



## DS2

*AREAscan™ detection and measurement light grids with serial or Ethernet interface*

- 6 or 25 mm resolution
- Relative measurement precision  $\pm 6$  mm or  $\pm 22.5$  mm
- 150 - 1650 mm controlled heights
- Operating distance up to 10 m
- PNP and 0-10 V Analog output and RS485 or Ethernet interface



SENSORS

### APPLICATIONS

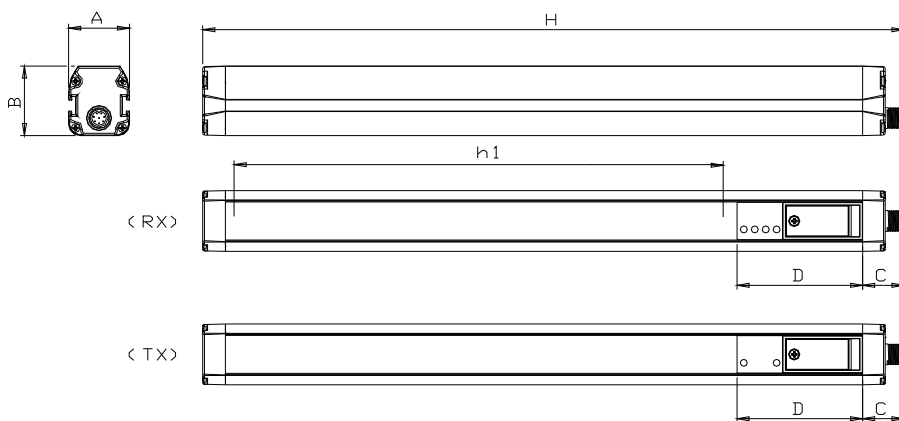
- Processing and Packaging machinery
- Food, Cosmetic, Pharmaceutical
- Electronics and mechanical assembling
- Conveyor lines and sorting systems



DS2		
Light array (controlled height)		150...1650 mm
Resolution		6...25 mm
Number of beams		21...231 (res= 6mm)
		6...66 (res= 25mm)
Light emission		IR LED
Response time		5...90 ms
Interface		serial RS485 or Ethernet
Setting		Dip-switches
		Graphic interface
Operating distance		0,3...5 m (res= 6mm)
		0,3...10 m (res=25mm)
Power supply	Vdc	24V +/- 20%
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	
	NPN/PNP	
	relay	
	other	0...10 V Analog output
	cable	
Connection	connector	▪
	pig-tail	
Approximate dimensions (mm)		35x40x(256...1726)
Housing material		aluminium
Mechanical protection		IP65

TECHNICAL DATA	
Power supply	24 Vdc ± 20%
Consumption on emitter unit (TX)	250 mA max. load excluded
Light emission	IR LED 880 nm
Output	PNP, analog output
Output current	100 mA
Saturation voltage	1,5 V max.
Connection	M12 4-pole connector (TX), M12 8-pole and M12 4-pole type "D" connector (RX)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class I
Mechanical protection	IP65 (EN 60529)
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	painted aluminium (Pulverit 5121/0085 Black)
Lens material	PMMA
Operating temperature	0 ... 50 °C
Storage temperature	-25...70 °C
Weight	1,9 - 4,6 kg

