

# 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

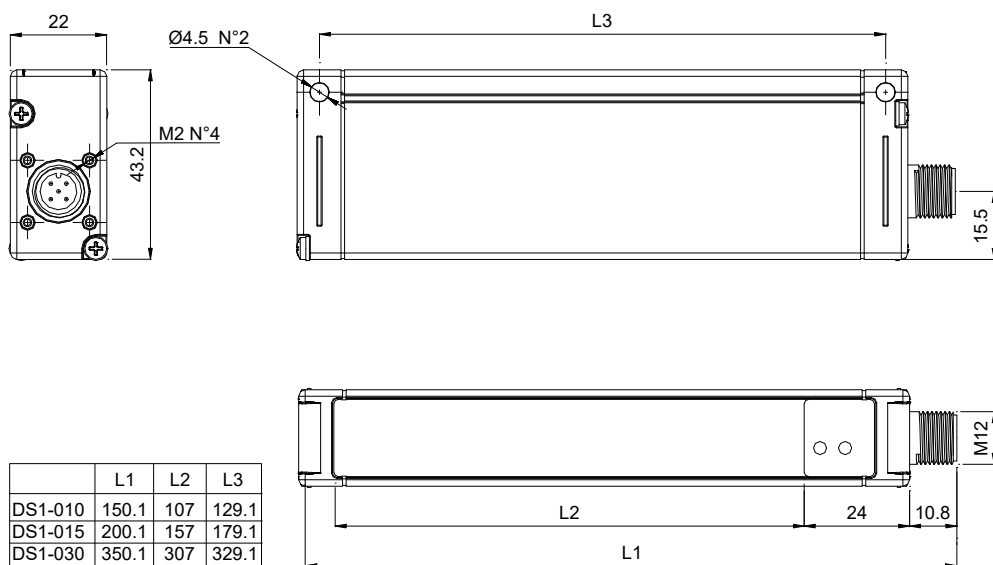


DS1		
<b>Light array (controlled height)</b>	100...300 mm	
<b>Resolution</b>	4...7 mm	
<b>Number of beams</b>	16...48	
<b>Light emission</b>	IR LED	
<b>Response time</b>	1...2,75 ms	
<b>Setting</b>	Trimmer	
<b>Operating distance</b>	0,15...0,8 m (SD)	
	0,15...2,1 m (LD)	
	0,2...4 m (HD)	
<b>Power supply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

# TECHNICAL DATA

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

# DIMENSIONS

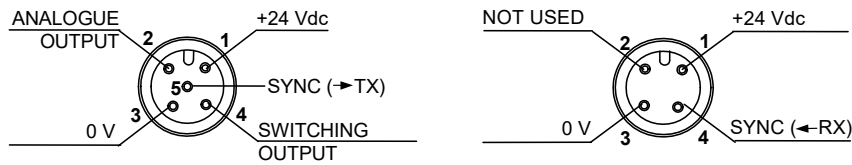


# INDICATORS AND SETTINGS (TRIMMER VERSION)



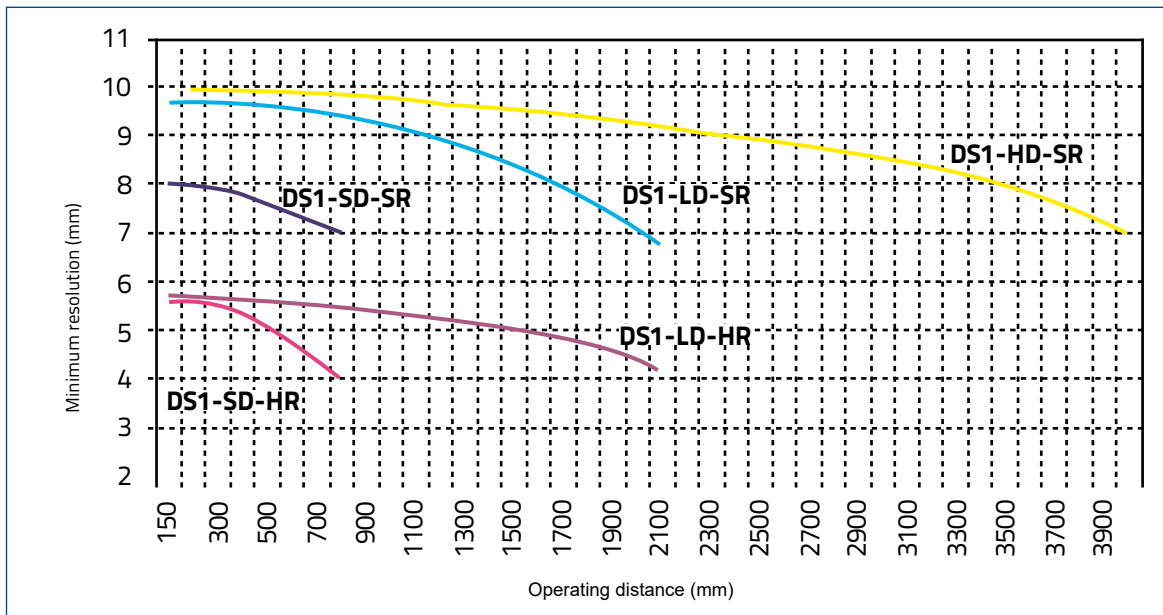
## CONNECTIONS

### M12 CONNECTOR



<b>RECEIVER (RX):</b> M12 5-pole connector	1 – brown:	+24 Vdc	<b>EMITTER (TX):</b> 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.

# 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	
	Adjustment trimmer	300 mm (res.: 7 mm)	DS1-LD-SR-030-JV	957701160	
		100 mm (res.: 7 mm)	DS1-LD-SR-010-PV	957701250	
		150 mm (res.: 7 mm)	DS1-LD-SR-015-PV	957701260	
	4 m	n/a	300 mm (res.: 7 mm)	DS1-LD-SR-030-PV	957701270
			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