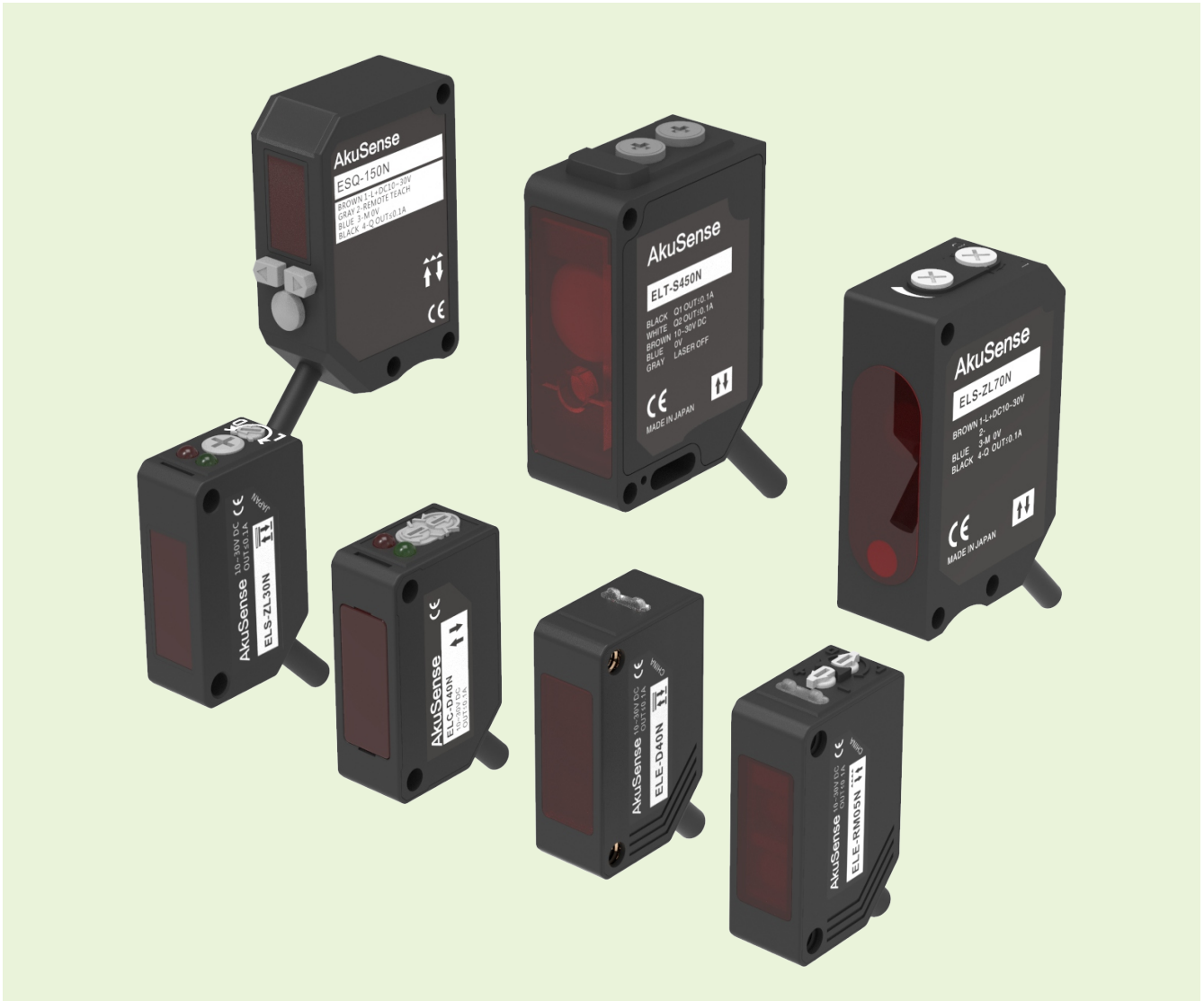


Laser Sensors



- Laser light source and CMOS are effectively combined to enhance resistance to environmental influences
- Automatic light compensation technology, which can automatically adjust the threshold according to the change of the received light
- Response speed up to 0.25ms, can detect fast moving objects
- Up to 6 teaching functions are optional, which can easily solve various installation and debugging problems
- IP67 protection design prevents dust and moisture interference



NEW!



