



NEW!



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Basic Features	Working Principle	Photoelectric Sensor			
	Housing Style	Square			
	Optical Working Principle	Background suppression diffuse reflection			
	Detection Range	2~150mm	2~300mm(Matte White Paper)		
	Spot Size	–	Ø2mm/150m	Ø8mm/300mm	
	Detected Object	–			
	Light Source	Red LED 660nm(modulated)			
	Indicator Light	Operation Indicator: Green; Action Indicator: Red	Have	Operation Indicator: Green; Action Indicator: Red	
	Sensitivity Adjustment	6-turn Potentiometer			
Electrical data	Switching Mode	L.on (light-on action)/D.on (dark-on action) switchable			
	Output Mode	NPN or PNP collector open			
	Response Time	≤1ms			
	Switching Frequency	–			
	Repeatability	–			
	Hysteresis	≤5%	≤5%(Matte White Paper)	–	
	Operating Voltage	10~30V DC			
	Current Consumption	≤25mA	≤20mA		
	Residual Voltage	< 1.5V			
	Load Current	≤100mA			
	Insulation Resistance	20MΩ			
	Withstand Voltage	1000VAC (50/60Hz), 1 Minute between Power Terminal and Housing			
	Protection Circuit	Reverse Polarity Protection/ short Circuit Protection/surge Protection		Reverse Polarity Protection/short Circuit Protection/ surge Protection/Interference Light Protection	
	Environmental conditions	Operating Temperature	–25°C~+55°C		–10~70°C(No Freezing)
Storage Temperature		–30°C~+70°C		–25~80°C(No Freezing)	
Operating Humidity		35~85%RH(No Condensation)			
Storage Humidity		35~95%RH(No Condensation)			
Ambient Light		Incandescent Lamp ≤ 3000 Lux; Sunlight ≤ 10000 Lux			
Vibration Resistance		10~50Hz, amplitude 0.5mm, 2 hours each in X/Y/Z axes			
Mechanical data	Protection Rating	IP67			
	Maximum Tightening Torque	–			
	Connection Method	–			
	Dimensions	31*20*11mm			
	Material	PBT + Glass Fiber (Housing); PMMA (Lens)			
	Weight	0.05kg			
Model	Accessories	Screwdriver	Screwdriver, Bracket, Screws and Nuts	Screwdriver	
	NPN	ESB-BS15N	ESB-BS15AN	ESB-BS30N	ESB-BS30AN
	PNP	ESB-BS15P	ESB-BS15AP	ESB-BS30P	ESB-BS30AP

Fiber Optic
Slot Sensors
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Area
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AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Photoelectric

Cylindrical

IP69K high protection type

Square

Flat type

Thin type

BGS

Color/Mark Detection

TOF type

Reflectors

Reflectors

ESB Series



NEW!



