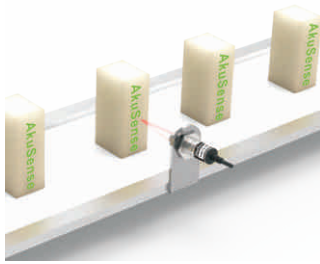


Photoelectric Sensors



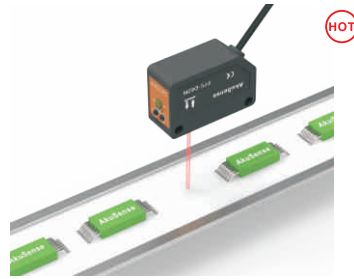
- Available in a variety of models, thin type, square type, cylindrical type, transparent body detection type, background suppression type, etc.
- Freely switch from L.on to D.on .
- Solid and heavy duty metal housing, economical plastic housing with easy installation.
- Short circuit protection as well as reverse polarity protection.
- Switch frequency up to 5000Hz.



Cylindrical (PM/PXM Series)

- Epoxy resin fillings ,strong shock resistance
- Offer products with the smallest diameter (8mm) in the industry
- Nicke plated brass, effectively resist chemicals' corrosion

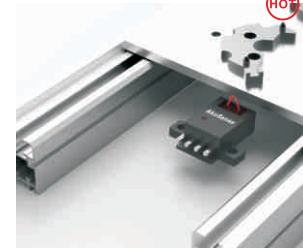
P.C-06



Square (PTV/PTN/PTZ/PTJ-I Series)

- Traditional square, enjoy great performance
- 25.4mm standard hole gap with simple installation
- Dual LED indicators (enables a clear view)

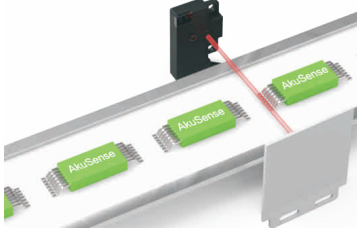
P.C-09



Flat Type (MP2 Series)

- Sensing face on front surface and top surface (various ways of detection)
- Can switch L.on from D.on freely
- Long distance detection (up to 40mm) sensing distance (White cardboard)

P.C-13

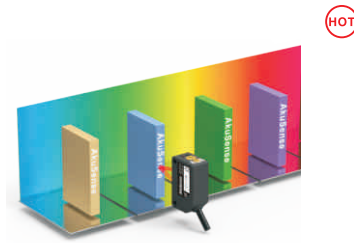


Thickness is only 3.5mm

Ultra-thin type (ESL series)

- 3.5mm ultra-thin design, greatly saves installation space
- Ip67 Protection degree , excellent mechanical performance
- LED indicator is bright and can be clearly seen from the back

P.C-15



Not affected by background color

BGS (ESB Series)

- Colors non-interfering of detected objects and background (maintains stable detection)
- Built-in rotational knobs, with many turns for fine-tuning of sensitivity adjustment
- Ip67 protection degree, with good performance

P.C-16



Transparent detection (EST Series)

- No blind area (detection for every corner)
- Suitable for moving objects
- Best options for different kinds of glasses or plastics

P.C-18

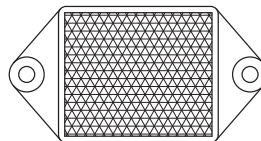


RGB light source

Colors/marks detection (ESC Series)

- Built-in RGB three color light sources
- Accurate color detection, automatically adjusts into the most suitable light sources
- Two detection modes,marks mode/color mode

P.C-20



Reflectors

- Made of special material (strong housing)
- Different shapes (such as round shape, square, and combination)
- Customization is available at your request

P.C-21

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

Guidance

Photoelectric sensors

- Cylindrical
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark (detection type)

Reflectors

- Reflectors

Type	Light source	Series	
Photoelectric	Red light/ infrared light	Cylindrical	PM/PXM Series
		Square	PTV/PTN/PTZ /PTJ-I Series
		Flat Type	MP2 Series
		Thin type	ESL Series
		BGS	ESB Series
		Transparent detection	EST Series
		Color mark /detection type	ESC Series

- Fiber Optic
- Slot Sensors
- Photoelectric**
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

Guidance

- Photoelectric sensors**
- Cylindrical
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark /detection type

- Reflectors**
- Reflectors

Cylindrical

Series	Sensing type	Sensing distance	Model No.		Pages
			NPN L.on&D.on	PNP L.on&D.on	
PM08	Diffuse reflection	3cm	L.on:PM08-D03NO (HOT)	L.on:PM08-D03PO	C-06
PM18 (Metallic housing)	Diffuse reflection	10cm	PM18-D10NR	PM18-D10PR	C-07
		40cm	PM18-D40NR (HOT)	PM18-D40PR	
	Thru-beam	1000cm	PM18-TM10NR	PM18-TM10NR	
		2000cm	PM18-TM20NR	PM18-TM20NR	
Retro-reflection	300cm	PM18-R300NR	PM18-R300PR		
PXM 18 (PBT housing)	Diffuse reflection	10cm	PXM18-D10N	PXM18-D10P	C-08
		40cm	PXM18-D40N	PXM18-D40P	

Square

Series	Sensing type	Sensing distance	Model No.		Pages
			NPN L.on&D.on	PNP L.on&D.on	
PTV	Diffuse reflection	30cm	PTV-D30N (HOT)	PTV-D30P	C-09
		Thru-beam	500cm	PTV-T500N	
PTZ	Diffuse reflection	100cm	PTZ-D70N	PTZ-D70P	C-10
		Limited reflection	14cm	PTZ-X09N (HOT)	
	Thru-beam	2000cm	PTZ-TM20N	PTZ-TM20P	
		Retro-reflection	400cm	PTZ-R400N	
PTN	Diffuse reflection	5cm	PTN-D05N	PTN-D05P	C-11
		Thru-beam	50cm	PTN-T50N	
PTJ-I	Thru-beam	150cm	D.on: PTJ-T150NO-I L.on: PTJ-T150NC-I	D.on: PTJ-T150PO-I L.on: PTJ-T150PC-I	C-12

Flat

Series	Sensing type	Sensing distance	Model No.		Pages
			NPN L.on&D.on	PNP L.on&D.on	
MP2	Diffuse reflection	40mm	MP2-410N-E	MP2-410P-E	C-13
		40mm	MP2-412N-E (HOT)	MP2-412P-E	
MP2 (Outgoing)	Diffuse reflection	8mm	D.on: MP2-410N-WD	D.on: MP2-410P-WD	C-14
			L.on: MP2-410N-WL	L.on: MP2-410P-WL	
	Diffuse reflection	8mm	D.on: MP2-412N-WD	D.on: MP2-412P-WD	
			L.on: MP2-412N-WL	L.on: MP2-412P-WL	

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

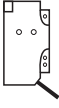


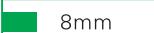
Guidance

- Photoelectric sensors
- Cylindrical
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark /detection type

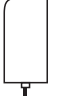



Reflectors

- Reflectors




Thin type

Series	Sensing type	Sensing distance	Model No.		Pages
			NPN L.on&D.on	PNP L.on&D.on	
ESL	 Limited reflection	 30mm	ESL-X30NO	ESL-X30PO	C-15
		 15mm	ESL-X15NO	ESL-X15PO	
		 8mm	ESL-X08NO	ESL-X08PO	



BGS

Series	Sensing type	Sensing distance	Model No.		Pages
			NPN L.on&D.on	PNP L.on&D.on	
ESB	 Diffuse reflection	 8cm	ESB-S08N	ESB-S08P	C-16
		 30cm	ESB-Z30N	ESB-Z30P	
		 20cm	ESB-20N HOT	ESB-20P	

Transparent detection

Series	Sensing type	Sensing distance	Model No.		Pages
			NPN	PNP	
EST	 Retro-reflection	 200cm	EST-200N	EST-200P	C-18
		 200cm Coaxial beam	EST-X200N HOT	EST-X200P	

Color mark /detection type

Series	Sensing type	Sensing distance	Model No.		Pages
			NPN	PNP	
ESC	 Diffuse reflection	 18mm	ESC-18N	ESC-18P	C-20

