

# Selection Guide


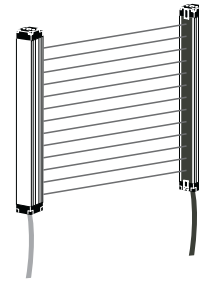
## AREA SENSOR(BW SEREIS)

### Ordering information

**BW 20 - 08 P**

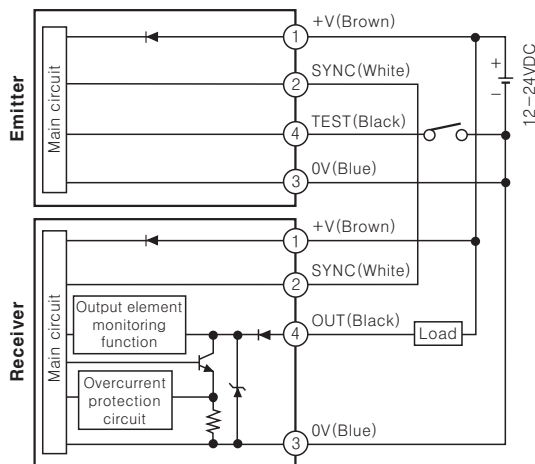
|                        |          |                           |
|------------------------|----------|---------------------------|
| Solid state output     | P        | NPN open collector output |
|                        |          | PNP open collector output |
| Number of optical axis | 04~48pcs |                           |
| Optical axis pitch     | 20       | 20mm Pitch                |
|                        | 40       | 40mm Pitch                |
| Series                 |          |                           |

### Specifications

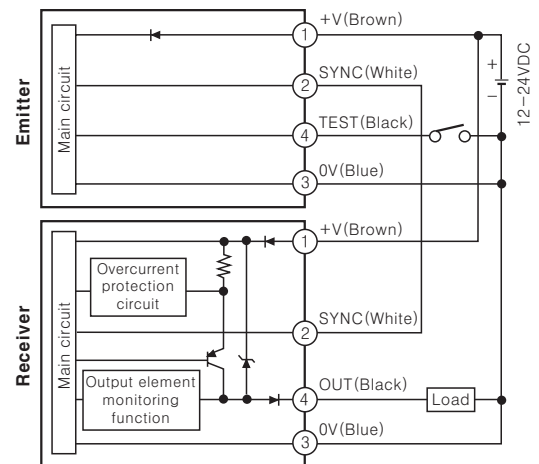
| Sensing type             |   | Transmitted beam type   |          |          |          |   |          |          |          |
|--------------------------|---|---|----------|----------|----------|---|----------|----------|----------|
| Model                    | NPN open collector output (Standard type) | BW20-08   | BW20-20  | BW20-32  | BW20-44  | BW40-04   | BW40-10  | BW40-16  | BW40-22  |
|                          | PNP open collector output                 | BW20-12   | BW20-24  | BW20-36  | BW20-48  | BW40-06   | BW40-12  | BW40-18  | BW40-24  |
|                          |   | BW20-16   | BW20-28  | BW20-40  |          | BW40-08   | BW40-14  | BW40-20  |          |
|                          |   | BW20-08P  | BW20-20P | BW20-32P | BW20-44P | BW40-04P  | BW40-10P | BW40-16P | BW40-22P |
|                          |   | BW20-12P  | BW20-24P | BW20-36P | BW20-48P | BW40-06P  | BW40-12P | BW40-18P | BW40-24P |
|                          |   | BW20-16P  | BW20-28P | BW20-40P |          | BW40-08P  | BW40-14P | BW40-20P |          |
| Appearances              |   |  <p>●Optical axis pitch : 20mm</p>   |          |          |          |  <p>●Optical axis pitch : 40mm</p> |          |          |          |
|                          |   | [W28.5×H22.5×L□mm]  |          |          |          |   |          |          |          |
| Sensing distance         |   | 0.1 ~ 7m  |          |          |          |   |          |          |          |
| Sensing target           |   | Opaque materials of min. $\phi$ 30mm  |          |          |          | Opaque materials of min. $\phi$ 50mm  |          |          |          |
| Optical axis pitch       |   | 20mm  |          |          |          | 40mm  |          |          |          |
| Number of optical axis   |   | 8~48pcs   |          |          |          | 4~24pcs   |          |          |          |
| Sensing width            |   | 140~940mm   |          |          |          | 120~920mm   |          |          |          |
| Pointing angle           |   | Within $\pm 5^\circ$ (At over 3m sensing distance)  |          |          |          |   |          |          |          |
| Power supply             |   | 12~24VDC $\pm 10\%$ (Ripple P-P:Max. 10%)   |          |          |          |   |          |          |          |
| Protection circuit       |   | Reverse polarity protection   |          |          |          |   |          |          |          |
| Current consumption      |   | Emitter : Max. 80mA, Receiver : Max. 80mA   |          |          |          |   |          |          |          |
| Control output           |   | <ul style="list-style-type: none"> <li>• NPN open collector output <math>\Rightarrow</math> Load voltage:Max. 30VDC, Load current:Max. 100mA, Residual voltage:Max. 1VDC</li> <li>• PNP open collector output <math>\Rightarrow</math> Load current:Max. 100mA, Output voltage:Min.(Power supply-2.5)VDC</li> </ul> |          |          |          |   |          |          |          |
| Operation mode           |   | Light ON only   |          |          |          |   |          |          |          |
| Short-circuit protection |   | Includes  |          |          |          |   |          |          |          |
| Response time            |   | Min. 12ms   |          |          |          |   |          |          |          |
| Light source             |   | Infrared LED(850nm modulated)   |          |          |          |   |          |          |          |
| Synchronization type     |   | Timing method by synchronous line   |          |          |          |   |          |          |          |
| Self-diagnosis           |   | Ambient light monitoring, Emitter/Receiver light circuit monitoring, Output circuit monitoring  |          |          |          |   |          |          |          |