Square Type (ELC/ELE Series)

- Response time high up to 0.25 ms, suitable for moving objects' detection
- 30mm, diameter of spot for thru-beam products (Position:30m)
- Protection degree IP67

P.D-03

BGS Type (ELS/ELT Series)

- Free from interference of objects and backgrounds' colors; ensure stable detection
- Laser light source, suitable for long distance detection of small objects
- Built-in rotational knobs with multiple turns to realize fine sensitivity adjustment

P.D-06

Transparent Objects Detection (ESQ Series)

- Automatically adjust threshold value according to the amount of lights
- Laser light sources, suitable for detections of glass or PET bottles
- Coaxial light source makes calibration more easy.

P.D-08

Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

Area

Ultrasonic

Vision

Vibration

Temperature

Annexes

Guidance

Appearance	Type	Sensing Distance		Model No.		Pages
				NPN Normally open& Normally closed	PNP Normally open& Normally closed	
 (Square)	Thru-beam	 3000cm		ELC-TM30N	ELC-TM30P	D-03
	Retro-reflection	 1000cm		ELC-RM10N	ELC-RM10P	
	Diffuse reflection	 40cm		ELC-D40N	ELC-D40P	
 	Diffuse reflection	 15cm		ELE-B15N	ELE-B15P	D-04
	Diffuse reflection	 40cm		ELE-D40N	ELE-D40P	
	Retro-reflection	 10cm		ELE-RM05N	ELE-RM05P	
	Thru-beam	 3000cm		ELE-TM30N	ELE-TM30P	
 (Background suppression)	Diffuse reflection	 70cm	Long distance type	ELS-ZL70N	ELS-ZL70P	D-06
		 30cm	Long distance type	ELS-ZL30N HOT	ELS-ZL30P	
		 10cm	Short distance type	ELS-ZL10N	ELS-ZL10P	
		 450cm	Long distance type	ELT-S450N	ELT-S450P	D-08
 (Transparent objects detection)	Retro-reflection (Coaxial beam)	 150cm	High resolution type	ESQ-150N HOT	ESQ-150P	D-09
		 400cm	Long distance type	ESQ-400N	ESQ-400P	

