

## AREAscan™ MEASUREMENT AND DETECTION LIGHT GRIDS WITH SERIAL INTERFACE



- *Measurement in automatic material handling*
- *Versions with 6 or 25 mm resolution*
- *150 - 2500 mm controlled height*
- *Operating distance up to 10 m*
- *PNP, 0-10 V outputs and serial RS485*

## DS2 SERIES

The **AREAscan™** family of the **DS2** series covers controlled heights ranging from 15 to 250 cm, with 5 m operating distances for 6 mm resolution versions, or 10 m for 25 mm resolution versions.

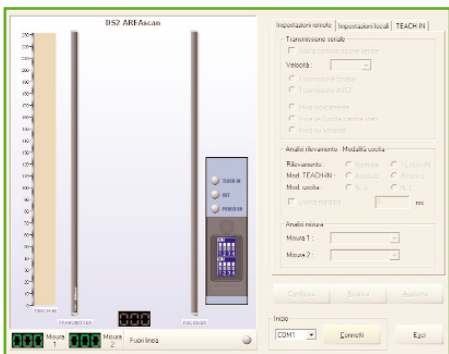
The measurement configuration can be set manually thanks to internal dip-switches, or using graphic interface from remote PC on the serial port. Once loaded the program on the flash memory, the device functions in the stand-alone mode.

The serial interface transmits the measurement in a binary or ASCII code, the operating status control as well as the setting of the different baud-rate versions.

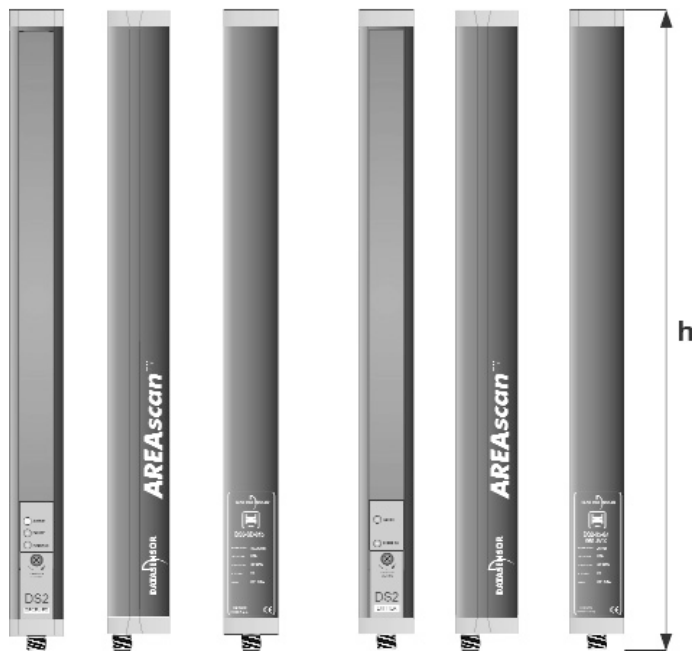
The **DS2** light arrays suits different height or dimensional measurement applications in general, in automatic material handling.

The different configuration parameters of the light grid can be visualised and modified using the extremely easy and intuitive user interface. In particular, the interface consents the access to many different advanced operating modes:

- complete beam status array, where serial output transmits a string of information relative to the status of each single optic;
- top beam, which provides information relative to the last interrupted or free optic;
- bottom beam, which provides information relative to the first interrupted or free optic;
- middle beam, which provides information relative to the central interrupted or free optic;
- total beam, which provides information on the total number of obscured or free optics;
- total contiguous beam, which provides information on the maximum number of adjacent obscured beams;
- number of transitions, provides information on the number of transitions from free to obscured optics or vice versa.

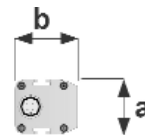


## DIMENSIONS



RECEIVER

EMITTER

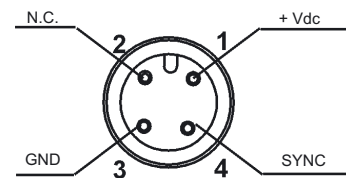
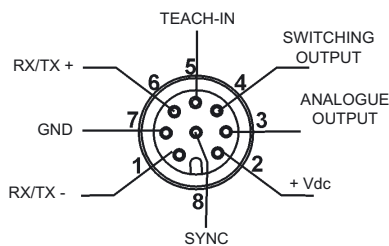


MODELLO	a x b (mm)	h (mm)
DS2-05-015-JV	35 x 40	251
DS2-05-030-JV	35 x 40	399
DS2-05-045-JV	35 x 40	547
DS2-05-060-JV	35 x 40	695
DS2-05-075-JV	35 x 40	843
DS2-05-090-JV	35 x 40	991
DS2-05-105-JV	35 x 40	1139
DS2-05-120-JV	35 x 40	1287
DS2-05-135-JV	35 x 40	1435
DS2-05-150-JV	35 x 40	1583
DS2-05-165-JV	35 x 40	1731

