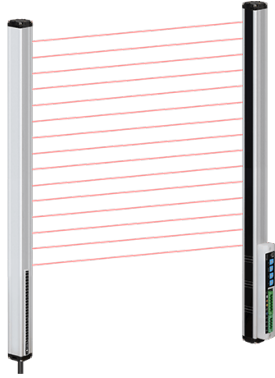# Double-Scan Mapping Sensors

BWM Series (CC-LINK)
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

- Stable glass substrate detection with using double scan method (patent)
- Sensing distance: glass G size +30 %
- Customized models available
  : sensing channels (4 to 62 channels), optical axis pitch (25 to 200 mm) (patent)
- Communication output: CC-Link (ver 1.1, 2.0), EtherCAT
- Easy installation with installation instruction mode
- Mutual interference prevention, bent optical axis alarm, 9-stage sensing level setting, emitter error alarm
- Bright status indicators on slave units

CE EHC CC-LINK

Ordering Information

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

| BWM | ❶ | - | ❷ | CL | ❸ | - | ❹ | ❺ |

❶ Optical axis pitch
Number: Optical axis pitch (≥ 25 mm)

❷ Sensing CH
Number: 4 to 62 CH

❸ Operation mode
L: Light ON
D: Dark ON

❹ External device connection mode
No-mark: Connector type
T: Terminal type

❺ CH ordering orientation
No-mark: Forward (bottom = 1 CH)
R: Backward (top = 1 CH)

Product Components

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

Specifications

| Model	BWM
Sensing method	Through-beam
Beam pattern	Double scan type
Light source	Infrared LED (850 nm modulated light)
Sensing distance	Glass + 30 %
Sensing target	Transparent or opaque glass plate
CH ordering orientation [01]	Forward (bottom = 1 CH) / Backward (top = 1 CH)
Sensing CH [01]	4 to 62 CH
Optical axis pitch [01]	25 to 200 mm
Response time	≤ 120 ms
Operation mode [01]	Light ON / Dark ON
Function	Installation guide mode, sensing level setting, optical axis misalignment alarm (low light intensity alarm), emitter damage alarm, self-diagnosis
Interference protection	Interference protection by transmission frequency selection
Synchronization type	Timing method by synchronous line
Indicator	Output indicator (red), stability indicator (green), status indicator (green, yellow, red)
Approval	CE CC-LINK
Weight (packaged)	≈3.2 kg (≈ 5.3 kg) (based on BWM82-24CLD-T)

01) This product is order made.

Power supply	24 VDC⎓ (ripple P-P: ≤ 10 %)
Current consumption	Master: ≤ 200 mA, slave: ≤ 150 mA
Control output	CC-LINK
Version	CC-LINK Ver 1.1 / CC-LINK Ver 2.0
Type of station	Remote Device Station
Extended cyclic	CC-LINK Ver 1.1: - / CC-LINK Ver 2.0: 1 time (single)
Number of occupied stations	1 station 32-point module, 2 station 64-point module
Transmission speed	156 kbps / 625 kbps / 2.5 Mbps / 5 Mbps / 10 Mbps
Max. number of connection [01]	42-unit
Number of I/O points	1 station: 32-point (I/O allocation), 2 station: 64-point (I/O allocation)
Protection circuit	Reverse power protection circuit, output short overcurrent protection circuit
Insulation resistance	≥ 20 MΩ (500 VDC⎓ megger)
Noise immunity	The square wave noise by the noise simulator (voltage: 500 V, period: 10 ms, pulse width: 1 us)
Dielectric strength	Between all power input terminals and F.G. terminal : 500 VAC~ 50 / 60 Hz for 1 min Between all CC-LINK communication input terminals and F.G. terminal: 1,000 VAC~ 50 / 60 Hz for 1 min Between all power input terminals and CC-LINK communication input terminals: 1,000 VAC~ 50 / 60 Hz for 1 min
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	210 m/s² (≈ 21 G) in each X, Y, Z direction for 3 times
Ambient illumination	Light bulb: 5,000 lx, semiconductor: 5,000 lx
Ambient temperature	15 to 35 °C, storage: 15 to 35 °C (no freezing or condensation)
Ambient humidity	35 to 85 %, storage: 35 to 85 % (no freezing or condensation)
Cable spec.	Ø 5 mm, 6-wire, 250 mm
Connector spec.	M17 plug connector
Output connector spec.	Connector type: 4-pin, 6-pin connector (5.08 mm pitch) / terminal type: 10-pin terminal
Material	Case: AL / ABS, sensing part and Indicator part: PMMA

