

DETECTION AND MEASUREMENT LIGHT GRIDS WITH ANALOGUE OUTPUT



- *Position and dimension measurement*
- *5 mm resolution and 1 ms response time*
- *100 to 300 mm controlled height*
- *Operating distance up to 2.1 m*
- *PNP digital and 0-10 V analogue outputs*

AREAscan™

DS1 SERIES

The **DS1 AREAscan™** series are compact multibeam light grids suitable for the detection and measurement of objects with different shapes and dimensions. Different models are available with 100, 150 and 300 mm controlled height, 5 mm resolution and operating distance reaching 2.1 m.

The electronics is fully integrated and so no external drivers are required.

The measurement value is supplied through the analogue 0-10 V output which is proportional to the number of interrupted beams.

The PNP digital output is activated every time a beam between emitter and receiver is interrupted. The low response time, ranging from 1 to less than 3 ms, depending on the height and measurement resolution, allows installation also on fastest machines and processes.

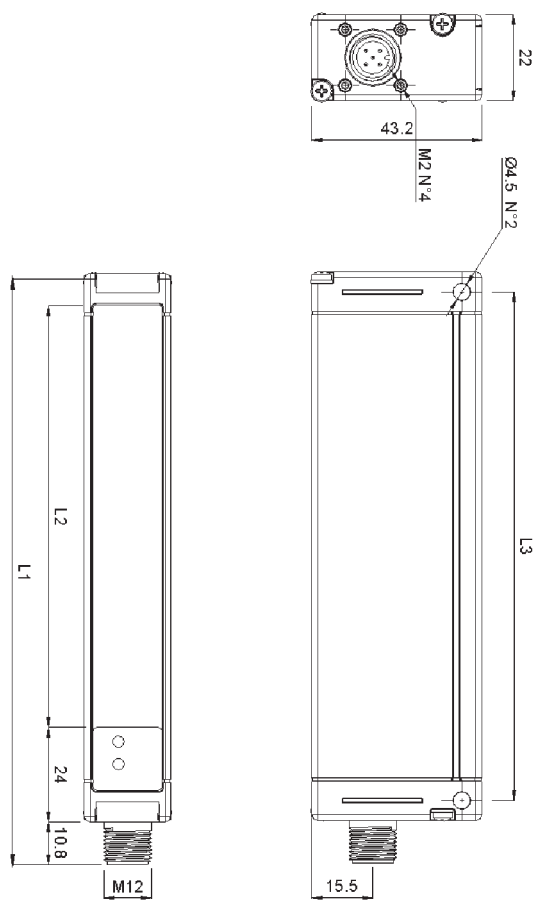
The measurement of the object's position or dimensions, placed inside the sensitive area, is obtained thanks to the 0 - 10 V analogue output, which supplies a signal proportional to the number of interrupted beams.

The PNP digital output is activated each time that a beam is intercepted by an object; in this case, the yellow OUT LED on the receiving unit panel turns on.

The green POWER ON LED, always on this panel, signals also the wrong alignment between the emitting and receiving units as well as the functioning outside or near the maximum operating distance.



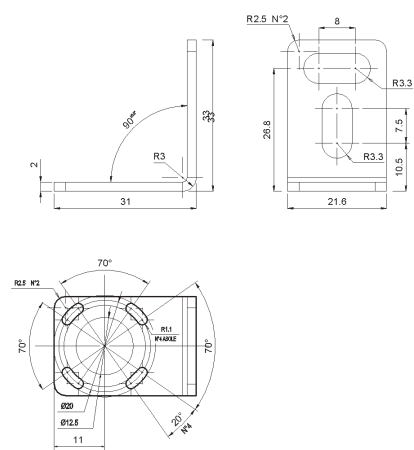
DIMENSIONS



mm

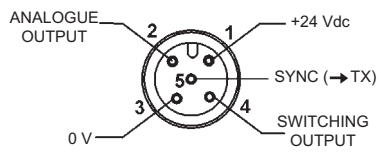
| MODEL | L ₁ | L ₂ | L ₃ |
|---------------|----------------|----------------|----------------|
| DS1-xx-010-xx | 150.1 | 107 | 129.1 |
| DS1-xx-015-xx | 200.1 | 157 | 179.1 |
| DS1-xx-030-xx | 350.1 | 307 | 329.1 |