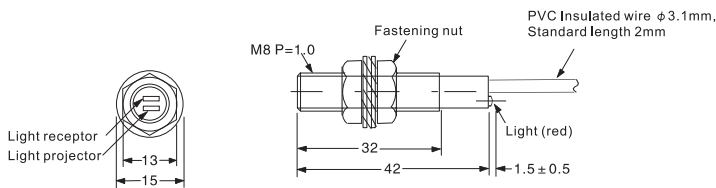


Appearance		
Sensing type	Diffuse reflection	
Sensing distance	30mm (White 30X30mm)	
Hysteresis	< 20%	
Light source	IR Diode(940nm)	
Operating voltage	12~24V DC \pm 10% ripple(p-p) < 10%	
Current consumption	\leq 30mA	
Control output	NPN open-collector output	PNP open-collector output
Switch type	L.on	
Protective circuit	Short circuit protection, reverse polarity protection, anti-interference protection	
Ambient brightness	With incandescent light on the surface of the receiver: 3,000Lux; sunlight: 10,000Lux	
Ambient temperature	Operation: -25~+55°C, Storage: -30~+70°C(no freezing, no coagulating)	
Ambient humidity	Operation: 30~85%RH, Storage: 35~95%RH	
Insulation resistance	> 20M Ω	
Withstand voltage	500 V/AC 50/60Hz 1min	
Anti-vibration	10~55Hz amplitude 1.5mm; XYZ three directions, 2 hours each	
Impact resistance	500m/s ² for 3 times each in X, Y, Z directions	
Degree of protection	IP65	
Connection	2M 3core cable	
Weight	Approx 80g	
Material	Stainless steel	
Model No.	PM08-D03NO HOT	PM08-D03PO

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

Dimensions

Unit: mm



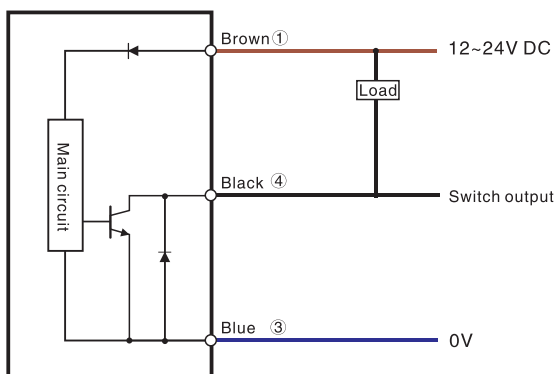
Guidance

Photoelectric sensors

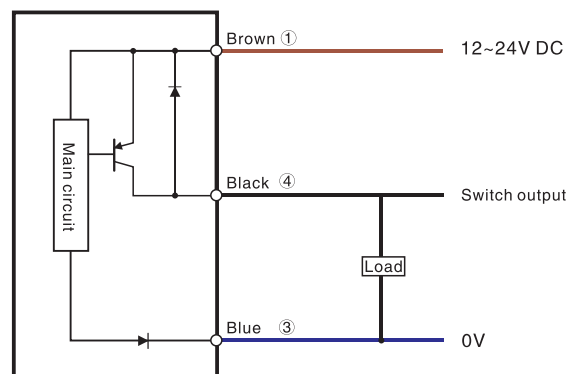
- Cylindrical
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark (detection type)

Circuit diagram

NPN



PNP



Reflectors

- Reflectors

Cylindrical

PM18

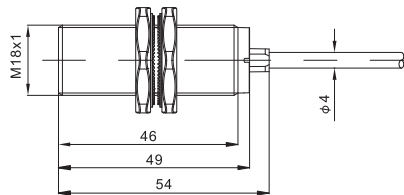
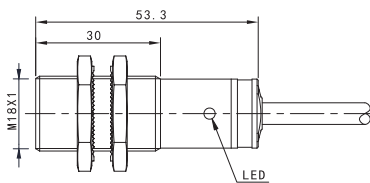


Appearance

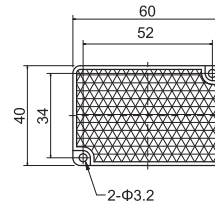
Sensing type	Diffuse reflection		Thru-beam		Retro-reflection	
Sensing distance	10cm(Unmodulated)	40cm(Modulated)	1000cm(Unmodulated)	2000cm(Unmodulated)	300cm(Unmodulated)	
Hysteresis	3~20%		...			
Repeat accuracy	< 5%					
Output type	NPN/PNP Open-collector					
Switch type	Selectable L.on/D.on					
Indicator	Yellow LED		Green LED(Emitter)/Yellow LED(Receiver)		Yellow LED	
Response time	< 8.2 ms					
Light source	Infrared light LED(880nm)					
Operating voltage	10~30V DC					
Voltage drop	< 2.5V					
Current consumption	< 25mA					
Load current	< 200mA					
Protective circuit	Reverse polarity, short circuit, surge protection					
Ambient temperature	-15°C~+55°C, No freezing					
Ambient humidity	35%~95% RH, No coagulating					
Degree of protection	IP67					
Material	Nickle plated brass					
Connection	2M 4core cable					
Model No.	NPN	PM18-D10NR	PM18-D40NR HOT	PM18-TM10NR	PM18-TM20NR	PM18-R300NR
	PNP	PM18-D10PR	PM18-D40PR	PM18-TM10PR	PM18-TM20PR	PM18-R300PR

Dimensions

Unit: mm



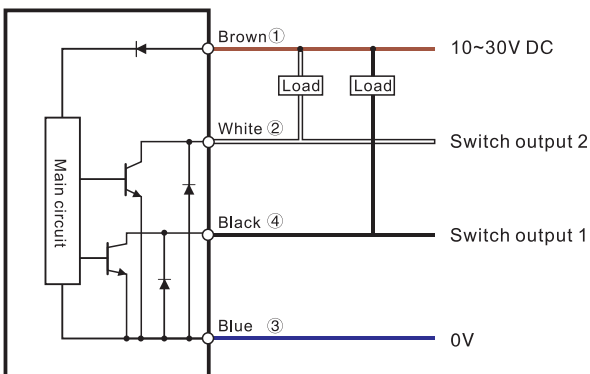
Reflector for PM-R300NR



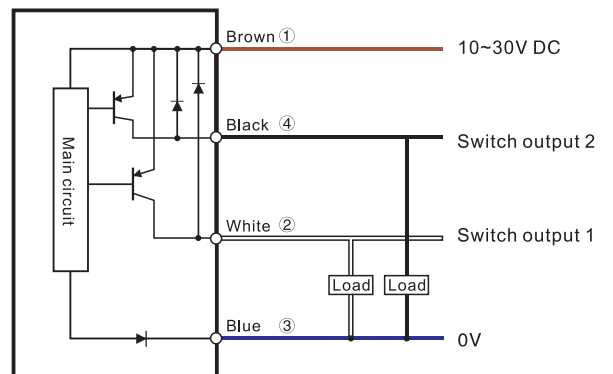
Thickness: 8mm
(Standard TD-09)

Circuit diagram

NPN



PNP

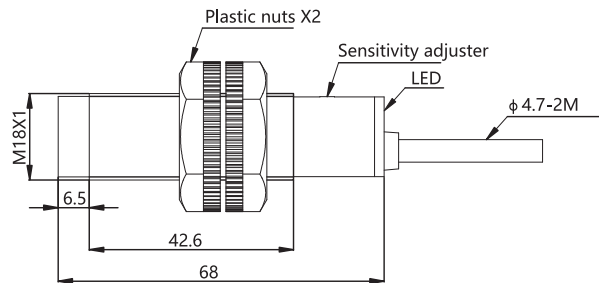




Appearance		
Sensing type	Diffuse reflection	
Sensing distance	10cm(Modulated)	40cm(Modulated)
Hysteresis	≤10%	
Repeat accuracy	5%	
Output type	NPN/PNP Open-collector	
Switch type	Selectable L.on/D.on	
Response frequency	250Hz	
Indicator	Red LED(660nm)	Red LED(880nm)
Operating voltage	10~30V DC(± 10%)	
Voltage drop	2V max 1L=100mA	
Leakage current	10uA	
Current consumption	30mA	
Load current	100mA	
Protective circuit	Reverse polarity protection / output short circuit protection / pulse overvoltage protection	
Ambient temperature	-25°C~+70°C, No freezing	
Ambient brightness	Sunlight exposure ≤10000 lux, incandescent illumination ≤3000 lux	
Degree of protection	IP67	
Tightening torque	1Nm	
Material	Housing: PBT, Lens: PC	
Weight	≈ 50g	
Connection	2M 4core cable	
Model No.	NPN PXM18-D10N	PXM18-D40N
	PNP PXM18-D10P	PXM18-D40P