Laser sensors

Square

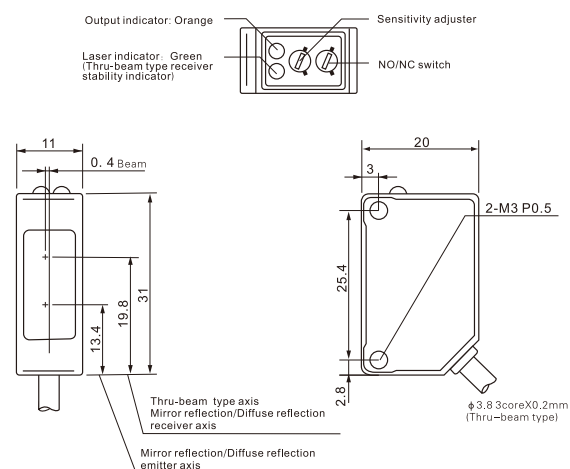
BGS

Transparent objects
detection

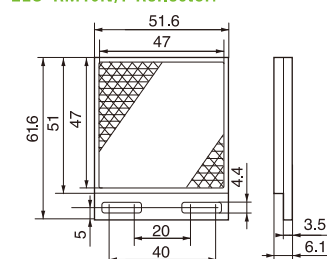


Sensing type		Thru-beam	Retro-reflection	Diffuse reflection
Sensing distance		30m	10m	40cm
Beam size		φ 30mm /30m	φ 10mm/ 10m	φ 2mm/40cm
Switch type		Selectable L.on/D.on		
Indicator		Laser indicator: Green; Output indicator: Yellow		
Response time		0.25 ms		
Sensitivity adjustment		Single-turn potentiometer		
Light source		Laser(650nm)		
Laser class		Class1	Class2	
Operating voltage		12~24V DC ± 10%		
Current consumption		≤30mA	≤20mA	
Ambient temperature		-10℃~+50℃, No freezing		
Ambient humidity		35%~85%RH, No condensation		
Anti-vibration		10~55Hz Amplitude1.5mm		
Impact resistance		50G(500m/s²)		
Degree of protection		IP67		
Accessories		Bracket, screw	Bracket, screw, reflector	Bracket, screw
Model No.	NPN	ELC-TM30N	ELC-RM10N	ELC-D40N
	PNP	ELC-TM30P	ELC-RM10P	ELC-D40P

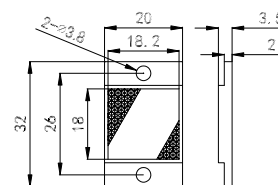
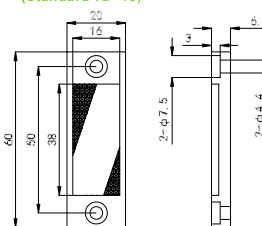
Dimensions



ELC-RM10N/P Reflector:



(Standard TD-13)

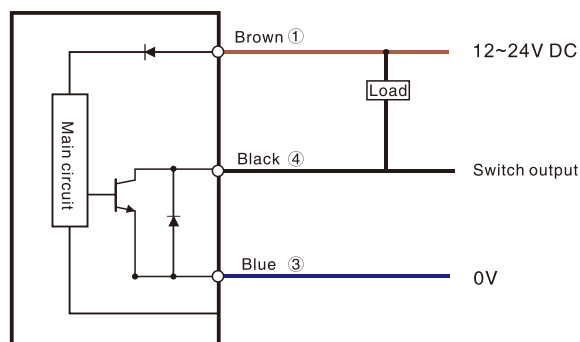


(Optional TD-14)

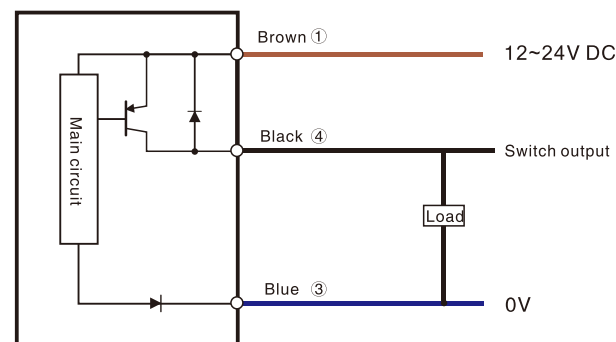
(Optional TD-15)

Circuit diagram

NPN Output



PNP Output





Economical Type

NEW!