### Input/Output circuit and connection diagram

#### ●NPN open collector output type

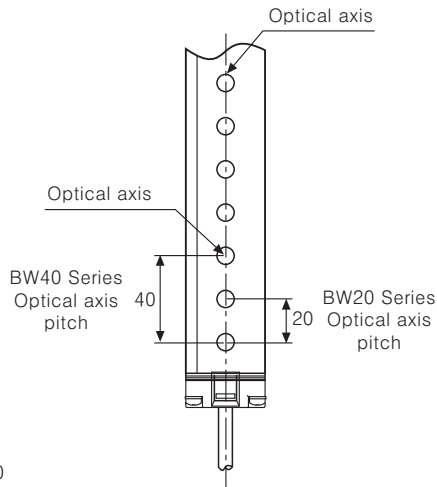
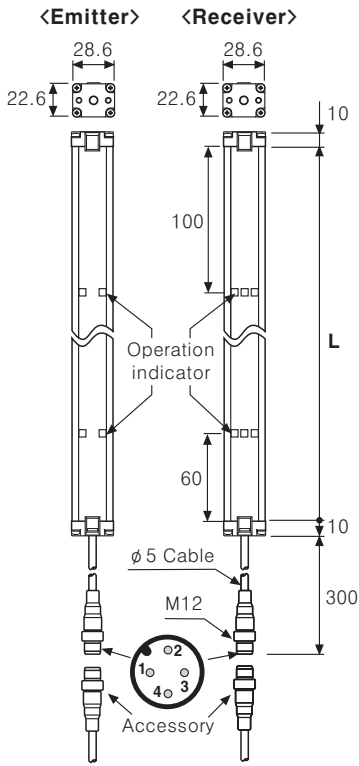


#### ●PNP open collector output type



## AREA SENSOR(BW SERIES)

### ■ Dimensions



| Model      | L(mm) | Model      | L(mm) |
|------------|-------|------------|-------|
| BW20-08(P) | 160mm | BW20-32(P) | 640mm |
| BW40-04(P) |       | BW40-16(P) |       |
| BW20-12(P) | 240mm | BW20-36(P) | 720mm |
| BW40-06(P) |       | BW40-18(P) |       |
| BW20-16(P) | 320mm | BW20-40(P) | 800mm |
| BW40-08(P) |       | BW40-20(P) |       |
| BW20-20(P) | 400mm | BW20-44(P) | 880mm |
| BW40-10(P) |       | BW40-22(P) |       |
| BW20-24(P) | 480mm | BW20-48(P) | 960mm |
| BW40-12(P) |       | BW40-24(P) |       |
| BW20-28(P) | 560mm |            |       |
| BW40-14(P) |       |            |       |

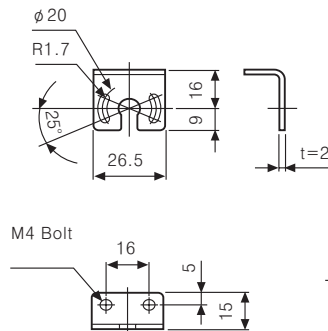
< Operation indicator >

| LED color | Emitter   | Receiver |
|-----------|-----------|----------|
| Green     | POWER     | ON       |
| Yellow    | TEST(M/S) | UNSTABLE |
| Red       | —         | OFF      |

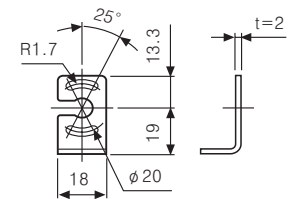
< Wiring Connection >

| Pin No | Cable color | Emitter   | Receiver |
|--------|-------------|-----------|----------|
| 1      | Brown       | 12-24VDC  | 12-24VDC |
| 2      | White       | SYNC      | SYNC     |
| 3      | Blue        | 0V        | 0V       |
| 4      | Black       | TEST(M/S) | OUT      |

● Bracket A



● Bracket B

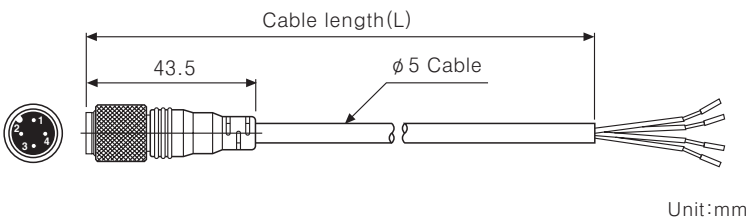


M4 Bolt

M4 Bolt

Unit:mm

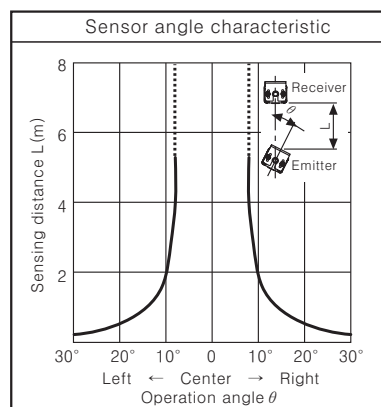
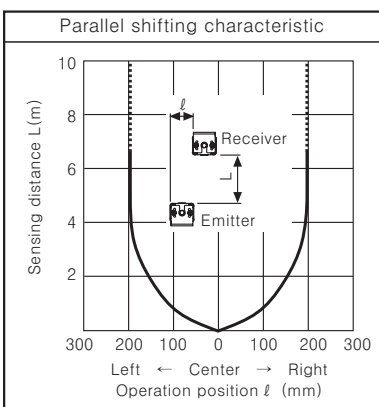
### ■ Connecting cable(Sold separately)



