**Autonics AREA SENSOR BW SERIES**

Thank you for choosing our Autonics product.

Please refer to the following safety considerations before use.

### Safety Considerations

#### 1. Please observe all safety considerations for safe and proper product operation.

#### 2. This product is designed and manufactured to meet all safety standards and guidelines.

#### 3. Failure to follow these instructions may result in serious injury or death.

#### 4. Safety considerations are categorized as follows.

##### 4-1. Warning

Failure to follow these instructions may result in serious injury or death.

##### 4-2. Caution

Failure to follow these instructions may result in personal injury or product damage.

#### 5. The symbols used on the product and instruction manual represent the following.

- **(!)**: Warning due to hazardous situations which could result in serious injury or death.
- **(●)**: Caution due to hazardous situations which could result in personal injury or damage to the product.

### Function

#### 1. **Light Emitted Stop Function (external diagnosis function)**

When TEST output (O) is ON and [Emitter] or [Receiver] is OFF, it indicates the status of the system. It is suitable for checking whether the unit is functioning properly and for troubleshooting.

#### 2. **Self-Diagnosis Function**

Control output will be OFF and operating indicator will be ON when self-diagnosis is checked by self-diagnosis register in the control output circuit.

- **Location of LED**
  - Front: front side
  - Rear: rear side

#### 3. **Interference Protection Function**

- **Interference source**
  - Electric wave or motor, generator
  - Foreign part interference

- **Interference source protection**
  - Use shield wire or a shielded cable.
  - Install a noise eliminating condenser between 0 and 100V terminals.

#### 4. **Operation Timing Diagram**

- **Operation mode**
  - Light ON fixed

### Dimensions

#### 1. **Emitter**

- **Model**: BW20-48(P)
- **Type**: NPN (0V)
- **Material**: Glass
- **Cable**: Connecting cable (sold separately)

#### 2. **Receiver**

- **Model**: BW20-48(P)
- **Type**: PNP (0V)
- **Material**: Glass
- **Cable**: Connecting cable (sold separately)

### Connecting Cable (sold separately)

- **Model**: BW20-48(P)
- **Type**: NPN (0V)
- **Material**: Glass
- **Cable**: Connecting cable (sold separately)

### Optical Axis Pitch/Number Of Optical Axis/Sensing Height

#### 1. **Model**: BW20-48(P)

- **Type**: NPN (0V)
- **Material**: Glass
- **Cable**: Connecting cable (sold separately)

### Troubleshooting

#### 1. **Operation Error**

- *LED indicator* ON

#### 2. **Common Sense**

- **Caution During Use**
  - Connecting cables or connecting lines may cause problems in the sensor and receiver.
  - Ensure that the cables are free from any damage or obstruction.

### Major Products

#### 1. **Dimensions**

- **Model**: BW20-48(P)
- **Type**: NPN (0V)
- **Material**: Glass
- **Cable**: Connecting cable (sold separately)

#### 2. **Installation**

- **Direction Of Installation**
  - For Water/Oil/Wax And Flat
  - For Vertical/Horizontal And Flat
  - For Water/Oil/Wax And Vertical
  - For Vertical/Horizontal And Vertical

#### 3. **For Prevention Of Interference**

- **Cables should be installed between 2 sets.**
- **It should be installed out of the interference distance.**

#### 4. **For Reflection From The Surface Of Oil/Wax**

- **Installation**
  - For Reflection From The Surface Of Oil/Wax And Flat
  - For Reflection From The Surface Of Oil/Wax And Vertical

#### 5. **For Transmission Direction**

- **Transmission direction**
  - Should be opposite between 2 sets

#### 6. **For Safety Considerations**

- **Safety considerations**
  - Please observe all safety considerations for safe and proper product operation.
- **Caution**
  - Failure to follow these instructions may result in personal injury or damage to the product.

#### 7. **Warning**

- **Failure to follow these instructions may result in serious injury or death.**

#### 8. **Certification**

- **CE**
- **UL**
- **CSA**

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