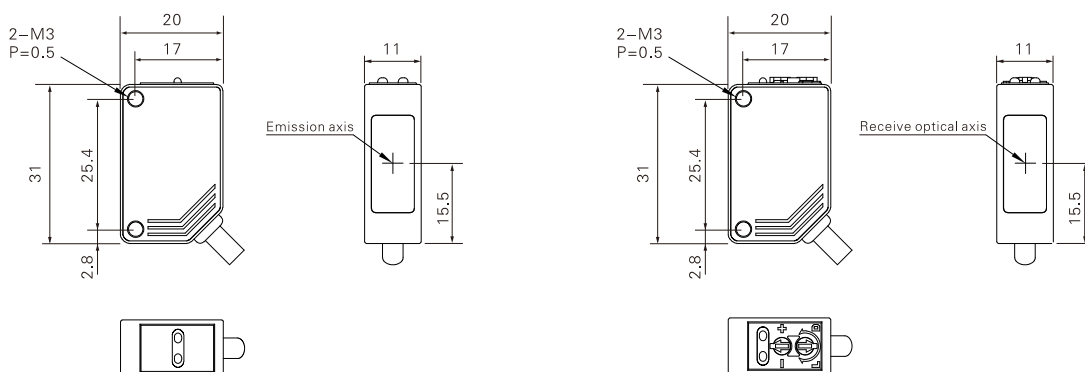
Appearance

Detection mode		Diffuse reflection—BGS	Diffuse reflection	Retro—reflection	Thru—beam
Detection distance		1—15cm	40cm	5m	30m
Set the distance		2—15cm	—	—	—
Spot diameter		± Ø1.5mm/15cm	± Ø1.5mm/40cm	± Ø20mm/5m	± Ø60mm/30m
Indicator light		Working indicator light: green; Action indicator: Red			
Sensitivity regulation		6 circle potentiometer	Single coil potentiometer		
Output mode		NPN or PNP open collector			
Switch mode		L.on (light—in action)/D.on (light—shielding action) can be switched			
Response time		≤2ms			
light source		Laser 650nm (modulation) Class 2			
Working voltage		10~30V DC			
Current consumption		≤20mA			
Environmental illumination		Incandescent lamp: 3000 lux or less / Sunlight: 5000 lux or less			
Ambient temperature		-25℃~+55℃, no freezing			
Ambient humidity		35%~85% RH, no condensation			
Protection circuit		Power reverse polarity protection, output reverse polarity protection, surge protection, short circuit protection Protection Power reverse polarity protection, surge protection, short circuit protection			Power reverse polarity protection, surge protection, short circuit protection
Degree of protection		IP65			
Material		PBT + glass fiber (shell), PMMA (lens)			
Way out		2M/3 core cable			
Anti-vibration		10~50Hz, 0.5mm amplitude, 2 hours each in X, Y, Z directions			
Accessories		Screwdriver			
Model No.	NPN	ELE-B15N	ELE-D40N	ELE-RM05N	ELE-TM30N
	PNP	ELE-B15P	ELE-D40P	ELE-RM05P	ELE-TM30P

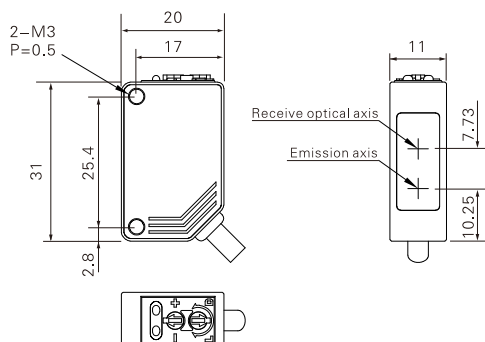
Dimensions

Unit: mm

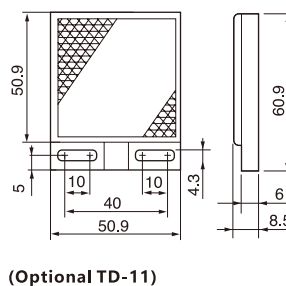
ELE-TM30N/P



ELE-B15N/P, ELE-D40N/P, ELE-RM05N/P



ELE-RM05 With reflector

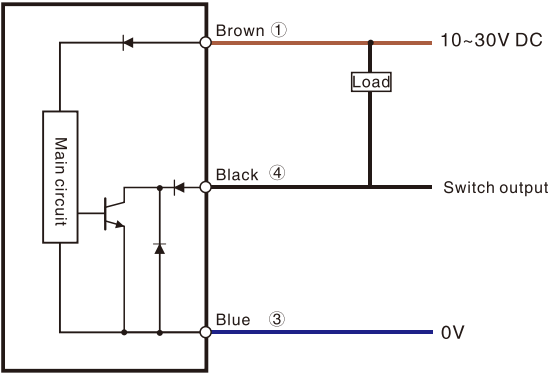


(Optional TD-11)