| Model     | Cable length(L) | Connector color                          |
|-----------|-----------------|--|
| CID4-3-T  | 3m              | Emitter(T) : BLACK<br>Receiver(R) : GRAY |
| CID4-3-R  |                 |  |
| CID4-5-T  | 5m              |  |
| CID4-5-R  |                 |  |
| CID4-7-T  | 7m              |  |
| CID4-7-R  |                 |  |
| CID4-10-T | 10m             |  |
| CID4-10-R |                 |  |

\*Connecting cable is sold separately.

### ■ Feature data



# Selection Guide

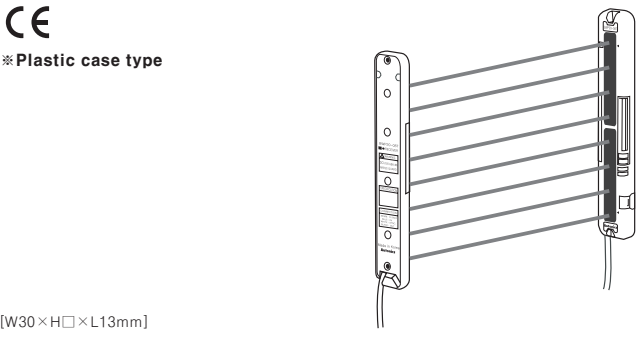
## AREA SENSOR(BWP SERIES)

### Ordering information

**BWP 20 - 08 T P**

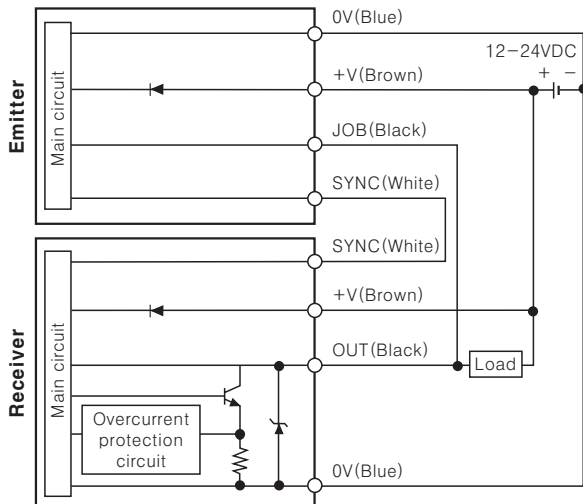
|                          |        |                           |
|--------------------------|--------|---------------------------|
| Output                   |        | NPN open collector output |
|                          | P      | PNP open collector output |
| Appearance               | T      | Transmitted beam          |
|                          | R      | Retroreflective           |
| Number of optical axis   | Number | 8, 12, 16, 20 axis        |
| Optical axis pitch       | 20     | 20mm Pitch                |
| Plastic case area sensor |        |                           |

### Specifications

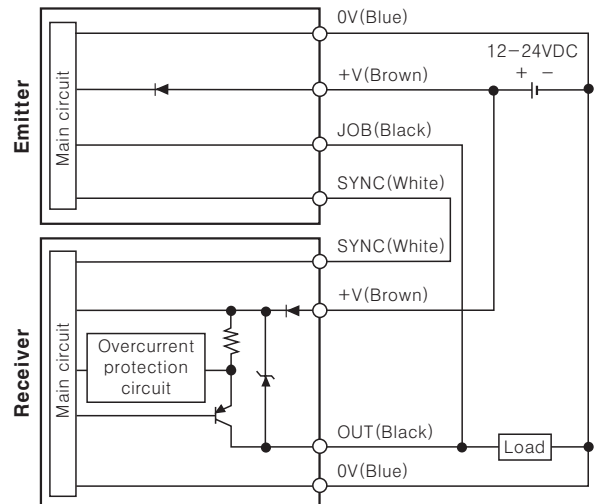
| Type                     |                           | Area sensor   |                  |                  |                  |
|--------------------------|---------------------------|---|------------------|------------------|------------------|
|                          |                           | Transmitted beam type   |                  |                  |                  |
| Model                    | NPN open collector output | <b>BWP20-08</b>   | <b>BWP20-12</b>  | <b>BWP20-16</b>  | <b>BWP20-20</b>  |
|                          | PNP open collector output | <b>BWP20-08P</b>  | <b>BWP20-12P</b> | <b>BWP20-16P</b> | <b>BWP20-20P</b> |
| Appearances              |                           |  <p>Optical axis : 20mm</p>   |                  |                  |                  |
| Sensing distance         |                           | 0.1 ~ 5m  |                  |                  |                  |
| Sensing target           |                           | Opaque materials of min. $\phi$ 30mm  |                  |                  |                  |
| Optical axis pitch       |                           | 20mm  |                  |                  |                  |
| Number of optical axis   |                           | 8 pcs   | 12 pcs           | 16 pcs           | 20 pcs           |
| Sensing width            |                           | 140mm   | 220mm            | 300mm            | 380mm            |
| Pointing angle           |                           | Within $\pm 5^\circ$ (At over 3m sensing distance)  |                  |                  |                  |
| Power supply             |                           | 12-24VDC $\pm 10\%$ (Ripple P-P:Max. 10%)   |                  |                  |                  |
| Protection circuit       |                           | Reverse polarity protection   |                  |                  |                  |
| Current consumption      |                           | Emitter : Max. 80mA, Receiver : Max. 80mA   |                  |                  |                  |
| Control output           |                           | <ul style="list-style-type: none"> <li>●NPN open collector output <math>\Rightarrow</math> Load voltage:Max. 30VDC, Load current:Max. 150mA, Residual voltage:Max. 1VDC</li> <li>●PNP open collector output <math>\Rightarrow</math> Load current:Max. 150mA, Output voltage:Min.(Power supply-2.5)VDC</li> </ul> |                  |                  |                  |
| Operation mode           |                           | Light ON/Dark ON  |                  |                  |                  |
| Short-circuit protection |                           | Includes  |                  |                  |                  |
| Response time            |                           | Min. 6ms(Within 7ms when selecting frequency B)   |                  |                  |                  |
| Light source             |                           | Infrared LED(850nm modulated)   |                  |                  |                  |
| Synchronization type     |                           | Timing method by synchronous line   |                  |                  |                  |
| Self-diagnosis           |                           | Anti-interference by selecting transmittance frequency  |                  |                  |                  |