## DIMENSIONS

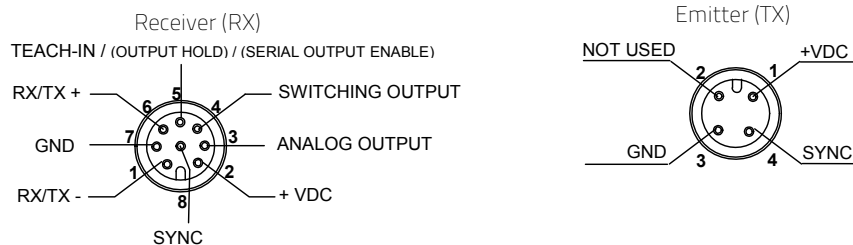


MODEL	A x B (mm)	H (mm)	C (mm)	D (mm)
DS2-05-07-015-XX	35 x 40	256	23.8	72.5
DS2-05-07-030-XX	35 x 40	403	23.8	72.5
DS2-05-07-045-XX	35 x 40	550	23.8	72.5
DS2-05-07-060-XX	35 x 40	697	23.8	72.5
DS2-05-07-075-XX	35 x 40	844	23.8	72.5
DS2-05-07-090-XX	35 x 40	991	23.8	72.5
DS2-05-07-105-XX	35 x 40	1138	23.8	72.5
DS2-05-07-120-XX	35 x 40	1285	23.8	72.5
DS2-05-07-135-XX	35 x 40	1432	23.8	72.5
DS2-05-07-150-XX	35 x 40	1579	23.8	72.5
DS2-05-07-165-XX	35 x 40	1726	23.8	72.5
DS2-05-07-045-XX	35 x 40	562	23.8	72.5
DS2-05-07-060-XX	35 x 40	713	23.8	72.5
DS2-05-07-075-XX	35 x 40	864	23.8	72.5
DS2-05-07-090-XX	35 x 40	1015	23.8	72.5

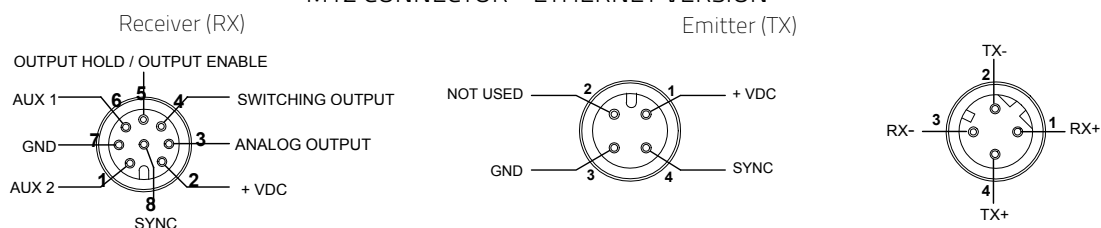
XX: JV for serial models or JE for ETHERNET models

## CONNECTIONS

### M12 CONNECTOR - SERIAL VERSION



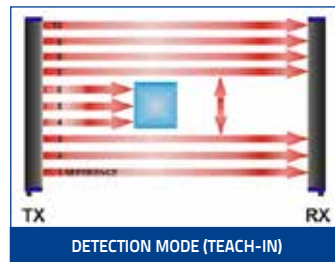
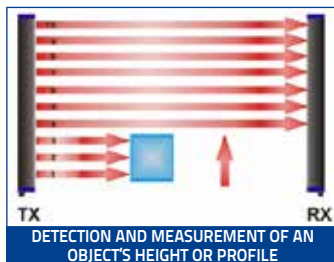
### M12 CONNECTOR - ETHERNET VERSION



## INDICATORS AND SETTING



## DETECTION MODE EXAMPLES



And more applications:

- Object height measurement (vertical mounting);
- Object width measurement (horizontal mounting);
- Object distance measurement (horizontal mounting);
- Object volume measurement (vertical and horizontal combination);
- Single or multiple object presence and/or position detection in a given area;
- Missing label detection on multiple lanes;
- Vertical warehouse drawers positioning;
- Box or other objects profiling on conveyors;
- Web edges or center guiding;
- Cartoners, stackers and palletizers.

