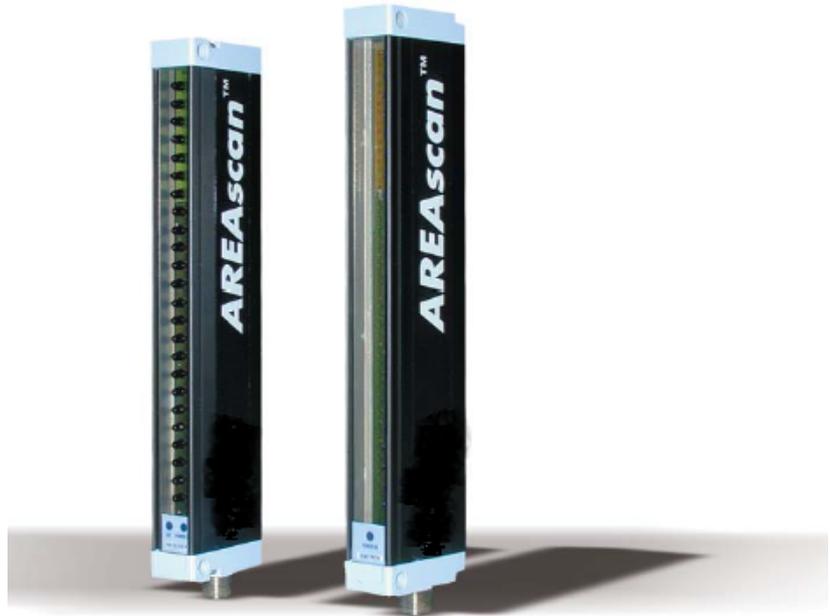


Measuring light grid

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.** Versions with trimmer adjustment. The electronics is fully integrated and so no external drivers are required.



HIGHLIGHTS

- Measurement of object dimensions or position
- 4mm resolution and 1ms response time
- Controlled heights ranging from 100 to 300mm
- Operating distance reaching 4m
- PNP and 0-10V analogue output
- Adjustment trimmer
- Fully embedded electronics

APPLICATIONS

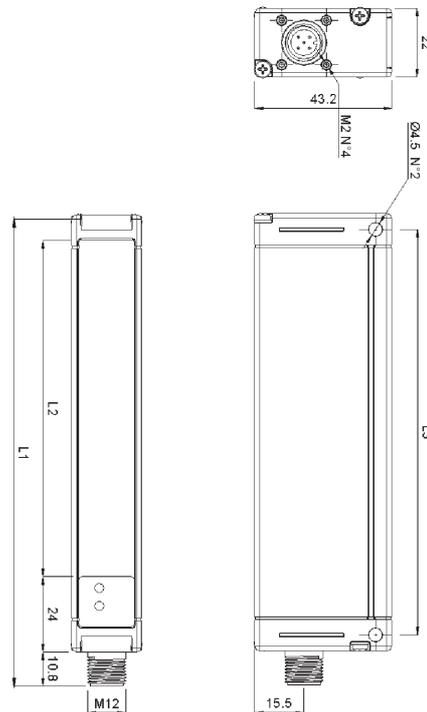
- Object dimension measurement
- Shape or profile detection
- Positioning, spacing, centering, stacking
- Edge guiding
- Object counting



The measurement of the object's position or dimensions, placed inside the sensitive area, is obtained thanks to the 0 - 10V 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.



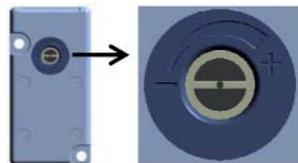
DIMENSIONS



MODELS	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

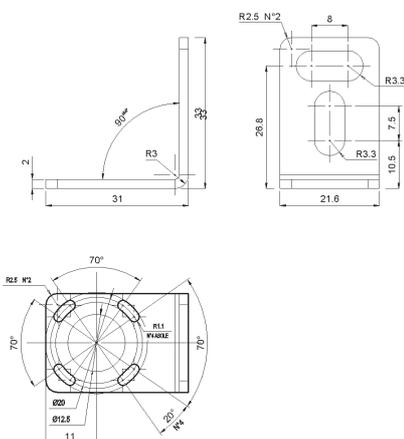
mm

INDICATORS AND SETTING (trimmer versions)



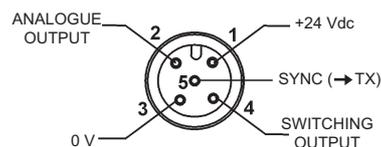
Emitter is equipped with a manual regulation which lets the user change the emission power by means of a screwdriver. The emission power reduction can be particularly useful to lower passive reflections when maximum operating distance it is not required.