### Input/Output circuit and connection diagram

#### ●NPN open collector output type



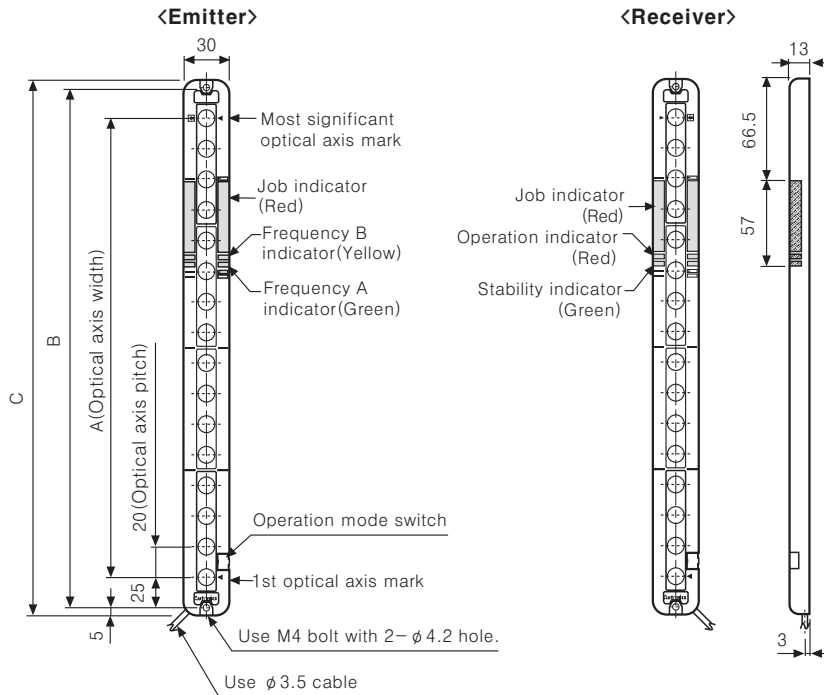
#### ●PNP open collector output type



※ If the receiver OUT(Black) line and the emitter JOB(Black) line are not connected each other, the JOB indicator of the emitter is not operated and maintain the light status.

## AREA SENSOR(BWP SERIES)

### Dimensions



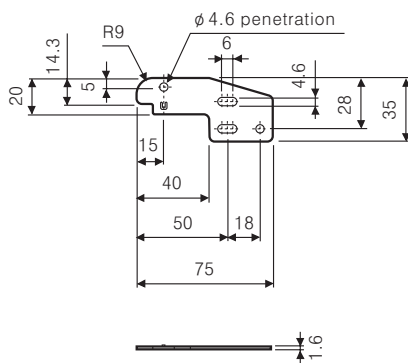
| Application model | A   | B   | C   |
|-------------------|-----|-----|-----|
| BWP20-08          | 140 | 180 | 190 |
| BWP20-12*         | 220 | 260 | 270 |
| BWP20-16          | 300 | 340 | 350 |
| BWP20-20*         | 380 | 420 | 430 |

Unit:mm

### Mounting of bracket

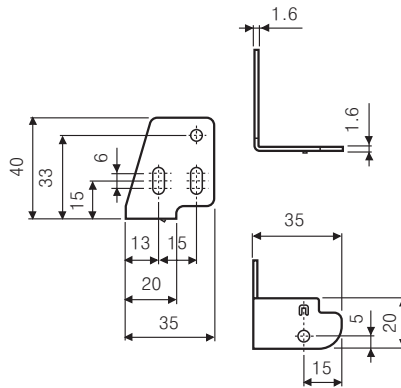
#### ●BK-BWP-ST(Equilibrium bracket)