- Fiber Optic
- Slot Sensors
- Photoelectric**
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

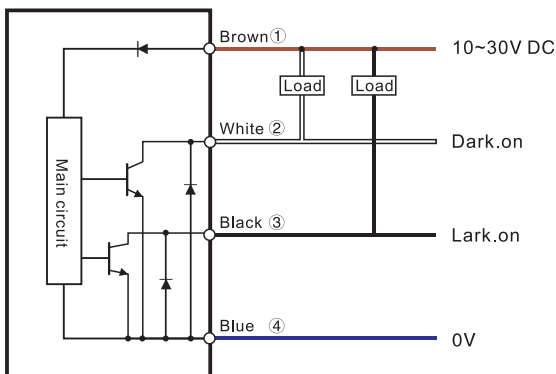
Dimensions



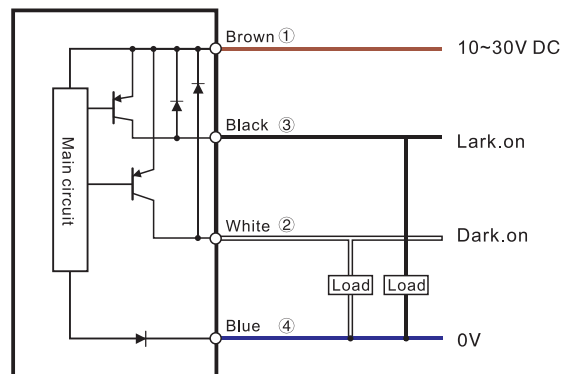
Unit: mm

Circuit diagram

NPN



PNP



Guidance

Photoelectric sensors

- Cylindrical**
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark / detection type

Reflectors

- Reflectors

Square

PTV Series



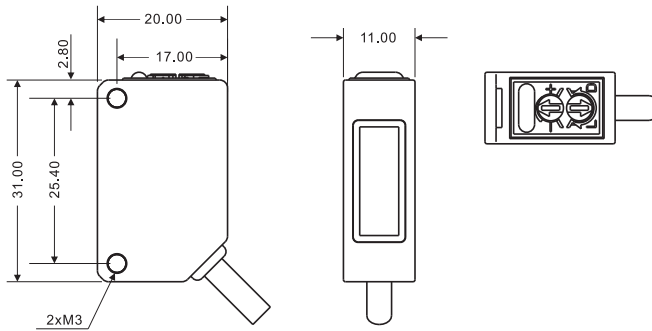
NEW!

Appearance

Sensing type	Diffuse reflection	Thru-beam
Sensing distance	30cm	500cm
Output type	NPN/PNP Open-collector	
Switch type	Selectable L.on/D.on	
Response time	< 1ms	
Light source	Infrared light LED(850nm)	
Operating voltage	10~30V DC	
Current consumption	≦25mA	
Load current	≦100mA(24V DC)	
Ambient temperature	-20°C~+60°C, No freezing	
Ambient humidity	35%~85%RH, No coagulating	
Protective circuit	Reverse polarity, short circuit	
Degree of protection	IP64	
Material	PBT+PC	
Connection	2M 4core cable	
Weight	≈60g	≈115g
Accessories	Screwdriver	
Model No.	NPN	PTV-D30N
	PNP	PTV-D30P
		HOT
		PTV-T500N
		PTV-T500P

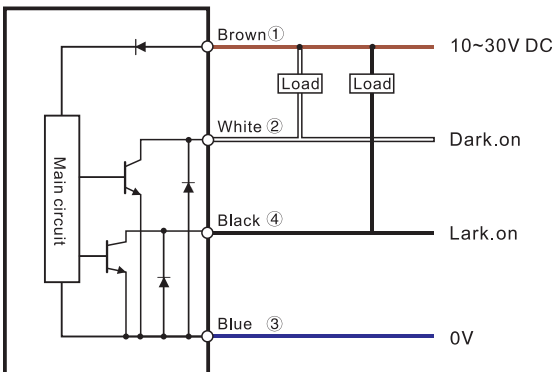
Dimensions

Unit: mm

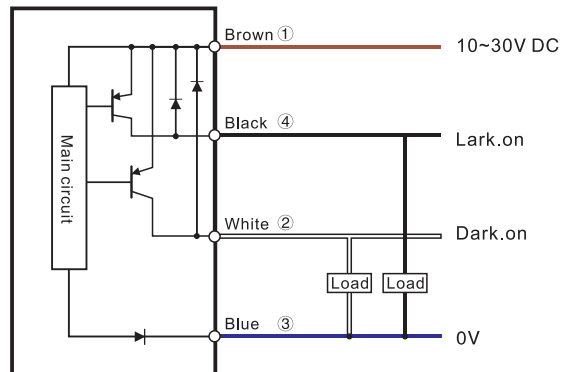


Circuit diagram

NPN



PNP



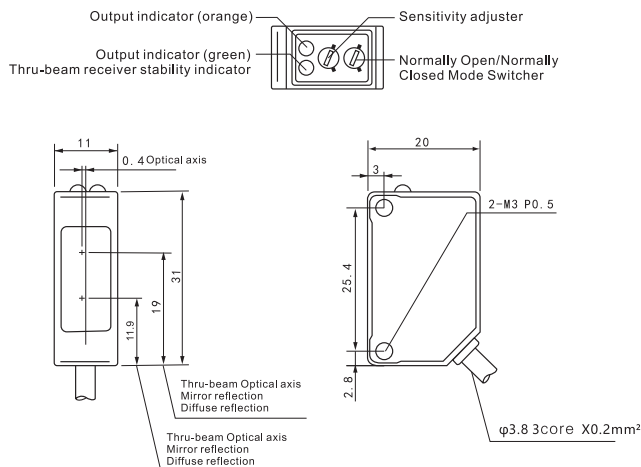


Appearance

Sensing type	Diffuse reflection	Limited reflection	Thru-beam	Retro-reflection	
Sensing distance	100cm	1~14cm	2000cm	400cm	
Beam size	φ75mm / 1000mm	φ8mm / 90mm	φ800mm / 20m	φ200mm / 4m	
Output type	NPN/PNP Open-collector, ≤100mA(30V DC)				
Switch type	Selectable L.on/D.on				
Indicator	Output indicator: Orange; Motion indicator: Green;				
Response time	0.5 ms				
Sensitivity adjustment	Single turn rotational knob	Single turn rotational knob(240°)	Single turn rotational knob		
Light source	Red light LED				
Operating voltage	10~30V DC ± 10%				
Current consumption	≤25mA	≤20mA	Emitter≤20mA, Receiver≤15mA	≤20mA	
Ambient brightness	Sunlight≤10000Lux, Incandescent lamp≤3000Lux				
Ambient temperature	-25℃~+55℃, No freezing				
Ambient humidity	35%~85%RH, No coagulating				
Shock resistance	100G(1000m/s ²)				
Degree of protection	IP67				
Conection	2M 3core cable				
Material	Housing: Abs contains optic fiber ; Lens: PMMA				
Accessories	No			Bracket	
Model No.	NPN	PTZ-D70N	PTZ-X09N	PTZ-TM20N	PTZ-R400N
	PNP	PTZ-D70P	PTZ-X09P	PTZ-TM20P	PTZ-R400P

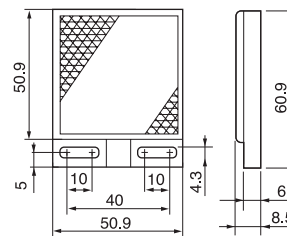
- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

Dimensions



Reflector for PTZ-R400

Unit: mm



(Standard TD-11)

Guidance

Photoelectric sensors

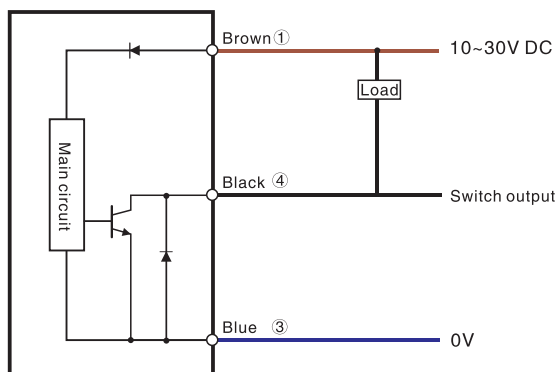
- Cylindrical
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark (detection type)

