

**Mounting Brackets** [Refer to *Dimensions* on page 10.]

A Mounting Bracket is not enclosed with the Sensor. Order separately as needed.

| Appearance                                                                                                                          | Model<br>(material)  | Applicable Sensor E3AS series |                           |                                       |                  |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------|---------------------------|---------------------------------------|------------------|
|                                                                                                                                     |                      | Pre-wired                     | M8 Pre-wired<br>Connector | M12 Pre-wired<br>Smartclick Connector | M8 Connector     |
| L-shaped<br>Mounting<br>Bracket<br>                | E39-L201<br>(SUS304) | Yes                           | Yes                       | Yes                                   | ---              |
| Horizontal<br>Protective<br>Cover<br>Bracket<br>   | E39-L202<br>(SUS304) | Yes                           | Yes                       | Yes                                   | ---              |
| Rear<br>Mounting<br>Bracket<br>                    | E39-L203<br>(SUS304) | Yes                           | Yes                       | Yes                                   | Yes <sup>2</sup> |
| Robust<br>Mounting<br>Bracket<br>                 | E39-L204<br>(SUS304) | Yes                           | Yes                       | Yes                                   | ---              |
| L-shaped<br>Mounting<br>Bracket<br>              | E39-L211<br>(SUS304) | --- <sup>1</sup>              | --- <sup>1</sup>          | --- <sup>1</sup>                      | Yes <sup>3</sup> |
| Horizontal<br>Protective<br>Cover<br>Bracket<br> | E39-L212<br>(SUS304) | --- <sup>1</sup>              | --- <sup>1</sup>          | --- <sup>1</sup>                      | Yes <sup>3</sup> |
| Robust<br>Mounting<br>Bracket<br>                | E39-L214<br>(SUS304) | --- <sup>1</sup>              | --- <sup>1</sup>          | --- <sup>1</sup>                      | Yes <sup>3</sup> |

1. Can be used for Pre-wired models, M8 Pre-wired Connector models, and M12 Pre-wired Smartclick Connector models. However, confirm the bracket shape in advance.
2. Confirm the installation environment and bracket shape of the Sensor I/O Connector to be connected.
3. Use an L-shaped Sensor I/O Connector. Straight types cannot be installed.