Sold separately



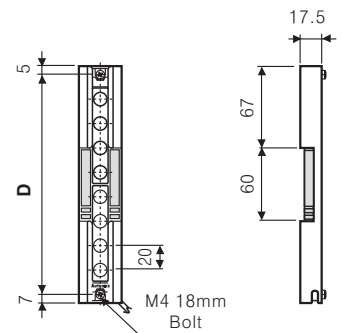
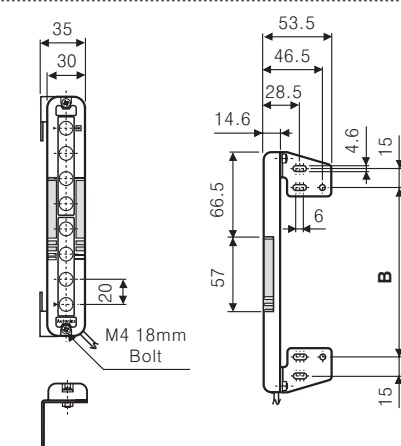
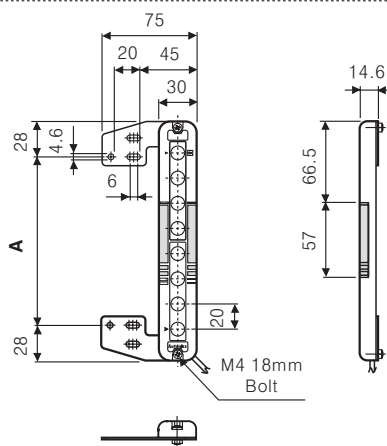
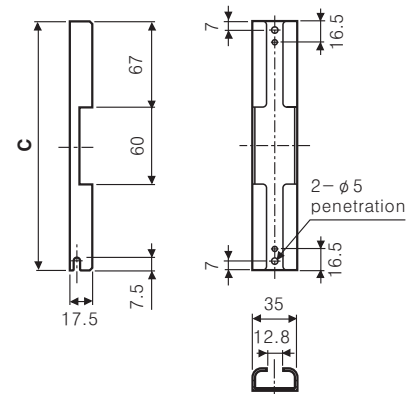
#### ●BK-BWP-L(L-shaped bracket)

Sold separately



#### ●BK-BWP-P(Protection bracket)

Sold separately



※It is enable to mount balanced or L-shaped bracket together.

| Application model | A[mm] | B[mm] | BK-BWP-P      |       |       |
|-------------------|-------|-------|---------------|-------|-------|
|                   |       |       | Bracket model | C[mm] | D[mm] |
| BWP20-08          | 134   | 160   | BK-BWP-P08    | 194   | 180   |
| BWP20-12          | 214   | 240   | BK-BWP-P12    | 274   | 260   |
| BWP20-16          | 294   | 320   | BK-BWP-P16    | 354   | 340   |
| BWP20-20          | 374   | 400   | BK-BWP-P20    | 434   | 420   |

※Bracket is sold separately.


# Selection Guide

## PICKING SENSOR(BWPK SERIES)

### Ordering information

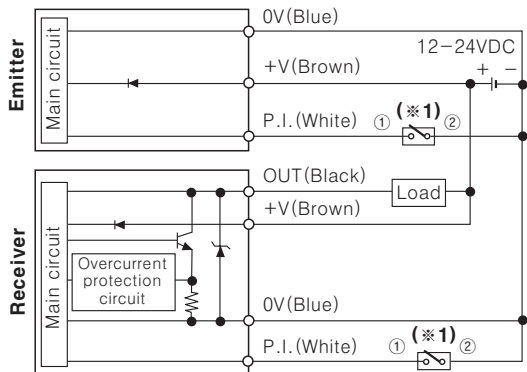
|            |          |           |          |          |                           |
|------------|----------|-----------|----------|----------|---------------------------|
| <b>BWP</b> | <b>K</b> | <b>25</b> | <b>-</b> | <b>P</b> |                           |
|            |          |           |          |          | Output                    |
|            |          |           |          | P        | NPN open collector output |
|            |          |           |          |          | PNP open collector output |
|            |          |           |          |          | Optical axis pitch        |
|            |          | 25        |          |          | 25mm Pitch                |
|            |          |           |          |          | Case                      |
|            |          |           |          | K        | Picking                   |
|            |          |           |          |          | Photoelectric sensor      |
|            |          |           | BWP      |          | Area sensor               |

### Specifications

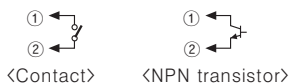
|                          |   |                    |
|--------------------------|---|--------------------|
| Type                     | Area sensor   |                    |
|                          | Transmitted beam type   |                    |
| Model                    | NPN open collector output   | <b>BWPK-25-05</b>  |
|                          | PNP open collector output   | <b>BWPK-25-05P</b> |
| Appearances              |   |                    |
|                          | [W30×H140×L9.9mm]   |                    |
| Sensing distance         | Long-mode   | 0.1 ~ 3m           |
|                          | Short-mode  | 0.05 ~ 1m          |
| Sensing target           | Opaque materials of min. $\phi$ 35mm  |                    |
| Optical axis pitch       | 25mm  |                    |
| Number of optical axis   | 5 pcs   |                    |
| Detecting width          | 100mm   |                    |
| Power supply             | 12-24VDC $\pm$ 10% (Ripple P-P:Max. 10%)  |                    |
| Protection circuit       | Reverse polarity protection   |                    |
| Current consumption      | Emitter : Max. 50mA, Receiver : Max. 50mA   |                    |
| Control output           | <ul style="list-style-type: none"> <li>●NPN open collector output <math>\Rightarrow</math> Load voltage:Max. 30VDC, Load current:Max. 150mA, Residual voltage:Max. 1VDC</li> <li>●PNP open collector output <math>\Rightarrow</math> Load current:Max. 150mA, Output voltage:Min.(Power supply-2.5)VDC</li> </ul> |                    |
| Operation mode           | Light ON/Dark ON  |                    |
| Short-circuit protection | Includes  |                    |
| Response time            | Min. 3ms  |                    |
| Light source             | Infrared LED(850nm modulated)   |                    |
| Synchronization type     | Timing method by synchronous line   |                    |
| Self-diagnosis           | Anti-interference by selecting transmittance frequency  |                    |

