

Single-Beam Area Sensors



BW 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

- 20 mm optical pitch minimizes non-detection area (BW20-□)
- Long sensing distance up to 7 m
- 22 configurations (number of optics : 4 to 48/optical pitch : 20, 40 mm /detection area : 120 to 940 mm)
- Mutual interference prevention function, self-diagnosis function, stable operation test
- Bright LED indicators on emitter and receiver
- Ambient illuminance : 100,000lux (upgraded feature)
- IP65 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.

BW ① - ② ③

① Optical axis pitch

Number: Optical axis pitch (unit: mm)

② Number of optical axes

Number: Number of optical axes

③ Control output

No-mark: NPN open collector output

P: PNP open collector output

Product Components

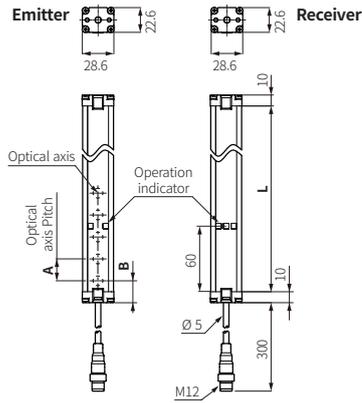
- Product × 1
- Instruction manual × 1
- Bracket A × 4
- Bracket B × 4
- Fixing bolt × 8

Specifications

Model	BW20-□(P)	BW40-□(P)
Sensing method	Through-beam	
Light source	Infrared LED (850 nm modulated light)	
Sensing distance	0.1 to 7.0 m	
Sensing target	Opaque material	
Min. sensing target	≥ Ø 30 mm	≥ Ø 50 mm
Number of optical axes	8 to 48	4 to 24
Sensing height	140 to 940 mm	120 to 920 mm
Optical axis pitch	20 mm	40 mm
Response time	≤ 10 ms	
Operation mode	Light ON	
Functions	Emitter OFF (external diagnosis), self-diagnosis	
Interference protection	Interference protection by MASTER / SLAVE function ⁰¹⁾	
Synchronization type	Timing method by synchronous line	
Indicator	Emitter: Operation indicator (green, red), receiver: Operation indicator (red, yellow, green)	
Approval	CE EAC	CE EAC
Weight (packaged)	≈ 1.4 kg (≈ 2.1 kg) (based on BW20-48)	≈ 1.4 kg (≈ 2.1 kg) (based on BW40-24)
<small>01) Connect '(TEST)M/S' of SLAVE emitter to 'SYNC' of MASTER. Refer to the product manual.</small>		
Power supply	12 - 24 VDC≐ (ripple P-P: ≤ 10 %)	
Current consumption	Emitter / receiver: ≤ 120 mA	
Control output	NPN or PNP open collector output	
Load voltage	≤ 30 VDC≐	
Load current	≤ 100 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/s ² (≈ 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	IP65 (IEC standard)	
Cable spec.	Ø 5 mm, 4-wire, 300 mm	
Connector spec.	M12 plug connector	
Material	Case: AL, front cover and sensing part: acryl	

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.



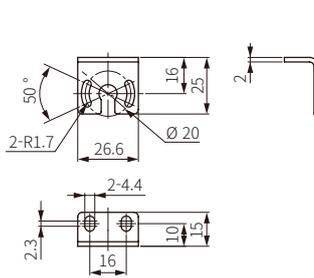
Optical axis Pitch (A, B) 20 mm

Model	Product length (L)	Num. of optical axes	Sensing height
BW20-08(P)	160	8	140 mm
BW20-12(P)	240	12	220 mm
BW20-16(P)	320	16	300 mm
BW20-20(P)	400	20	380 mm
BW20-24(P)	480	24	460 mm
BW20-28(P)	560	28	540 mm
BW20-32(P)	640	32	620 mm
BW20-36(P)	720	36	700 mm
BW20-40(P)	800	40	780 mm
BW20-44(P)	880	44	860 mm
BW20-48(P)	960	48	940 mm

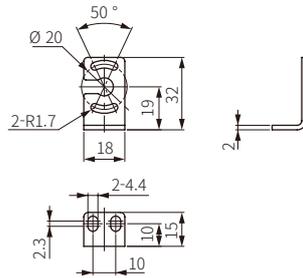
Optical axis Pitch (A, B) 40 mm

Model	Product length (L)	Num. of optical axes	Sensing height
BW40-04(P)	160	4	120 mm
BW40-06(P)	240	6	200 mm
BW40-08(P)	320	8	280 mm
BW40-10(P)	400	10	360 mm
BW40-12(P)	480	12	440 mm
BW40-14(P)	560	14	520 mm
BW40-16(P)	640	16	600 mm
BW40-18(P)	720	18	680 mm
BW40-20(P)	800	20	760 mm
BW40-22(P)	880	22	840 mm
BW40-24(P)	960	24	920 mm

Bracket A



Bracket B

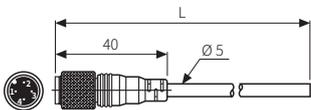


Sold Separately

- Connection cable: CID4-□T(R) (1 set - emitter and receiver)

Sold Separately: Connection Cable

- Connecting cable is as one set; each of emitter's and receiver's.



Type	Model	L	Cable color
Emitter	CID4-□T	3 / 5 / 7 / 10 / 15 m	Black
Receiver	CID4-□R	3 / 5 / 7 / 10 / 15 m	Gray