SENSORS

# DS1

## *AREAscan™ detection and measurement light grids with analog output*

- 4 mm resolution and 1 ms response time
- 100 to 300 mm controlled height
- Operating distance up to 4 m
- PNP digital and 0-10 V analog outputs
- Adjustment trimmer

### APPLICATIONS

-Processing and Packaging machinery
-Food, Cosmetic, Pharmaceutical
-Electronics and mechanical assembling
-Conveyor lines and sorting systems

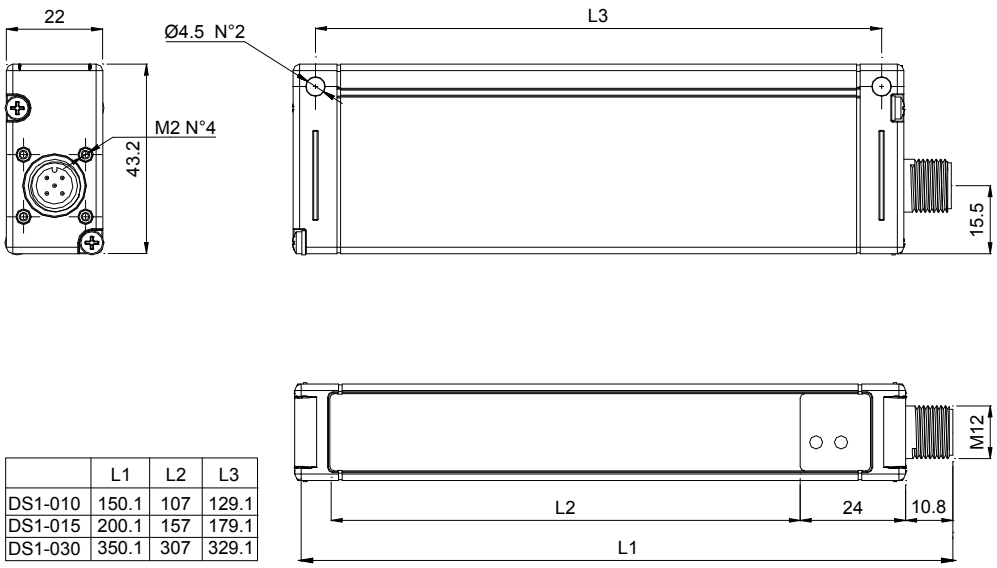
| DS1 | | |
|---|---|---|
| Light array (controlled height) | | 100...300 mm |
| Resolution | | 4...7 mm |
| Number of beams | | 16...48 |
| Light emission | | IR LED |
| Response time | | 1...2,75 ms |
| Setting | | Trimmer |
| Operating distance | | 0,15...0,8 m (SD)<br>0,15...2,1 m (LD)<br>0,2...4 m (HD) |
| Power supply | Vdc | 24V +/- 15% |
| | Vac | |
| | Vac/dc | |
| Output | PNP | ▪ |
| | NPN | |
| | NPN/PNP | |
| | relay | |
| | other | 0...10 V Analog output |
| Connection | cable | |
| | connector | ▪ |
| | pig-tail | |
| Approximate dimensions (mm) | | 22x43x(150/350) |
| Housing material | | aluminium |
| Mechanical protection | | IP65 |

# Dimension Light Grids - DS1

DATALOGIC

| TECHNICAL DATA | |
|---|---|
| Power supply | 24 Vdc ± 15% |
| Consumption on emitter unit (TX) | 150 mA max. |
| Consumption on receiver unit (RX) | 50 mA max. load excluded |
| Light emission | IR LED 880 nm |
| Setting | adjustment trimmer (mod. DS1...PV) |
| Indicators | yellow OUTPUT LED |
| | green POWER ON LED |
| Output | PNP; analog output |
| Output current | 100 mA max. |
| Saturation voltage | 1,5 V max. |
| Response time | 1 - 2,75 ms |
| Connection | M12 4-pole connector (TX), M12 5-pole connector (RX) |
| Dielectric strength | 500 Vac, 1 min between electronics and housing |
| Insulating resistance | >20 MΩ, 500 Vdc between electronics and housing |
| Mechanical protection | IP65 (EN 60529) |
| Vibrations | 0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6) |
| Shock resistance | 11 ms (30 G) 6 shock for every axis (EN60068-2-27) |
| Housing material | black electro-painted aluminium |
| Lens material | PMMA |
| Operating temperature | 0 ... 50 °C |
| Storage temperature | -25 ... 70 °C |
| Weight | 300 g (mod. DS1...010)<br>400 g (mod. DS1...015)<br>600 g (mod. DS1...030) |

