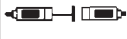







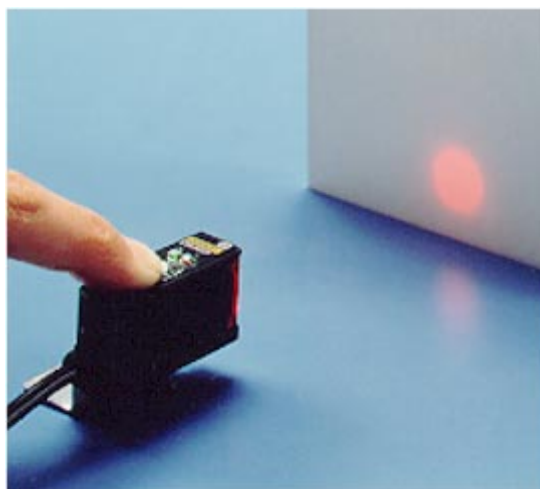
| Sensing distance  |  |   | Supply voltage | Output  |
|---|--|---|----------------|---|
|  |  |  | 12 to 24 VDC   |  |
| 2, 5 m  | 2 m  | 10, 30 cm   |                | 80 mA   |

# Photoelectric Sensor



# E3S

## General-purpose Miniature Sensors

- Short response time: 3 ms.
- Easy adjustment of sensitivity and optical axis with STABILITY and LIGHT indicators.
- Wire-selectable operation mode.
- Mutual interference protective circuit eliminates cross talk (reflective sensor only).



## Ordering Information

| Appearance   | Sensing method          | Sensing distance | Model                                     |                           |
|--|-------------------------|------------------|---|---------------------------|
|  |                         |                  | NPN output                                | PNP output                |
| <b>Horizontal</b><br> | Through-beam (separate) | 2 m              | E3S-2E4                                   | E3S-2B4                   |
|  |                         | 5 m              | E3S-5E4<br>E3S-5E4S<br>E3S-5E4S1          | E3S-5B4<br>E3S-5B4S       |
|  | Retroreflective         | 2 m              | E3S-R2E4                                  | E3S-R2B4                  |
|  | Diffuse reflective      | 10 cm            | E3S-DS10E4                                | E3S-DS10B4                |
|  |                         | 30 cm            | E3S-DS30E4<br>E3S-DS30E4S<br>E3S-DS30E4S1 | E3S-DS30B4<br>E3S-DS30B4S |
| <b>Vertical</b><br>   | Through-beam (separate) | 2 m              | E3S-2E41                                  | E3S-2B41                  |
|  |                         | 5 m              | E3S-5E41                                  | E3S-5B41                  |
|  | Retroreflective         | 2 m              | E3S-R2E41                                 | E3S-R2B41                 |
|  | Diffuse reflective      | 10 cm            | E3S-DS10E41                               | E3S-DS10B41               |
|  |                         | 30 cm            | E3S-DS30E41                               | E3S-DS30B41               |

# Specifications

## ■ Ratings/Characteristics

| Item                    |                | E3S-2□□  | E3S-5□□         | E3S-R2□□  | E3S-DS10□□                   |
|-------------------------|----------------|--|-----------------|---|------------------------------|
| Power supply voltage    |                | 12 VDC -10% to 24 VDC +10%, ripple (p-p): 10% max. |                 |   |                              |
| Current consumption     |                | 50 mA max.   |                 | 40 mA max.  |                              |
| Sensing distance        |                | 2 m  | 5 m             | 0.1 to 2 m (with E39-R1 reflector)  | 10 cm                        |
| Differential travel     |                | ---  |                 |   | 20% max. of sensing distance |
| Standard objects        |                | Opaque (7 mm)                                      | Opaque (11 mm)  | Opaque (30 mm)  | 5 x 5 cm white mat paper     |
| Control output          | DC solid-state | Load   |                 | Load current: Models with suffix -E4: 80 mA max.<br>Models with suffix -B4: 100 mA max. |                              |
|                         |                | Voltage output                                     |                 | 2 V max.  |                              |
| Response time (ON, OFF) |                | 3 ms max.  |                 | 1 ms max.   |                              |
| Operation mode          |                | Wire-selectable                                    |                 |   |                              |
| Indicators              |                | Light indicator (red), stability indicator (green) |                 |   |                              |
| Enclosure rating        | IEC 144        | IP65   | IP67            | IP65  |                              |
|                         | NEMA           | 1, 2, 12   | 1, 3, 4X, 6, 12 | 1, 2, 12  |                              |
| Housing material        |                | Plastic  | Metal           | Plastic   |                              |
| Light source            |                | Infrared LED                                       |                 |   |                              |
| Ambient temperature     |                | Operating: -25 to 55 °C                            |                 |   |                              |

| Item                    |                | E3S-DS30□□   | E3S-5□4S(1)       | E3S-DS30□4S(1)  |
|-------------------------|----------------|--|-------------------|---|
| Power supply voltage    |                | 12 VDC -10% to 24 VDC +10%, ripple (p-p): 10% max. |                   |   |
| Current consumption     |                | 40 mA max.   | 70 mA max.        |   |
| Sensing distance        |                | 30 cm  | 5 m               | 30 cm   |
| Differential travel     |                | 20% max. of sensing distance                       | ---               | 20% max. of sensing distance  |
| Standard objects        |                | 10 x 10 cm white mat paper                         | Opaque (11 mm)    | 10 x 10 cm white mat paper  |
| Control output          | DC solid-state | Load   |                   | Load current: Models with suffix -E4: 80 mA max.<br>Models with suffix -B4: 100 mA max. |
|                         |                | Voltage output                                     |                   | 2 V max.  |
| Response time (ON, OFF) |                | 1 ms max.  | 3 ms max.         | 1 ms max.   |
| Operation mode          |                | Wire-selectable                                    | Switch selectable |   |
| Indicators              |                | Light indicator (red), stability indicator (green) |                   |   |
| Enclosure rating        | IEC 144        | IP67   |                   |   |
|                         | NEMA           | 1, 3, 4X, 6, 12                                    |                   |   |
| Housing material        |                | Metal  |                   |   |
| Light source            |                | Infrared LED                                       |                   |   |
| Ambient temperature     |                | Operating: -25 to 55 °C                            |                   |   |