Basic Features	Working Principle	Photoelectric Sensor	
	Housing Style	Square	
	Optical Working Principle	Background suppression diffuse reflection	
	Detection Range	1~100mm	1~300mm
	Spot Size	65x0.5mm/100mm	Ø8mm/300mm
	Detected Object	Ø5mm(at 50mm)	≤5mm
	Light Source	Red LED	Infrared LED 940nm(modulated)
	Indicator Light	Output Indicator Light: Orange; Light Source Indicator Light: Green	Output Function: Red LED, Operation Status: Green LED
	Sensitivity Adjustment	4-turn Potentiometer	6-turn Potentiometer
	Electrical data	Switching Mode	L.on (light-on action)/D.on (dark-on action) switchable
Output Mode		NPN or PNP collector open	
Response Time		≤0.3ms	1ms
Switching Frequency		≤2000Hz	2kHz
Repeatability		≤5%	
Operating Voltage		10~30V DC	
Current Consumption		≤20mA	≤25mA
Residual Voltage		<1V	≤1.5V
Load Current		100mA	≤100mA(30VDC)
Insulation Resistance		≥20MΩ(250V DC)	20MΩ
Withstand Voltage		≤0.1mA (1000V AC)	
Protection Circuit		Reverse Polarity Protection/short Circuit Protection/surge Protection/Interference Light Protection	Reverse Polarity Protection/short Circuit Protection/surge Protection
Environmental conditions		Operating Temperature	-30℃~+70℃(No Freezing)
	Storage Temperature	-30~70℃(No Freezing)	-30℃~+70℃
	Operating Humidity	35%~85%RH(No Condensation)	
	Storage Humidity	35%~95%RH	
	Ambient Light	Incandescent Lamp ≤ 5000 Lux; LED Lamp ≤2000 Lux; Sunlight ≤ 20000 Lux	Incandescent Lamp ≤ 3000 Lux; Sunlight ≤ 10000 Lux
	Vibration Resistance	10~50Hz, amplitude 1.5mm, 2 hours each in X/Y/Z axes	10~50Hz, amplitude 0.5mm, 2 hours each in X/Y/Z axes
	Protection Rating	IP66	IP65
Mechanical data	Maximum Tightening Torque	-	
	Connection Method	-	
	Dimensions	11.0x20.0x31.0mm	
	Material	Housing: ABS with Glass Fiber, Lens: PMMA	ABS with Glass Fiber
	Weight	0.044kg	0.049kg
	Accessories	Screwdriver	
Model	NPN	ESB-BL10N	ESB-BV30N
	PNP	ESB-BL10P	ESB-BV30P

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- Reflectors
 - Reflectors



Basic Features	Working Principle	Photoelectric Sensor	
	Housing Style	Square	
	Optical Working Principle	Background suppression diffuse reflection	
	Detection Range	White Paper:2~300mm	
	Spot Size	Ø16mm/300mm	
	Detected Object	-	5mm/0.05m
	Light Source	Red LED 623nm(modulated)	Blue LED 465nm(modulated)
	Indicator Light	Operation Indicator: Green; Action Indicator: Red	
	Sensitivity Adjustment	6-turn Potentiometer	
Electrical data	Switching Mode	L.on (light-on action)/D.on (dark-on action) switchable	
	Output Mode	NPN or PNP collector open	
	Response Time	≤1.5ms	
	Switching Frequency	≤500Hz	
	Repeatability	≤5%	
	Hysteresis	≤5%	
	Operating Voltage	10~30V DC	
	Current Consumption	≤25mA	≤20mA
	Residual Voltage	≤1.5V(100mA)	
	Load Current	≤100mA	
	Insulation Resistance	50MΩ	≥50MΩ(500VDC)
	Withstand Voltage	≤0.1mA (1000V AC)	
	Protection Circuit	Reverse Polarity Protection/short Circuit Protection/surge Protection/Interference Light Protection	
	Environmental conditions	Operating Temperature	-25°C~+55°C(No Freezing)
Storage Temperature		-30°C~+70°C(No Freezing)	
Operating Humidity		35%~85%RH(No Condensation)	
Storage Humidity		35%~95%RH(No Condensation)	
Ambient Light		Incandescent Lamp ≤ 3000 Lux; Sunlight ≤ 10000 Lux	
Vibration Resistance		10~55Hz, amplitude 1.5mm, 2 hours each in X/Y/Z axes	
Protection Rating		IP67	
Mechanical data	Maximum Tightening Torque	-	
	Connection Method	-	
	Dimensions	11.0x31.0x20.0mm	
	Material	PBT + Glass Fiber	
	Weight	0.045kg	
Accessories	Screwdriver		
Model	NPN	ESB-B30N	ESB-BY30N
	PNP	ESB-B30P	ESB-BY30P

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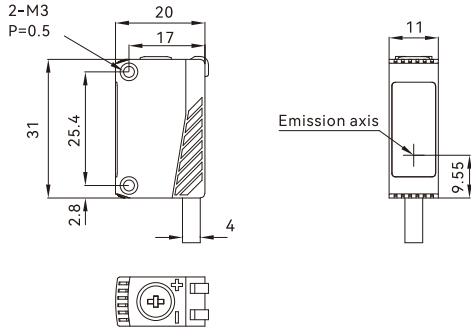
Color/Mark Detection