Reflectors

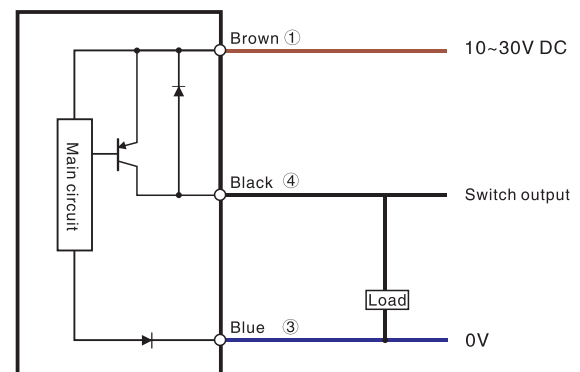
- Reflectors

Circuit diagram

NPN



PNP



Square

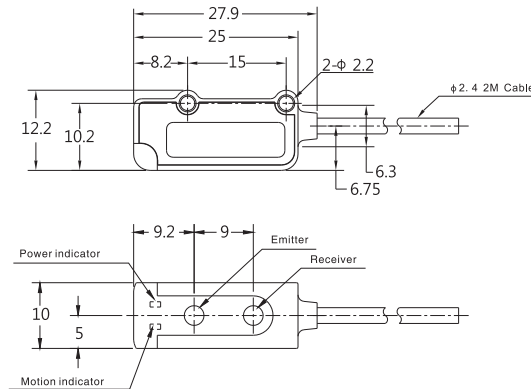
PTN Series



Appearance		
Sensing type	Diffuse reflection	Thru-beam
Sensing distance	5cm, White board 100*100mm (> 5cm)	50cm
Output type	NPN/PNP Open-collector	
Switch type	L.on	D.on
Response time	≤ 1 ms	
Light source	Red light LED	
Operating voltage	12~24V DC ± 10%	
Current consumption	≤ 20mA	≤ 30mA
Load current	≤ 100mA (24V DC)	
Protective circuit	Reverse polarity, short circuit	
Ambient temperature	-10°C~+45°C, No freezing	
Ambient humidity	35%~85% RH, No coagulating	
Storage temperature	-10°C~+55°C, No freezing	
Storage humidity	35%~95% RH, No coagulating	
Voltage withstandability	1000 V/AC 50/60Hz 1min	
Insulation resistance	≥ 20MΩ/500V DC	
Degree of protection	IP64	
Material	ABS	
Connection	φ 2.4*2M 3core cable	(Receiver) φ 2.4*2M 3core cable/ (Emitter) φ 2.4*2M 2core cable
Weight	≈ 20g	≈ 40g
Model No.	NPN PNP	PTN-D05N PTN-D05P
		PTN-T50N PTN-T50P

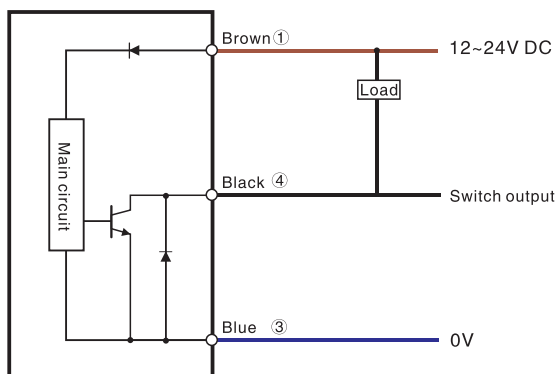
Dimensions

Unit: mm

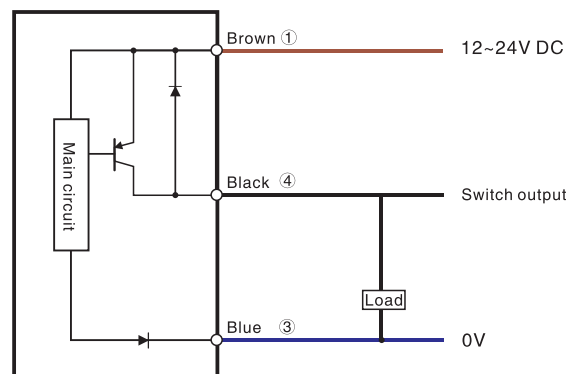


Circuit diagram

NPN



PNP





Appearance	
Sensing type	Thru-beam
Sensing distance	150cm
Standard test object	Opaque objects above ϕ 6mm
Output type	NPN/PNP Open-collector
Switch type	Selectable L.on/D.on, Model optional
Response time	< 1ms
Indicator	Power indicator: Yellow, output indicator: Red
Light source	Infrared light LED (940nm)
Operating voltage	12~24V DC
Voltage drop	< 3V
Current consumption	The transmitting end < 30mA, Receiving end < 30mA
Load current	< 100mA
Protective circuit	Reverse polarity, short circuit
Ambient brightness	Sunlight \leq 10000Lux, Incandescent lamp \leq 3000Lux
Ambient temperature	-20°C~+50°C, No freezing
Ambient humidity	35%~85%RH, No coagulating
Storage temperature	-40°C~+70°C, No freezing
Voltage withstandability	\geq 20M Ω /500V DC
Pressure strength	AC1000V(50/60Hz)1 minute
Shock resistance	10~55Hz reciprocating amplitude 1.5mm, X, Y, Z directions 2 hours
Impact resistant	500m/s ² XYZ three directions
Degree of protection	IP 40
Connection	2M 3core cable
Model No.	NPN D.on
	NPN L.on
	PNP D.on
	PNP L.on

- Fiber Optic
- Slot Sensors
- Photoelectric**
- Laser
- Proximity
- Displacement
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- Contact
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- Inclinometer
- Cables
- Tester

Guidance

Photoelectric sensors

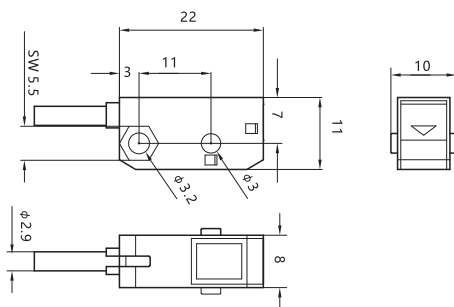
- Cylindrical
- Square**
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark (detection type)

Reflectors

- Reflectors

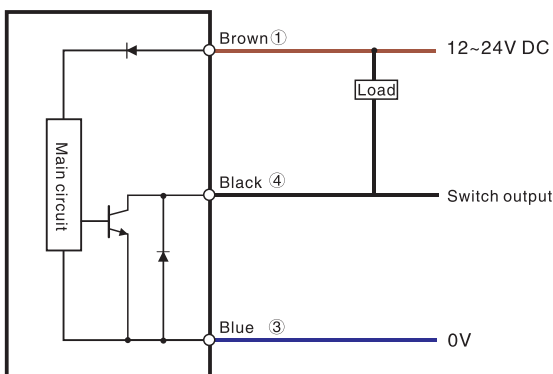
Dimensions

Unit: mm

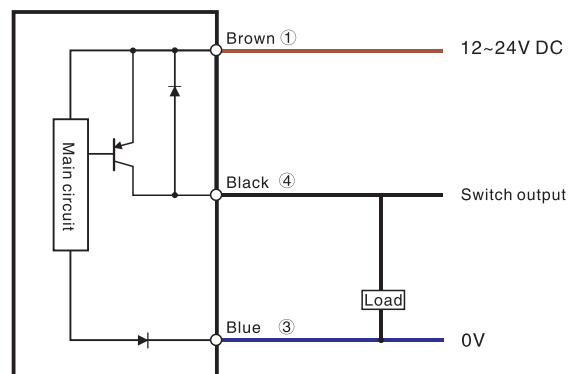


Circuit diagram

NPN



PNP



Flat Type

MP2 Series



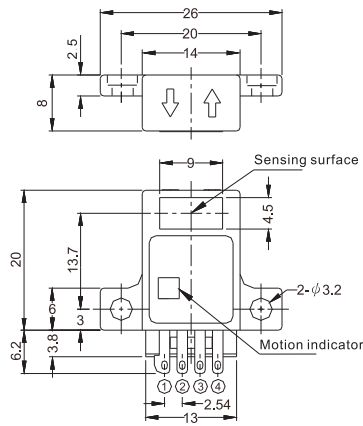
Appearance

Detection surface	Front	Head	
Sensing type	Disffuse refection		
Sensing distance	40mm(White cardboard)		
Output type	NPN/PNP Open-collector		
Switch type	Selectable L.on/D.on		
Response time	< 1 ms		
Light source	Infrared light LED		
Operating voltage	12~24V DC		
Current consumption	< 25mA		
Load current	< 100mA(24V DC)		
Ambient temperature	-20°C~+45°C, No freezing		
Ambient humidity	35%~85%RH, No coagulating		
Voltage withstandability	1000 V DC 50/60Hz 1min		
Material	PC		
Insulation resistance	> 20MΩ/500V DC		
Connection	4 core connector		
Weight	≈3g		
Model No.	NPN	MP2-410N-E	MP2-412N-E (HOT)
	PNP	MP2-410P-E	MP2-412P-E