## RESPONSE TIME - SERIAL AND ETHERNET VERSION

	Tmin (msec)	T2 → T3 → T4 → T5 → T6 → T7						Tmax (msec)		
		CONFIGURATION								
		Top beam				Complete beams status				
MODEL RS485	Binary	Binary	ASCII	ASCII	Binary	Binary	ASCII	ASCII		
	57600 baud	9600 baud	57600 baud	9600 baud	57600 baud	9600 baud	57600 baud	9600 baud		
DS2-05-07-015-JV	5.5	12.5	5.05	13	5.5	15	6.5	10		
DS2-05-07-030-JV	7	14	7	14.5	7	18	8.5	21		
DS2-05-07-045-JV	8.5	15.5	8.5	16	8.5	21	10	24		
DS2-05-07-060-JV	10	17	10	18	10	26	12	38		
DS2-05-07-075-JV	11.5	18.5	11.5	19	11.5	31	15	44		
DS2-05-07-090-JV	13	20	13	20	13	36	17	54		
DS2-05-07-105-JV	14.5	21.5	14.5	22	14.5	40	19	62		
DS2-05-07-120-JV	17	24	17	24	17	44	21	70		
DS2-05-07-135-JV	18.5	25	19	26	19	48	23	80		
DS2-05-07-150-JV	20	26.5	21	28	21	53	25	84		
DS2-05-07-165-JV	22	28	23	30	23	56	28	91		
DS2-05-07-045-JV	5	11	5	11	5	13	6	18		
DS2-05-07-060-JV	5.5	12	5.5	12.5	5.5	14.5	6.5	19.5		
DS2-05-07-075-JV	6	13	6	13.5	6	16	7	21		
DS2-05-07-090-JV	6.5	13.5	6.5	14.5	6.5	17.5	7.5	22.5		
MODEL ETHERNET	CONFIGURATION									
	Top beam		Complete beams status							
	Binary	ASCII	Binary		ASCII					
DS2-05-07-060-JE	10	10	10		12					
DS2-05-07-075-JE	11.5	11.5	11.5		15					
DS2-05-07-090-JE	13	13	13		17					
DS2-05-07-120-JE	17	17	17		21					
DS2-05-07-150-JE	20	21	21		25					
DS2-05-07-165-JE	22	23	23		28					

## MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	CONTROLLED AREA (mm)	OPTICS INTERAXIS (mm)	OUTPUT	MODEL	ORDER No.		
Measurement light curtain	147	6.75	Voltage Analog and RS485	DS2-05-07-015-JV	957501040		
	294			DS2-05-07-030-JV	957501050		
	441			DS2-05-07-045-JV	957501060		
	588			DS2-05-07-060-JV	957501000		
	735			DS2-05-07-075-JV	957501070		
	882			DS2-05-07-090-JV	957501010		
	1029			DS2-05-07-105-JV	957501080		
	1176			DS2-05-07-120-JV	957501020		
	1323			DS2-05-07-135-JV	957501090		
	1470			DS2-05-07-150-JV	957501100		
	1617			DS2-05-07-165-JV	957501030		
	453			25	Voltage Analog and RS485	DS2-05-25-045-JV	957501110
	604					DS2-05-25-060-JV	957501140
	755					DS2-05-25-075-JV	957501120
	912	DS2-05-25-090-JV	957501130				
	588	6.75	Voltage Analog and Ethernet			DS2-05-07-060-JE	957501150
	735					DS2-05-07-075-JE	957501160
	882			DS2-05-07-090-JE	957501170		
	1176			DS2-05-07-120-JE	957501180		
	1470			DS2-05-07-150-JE	957501190		
	1617			DS2-05-07-165-JE	957501200		

## 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, P.U.R.	2 m	CS-A1-02-R-02	95A251540	
		5 m	CS-A1-02-R-05	95A251560	
		10 m	CS-A1-02-R-10	95A251570	
	8-pole, black, P.V.C.	3 m	CS-A1-06-B-03	95ACC2230	
		5 m	CS-A1-06-B-05	95ACC2240	
		10 m	CS-A1-06-B-10	95ACC2250	
	4-pole, shielded, grey, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480	
		5 m	CV-A1-22-B-05	95ACC1490	
		10 m	CV-A1-22-B-10	95ACC1500	
	8-pole, shielded, black, P.V.C.	3 m	CV-A1-26-B-03	95ACC1510	
		5 m	CV-A1-26-B-05	95ACC1520	
		10 m	CV-A1-26-B-10	95ACC1530	
		15 m	CV-A1-26-B-15	95ACC2080	
		25 m	CV-A1-26-B-25	95ACC2100	
	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	
	8-pole, U.L., black, P.V.C.	3 m	CS-A1-06-U-03	95ASE1220	
		5 m	CS-A1-06-U-05	95ASE1230	
		10 m	CS-A1-06-U-10	95ASE1240	
		15 m	CS-A1-06-U-15	95ASE1250	
		25 m	CS-A1-06-U-25	95ASE1260	
			50 m	CS-A1-06-U-50	95A252710
		4-pole, black	Connector-not cabled	CS-A1-02-B-NC	G5085002
		8-pole, black	Connector-not cabled	CS-A1-06-B-NC	95ACC2550