

# Datasensing Safety Light Curtains Standard Models, Body Protection



## Features

- Includes both sender and receiver
- Integrated light curtain for body protection (300mm or 400mm resolution, depending on model)
- Operating distance up to 70m [229.6 ft]
- Compact 35 x 40 mm [1.4 x 1.6 in] profile
- Manual/automatic restart
- Reset input
- External device monitoring (EDM)
- Alignment mode
- IP65/IP67 rated
- Type 4, PLe, SIL3
- UL, CE and TUV certification



## Datasensing Safety Light Curtains SH4 Body Protection Standard Models Selection Chart

| Part Number                    | Price    | Protected Height | Overall Height   | Number of Beams | Resolution (mm [in]) | Response Time (ms) | Drawing             |
|--------------------------------|----------|------------------|------------------|-----------------|----------------------|--------------------|---------------------|
| <a href="#">SH4-3-0800-S-8</a> | \$642.00 | 800mm [31.5 in]  | 974mm [38.3 in]  | 3               | 400 [15.75]          | 15                 | <a href="#">PDF</a> |
| <a href="#">SH4-4-0900-S-8</a> | \$685.00 | 900mm [35.4 in]  | 1074mm [42.3 in] | 4               | 300 [11.81]          | 15                 | <a href="#">PDF</a> |
| <a href="#">SH4-4-1200-S-8</a> | \$774.00 | 1200mm [47.2 in] | 1374mm [54.1 in] | 4               | 400 [15.75]          | 15                 | <a href="#">PDF</a> |

## Connections

### Receiver



8-pin M12 Connector

|   |        |                    |             |
|---|--------|--------------------|-------------|
| 1 | WHITE  | RESTART/RESET      | INPUT       |
| 2 | BROWN  | 24Vdc              | POWER       |
| 3 | GREEN  | EDM / SELECTION    | INPUT       |
| 4 | YELLOW | EDM                | INPUT       |
| 5 | GREY   | OSSD1              | SAFE OUTPUT |
| 6 | PINK   | OSSD2              | SAFE OUTPUT |
| 7 | BLUE   | 0 Vdc              | POWER       |
| 8 | RED    | MAN/AUTO SELECTION | INPUT       |

### Transmitter (Sender)



5-pin M12 Connector

|   |       |        |       |
|---|-------|--------|-------|
| 1 | BROWN | 24 Vdc | POWER |
| 2 | WHITE | TEST   | INPUT |
| 3 | BLUE  | 0 Vdc  | POWER |
| 4 | BLACK | N/A    |       |
| 5 | GREY  | N/A    |       |

| Pin | Description                             | 292 Cable | 295 Cable | Pin on Receiver |
|-----|-----------------------------------------|-----------|-----------|-----------------|
| 1   | Restart/Reset                           | White     | Brown     | 1               |
| 2   | +24VDC                                  | Brown     | White     | 2               |
| 3   | EDM selection                           | Green     | Blue      | 3               |
| 4   | EDM signal                              | Yellow    | Black     | 4               |
| 5   | OSSD 1 (Output Signal Switching Device) | Grey      | Grey      | 5               |
| 6   | OSSD 2 (Output Signal Switching Device) | Pink      | Pink      | 6               |
| 7   | 0VDC                                    | Blue      | Violet    | 7               |
| 8   | Manual/Auto reset function              | Red       | Orange    | 8               |

| Pin | Description | Wire Color | Pin on Receiver |
|-----|-------------|------------|-----------------|
| 1   | +24VDC      | Brown      | 1               |
| 2   | TEST signal | White      | 2               |
| 3   | 0VDC        | Blue       | 3               |
| 4   | Not used    | Black      | 4               |
| 5   | Not used    | Grey       | 5               |

Note: Cable color represents standard industrial pinout. Confirm the specific color and pinout during installation.