## DIMENSIONS

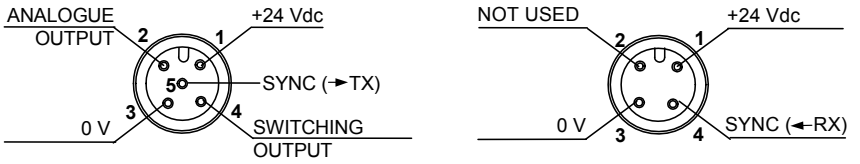



| | L1 | L2 | L3 |
|---|---|---|---|
| DS1-010 | 150.1 | 107 | 129.1 |
| DS1-015 | 200.1 | 157 | 179.1 |
| DS1-030 | 350.1 | 307 | 329.1 |

## INDICATORS AND SETTINGS (TRIMMER VERSIONS)

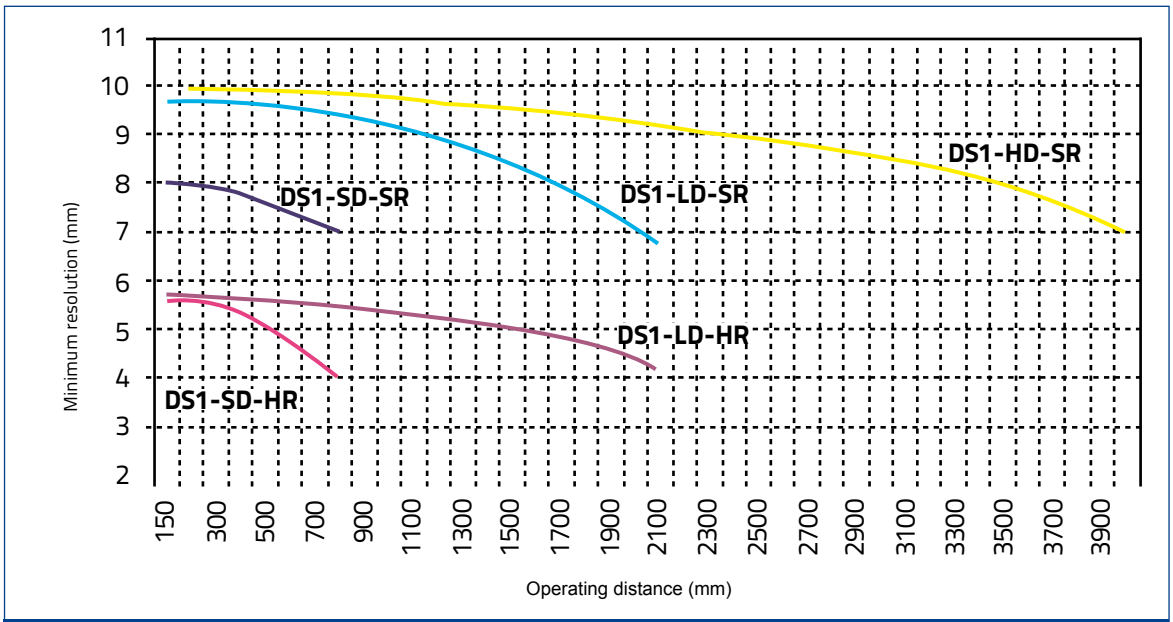
## CONNECTIONS

M12 CONNECTOR




| | | | | | |
|---|---|---|---|---|---|
| ***RECEIVER (RX):*** M12 5-pole connector | 1 – brown: | +24 Vdc | ***EMITTER (TX):*** M12 4-pole connector | 1 – brown: | +24 Vdc |
| | 2 – white: | Analogue output | | 2 – white: | Not used |
| | 3 – blue: | 0 V | | 3 – blue: | 0 V |
| | 4 –black: | Switching output | | 4 – black: | SYNC |
| | 5 – grey: | SYNC | | | |