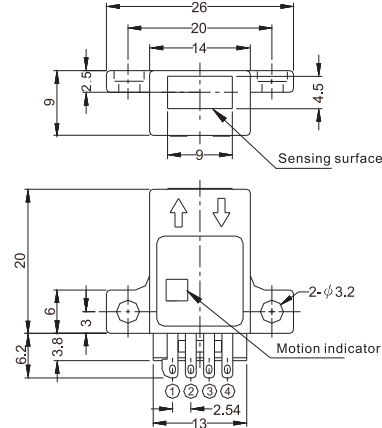
Dimensions

Unit: mm

MP2-410N(P)-E



MP2-412N(P)-E

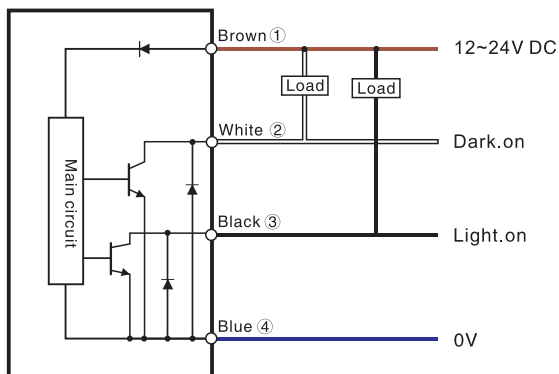


- ①: ○ Brown
- ②: ○ OUT1 White
- ③: ○ OUT2 Black
- ④: ○ Blue

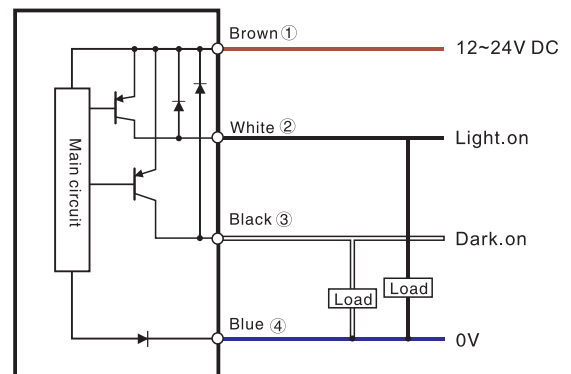
Connection cable: ME-1007 (To M-08)

Circuit diagram

NPN



PNP





NEW!

Appearance		Front	Head
Detection surface		Front	Head
Sensing type		Diffuse reflection	
Sensing distance		2.5~8mm(black object 3mm)	
Hysteresis		Below 20% when using white matter paper (15 * 15mm) of detection distance	
Light source		Infrared light LED(880nm)	
Response time		≤0.8s	
Operating voltage		12~24VDC	
Repeat accuracy		0.1mm	
Control output	Switch capacity	100mA max	
	Residual voltage	Below 3V (load current 100mA/ 2m cable)	
Indicator		Red	
Switching action		L.on/D.on model selectable	
Protective circuit		Surge protection, reverse polarity protection	
Storage temperature		Operation: -10°C~55°C, Storage: -25°C~80°C(No freeze)	
Storage humidity		Operation: 45%~85%RH, Storage: 25%~85%RH (No condensation)	
Ambient brightness		≤3500Lux	
Dielectric strength		> 50MΩ/DC500	
Voltage withstandability		AC1000V, 50/60Hz, 1min	
Temperature influence		Temperature range: -10°C~55°C. The sensing distance will be changed within ± 10% for every 20°C change.	
Voltage influence		When the rated power supply voltage range fluctuates within ± 15%, the sensing distance will be changed within ± 1%.	
Vibration resistance		10~50Hz, Upper and lower amplitude 1.5mm, 2 hours in X, Y, Z direction	
Impact resistance		500m/s ² 10 times in X,Y,Z	
Connection		2m 3 core cable	
Model No.	NPN D.on	MP2-410N-WD	MP2-412N-WD
	NPN L.on	MP2-410N-WL	MP2-412N-WL
	PNP D.on	MP2-410P-WD	MP2-412P-WD
	PNP L.on	MP2-410P-WL	MP2-412P-WL

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

Guidance

Photoelectric sensors

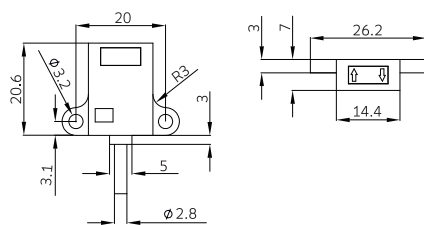
- Cylindrical
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark (detection type)

