N	NPN, NO+NC	10cm	18mm	70mm	Infrared
	ESC-10D-P	PNP, NO+NC	10cm			
	ESC-40D-N	NPN, NO+NC	40cm			
	ESC-40D-P	PNP, NO+NC	40cm			
	ESC-100D-N	NPN, NO+NC	100cm			
	ESC-100D-P	PNP, NO+NC	100cm			
	ESC-10D-NR	NPN, NO+NC	10cm	18mm	70mm	Red LED
	ESC-10D-PR	PNP, NO+NC	10cm			
	ESC-20D-NR	NPN, NO+NC	20cm			
	ESC-20D-PR	PNP, NO+NC	20cm			
	ESC-100M-N	NPN, NO+NC	100cm	18mm	70mm	Infrared
	ESC-100M-P	PNP, NO+NC	100cm			
	ESC-300M-N	NPN, NO+NC	300cm			
	ESC-300M-P	PNP, NO+NC	300cm			
	ESC-100M-NR	NPN, NO+NC	100cm	18mm	70mm	Red LED
	ESC-100M-PR	PNP, NO+NC	100cm			
	ESC-1000T-N	NPN, NO+NC	1000cm	18mm	70mm	Infrared
	ESC-1000T-P	PNP, NO+NC	1000cm			
	ESC-2000T-N	NPN, NO+NC	2000cm			
	ESC-2000T-P	PNP, NO+NC	2000cm			

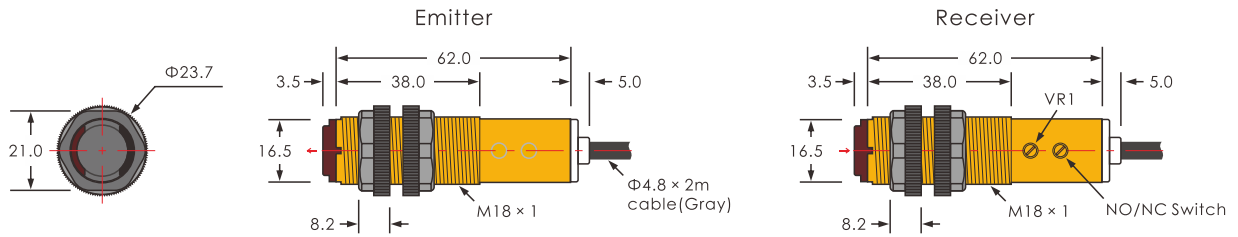
SPECIFICATIONS

SENSING METHOD	Diffuse-reflective	Mirror reflex	Through-beam
LIGHT SOURCE	Infrared	Infrared / Red light LED	Infrared
RESPONSE FREQUENCY	400Hz		
DIFFERENTIAL TRAVEL	10% max. of sensing distance		
CONTROL OUTPUT	Light-ON/Dark-ON selectable by switch		
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)		
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	IP67 / Oil resistant		
MATERIALS	ES Series - Case: PBT, Sensing face: PBT, Nut: ABS ESC Series - Case: Chromium plated brass, Sensing face: Acrylic, Nut: Nickel plated brass, Washer: Nickel plated iron Screwdriver : Plastic steel		
CONNECTION METHOD	Pre-wired Φ4.8 × 2m × 3wire(Emitter 2wire) PVC Quick plug connector M12 connector		
WEIGHT	Approx. 80g	Approx. 100g	Approx. 155g
ACCESSORIES	Screwdriver Nuts × 2	Reflector Screwdriver Nuts × 2	Screwdriver Nuts × 4