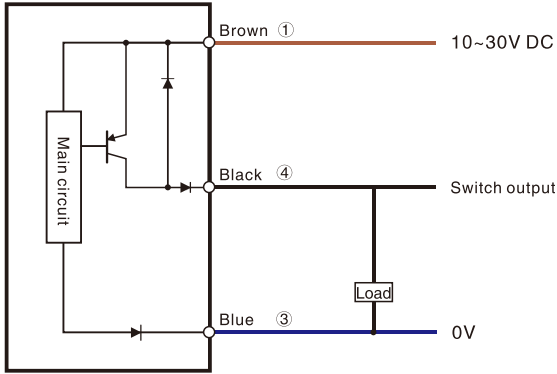
Square

Circuit diagram

NPN Output



PNP Output



Laser

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Guidance

- Laser sensors
- Square
- BGS
- Transparent objects detection

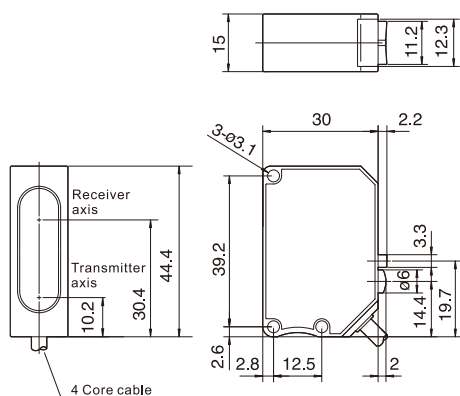
Appearance



Type	Long distance type		Short distance type	
Sensing type	Diffuse reflection			
Set distance	50~300mm		20~100mm	
Sensing distance	100~700mm		5~100mm	
Beam size	φ 6mm/200mm		φ 1mm/100mm	
Switch type	Selectable L.on/D.on			
Indicator	Output indicator: Orange; Laser indicator: Green			
Response time	0.7 ms		0.3 ms	
Sensitivity adjustment	Four-turn potentiometer			
Light source	Laser(650nm)			
Laser class	Class2		Class1	
Operating voltage	10~30V DC ± 10%			
Current consumption	35mA		≤30mA	
Ambient temperature	-10℃~+50℃, No freezing			
Ambient humidity	35%~85%RH, No condensation			
Impact resistance	50G(500m/s²)			
Degree of protection	IP67			
Material	Housing: ABS+ fiber glass; Lens: PMMA			
Accessories	Bracket			
Model No.	NPN	ELS-ZL70N	ELS-ZL30N 	ELS-ZL10N
	PNP	ELS-ZL70P	ELS-ZL30P	ELS-ZL10P

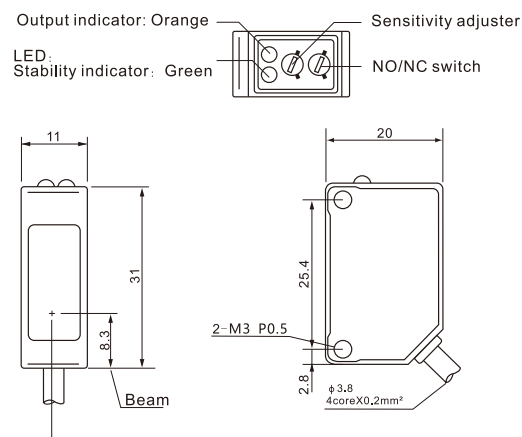
Dimensions

ELS-ZL70N(P)



ELS-ZL30N(P)/ELS-ZL10N(P)

