

DETECTION AND MEASUREMENT LIGHT GRIDS WITH ANALOGUE OUTPUT



- *Position and dimension measurement*
- *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 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, 4 mm resolution and operating distance reaching 4 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.

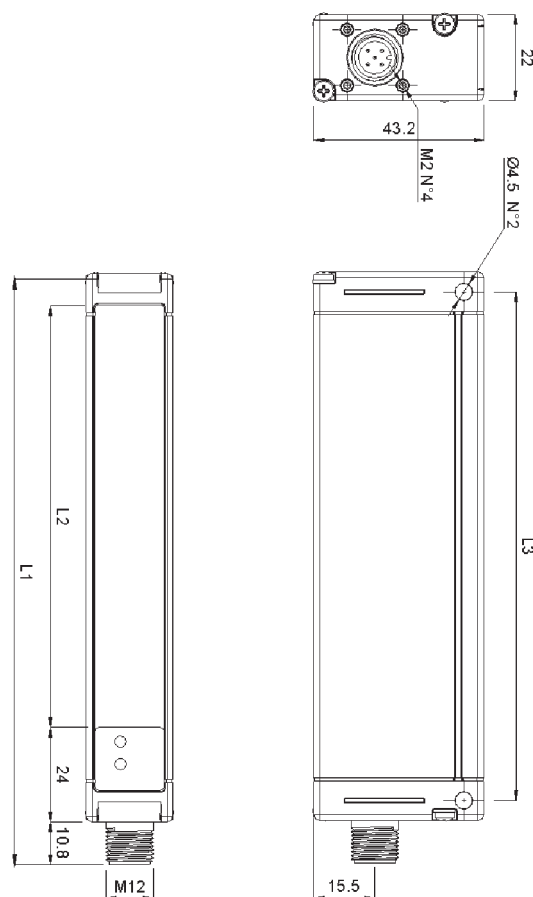
The measurement of the object's position or dimensions, placed inside the sensitive area, is obtained thanks to the 0 - 10 V analogue output, which supplies a signal proportional to the number of interrupted beams.

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.



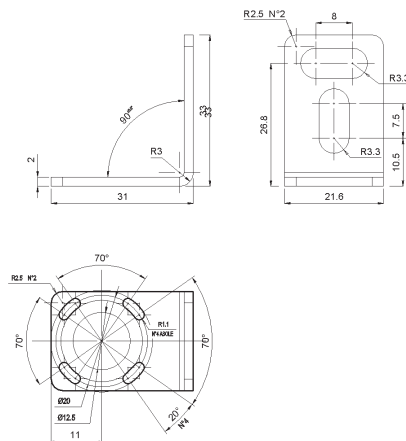
DIMENSIONS



mm

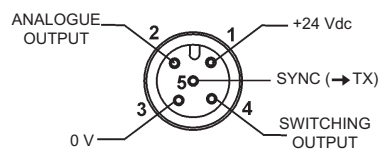
MODEL	L ₁	L ₂	L ₃
DS1-xx-010-xx	150.1	107	129.1
DS1-xx-015-xx	200.1	157	179.1
DS1-xx-030-xx	350.1	307	329.1

FIXING BRACKET



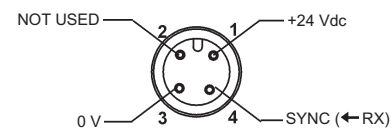
CONNECTIONS

RECEIVER (RX)



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

EMITTER (TX)



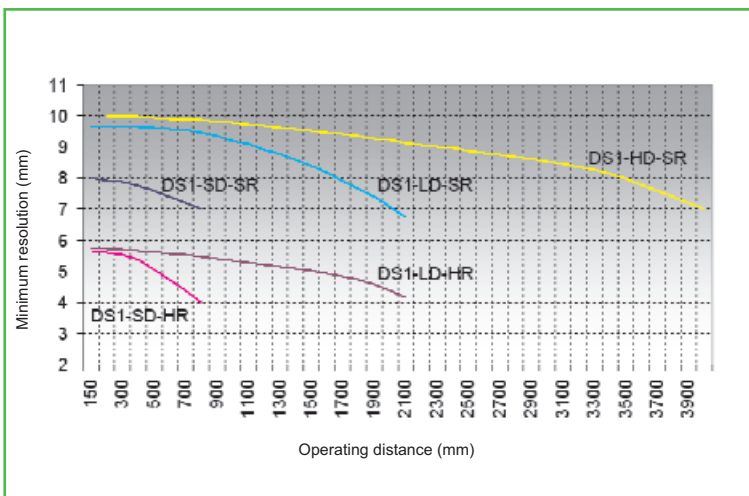
- | | |
|-----------|------------|
| 1 = brown | = +24 Vdc |
| 2 = white | = NOT USED |
| 3 = blue | = 0 V |
| 4 = black | = SYNC |

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:	≤ 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:	± 3.5 - 7 mm
Operating distance:	0.15 - 0.80 m (SD vers.)
	0.15 - 2.10 m (LD vers.)
	0.20 - 4.00 m (HD vers.)
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.)
	400g (DS1-xx-015-xx vers.)
	600g (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

ODEL	RESOLUTION	OPERATING RANGE	CONTROLLED HEIGHT	ORDER N°
DS1-LD-SR-010-JV	standard	0.15 - 2.10 m	100 mm	957701130
DS1-LD-HR-010-JV	high	0.15 - 2.10 m	100 mm	957701120
DS1-LD-SR-015-JV	standard	0.15 - 2.10 m	150 mm	957701150
DS1-LD-HR-015-JV	high	0.15 - 2.10 m	150 mm	957701140
DS1-LD-SR-030-JV	standard	0.15 - 2.10 m	300 mm	957701160
DS1-SD-SR-010-JV	standard	0.15 - 0.80 m	100 mm	957701170
DS1-SD-HR-010-JV	high	0.15 - 0.80 m	100 mm	957701200
DS1-SD-SR-015-JV	standard	0.15 - 0.80 m	150 mm	957701180
DS1-SD-HR-015-JV	high	0.15 - 0.80 m	150 mm	957701210
DS1-SD-SR-030-JV	standard	0.15 - 0.80 m	300 mm	957701190
DS1-HD-SR-010-JV	standard	0.20 - 4.00 m	100 mm	957701220
DS1-HD-SR-015-JV	standard	0.20 - 4.00 m	150 mm	957701230
DS1-HD-SR-030-JV	standard	0.20 - 4.00 m	300 mm	957701240

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



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HEADQUARTERS

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AREA SENSORS