# E3AS-L Series

## Ratings and Specifications

| Sensing method                                     |                                              | Distance-settable                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                |
|----------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item                                               | Model                                        | E3AS-L200MN                                                                                                                                                                                                                                                           | E3AS-L80MN                                                                                                                                                                                                                                     |
|                                                    | NPN output/ COM2                             | E3AS-L200MD                                                                                                                                                                                                                                                           | E3AS-L80MD                                                                                                                                                                                                                                     |
|                                                    | PNP output/ COM3                             | E3AS-L200MT                                                                                                                                                                                                                                                           | E3AS-L80MT                                                                                                                                                                                                                                     |
| Sensing distance                                   |                                              | 10 mm to the set distance (White paper or black paper 100 × 100 mm)                                                                                                                                                                                                   |                                                                                                                                                                                                                                                |
| Setting range                                      |                                              | 40 to 200 mm<br>(White paper or black paper 100 × 100 mm)                                                                                                                                                                                                             | 20 to 80 mm<br>(White paper or black paper 100 × 100 mm)                                                                                                                                                                                       |
| Spot diameter (reference value)                    |                                              | 25 × 25 mm at distance of 200 mm                                                                                                                                                                                                                                      | 4 mm dia. (at distance of 80 mm)                                                                                                                                                                                                               |
| Differential travel                                |                                              | 10% max. of set distance                                                                                                                                                                                                                                              | White paper: 2% max. of set distance<br>Black paper: 5% max. of set distance                                                                                                                                                                   |
| Reflectivity characteristic<br>(black/white error) |                                              | 10% max. of set distance                                                                                                                                                                                                                                              | 5% max. of set distance                                                                                                                                                                                                                        |
| Light source (wavelength)                          |                                              | Red LED (624 nm)                                                                                                                                                                                                                                                      | Red LED (650 nm)                                                                                                                                                                                                                               |
| Power supply voltage                               |                                              | 10 to 30 VDC (including 10% ripple (p-p)), Class2                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                |
| Current consumption                                |                                              | 35 mA max.                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                |
| Input/output                                       | Control output                               |                                                                                                                                                                                                                                                                       | Load power supply voltage: 30 VDC max., Class2, Load current: 100 mA max.<br>(Residual voltage: Load current of less than 10 mA: 1 V max. Load current of 10 to 100 mA: 2 V max.)<br>Open-collector output (NPN/PNP output depending on model) |
|                                                    | NPN                                          |                                                                                                                                                                                                                                                                       | OUTPUT 1: NO (Normally open), OUTPUT 2: NC (Normally closed)                                                                                                                                                                                   |
|                                                    | PNP/COM2<br>PNP/COM3                         |                                                                                                                                                                                                                                                                       | OUTPUT 1: NO (Normally open)/COM□, OUTPUT 2: NC (Normally closed)                                                                                                                                                                              |
| Protection circuits                                |                                              | Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection                                                                                                                                                     |                                                                                                                                                                                                                                                |
| Response time                                      |                                              | Operate or reset: 1 ms max.                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                |
| Distance setting                                   |                                              | Teaching method/IO-Link communications                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                |
| Ambient illumination (Receiver side)               |                                              | Incandescent lamp: 3,000 lx max., Sunlight: 10,000 lx max.                                                                                                                                                                                                            |                                                                                                                                                                                                                                                |
| Ambient temperature range                          |                                              | Operating: -25 to 55°C, Storage: -40 to 70°C (with no icing or condensation)                                                                                                                                                                                          |                                                                                                                                                                                                                                                |
| Ambient humidity range                             |                                              | Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)                                                                                                                                                                                                     |                                                                                                                                                                                                                                                |
| Insulation resistance                              |                                              | 20 MΩ min. at 500 VDC                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                |
| Dielectric strength                                |                                              | 1,000 VAC, 50/60 Hz for 1 min                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                |
| Vibration resistance                               |                                              | 10 to 55 Hz with a 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions                                                                                                                                                                                 |                                                                                                                                                                                                                                                |
| Shock resistance                                   |                                              | 500 m/s <sup>2</sup> for 3 times each in X, Y, and Z directions                                                                                                                                                                                                       |                                                                                                                                                                                                                                                |
| Degree of protection                               |                                              | IP67 (IEC60529) and IP67G <sup>1</sup> (JIS C 0920 Annex 1), IP69K (ISO20653)                                                                                                                                                                                         |                                                                                                                                                                                                                                                |
| Indicators                                         |                                              | Operation indicator (orange), Stability & Communication indicator (green <sup>2</sup> )                                                                                                                                                                               |                                                                                                                                                                                                                                                |
| Connection method                                  |                                              | Pre-wired (standard cable length: 2 m), M8 Connector, M8 Pre-wired Connector (standard cable length: 0.3m), M12 Pre-wired Smartclick Connector (standard cable length: 0.3m)                                                                                          |                                                                                                                                                                                                                                                |
| Weight<br>(packed state/<br>Sensor only)           | Pre-wired (2 m)                              | Approx. 135 g/approx. 90 g                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                |
|                                                    | M8 Connector                                 | Approx. 75 g/approx. 30 g                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                |
|                                                    | M8 Pre-wired Connector<br>(0.3 m)            | Approx. 85 g/approx. 40 g                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                |
|                                                    | M12 Pre-wired<br>Smartclick Connector (0.3m) | Approx. 95 g/approx. 50 g                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                |
| Materials                                          | Case                                         | Stainless steel (SUS316L)                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                |
|                                                    | Lens                                         | Methacrylate resin (PMMA)                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                |
|                                                    | Display                                      | Polyamide 11 (PA11)                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                |
| Main IO-Link functions                             |                                              | Operation mode switching between NO and NC, execution of teaching (2-point teaching, Background teaching), setup of the threshold, timer function of the control output and timer time selecting, Restore Factory Settings, Key Lock (Unlock, Lock, Lock (No Button)) |                                                                                                                                                                                                                                                |
| IO-Link<br>Communication<br>specifications         | IO-Link specification                        | Ver. 1.1                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                |
|                                                    | Baud rate                                    | COM2 (38.4 kbps), COM3 (230.4 kbps)                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                |
|                                                    | Data length                                  | PD size: 1 byte, OD size: 1 byte (M-sequence type: TYPE_2_1)                                                                                                                                                                                                          |                                                                                                                                                                                                                                                |
|                                                    | Minimum cycle time                           | COM2: 3.5 ms, COM3: 1.2 ms                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                |
| Accessories                                        |                                              | Instruction manual, compliance sheet and index list (attached for IO-Link type only),<br>Note: Mounting Brackets must be ordered separately.                                                                                                                          |                                                                                                                                                                                                                                                |

1. The IP67G is the degree of protection which is defined according to the JIS (Japanese Industrial Standards).  
The IP67 indicates the same level of protection as defined by the IEC, and the G indicates that a device has resistance to oil.
2. IO-Link Communication mode: blinking