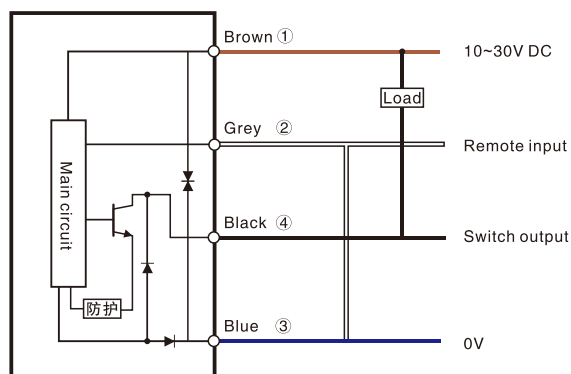
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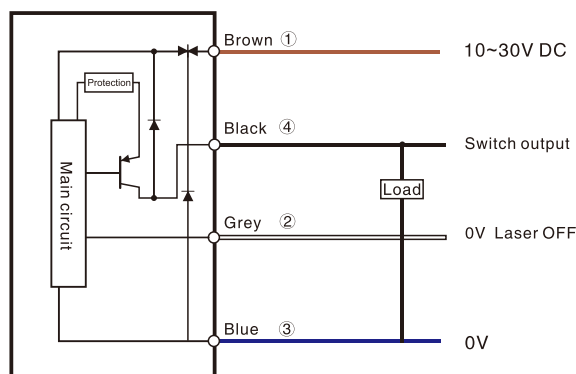
Circuit diagram

ELS-ZL30

NPN Output



PNP Output



Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

Area

Ultrasonic

Vision

Vibration

Temperature

Annexes

Guidance

Laser sensors

Square

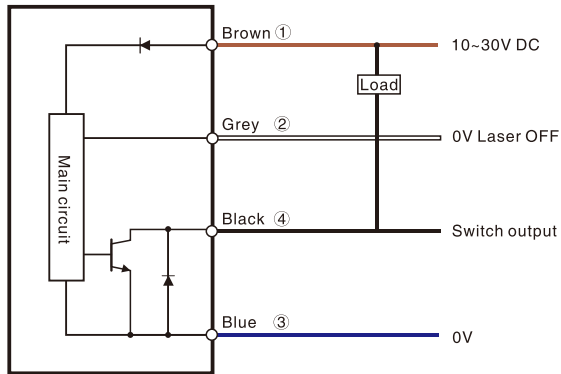
BGS

Transparent objects detection

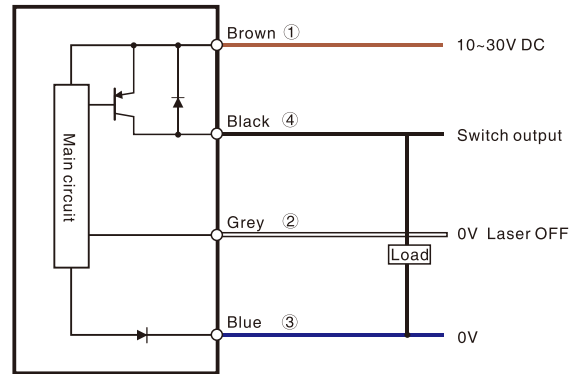
Circuit diagram

ELS-ZL70/ELS-ZL10

NPN Output



PNP Output



TOF Principle



Appearance

Type	Long distance
Sensing type	Diffuse reflection
Sensing distance	0~4.5m
Beam size	About 17mm (4.5m away)
Switch type	Selectable L.on/D.on
Indicator	Output indicator: Orange; Laser indicator: Green
Response time	≤0.5ms
Sensitivity adjustment	Four-turn potentiometer
Light source	Laser(650nm)
Laser class	Class1
Operating voltage	10~30V DC ± 10%
Current consumption	≤85mA
Ambient temperature	-10°C~+50°C, No freezing
Ambient humidity	35%~85% RH, No condensation
Impact resistance	50G(500m/s ²)
Degree of protection	IP67
Material	Housing: ABS+ fiber glass; Lens PMM
Model No.	NPN
	PNP
	ELT-S450N
	ELT-S450P

Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

Area

Ultrasonic

Vision

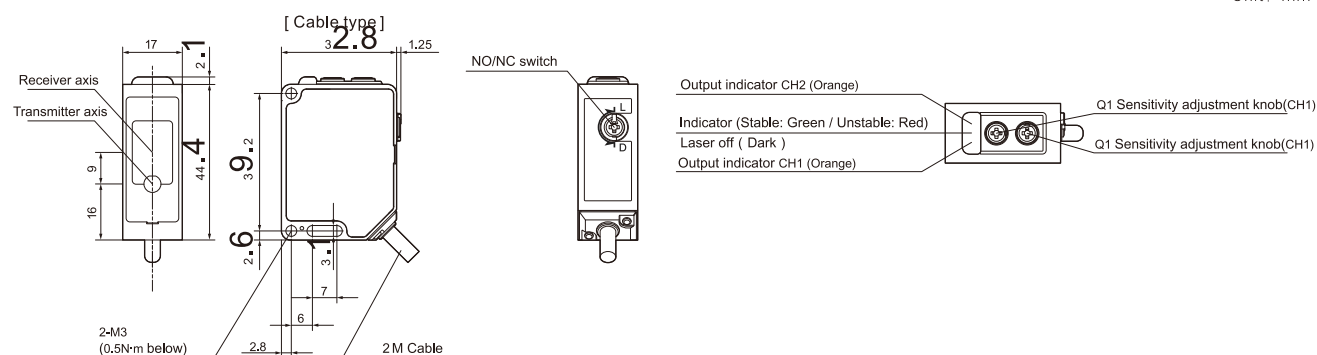
Vibration

Temperature

Annexes

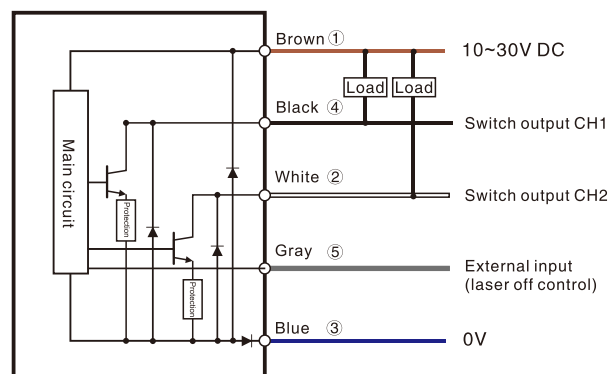
Dimensions

Unit: mm

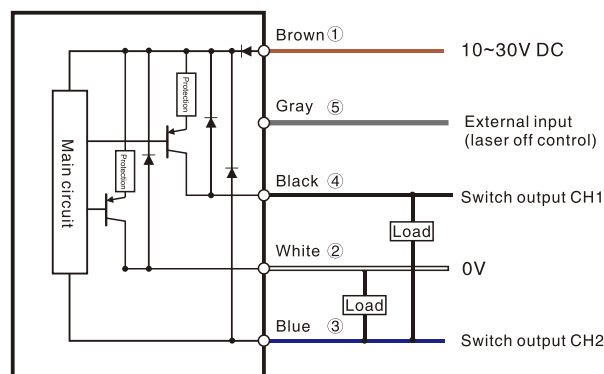


Circuit diagram

NPN Output

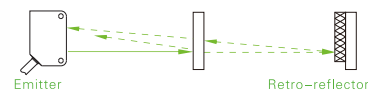


PNP Output



Transparent Objects Detection

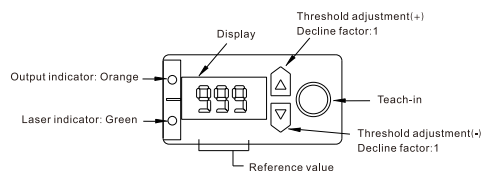
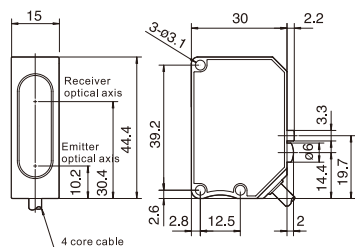
ESQ Series