# Datasensing Safety Light Curtains Standard Models



| SH4-14, SH4-30, and SH4 Body Standard Models  |                                                                                       |                                             |                                                                                                                              |
|-----------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Model                                         | SH4-14 Standard Models<br>(Finger Protection)                                         | SH4-30 Standard Models<br>(Hand Protection) | SH4-3-0800 or SH4-4-xxxx<br>(Body Protection)                                                                                |
| Electrical Data                               |                                                                                       |                                             |                                                                                                                              |
| Supply Voltage                                | 24VDC ± 20%                                                                           |                                             |                                                                                                                              |
| Current Consumption (Sender)                  | 3.5 W maximum                                                                         |                                             |                                                                                                                              |
| Current Consumption (Receiver)                | 5.5 W maximum (without load)                                                          |                                             |                                                                                                                              |
| OSSD Outputs                                  | 2, with short-circuit protection                                                      |                                             |                                                                                                                              |
| Short Circuit Protection                      | Self-resetting                                                                        |                                             |                                                                                                                              |
| Output Current                                | 0.25 amps max on each output<br>0.5 A max total outputs                               |                                             |                                                                                                                              |
| Output Voltage – ON status:                   | 1V minimum                                                                            |                                             |                                                                                                                              |
| Output Voltage – OFF status:                  | 0.2 V maximum                                                                         |                                             |                                                                                                                              |
| Leakage Current                               | < 1mA                                                                                 |                                             |                                                                                                                              |
| Capacitive Load                               | 1 uF @ 24VDC                                                                          |                                             |                                                                                                                              |
| Safety Category                               | Type 4 (IEC 61496-1) / PLe (EN ISO13849-1) / SIL 3 (IEC 61508)                        |                                             |                                                                                                                              |
| Auxiliary Functions<br>(configured by wiring) | Reset/test<br>Selectable manual/automatic restart<br>Selectable EDM<br>Alignment mode |                                             |                                                                                                                              |
| Electrical Protection                         | Class III                                                                             |                                             |                                                                                                                              |
| Electrical Connections                        | M12 5-pole for sender                                                                 |                                             |                                                                                                                              |
|                                               | M12 8-pole for receiver                                                               |                                             |                                                                                                                              |
| Cable Length                                  | 30m [98ft] maximum                                                                    |                                             | 30m [98ft] maximum for receiver<br>50m [164ft] maximum for transmitter                                                       |
| Optical Data                                  |                                                                                       |                                             |                                                                                                                              |
| Light Emission                                | Infrared LED (850nm wavelength)                                                       |                                             |                                                                                                                              |
| Resolution                                    | Finger<br>14mm [0.55 in]                                                              | Hand<br>30mm [1.18 in]                      | Body<br>SH4-4-1200-xx-x-x = 400mm [15.75 in]<br>SH4-4-0900-xx-x-x = 300mm [11.81 in]<br>SH4-3-0800-xx-x-x = 400mm [15.75 in] |
| Operating Distance                            | 0.2 - 10 m [0.7 - 32.8 ft]                                                            | 0.2 - 20 m [0.7 - 65.6 ft]                  | Short range (default) = 0.5 to 15 m [2 to 49 ft]<br>Long range (selectable) = 5 to 70 m [15 to 229 ft]                       |
| Aperture Angle (EAA)                          | < ±2.5° maximum @ 3m [3.8 ft]                                                         |                                             |                                                                                                                              |
| Mechanical and Environmental Data             |                                                                                       |                                             |                                                                                                                              |
| Operating Temperature                         | -30 to 55°C [-22 to 131°F]                                                            |                                             |                                                                                                                              |
| Storage Temperature                           | -30 to 70°C [-22 to 158°F]                                                            |                                             |                                                                                                                              |
| Temperature Class                             | T6                                                                                    |                                             |                                                                                                                              |
| Humidity                                      | 15 - 95% (non-condensing)                                                             |                                             |                                                                                                                              |
| Mechanical Protection                         | IP65/IP67 (EN 60529)                                                                  |                                             |                                                                                                                              |
| Vibration Resistance                          | 10mm/3g with a frequency of 5 to 150 Hz                                               |                                             |                                                                                                                              |
| Housing Material                              | Painted aluminum (yellow RAL 1003)                                                    |                                             |                                                                                                                              |
| Window Material                               | MAKROLON AR 7099 clear PC                                                             |                                             |                                                                                                                              |
| Cap Material                                  | PBT (polybutylene terephthalate)                                                      |                                             |                                                                                                                              |
| Weight                                        | 1.4 Kg/m [0.94 lb/ft] (single bar weight)                                             |                                             |                                                                                                                              |
| Agency Approvals                              | UL, CE, TUV                                                                           |                                             |                                                                                                                              |