### Input/Output circuit and connection diagram

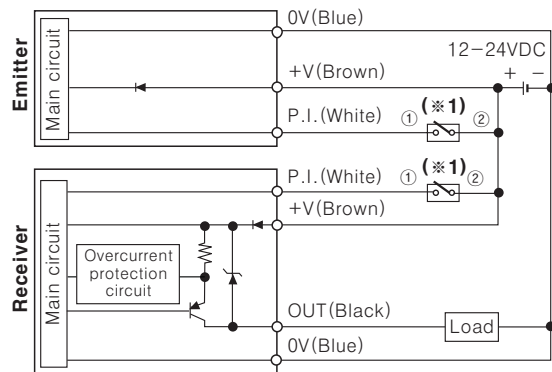
#### ●NPN open collector output type



(※1) Picking input (P.I) : Contact or transistor are ON.  
Picking indicator us operated.



#### ●PNP open collector output type



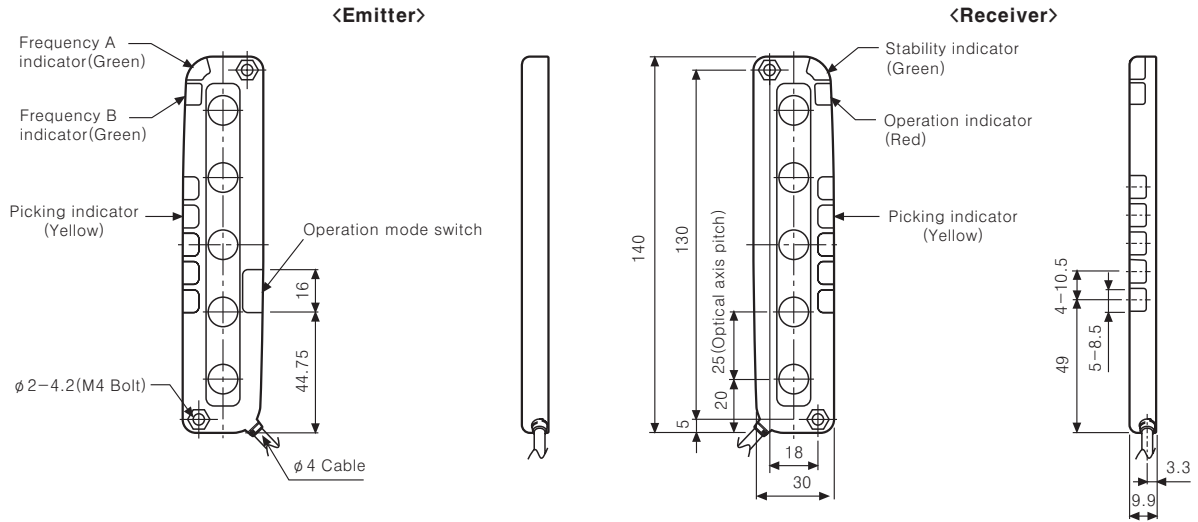
(※1) Picking input (P.I) : Contact or transistor are ON.  
Picking indicator us operated.



\*Picking indicator:When external picking input (P.I) is short-circuited with OUT(Black), it is operated same as ON/OFF status of control output.

## PICKING SENSOR(BWPK SERIES)

### Dimensions

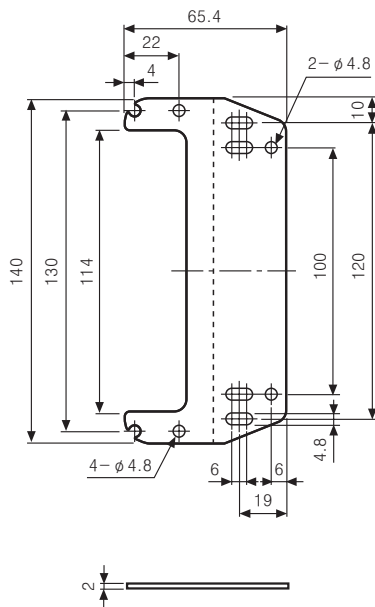


### Mounting of bracket

Unit:mm

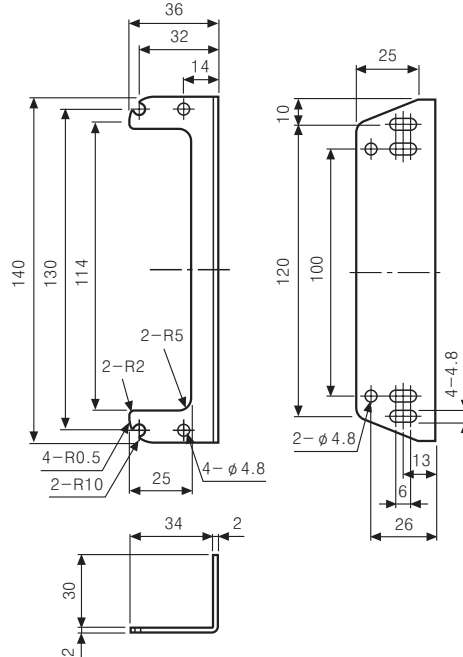
#### Bracket A (BK-BWPK-ST)