FIXING BRACKET



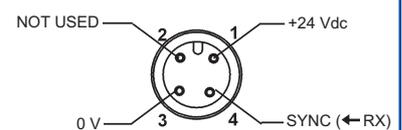
CONNECTIONS

RECEIVER (RX)



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

EMITTER (TX)



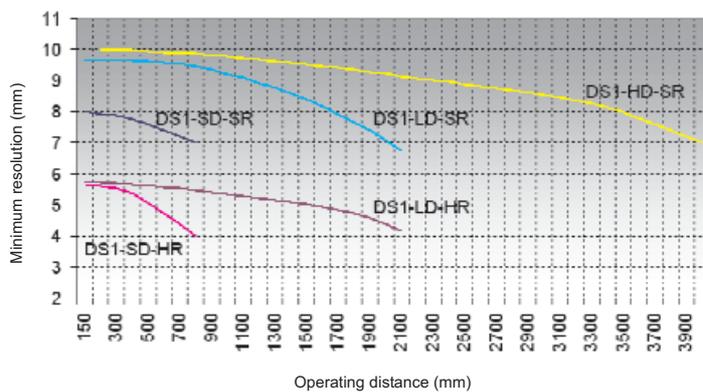
- 1 = brown = +24 Vdc
- 2 = white = NOT USED
- 3 = blue = 0 V
- 4 = black = SYNC

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 0 - 10 V analogue output
Load current on PNP output:	100 mA; short circuit protection
Saturation voltage on PNP output:	\leq 11.5V at T=25°C
Response time:	1 ms - 2.75ms
Emission type:	infrared 880nm
Resolution:	4 - 7mm
Measurement precision:	\pm 3.5 - 7mm
Operating distance:	0.15 - 0.80m (SD vers.)
	0.15 - 2.10 m (LD vers.)
	0.20 - 4.00m (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

MODEL	RESOLUTION	OPERATING DISTANCE	CONTROLLED HEIGHT	TRIMMER ADJUSTMENT	
DS1-LD-SR-010-JV	standard	0.15 - 2.10m	100mm		
DS1-LD-HR-010-JV	high	0.15 - 2.10m	100mm		
DS1-LD-SR-015-JV	standard	0.15 - 2.10m	150mm		
DS1-LD-HR-015-JV	high	0.15 - 2.10m	150mm		
DS1-LD-SR-030-JV	standard	0.15 - 2.10m	300mm		
DS1-LD-SR-010-PV	standard	0.15 - 2.10m	100mm	•	
DS1-LD-SR-015-PV	standard	0.15 - 2.10m	150mm	•	
DS1-LD-SR-030-PV	standard	0.15 - 2.10m	300mm	•	
DS1-SD-SR-010-JV	standard	0.15 - 0.80m	100mm		
DS1-SD-HR-010-JV	high	0.15 - 0.80m	100mm		
DS1-SD-SR-015-JV	standard	0.15 - 0.80m	150mm		
DS1-SD-HR-015-JV	high	0.15 - 0.80m	150mm		
DS1-SD-SR-030-JV	standard	0.15 - 0.80m	300mm		
DS1-HD-SR-010-JV	standard	0.20 - 4.00 m	100mm		
DS1-HD-SR-015-JV	standard	0.20 - 4.00 m	150mm		
DS1-HD-SR-030-JV	standard	0.20 - 4.00 m	300mm		
<i>Fixing brackets and screws are supplied with the product</i>					

ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	
CS-A1-03-G-03	axial M12-5 pole unshielded 3 m connector	
CS-A1-03-G-05	axial M12-5 pole unshielded 5 m connector	
CS-A1-03-G-10	axial M12-5 pole unshielded 10 m connector	
CS-A1-02-G-03	axial M12-4 pole unshielded 3 m connector	
CS-A1-02-G-05	axial M12-4 pole unshielded 5 m connector	
CS-A1-02-G-10	axial M12-4 pole unshielded 10 m connector	

The informations are provided to best of our knowledge. Subject to change. These products must not applied when the safety of persons rely on their faultless function. Dietz Sensortechnik refuses the liability for consequential loss resulting from the application of sensors from Dietz.