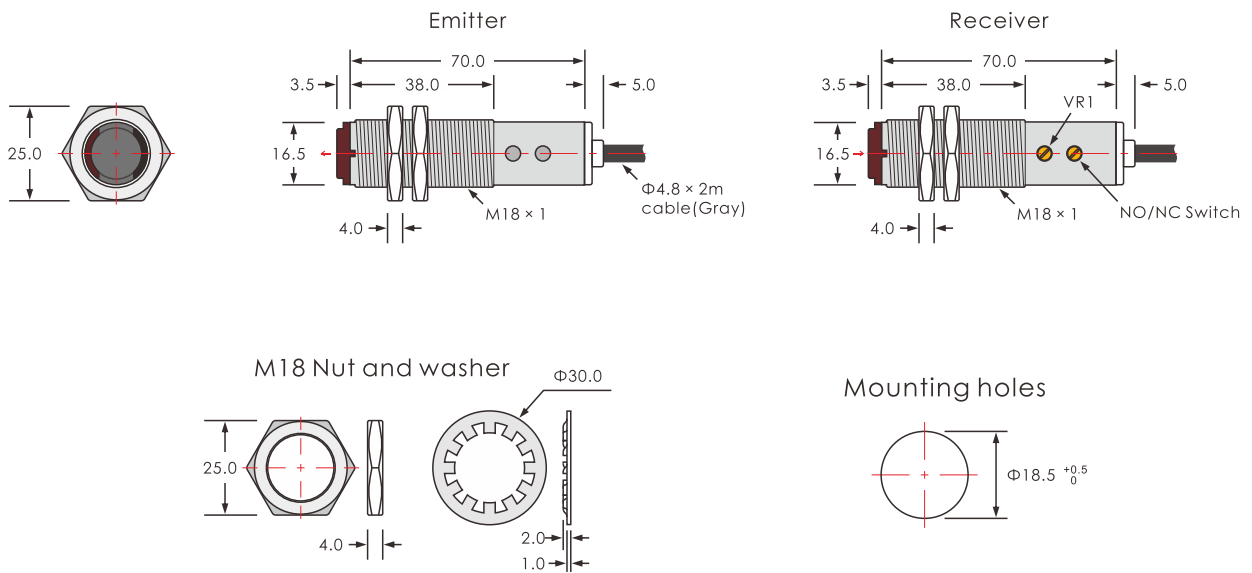
DIMENSIONS

(Units: mm)

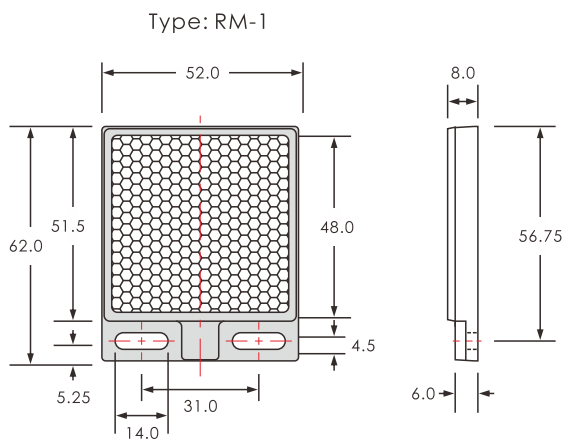
ES Series



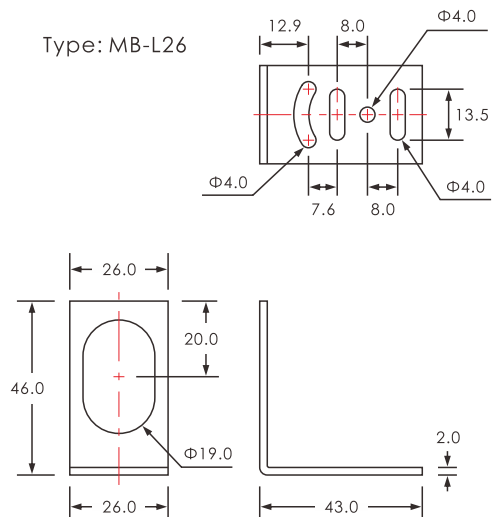
ESC Series



Reflector



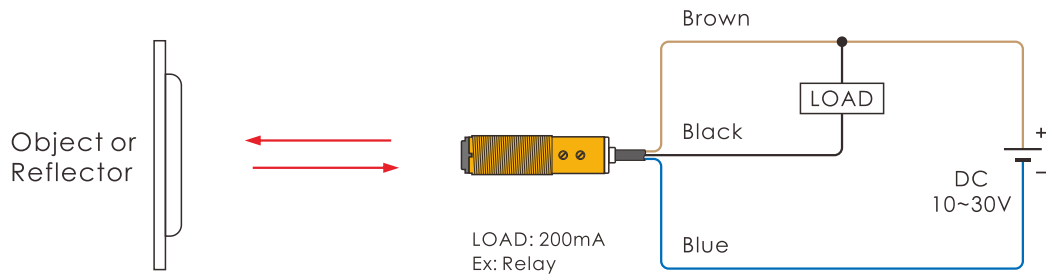
Mounting Bracket (Order separately)



CONNECTION DIAGRAMS

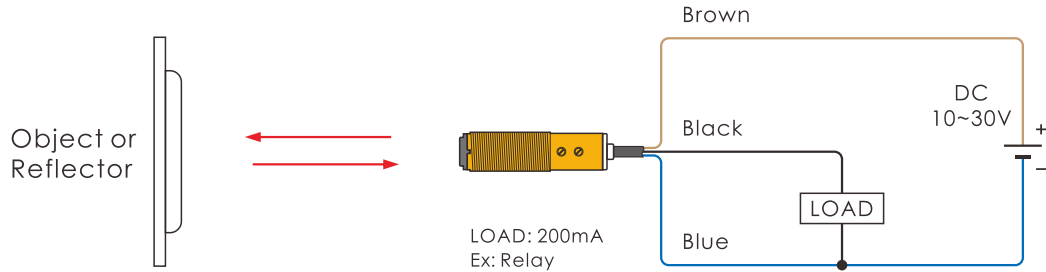
Diffuse-reflective or Mirror reflex type

