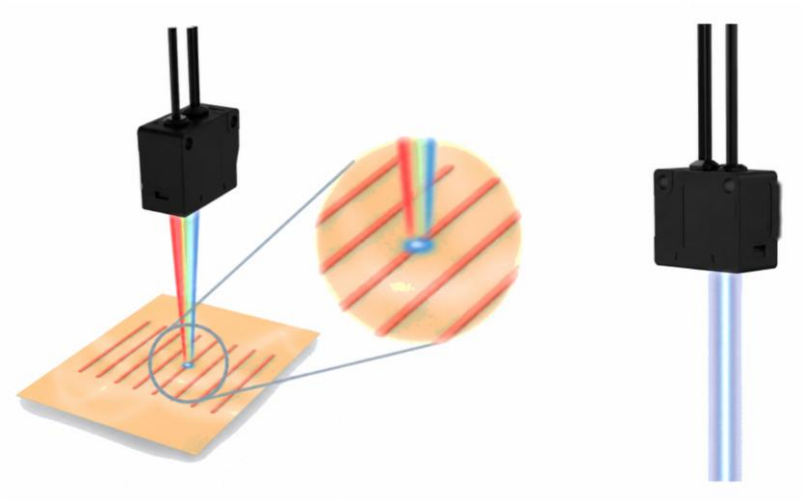
SensorsX

SX-OCPSB Series

Color Sensing Head for SX-OCCNB RGB Color Sensor Amplifier

Industrial Optical Sensor — Color Sensing Head



28 – 52 mm Detection Range —SX-OCPSBC35 (1.10 – 2.05 in)	**11 – 20 mm** Detection Range —SX-OCPSBC37 (0.43 – 0.79 in)	**Φ1 mm** Min. Spot Diameter —SX-OCPSBC37 (Φ0.04 in)
IP40 Ingress Protection	**Φ4.5 mm** Min. Spot Diameter —SX-OCPSBC35 (Φ0.18 in)	**2 m** Fiber & Cable Length (6.56 ft)

Color Discrimination | Registration Mark Detection | Component Orientation Verification — When Used with the SX-OCCNB Amplifier

■ PRODUCT OVERVIEW

The SensorsX SX-OCPSB series comprises compact color sensing heads designed for use with the SX-OCCNB RGB color sensor amplifier. Each head combines fiber-optic illumination with a built-in light-receiving circuit. When used with the amplifier, the system supports color discrimination, registration mark detection and chip orientation detection in embossed carrier tape.
Two models are available. The C35 provides a detection range of 28–52 mm, with a minimum spot diameter of 4.5 mm at a reference distance of 40 mm. The C37 provides a detection range of 11–20 mm, with a minimum spot diameter of 1 mm at a reference distance of 16 mm.

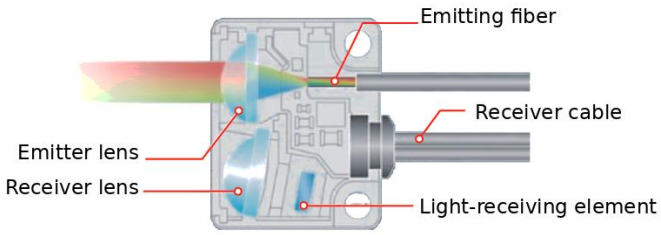


■ KEY FEATURES

- ◆ **Compact Dedicated Sensing Head** Small size; saves space and cost
- ◆ **Fiber Emitter** Composite structure produces a fine single light spot
- ◆ **Built-in Receiving Circuit** Improves detection capability and stability
- ◆ **Two Types** Large spot / long distance (SX-OCPSBC35); glare reduction small beam spot (SX-OCPSBC37)

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Sensing Head Structure



■ TYPICAL APPLICATIONS

- Detecting cups of different colors
- Detecting different color registration marks on material tape
- Detecting front / back of chips in embossed carrier tape

■ PERFORMANCE SPECIFICATIONS

SX-OCPSBC35 — Large Spot, Long Distance	
Detection Range	28 to 52 mm (1.10 to 2.05 in)
Min. Spot Diameter	Φ4.5 mm (Φ0.18 in) at 40 mm (1.57 in) reference distance
Fiber Min. Bending Radius	25 mm (0.98 in)
SX-OCPSBC37 —Glare Reduction, Small Beam Spot	
Detection Range	11 to 20 mm (0.43 to 0.79 in)
Min. Spot Diameter	Φ1 mm (Φ0.04 in) at 16 mm (0.63 in) reference distance
Fiber Min. Bending Radius	15 mm (0.59 in)

■ OPTICAL FIBER & CONNECTION SPECIFICATIONS

Electrical Connection	
Fiber	Φ2.2 mm (Φ0.09 in), length 2 m (6.56 ft)
Cable	2 × Φ1.7 mm (Φ0.07 in), single-core shielded, length 2 m (6.56 ft)
Connection	Connects to the SX-OCCNB amplifier (fiber to transmitting fiber port, connector to sensing-head connector port)

