Slim Plastic Single-Beam Area Sensors

BWP Series

CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.
The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Flat body (13 mm) area sensors with Fresnel lens
- High strength PC / ABS plastic body
- High-speed response time under 7ms
- 4 configurations (optical axis : 8 to 20, detection area : 140 to 380 mm)
- Operation test (emitter stop) function, mutual interference prevention function, Job indicator ON/FLASHING switch, Light ON/Dark ON operation mode switch
- Bright LED indicators on emitter and receiver
- IP40 protection structure (IEC standard)

Ordering Information

This is only for reference, the actual product does not support all combinations.
For selecting the specified model, follow the Autonics website.

BWP	20	-	❶	❷

❶ Number of optical axes
Number: Number of optical axes

❷ Control output
No-mark: NPN open collector output
P: PNP open collector output

Product Components

- Product
- Instruction manual

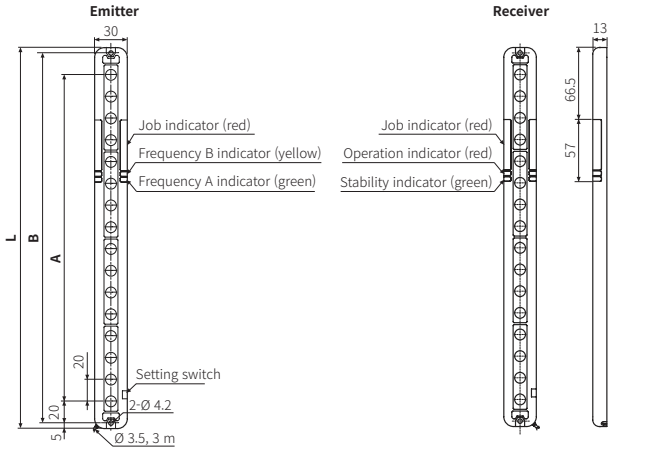
Specifications

Model	BWP20-08(P)	BWP20-12(P)	BWP20-16(P)	BWP20-20(P)
Sensing method	Through-beam			
Light source	Infrared LED (850 nm modulated light)			
Sensing distance	0.1 to 5.0 m			
Sensing target	Opaque material			
Min. sensing target	≥ Ø 30 mm			
Number of optical axes	8	12	16	20
Sensing height	140 mm	220 mm	300 mm	380 mm
Optical axis pitch	20 mm			
Response time	≤ 6 ms (frequency B: ≤ 7 ms)			
Operation mode	Light ON / Dark ON (switch)			
Functions	Emitter OFF, operation mode change, Job indicator ON / flashing			
Interference protection	Interference protection by transmission frequency selection			
Synchronization type	Timing method by synchronous line			
Indicator	Emitter: frequency A indicator (green), frequency B indicator (yellow) Receiver: operation indicator (red), stable indicator (green) Emitter / receiver: Job indicator (red)			
Approval	CE EAC		CE EAC	
Weight (packaged)	≈ 280 g (≈ 480 g)	≈ 320 g (≈ 520 g)	≈ 360 g (≈ 620 g)	≈ 430 g (≈ 680 g)

Power supply	12 - 24 VDC⎓ (ripple P-P: ≤ 10 %)
Current consumption	Emitter / receiver: ≤ 80 mA
Control output	NPN / PNP open collector output model
Load voltage	≤ 30 VDC⎓
Load current	≤ 150 mA
Residual voltage	NPN: ≤ 1 VDC⎓, PNP: ≤ 2.5 VDC⎓
Protection circuit	Reverse power protection circuit, output short overcurrent protection circuit
Insulation resistance	≥ 20 MΩ (500 VDC⎓ megger)
Noise immunity	± 240 V the square wave noise (pulse width: 1μs) by the noise simulator
Dielectric strength	1,000 VAC~ 50 / 60 Hz for 1minute
Vibration	1.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Shock	500 m/s² (≈ 50 G) in each X, Y, Z direction for 3 times
Ambient illumination (receiver)	Ambient light: ≤ 100,000 lx
Ambient temperature	-10 to 55 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Protection rating	IP40 (IEC standard)
Cable spec.	Ø 3.5 mm, 4-wire, 3 m
Wire spec.	AWG 24 (0.08 mm, 40-core), insulator diameter: Ø 1 mm
Material	Case: PC / ABS, sensing part: PMMA

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.
- When installing, use M4 bolts for mounting screws and tighten with a torque of 2 N m or less.



Model	Sensing height (A)	B	Product length (L)
BWP20-08(P)	140	180	190
BWP20-12(P)	220	260	270
BWP20-16(P)	300	340	350
BWP20-20(P)	380	420	430

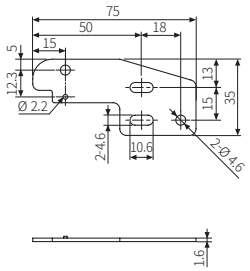
Sold Separately

- Flat bracket (BK-BWP-ST)
- L-shaped bracket (BK-BWP-L)
- Protection bracket (BK-BWP-P□)

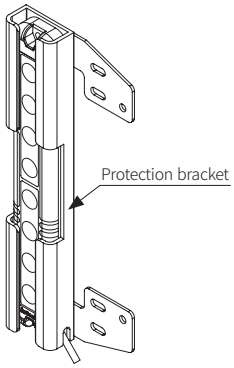
Sold Separately: Bracket

- Unit: mm, For the detailed drawings, follow the Autonics website.
- When using the flat bracket or L-shaped bracket, use the protection bracket first. When mounting the protection bracket, it is possible to install the flat / L-shaped bracket, close mounting is available.
- Flat / L-shaped brackets are sold as a set of two each emitter and receiver. (with M4 bolt × 8)

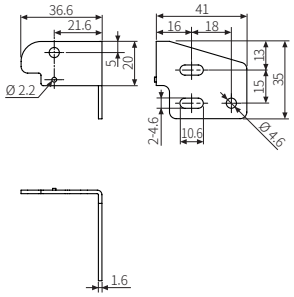
■ Flat bracket (BK-BWP-ST)



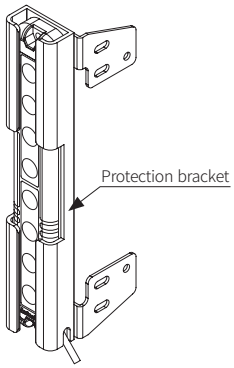
• Mounting



■ L-shaped bracket (BK-BWP-L)

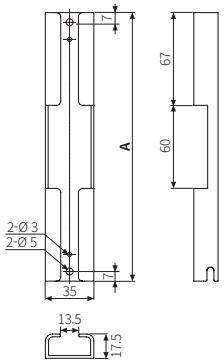


• Mounting



■ Protection bracket (BK-BWP-P□)

- Mount it from top to bottom of the product.
- The protection bracket is sold as a set of one each for emitter and receiver. (with M4 bolt × 4)



Model	A
BK-BWP-P08	194
BK-BWP-P12	274
BK-BWP-P16	354
BK-BWP-P20	434

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