Reflectors

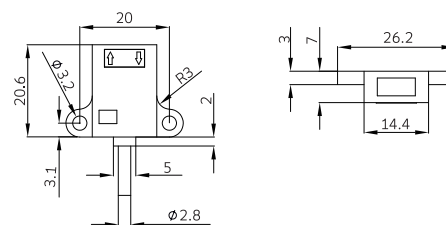
- Reflectors

Dimensions

MP2-410□-W□



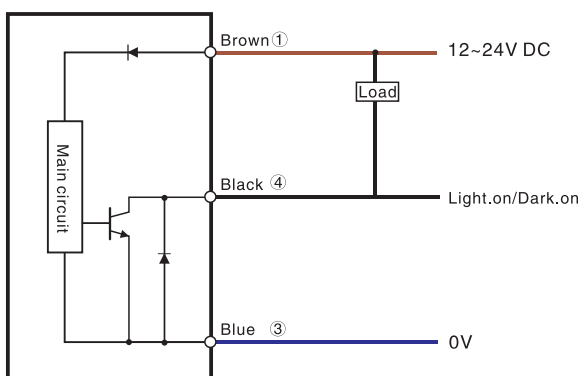
MP2-412□-W□



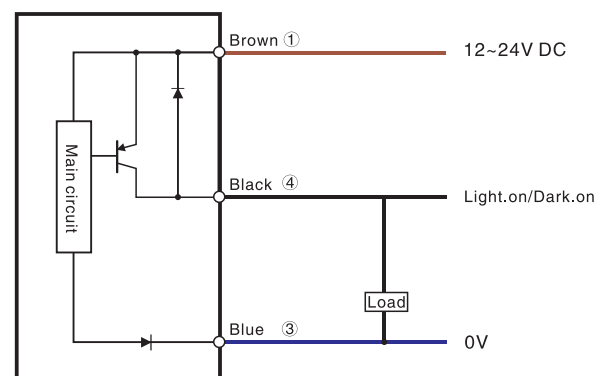
Unit: mm

Circuit diagram

NPN



PNP



Thin type

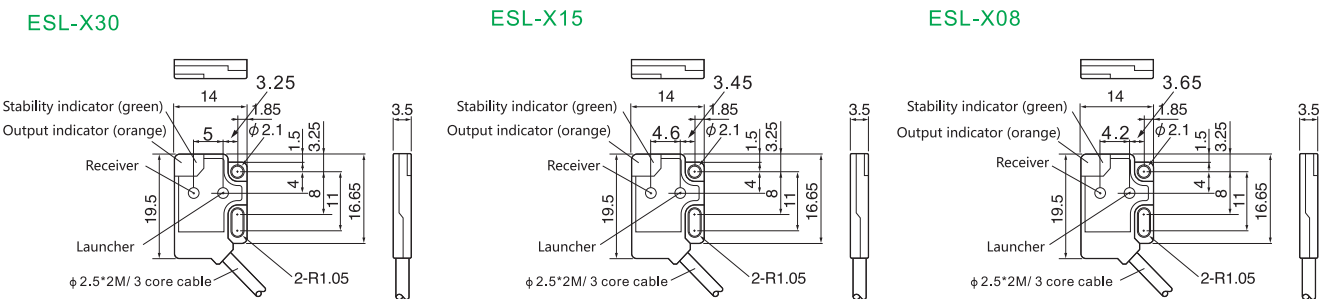
ESL Series



Appearance				
Sensing type	Limited reflection			
Sensing type	5-30mm	2-15mm	3-8mm	
Spot size	φ 20mm /30mm	φ 10mm / 15mm	φ 10mm / 8mm	
Detection object	No-limit			
Hysteresis range	White paper: 10% (ESL-X08/ESL-X15) ; 15% (ESL-X30)			
Output type	NPN/PNP Open - collector			
Switch type	L.on			
Indicator	Output indicator: Orange; Work indicator: Green; Power indicator: Red			
Response time	≤0.5ms			
Preheat time	15ms			
Operating voltage	12-24V DC ± 10%			
Current consumption	≤20mA			
Protective circuit	Overload protection, reverse polarization protection, short circuit protection			
Ambient brightness	Sunlight ≤1000Lux, Incandescent lamp ≤3000Lux			
Ambient temperature	-25℃~+55℃ No freezing			
Ambient humidity	35~85% RH No coagulating			
Storage temperature	-40℃~+70℃, No freezing			
Storage humidity	35~95% RH, No coagulating			
Impact resistance	1000m/s ² , 3 times in X,Y,Z			
Shock resistance	10-50Hz, Upper and lower amplitude 1.5mm, 2 hours in X,Y,Z direction			
Degree of protection	IP67			
Material	PC			
Connection	φ 2.5*2M 3 core cable			
Model No.	NPN	ESL-X30NO	ESL-X15NO	ESL-X08NO
	PNP	ESL-X30PO	ESL-X15PO	ESL-X08PO

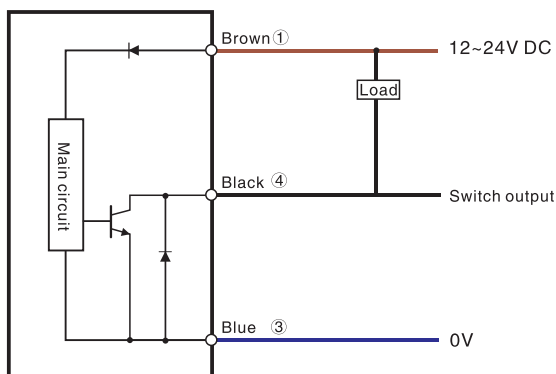
Dimensions

Unit: mm

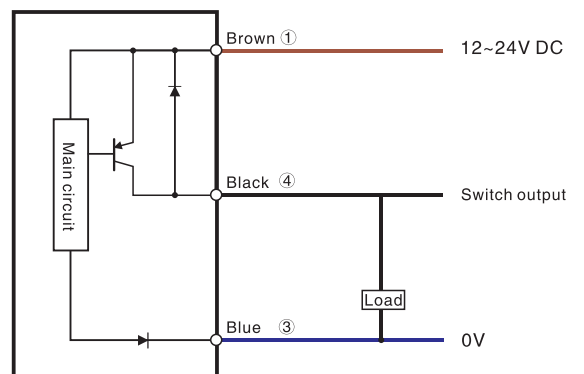


Circuit diagram

NPN



PNP

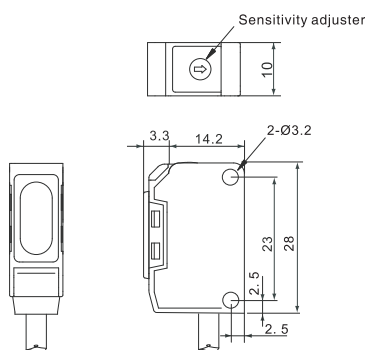


Appearance			
Sensing type	Diffuse reflection – Background suppression		
Sensing distance	1~8cm	1~30cm	1~20cm
Hysteresis	≤10%	5%	...
Output type	NPN/PNP Open-collector, ≤100mA/30V DC		
Switch type	Selectable L.on/D.on		
Indicator	Output indicator: Red	Motion indicator: Green; Output indicator: Orange	
Response time	≤0.5ms		< 2ms
Sensitivity adjustment	Rotational robs(5 turns)	Rotational robs(4 turns)	Multi-turn potentiometer
Light source	Red light LED(660nm)		
Operating voltage	10~30V DC ± 10%		
Current consumption	≤20mA	≤30mA	...
Ambient brightness	Sunlight≤10000Lux, Incandescent lamp≤3000Lux		
Ambient temperature	-25°C~+55°C, No freezing		
Ambient humidity	35%~85%RH, No coagulating		
Degree of protection	IP67		IP65
Connection	2M 4 core cable	2M 3 core cable	2M 4 core cable
Material	Housing: PBT; Lens: PC	Housing: ABS; Lens: PMMA	Housing: ABS; Lens: PC
Accessories	Bracket		
Model No.	NPN PNP	ESB-S08N ESB-S08P	ESB-Z30N ESB-Z30P
			ESB-20N (HOT) ESB-20P

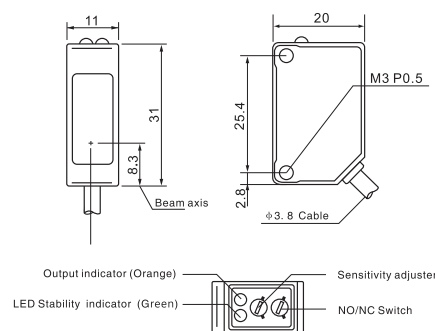
Dimensions

Unit: mm

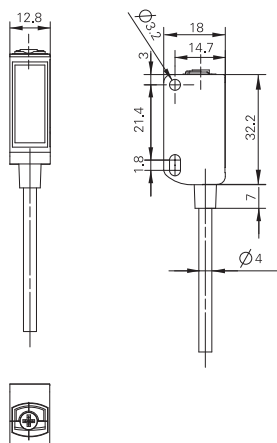
ESB-S08N(P)



ESB-Z30N(P)



ESB-20N(P)



- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

Guidance

Photoelectric sensors

- Cylindrical
- Square
- Flat type
- Thin type

BGS

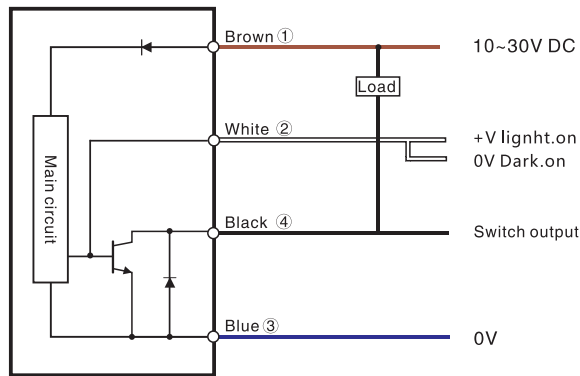
- Transparent detection
- Color mark (detection type)

Reflectors

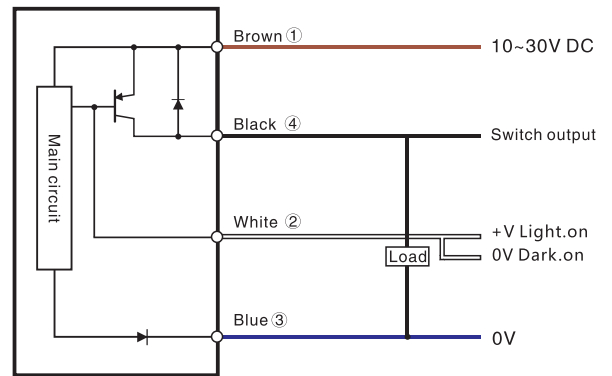
- Reflectors

ESB-S08N(P)