FIXING BRACKET



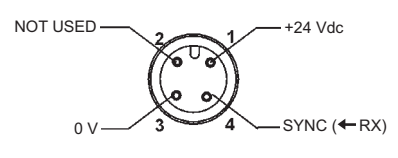
CONNECTIONS

RECEIVER (RX)



- 1 = brown = +24 Vdc
- 2 = white = ANALOGUE OUTPUT
- 3 = blue = 0 V
- 4 = black = SWITCHING OUTPUT
- 5 = grey = SYNC

EMITTER (TX)



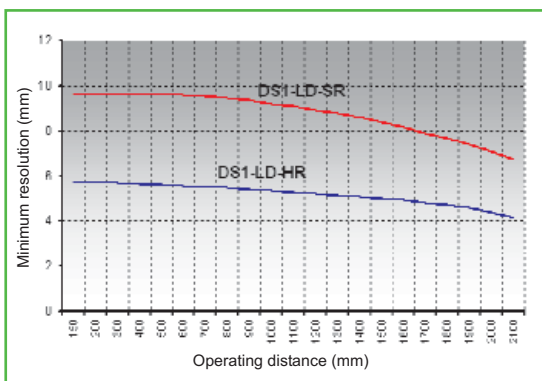
- 1 = brown = +24 Vdc
- 2 = white = NOT USED
- 3 = blue = 0 V
- 4 = black = SYNC

TECHNICAL DATA

| | |
|--|--|
| Power supply: | 24 Vdc \pm 15 % |
| Consumption on emitter unit: | 150 mA max. |
| Consumption on receiver unit: | 50 mA max. without load |
| Outputs: | 1 PNP output 1 analogue output 0 - 10 V |
| Load current on PNP output: | 100 mA; short circuit protection |
| Saturation voltage on PNP output: | \leq 1.5 V at T=25°C |
| Response time: | 1 ms - 2.75 ms |
| Emission type: | infrared 880 nm |
| Resolution: | 4 - 7 mm |
| Measurement precision: | \pm 3.5 - 7 mm |
| Operating distance: | 0.15 - 2.1 m |
| Receiver indicators: | green POWER ON LED yellow OUT LED |
| Emitter indicators: | green POWER ON LED |
| Operating temperature: | 0 ... + 55 °C |
| Storage temperature: | - 25 ... + 70 °C |
| Humidity: | 15...95 % (non condensing) |
| Mechanical protection: | IP65 |
| Housing material: | aluminium |
| Optics material: | PMMA |
| Connections: | M12 4-pole connector for TX M12 5-pole connector for RX |
| Weight: | 300g (DS1-xx-010-xx vers.) 340g (DS1-xx-015-xx vers.) 510g (DS1-xx-030-xx vers.) |



DETECTION DIAGRAMS



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

MODEL SELECTION AND ORDER INFORMATION

| MODEL | RESOLUTION | CONTROLLED HEIGHT | ORDER N° |
|------------------|------------|-------------------|-----------|
| DS1-LD-SR-010-JV | standard | 100 mm | 957701130 |
| DS1-LD-HR-010-JV | high | 100 mm | 957701120 |
| DS1-LD-SR-015-JV | standard | 150 mm | 957701150 |
| DS1-LD-HR-015-JV | high | 150 mm | 957701140 |
| DS1-LD-SR-030-JV | standard | 300 mm | 957701160 |

Fixing brackets and screws are supplied with the product

ACCESSORY SELECTION AND ORDER INFORMATION

| MODEL | DESCRIPTION | ORDER N° |
|---------------|--|-----------|
| CS-A1-03-G-03 | axial M12-5 pole unshielded 3 m connector | 95ACC2110 |
| CS-A1-03-G-05 | axial M12-5 pole unshielded 5 m connector | 95ACC2120 |
| CS-A1-03-G-10 | axial M12-5 pole unshielded 10 m connector | 95ACC2140 |
| CS-A1-02-G-03 | axial M12-4 pole unshielded 3 m connector | 95A251380 |
| CS-A1-02-G-05 | axial M12-4 pole unshielded 5 m connector | 95A251270 |
| CS-A1-02-G-10 | axial M12-4 pole unshielded 10 m connector | 95A251390 |

AREA SENSORS



Distributed by:

HEADQUARTERS

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