

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.



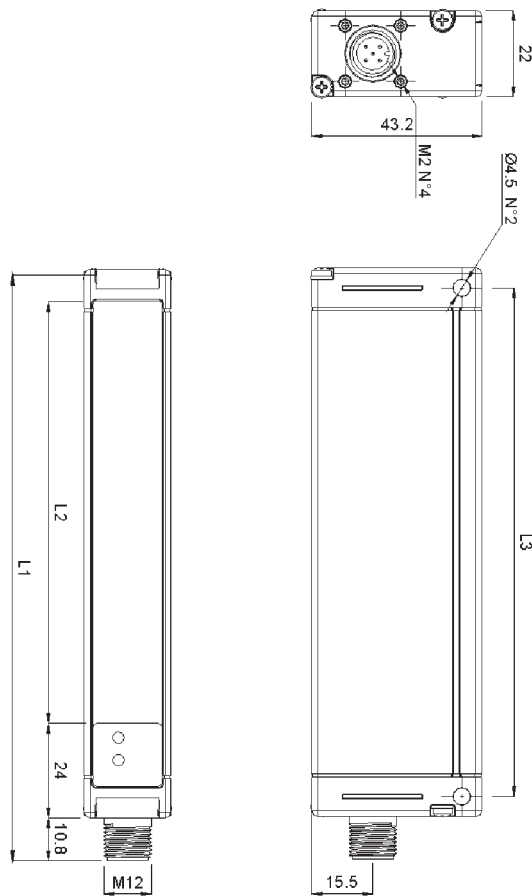
The measurement of the object's position or dimensions, placed inside the sensitive area, is obtained thanks to the 0 - 10 V analogue output, which supplies a signal proportional to the number of interrupted beams.

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.



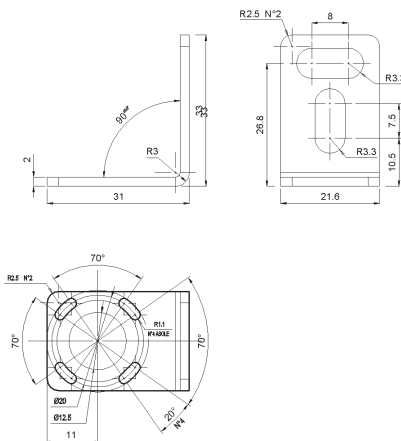
DIMENSIONS



mm

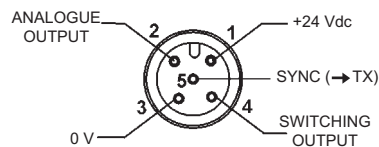
MODEL	L ₁	L ₂	L ₃
DS1-xx-010-xx	150.1	107	129.1
DS1-xx-015-xx	200.1	157	179.1
DS1-xx-030-xx	350.1	307	329.1

FIXING BRACKET



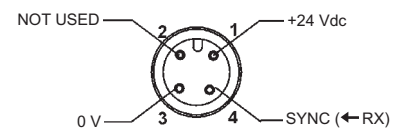
CONNECTIONS

RECEIVER (RX)



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

EMITTER (TX)



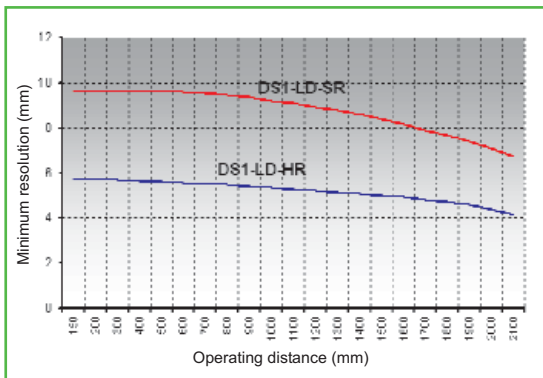
- 1 = brown = +24 Vdc
- 2 = white = NOT USED
- 3 = blue = 0 V
- 4 = black = SYNC

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

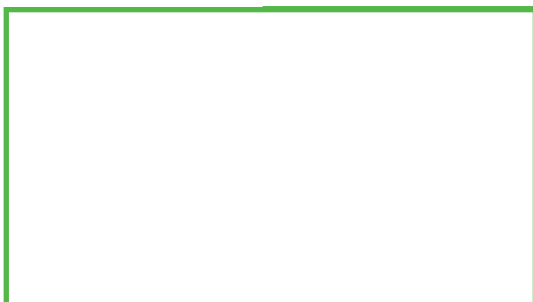
ACCESSORY SELECTION AND ORDER INFORMATION

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:



Datasensor SpA endeavours to continuously improve and renew its products; for this reason the technical data and contents of this catalogue may undergo variations without prior notice. For correct installation and use Datasensor SpA can guarantee only the data indicated in the instruction manual supplied with the products.

Printed in Italy in July 2005
Rev. 02