## DETECTION DIAGRAMS




**Variation of the minimum resolution according to the operating distance between the emitting and receiving units.**

# Dimension Light Grids - DS1

DATALOGIC

## MODEL SELECTION AND ORDER INFORMATION

| OPTIC FUNCTION | OPERATING DISTANCE | SETTING | CONTROLLED HEIGHT & RESOLUTION | MODEL | ORDER NO |
|---|---|---|---|---|---|
| Measurement light curtain | 0,8 m | n/a | 100 mm (res.: 7 mm) | DS1-SD-SR-010-JV | 957701170 |
| | | | 100 mm (res.: 4 mm) | DS1-SD-HR-010-JV | 957701200 |
| | | | 150 mm (res.: 7 mm) | DS1-SD-SR-015-JV | 957701180 |
| | | | 150 mm (res.: 4 mm) | DS1-SD-HR-015-JV | 957701210 |
| | | | 300 mm (res.: 7 mm) | DS1-SD-SR-030-JV | 957701190 |
| | 2 m | | 100 mm (res.: 7 mm) | DS1-LD-SR-010-JV | 957701130 |
| | | | 100 mm (res.: 4 mm) | DS1-LD-HR-010-JV | 957701120 |
| | | | 150 mm (res.: 7 mm) | DS1-LD-SR-015-JV | 957701150 |
| | | | 150 mm (res.: 4 mm) | DS1-LD-HR-015-JV | 957701140 |
| | | | 300 mm (res.: 7 mm) | DS1-LD-SR-030-JV | 957701160 |
| | | Adjustment trimmer | 100 mm (res.: 7 mm) | DS1-LD-SR-010-PV | 957701250 |
| | | | 150 mm (res.: 7 mm) | DS1-LD-SR-015-PV | 957701260 |
| | | | 300 mm (res.: 7 mm) | DS1-LD-SR-030-PV | 957701270 |
| | 4 m | n/a | 100 mm (res.: 7 mm) | DS1-HD-SR-010-JV | 957701220 |
| | | | 150 mm (res.: 7 mm) | DS1-HD-SR-015-JV | 957701230 |
| | | | 300 mm (res.: 7 mm) | DS1-HD-SR-030-JV | 957701240 |

## CABLES

| TYPE | DESCRIPTION | LENGTH | MODEL | ORDER No. |
|---|---|---|---|---|
| Axial M12 Connector | 4-pole, grey, P.V.C. | 3 m | CS-A1-02-G-03 | 95A251380 |
| | | 5 m | CS-A1-02-G-05 | 95A251270 |
| | | 10 m | CS-A1-02-G-10 | 95A251390 |
| | 4-pole, U.L., black, P.V.C. | 3 m | CS-A1-02-U-03 | 95ASE1120 |
| | | 5 m | CS-A1-02-U-05 | 95ASE1130 |
| | | 10 m | CS-A1-02-U-10 | 95ASE1140 |
| | | 15 m | CS-A1-02-U-15 | 95ASE1150 |
| | | 25 m | CS-A1-02-U-25 | 95ASE1160 |
| | 5-pole, grey, P.V.C. | 3 m | CS-A1-03-G-03 | 95ACC2110 |
| | | 5 m | CS-A1-03-G-05 | 95ACC2120 |
| | | 10 m | CS-A1-03-G-10 | 95ACC2140 |
| | 5-pole, U.L., black, P.V.C | 3 m | CS-A1-03-U-03 | 95ASE1170 |
| | | 5 m | CS-A1-03-U-05 | 95ASE1180 |
| | | 10 m | CS-A1-03-U-10 | 95ASE1190 |
| | | 15 m | CS-A1-03-U-15 | 95ASE1200 |
| | | 25 m | CS-A1-03-U-25 | 95ASE1210 |
| | | 50 m | CS-A1-03-U-50 | 95A252700 |