TOF type

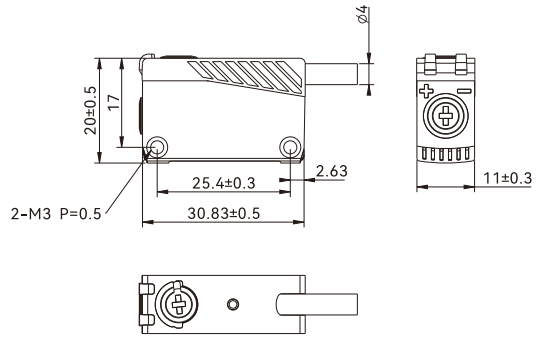
Reflectors

Reflectors

ESB-B30/BL10/BS15/BS30/BV30/BY30N(P)



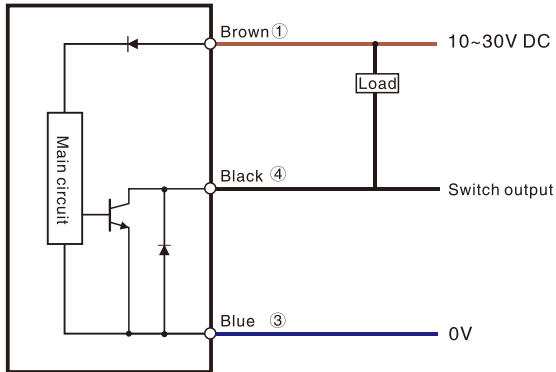
ESB-BS15AN/AP
ESB-BS30AN/AP



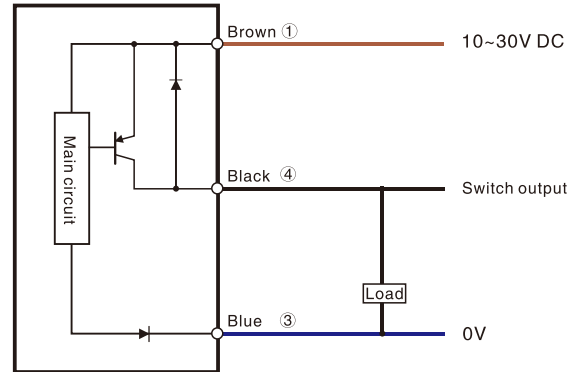
Circuit diagram

ESB-BS15AN/AP ESB-BS30AN/AP

NPN Output

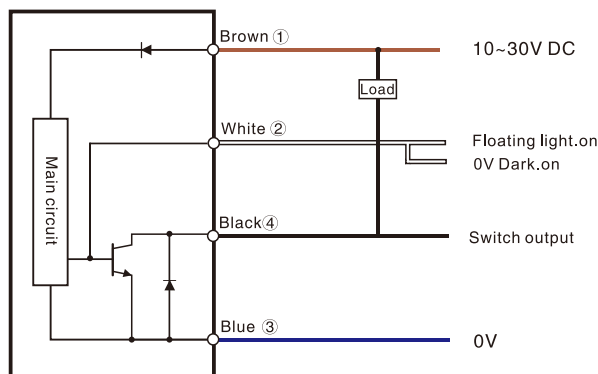


PNP Output

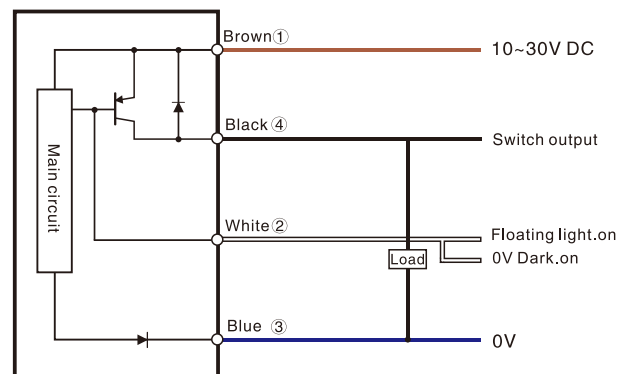


ESB-B30/BL10/BS15/BS30/BV30/BY30N(P)

NPN Output



PNP Output



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