01) The number of connectable units = $16 \times A + 54 \times B + 88 \times C \leq 2304$
 - A: remote I/O station, max. 64 units
 - B: remote device station, max. 42 units
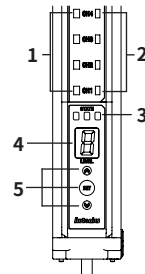 - C: local, intelligent station, max. 26 units

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.
- Length of the product can be different by its ordered specification. Refer to the followings.
  length of the product (L) = 105 + {optical axis pitch (P) × (sensing CH - 1)}
  A: 65 to 85 mm, B: 45 to 65 mm

Slave Master

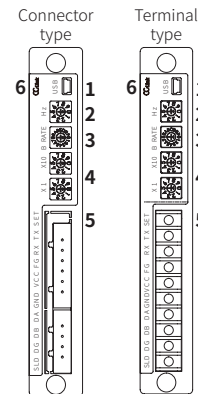■ Bracket A   ■ Bracket B
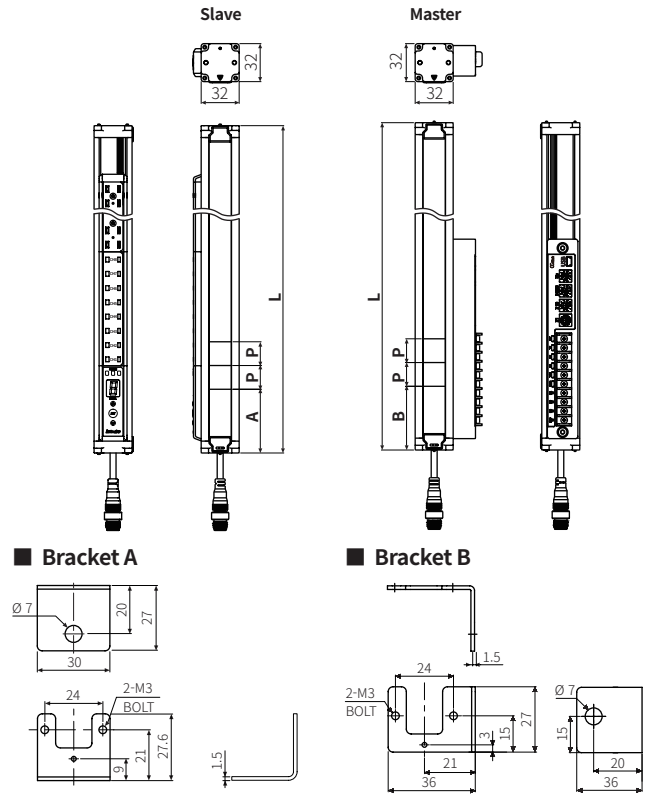
Unit Descriptions

■ Slave

| 1	Output indicator (red)
2	Stability indicator (green)
3	Status indicator (green, yellow, red)
4	Status display
5	Mode setting key

■ Master

Connector type   Terminal type

1	USB port: This port is only for firmware upgrade, run mode change, and A/S. Do not use this port for the another purpose, or the product can malfunction.
2	Frequency setting switch (Hz): This switch is for setting mutual interference prevention function.
3	Comm. speed setting switch (B RATE): You can set CC-LINK communication speed.
4	Comm. address setting switch: You can set CC-LINK address. (×10: 10^1, ×1: 10^0)
5	Output part
6	Comm. status indicator: It displays the communication status through LED.

Sold Separately

• Connection cable: C5D617-□P

Sold Separately: Connection cable
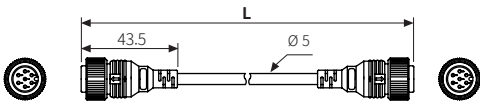
Model	L
C5D617-7P	7 m
C5D617-10P	10 m
C5D617-15P	15 m