Sold separately



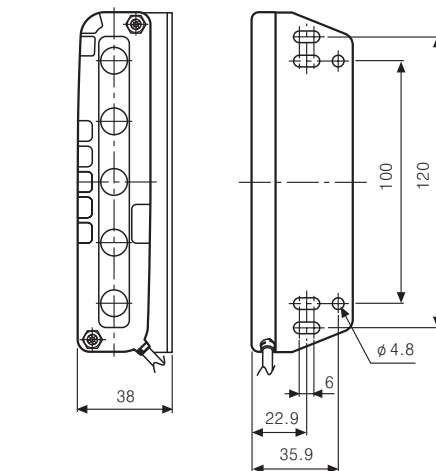
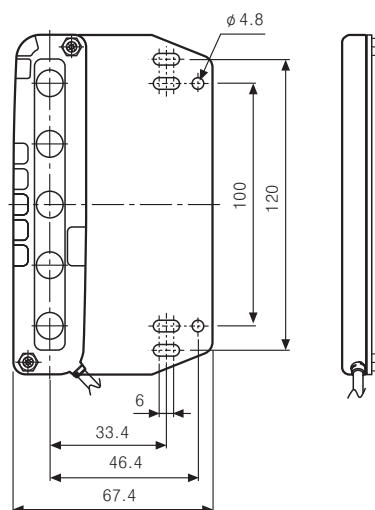
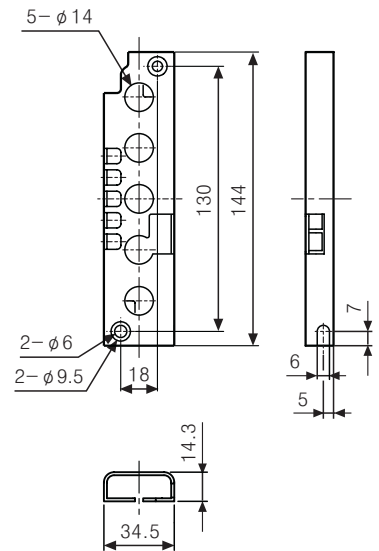
#### Bracket B (BK-BWPK-L)

Sold separately

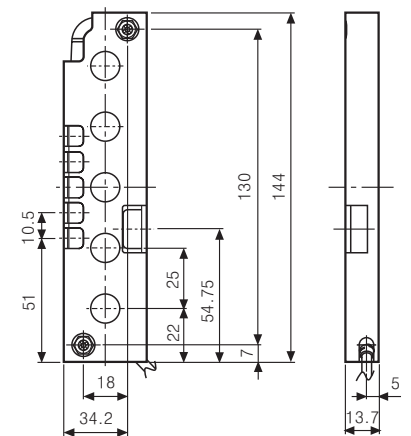


#### Protection bracket (BK-BWPK-P)

Sold separately



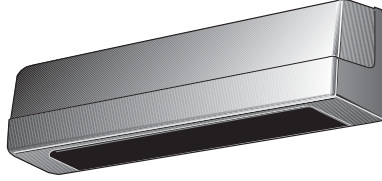
#### Emitter / Receiver



# Selection Guide

## DOOR SENSOR(ADS-A SERIES)

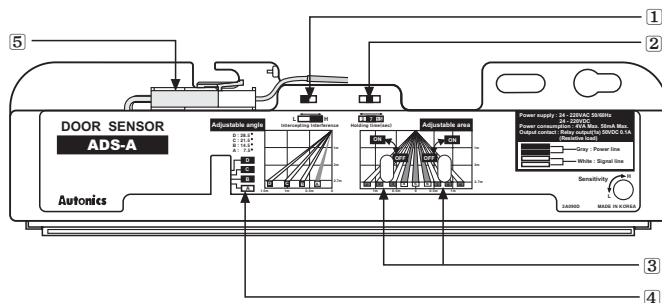
### Specifications

| Model                   | ADS-AF  | ADS-AE  |
|-------------------------|---|---|
| Appearances             | <br>[W224×H60×L26mm]                  |   |
| Cover color             | Silver  |   |
| Power supply            | 24-240VAC ±10% 50/60Hz,<br>24-240VDC ±10% (Ripple P-P:Max. 10%)   | 12-24VAC ±10% 50/60Hz,<br>12-24VDC ±10% (Ripple P-P:Max. 10%) |
| Power consumption       | Max. 4VA at 240VAC  | Max. 2VA at 24VAC   |
| Control output          | (*1) Relay contact output [ Relay contact capacity : 50VDC 0.1A (Resistive load)<br>Relay contact composition : 1a      |   |
| Relay life cycle        | Mechanical : Min. 20,000,000, Electrical : Min. 50,000  |   |
| Mounting height         | 2.0m ~ 2.7m (Max. sensing distance : 3m)  |   |
| Sensing method          | Infrared reflection method (Diffuse reflective type)  |   |
| Output delay time       | Time delay approx. 0.5sec.  |   |
| Output holding time     | Selectable 2 / 7 / 15sec. by slide switch   |   |
| Interference prevention | H, L (Interference prevention switch)   |   |
| Front sensing area      | 7.5° , 14.5° , 21.5° , 28.5° : Set angle by adjuster.   |   |
| Adjustable sensing area | (1, 2, 3 Area), (7, 8, 9 Area) Eliminate each by each :<br>Adjustment with switch for eliminate Right/Left sensing area |   |
| Light source            | Infrared chip diode (modulated)   |   |
| Indicator               | Power on : Green LED turns on, Sensing : Red LED turns on   |   |
| Connection method       | Connector wire connection   |   |

※(\*1) Do not use Load which is beyond the rated capacity of contact point of Relay.