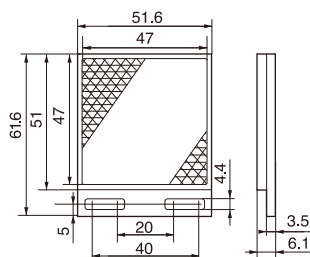
Appearance		
Type	High resolution type	Long distance type
Sensing type	Retro-reflection (Coaxial beam)	
Sensing distance	1.5m	4m
Beam size	φ 15mm/1.5m	φ 20mm/3.5m
Output type	NPN/PNP open-collector output, ≤100mA /30V DC	
Switch type	Selectable L.on/D.on	
Indicator	Output indicator: Orange; Laser indicator: Green	
Digital display	7 segments, 3-digit Red LED display	
Response time	0.7 ms	
Time delay	0~999ms Value added unit:1ms;1~10ms Value added unit :1ms	
Sensitivity adjustment	Teach-in button	
Light source	Laser(650nm), Max 1mW	
Laser class	Class2	
Operating voltage	10~30V DC ± 10%	
Current consumption	35mA	
Ambient brightness	Sunlight≤10000Lux, Incandescent lamp≤3000Lux	
Ambient temperature	-10~+50℃, No freezing	
Ambient humidity	35~85% RH, No condensation	
Insulation resistance	≥20MΩ (500V DC)	
Impact resistance	50G(500m/s ²), XYZ three directions	
Certificate	IEC, EC	
Degree of protection	IP67	
Material	Housing: Antibacterial ABS; lens: PMMA	
Accessories	Bracket, mounting screws, reflector	
Model No.	NPN	ESQ-150N HOT
	PNP	ESQ-150P
		ESQ-400N
		ESQ-400P

Dimensions

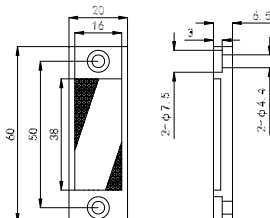
Unit: mm



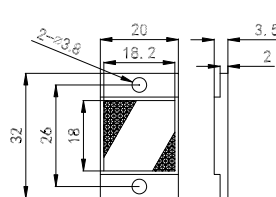
Reflector:



(Standard TD-13)



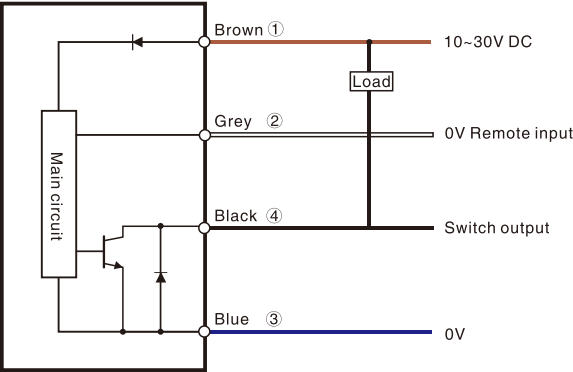
(Optional TD-14)



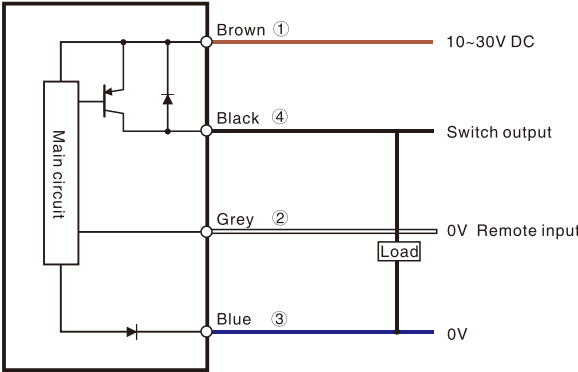
(Optional TD-15)

Circuit diagram

NPN Output



PNP Output



Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

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Contact

Area

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Annexes

Guidance

Laser sensors

Square

BGS

Transparent objects detection