NPN



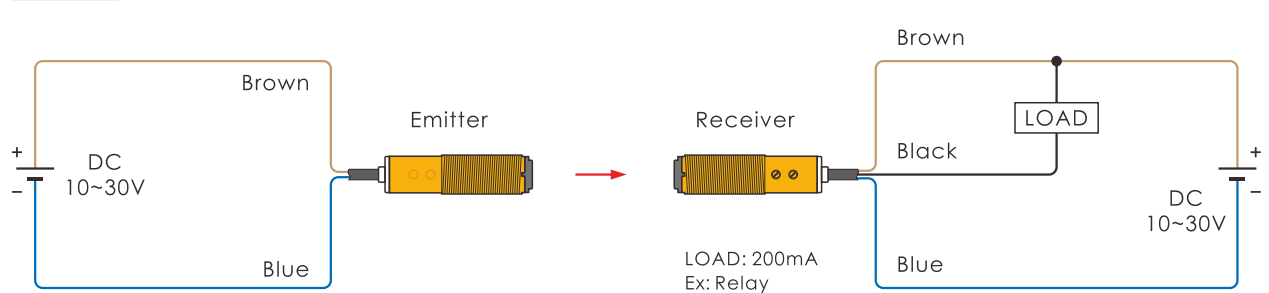
Diffuse-reflective or Mirror reflex type

PNP



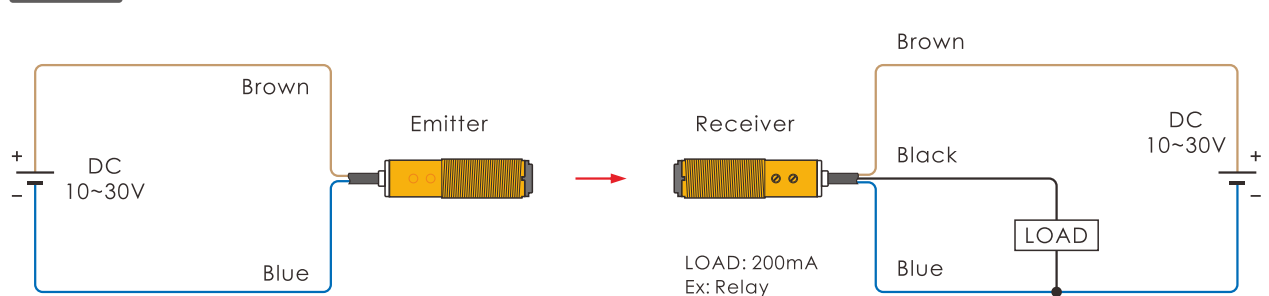
Through-beam type

NPN



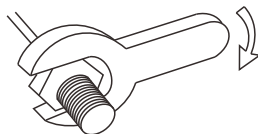
Through-beam type

PNP



MOUNTING

Do not tighten the nut with excessive force. A washer must be used with the nut.

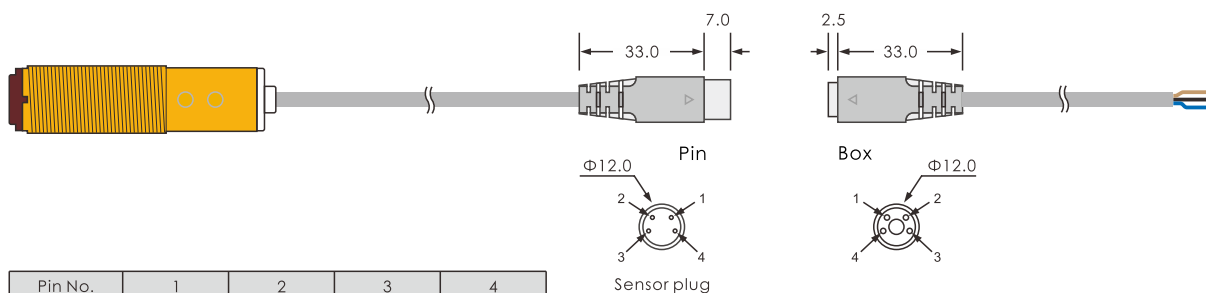


Diameter	Torque
M18	0.4 N·m

CONNECTORS

Quick plug connector

(Units: mm)



Pin No.	1	2	3	4
Pinout	10~30VDC	---	0V	Output
Wire color	Brown	White	Blue	Black

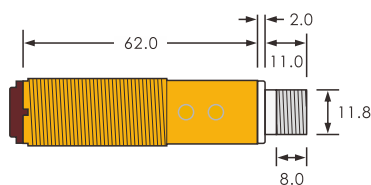
M12 connector

Model for I/O Connector

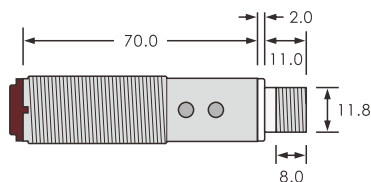
M12 - S 2M
① ②

- ① Connect method:
S: Straight
A: Angle
- ② Cable length:
Customized
Unit: meter

ES Series



ESC Series



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