NPN

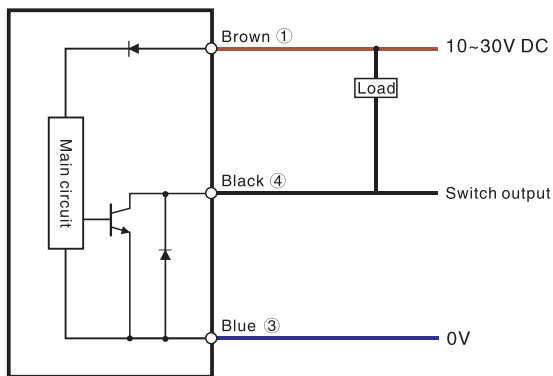


PNP

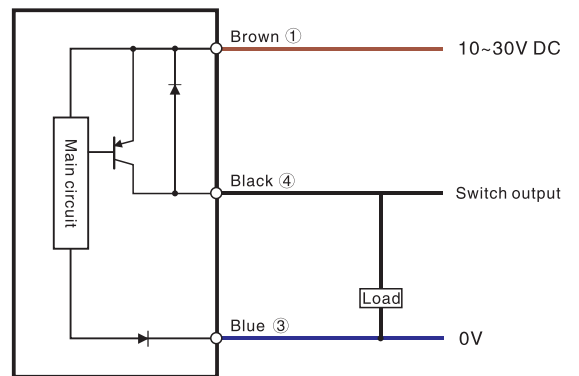


ESB-Z30N(P)

NPN

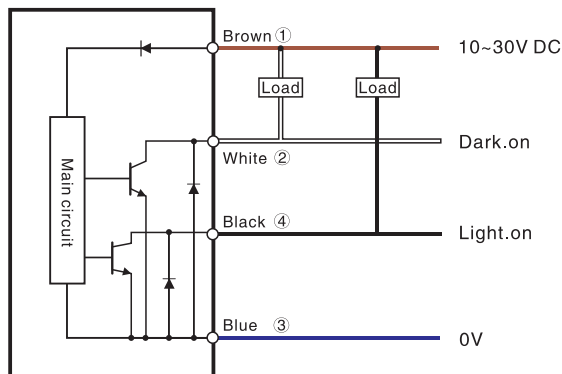


PNP

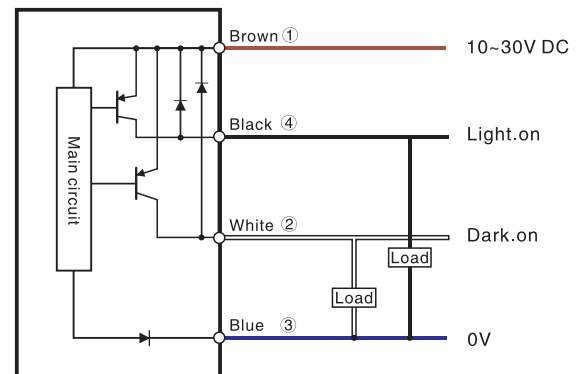


ESB-20N(P)

NPN



PNP



Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

Area

Ultrasonic

Accelerometer

Inclinometer

Cables

Tester

Guidance

Photoelectric sensors

Cylindrical

Square

Flat type

Thin type

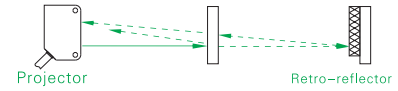
BGS

Transparent detection

Color mark /detection type

Reflectors

Reflectors

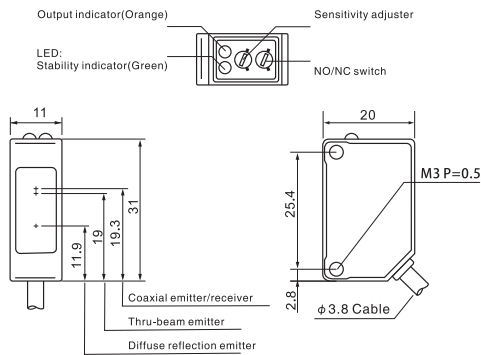


Appearance		
Sensing type	Retro-reflection	
	General Type	Coaxial beam
Sensing distance	1~200cm	0~200cm
Beam size	φ 300mm/200cm	φ 60mm/200cm
Output type	NPN/PNP Open-collector, ≤100mA/30V DC	
Switch type	Selectable L.on/D.on	
Indicator	Motion indicator: Green; Output indicator: Orange	Output indicator: Orange
Response time	0.5 ms	
Light source	Red light LED(66nm)	
Operating voltage	10~30V DC ± 10%	
Current consumption	< 20mA	
Ambient brightness	Sunlight ≤ 10000Lux, Incandescent lamp ≤ 3000Lux	
Ambient temperature	-25°C ~ +55°C, No freezing	
Ambient humidity	35% ~ 85% RH, No coagulating	
Degree of protection	IP67	
Connection	2M 3 core cable	
Material	Housing: Abs contains optic fiber; Lens: PMMA	
Accessories	Bracket	
Model No.	NPN EST-200N PNP EST-200P	EST-X200N (HOT) EST-X200P

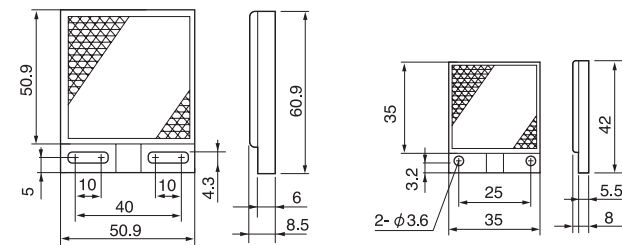
- Fiber Optic
- Slot Sensors
- Photoelectric**
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

Dimensions

Unit: mm



EST-200 Reflector:

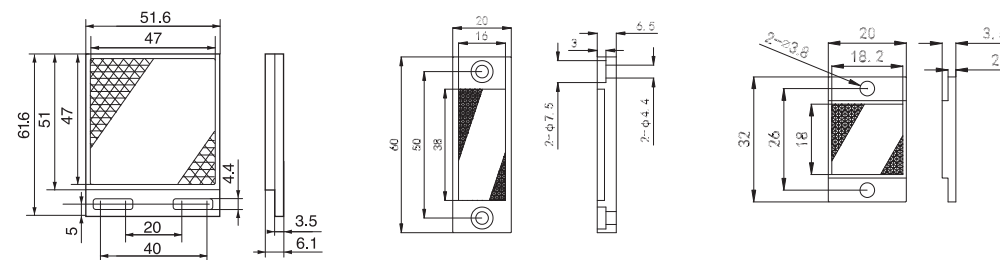


(Optional TD-11)

(Optional TD-12)

Noted:
Coaxial products only have one orange LED output indicator.

EST-X200 Reflector:



(Standard TD-13)

(Optional TD-14)

(Optional TD-15)

Guidance

Photoelectric sensors

- Cylindrical
- Square
- Flat type
- Thin type
- BGS
- Transparent detection**
- Color mark (detection type)