# Datasensing Safety Light Curtains Accessories



**SH-LP**



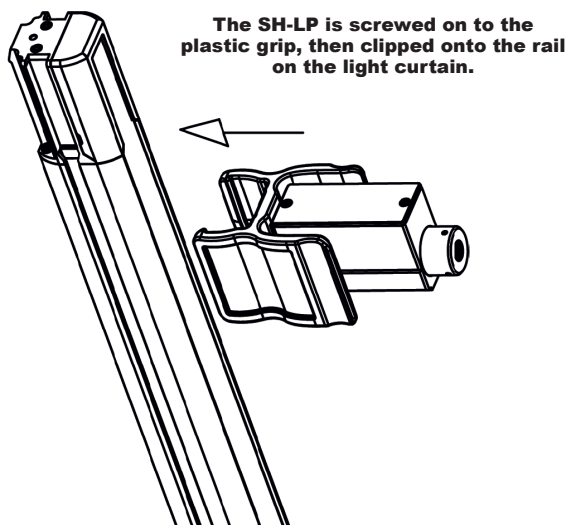
**SH-PLUG-5**



**SH-PLUG-8**

| Datasensing Safety Light Curtains Accessories |          |                                                                                       |                                                                                              |
|-----------------------------------------------|----------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Part Number                                   | Price    | Description                                                                           | Use With                                                                                     |
| <u><b>SH-LP</b></u>                           | \$264.00 | Laser alignment tool for class 2 laser, range up to 50 meters, 1 AAA battery included | SH4 series light curtain models                                                              |
| <u><b>SH-PLUG-5</b></u>                       | \$53.00  | Replacement cable, 5-pin M12 quick disconnect                                         | SH4 Basic Models transmitter<br>SH4 Basic Models receiver<br>SH4 Standard Models transmitter |
| <u><b>SH-PLUG-8</b></u>                       | \$85.00  | Replacement cable, 8-pin M12 quick disconnect                                         | SH4 Standard Models receiver                                                                 |

## Installing the SH-LP



# Datalogic Safety Light Curtains

## Accessories

### Mounting Brackets

**Datalogic Safety Light Curtains Mounting Brackets Selection Guide**

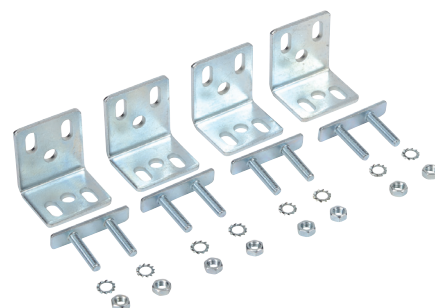
| Part Number                        | Price   | Mounting Bracket Type | For Use With                          | Qty Per Package | Drawing                    |
|------------------------------------|---------|-----------------------|---------------------------------------|-----------------|----------------------------|
| <a href="#"><u>ST-K4ROT</u></a>    | \$20.00 | Rotational            | SG4 Base Series (-E) light curtains   | 4               | <a href="#"><u>PDF</u></a> |
| <a href="#"><u>ST-K4ROT-SH</u></a> | \$66.00 | Rotational            | All SH4 Series light curtains         | 4               | <a href="#"><u>PDF</u></a> |
| <a href="#"><u>ST-KSTD</u></a>     | \$10.00 | Standard              | All SG4 and SH4 Series light curtains | 4               | <a href="#"><u>PDF</u></a> |
| <a href="#"><u>ST-K4OR</u></a>     | \$47.00 | Lateral orientable    | All SG4 and SH4 Series light curtains | 4               | <a href="#"><u>PDF</u></a> |
| <a href="#"><u>ST-K4AV</u></a>     | \$20.00 | Anti-vibration        | All SG4 and SH4 Series light curtains | 4               | <a href="#"><u>PDF</u></a> |



[ST-K4ROT](#)



[ST-K4ROT-SH](#)



[ST-KSTD](#)



[ST-K4OR](#)



[ST-K4AV](#)

# Datalogic Safety Light Curtains



## Accessories

### Test Pieces

TP-14 and TP-30 test pieces are used to verify if the resolution of safety light curtains is maintained inside the entire detection field. TP-14 has a diameter of 14mm [0.55 in] and TP-30 has a diameter of 30mm [1.18 in]. Both models have an overall length of 300mm [11.81 in].

| Safety Light Curtains Test Pieces |         |                                                                                      |
|-----------------------------------|---------|--------------------------------------------------------------------------------------|
| Part Number                       | Price   | Description                                                                          |
| <u>TP-14</u>                      | \$23.50 | Test rod for 14mm resolution finger detection light curtains, plastic, 14mm diameter |
| <u>TP-30</u>                      | \$25.50 | Test rod for 30mm resolution hand detection light curtains, plastic, 30mm diameter   |



TP-14



TP-30

# Safety Products



*Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.*

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