**Autonics**

**LASER DISPLACEMENT SENSOR**

**AMPLIFIER UNIT**

**3D SERIES**

**INSTRUCTION MANUAL**

Thank you for choosing our Autonics product. Please read the following safety considerations before use.

### Safety Considerations

1. Please observe all safety considerations for safe and proper product operation to avoid hazards.

2. A symbol represents a warning due to special circumstances in which hazards may occur.

   - **Warning** Failure to follow these instructions may result in serious injury or death.
   - **Caution** Failure to follow these instructions may result in personal injury or product damage.

3. This instruction manual is intended for users who want to use our product.

   - Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.

   - Do not connect, repair, or inspect the unit while connected to a power source.

   - Do not use the unit in the environment condition rated in 'Specifications' (Teaching) Auto sensitivity

   - Do not use the unit in the environment condition rated in 'Specifications'.


### Warning

1. Full-scale unit must be installed when using the unit with machinery that may cause serious injury or a substantial risk of damage.

2. Immobilization of the unit leads to malfunction, such as excessive heat, or low, no output, accidental light, internal damage, overheating, direct sunlight, internal damage, overheating, malfunction, abnormal output, or similar failures.

3. Do not disassemble or modify the unit.

4. Mount the ferrite core to specified position before using. [Sensor head, Extension cable]

### Caution

1. Do not store the unit in the specified temperature range, or it may result in damage.

2. Do not expose the unit to water or rain.

3. Do not store the unit in the specified temperature range.

### Model

- **Sensor head**
  - Attaching location of cable

- **Extension cable (sold separately)**

### Dimensions

**BD-A1**

- **Mounting with bolt**
  - Connecting amplifier units mutually

- **Mounting on DIN rail**
  - Detecting

- **Connecting to sensor head**
  - Connecting amplifier units mutually

### Display When Power is ON

- **Sensor head**
  - Extension cable (accessory for sensor head, extension cable)

- **Extension cable (sold separately)**

### Connections

**Control Output Diagram**

- **Analog output**
  - (0-5V, 0-10V, 4-20mA)

### Manual

For detailed instruction and information, please refer to user manual, and be sure to follow in the technical descriptions (Packing, websites).

### Parameter Setting

**Parameter Group**

1. Change the parameter setting mode.

2. Change the parameter setting of the [BD-A1] using [AUTO], [ZERO].

3. Change the parameter setting of the [BD-A1] using [AUTO], [ZERO].

### Error Display

- **In error status**
  - 'OUT3' is displayed on setting value (SV) display, push the [AUTO] key within 2 sec.

- **In error status**
  - 'OUT3' is displayed on setting value (SV) display, push the [AUTO] key within 2 sec.

### Cautions during Use

1. Refer to instruction in 'Specifications'.

2. Do not use the unit in the environment condition rated in 'Specifications'.

3. Do not use the unit in the environment condition rated in 'Specifications'.