Reflectors

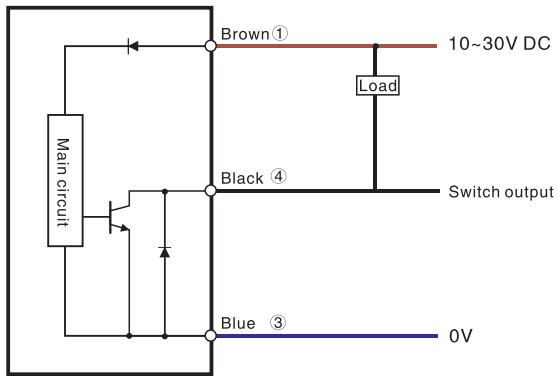
- Reflectors

Transparent detection

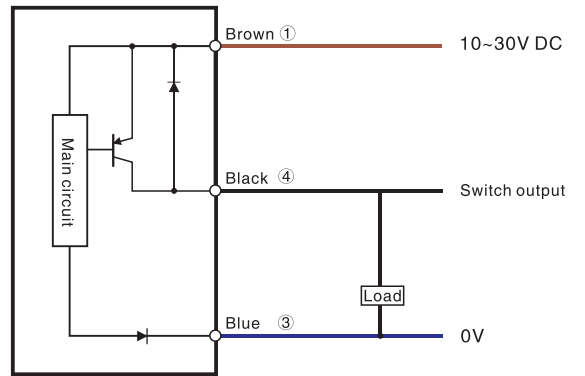
Dimensions

Circuit diagram

NPN



PNP



Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

Area

Ultrasonic

Accelerometer

Inclinometer

Cables

Tester

Guidance

Photoelectric sensors

Cylindrical

Square

Flat type

Thin type

BGS

Transparent detection

Color mark / detection type

Reflectors

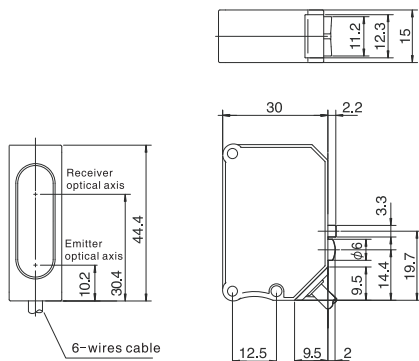
Reflectors



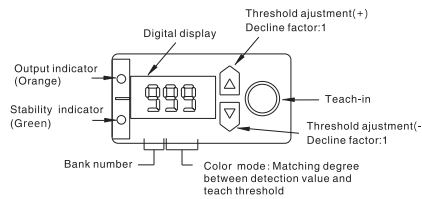
Appearance	
Sensing type	Diffuse reflection
Sensing distance	18 ± 2mm
Beam size	φ 6mm/18mm
Output type	NPN/PNP Open-collector, ≤100mA/30V DC
Switch type	Selectable L.on/D.on
Indicator	Output indicator: Orange; Work indicator; Green
Digital display	7 segments, 3 digit display(Red and Green LED)
Response time	Marks mode: H1/0.25 ms, H2/0.5 ms, L/1.2 ms Colors mode: H1/0.8 ms, H2/1.6 ms, L/4 ms
Time delay function	OFF delay/ ON delay/ Single pulse delay (0~990ms:10ms; 1~10s unit:1s)
Light source	RGB 3 color light source
Operating voltage	10~30V DC ± 10%
Current consumption	35mA(12V), 25mA(24V)
Ambient brightness	Sunlight≤10000Lux, Incandescent lamp≤3000Lux
Ambient temperature	-25°C~+55°C, No freezing
Ambient humidity	35%~85%RH, No coagulating
Insulation resistance	≥20Ω(500V DC)
Impact resistance	50G(500m/s ²), XYZ three directions
Degree of protection	IP67
Connection	2M 4 core cable
Material	Housing: ABS, Lens: PMMA
Model No.	NPN ESC-18N PNP ESC-18P

- Fiber Optic
- Slot Sensors
- Photoelectric**
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Accelerometer
- Inclinometer
- Cables
- Tester

Dimensions

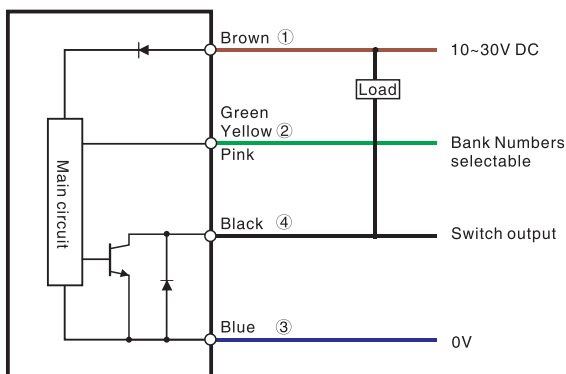


Unit: mm

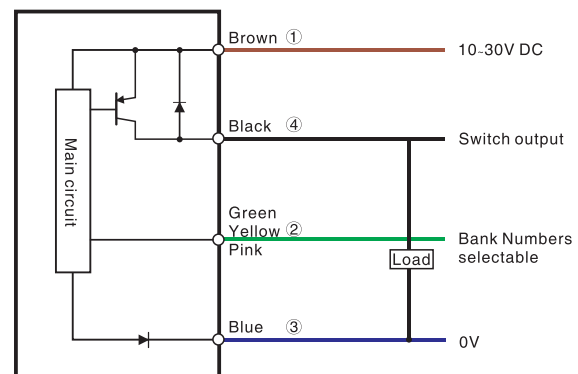


Circuit diagram

NPN



PNP



Guidance

Photoelectric sensors

- Cylindrical
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color mark /detection type**

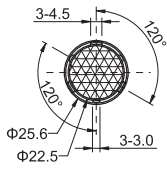
Reflectors

- Reflectors

Reflectors

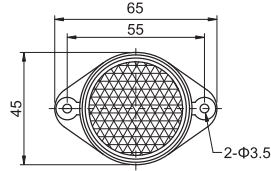
Unit: mm

STD-06



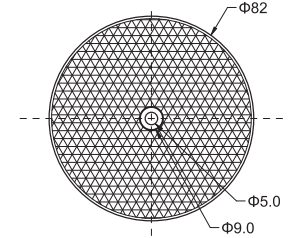
Thickness: 8mm

TD-04



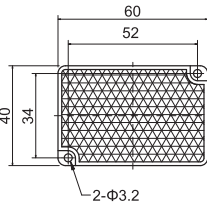
Thickness: 8mm

TD-05



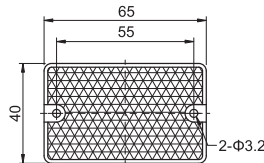
Thickness: 8mm

TD-09



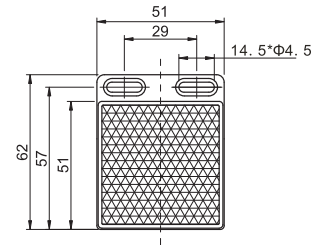
Thickness: 8mm

TD-02



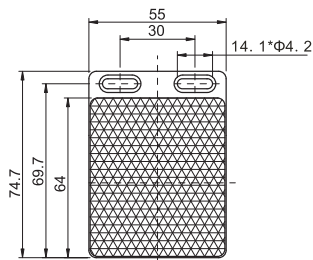
Thickness: 8mm

TD-08



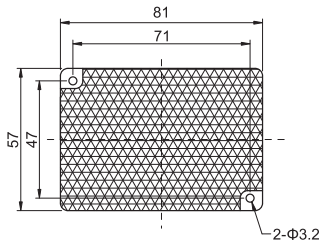
Thickness: 8mm

TD-01



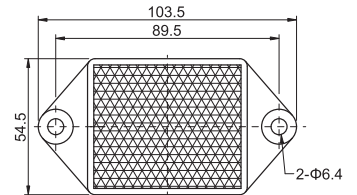
Thickness: 8mm

TD-03



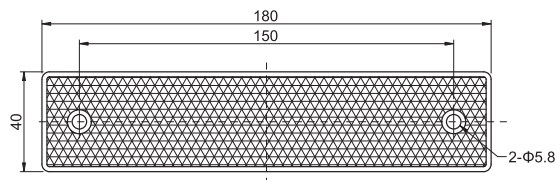
Thickness: 8mm

TD-01-3



Thickness: 8mm

TD-10

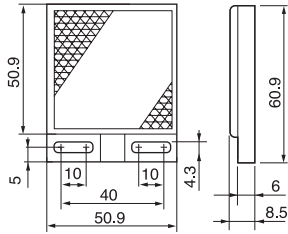


Thickness: 8mm

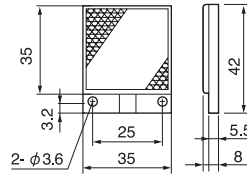
Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
Accelerometer
Inclinometer
Cables
Tester
Guidance
Photoelectric sensors
Cylindrical
Square
Flat type
Thin type
BGS
Transparent detection
Color mark /detection type
Reflectors
Reflectors

Unit: mm

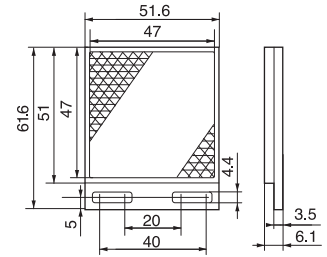
TD-11



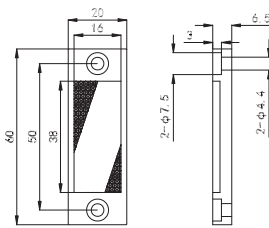
TD-12



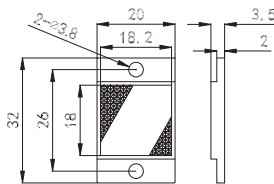
TD-13



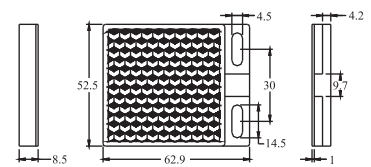
TD-14



TD-15



TD-22



Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

Area

Ultrasonic

Accelerometer

Inclinometer

Cables

Tester

Guidance

Photoelectric sensors

Cylindrical

Square

Flat type

Thin type

BGS

Transparent detection

Color mark (detection type)

Reflectors

Reflectors