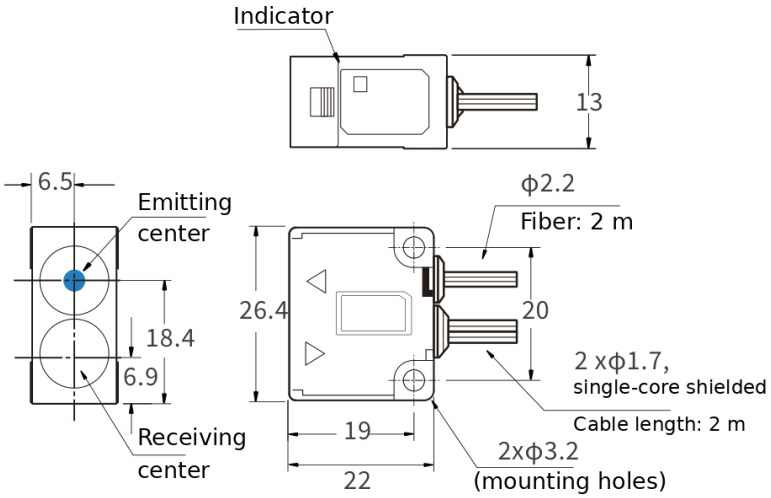
■ ENVIRONMENTAL SPECIFICATIONS

Temperature & Light	
Ambient Illuminance	Incandescent lamp: 10,000 lx max.; daylight: 20,000 lx max.
Ambient Temperature	−10 to +55 °C (14 to 131 °F), no condensation
Mechanical & Environmental	
Vibration Resistance	10 to 55 Hz, 1.5 mm (0.06 in) double amplitude, 2 h each in X, Y, Z directions
Ingress Protection	IP40
Weight & Housing	
Housing Material	PC
Lens Housing Material	SX-OCPSBC35: polyarylate; SX-OCPSBC37: PC (metal parts: type 304 stainless steel)
Weight (with 2 m cable)	SX-OCPSBC35: approx. 40 g (1.41 oz); SX-OCPSBC37: approx. 45 g (1.59 oz)

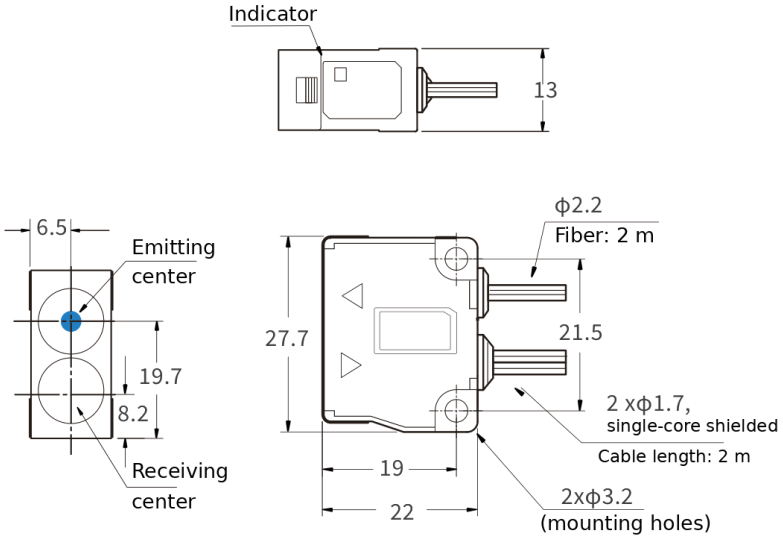
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■ MECHANICAL DIMENSIONS

SX-OCPSBC35



SX-OCPSBC37

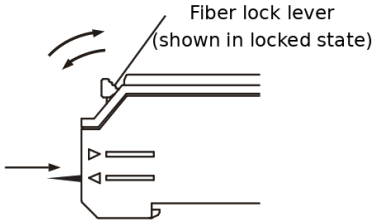


※ All dimensions in mm.
※ When the SX-OCCNB amplifier is used with the SX-OCPSBC35 sensing head and the target is a reflective surface, use the sensing head with a filter film and mount it tilted at approx. 15 – 45°.

■ INSTALLATION

Connecting the Sensing Head to the Amplifier

1. Tilt the fiber lock lever of the amplifier and insert the fiber cable. When using the SX-OCPSBC35 / SX-OCPSBC37 sensing heads, insert the fiber cable into the transmitting fiber port only. Insert the fiber fully to an insertion depth of approximately 20 mm, then secure it with the fiber lock lever.
2. Insert the sensing head connector into the corresponding sensing-head connector port of the amplifier.



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■ ORDERING INFORMATION — SX-OCPSB

Complete model number example: SX-OCPSBC35

Detection Range	
C35	28 – 52 mm (1.1 – 2.05 in)
C37	11 – 20 mm (0.43 – 0.79 in)
Customized (Optional)	
D	Customized — specify requirements in order remarks

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