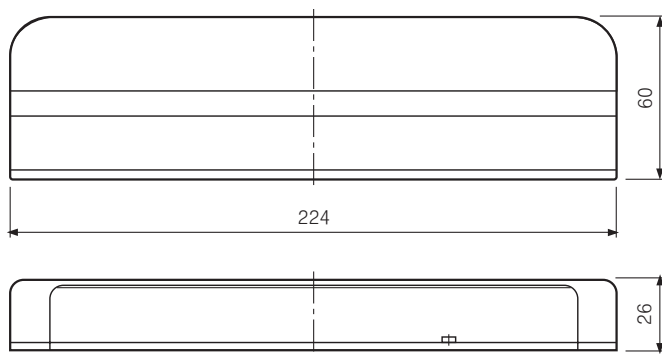
It may cause bad insulation, contact fusion, bad contact, relay breakdown and fire etc.

### Parts description



- ① Interference prevention switch
- ② Holding time setting switch
- ③ Eliminate sensing area lever
- ④ Angle adjuster
- ⑤ Body connector


### Dimensions



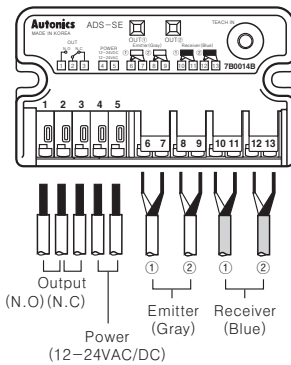
Unit:mm

## DOOR SIDE SENSOR(ADS-S SERIES)

### Specifications

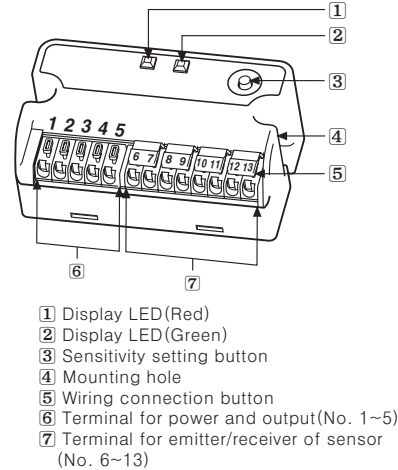
|                           |   |
|---------------------------|---|
| Type                      | Transmitted beam type   |
| Model                     | <b>ADS-SE</b>   |
| Appearances               | <br>[W77×H30×L44mm]   |
| Sensing distance          | 0 ~ 10m   |
| Power supply              | 12V~24VAC/DC ±10%(Ripple P-P:Max. 10%)  |
| Power/Current consumption | AC : Max. 2VA / DC : Max. 50mA  |
| Contact output            | Contact capacity : 50VDC 0.3A(Resistive load)<br>Contact composition : 1c<br>Relay life cycle : Mechanical-Min. 5,000,000 times, Electrical-Min.100,000 times |
| Response time             | Approx. 50ms(From light OFF)  |
| Output holding time       | Approx. 500ms(From light ON)  |
| Available sensor set      | 2set  |
| Indicator                 | Operation indicator   |
| Light source              | Infrared diode(850nm modulated)   |
| Sensor wire length        | 10m   |

### Connections

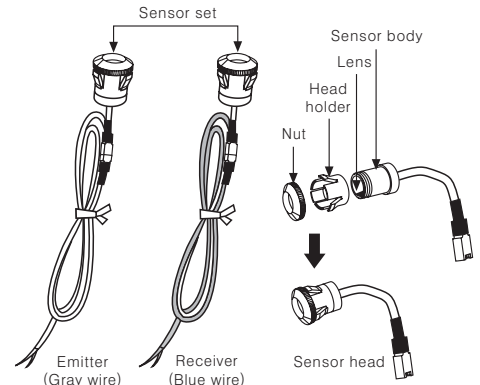


### Identifications

#### Controller part



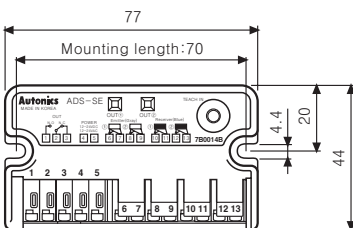
#### Sensor part



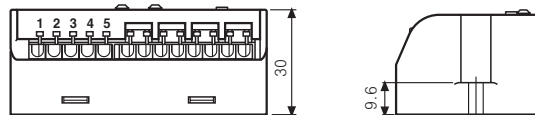
※ It is able to use 2 sets of the sensor with this product.  
 If it is necessary, purchase one more set for using.

### Dimensions

#### Controller part

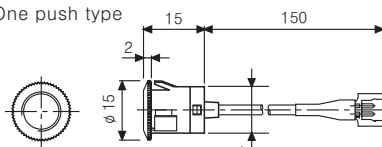


<ADS-SEC> \*It is able to purchase a controller(ADS-SEC) separately.

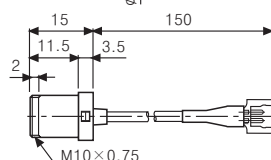


#### Sensor part

##### One push type

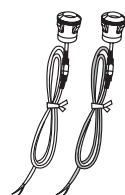


##### Screw type

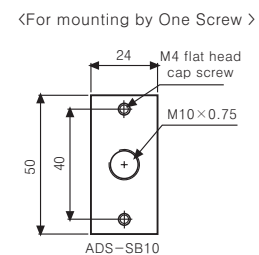
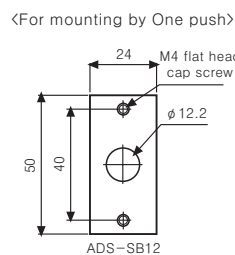


#### Option

##### Sensor set • Bracket



<ADS-SH>



Unit:mm