## CONNECTIONS

RECEIVER (RX)

EMITTER (TX)



- 1 = white = RX/TX -
- 2 = brown = +Vdc
- 3 = green = Analogue output
- 4 = yellow = Switching output
- 5 = grey = TEACH-IN
- 6 = pink = RX/TX +
- 7 = blue = GND
- 8 = red = SYNC

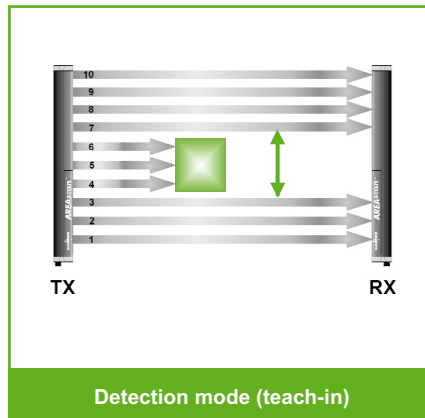
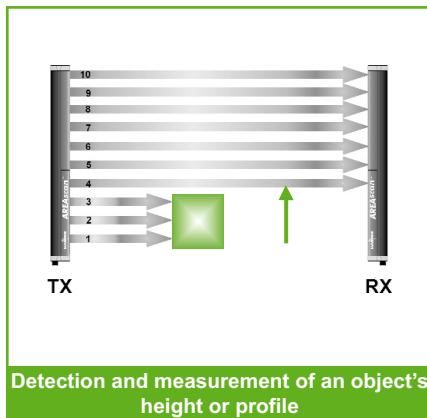
- 1 = brown = +Vdc
- 2 = white = N.C.
- 3 = blue = GND
- 4 = black = SYNC

## TECHNICAL DATA

<b>Power supply:</b>	24 Vdc ± 20 %
<b>Total consumption of two units:</b>	250 mA max. without load
<b>Outputs:</b>	1 switching PNP output 1 analogue output; 0 - 10 V ( $\Delta V_{max}$ 5%)
<b>Load current on switching output:</b>	100 mA; short circuit protection
<b>Saturation voltage on switching output:</b>	-1.5 V at T=25°C
<b>Minimum response time:</b>	5 ms
<b>Emission type:</b>	infrared 880 nm
<b>Minimum detectable object:</b>	12 mm (DS2-05-07) 50 mm (DS2-05-25)
<b>Resolution:</b>	6 mm (DS2-05-07) 25 mm (DS2-05-25)
<b>Relative measurement precision:</b>	± 6 mm (DS2-05-07) ± 25 mm (DS2-05-25)
<b>Absolute measurement precision:</b>	6 mm (DS2-05-07) 25 mm (DS2-05-25)
<b>Operating distance:</b>	0.3 - 5 m (DS2-05-07) 0.3 - 10 m (DS2-05-25)
<b>Receiver indicators:</b>	green POWER ON LED yellow OUTPUT LED
<b>Emitter indicators:</b>	red FAILURE LED green POWER ON LED red FAILURE LED
<b>Operating temperature:</b>	0 ... + 50 °C
<b>Storage temperature:</b>	- 25 ... + 55 °C
<b>Electrical protection:</b>	class 1
<b>Mechanical protection:</b>	IP65 (EN 60529)
<b>Vibration resistance:</b>	± 0.5 mm amplitude 10 ... 55 Hz frequency
<b>Shock resistance:</b>	11 ms (about 30 g) shocks per each axis (EN 60068-2-27)
<b>Housing material:</b>	painting aluminium (RAL9005 shiny black)
<b>Optics material:</b>	PMMA
<b>Connections:</b>	M12 4-pole connector for TX M12-8 pole connector RX
<b>Weight:</b>	DS2-015: 700 g. per unit DS2-030: 1100 g. per unit DS2-045: 1500 g. per unit DS2-060 : 1900 g. per unit DS2-075 : 2300 g. per unit DS2-090 : 2700 g. per unit DS2-105 : 3100 g. per unit DS2-120 : 3400 g. per unit DS2-135 : 3800 g. per unit DS2-150 : 4200 g. per unit DS2-165 : 4600 g. per unit



## FUNCTIONING 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.

**Note:** in local functioning, different operating modes can be selected: absolute or relative measurement respect to a reference by means of internal dip-switches and absolute or relative detection respect to a reference by means of internal dip-switches

## MODEL SELECTION AND ORDER INFORMATION

MODEL	CONTROLLED HEIGHT	RESOLUTION	ORDER N°
DS2-05-07-015-JV	150 mm	6 mm	957501040
DS2-05-07-030-JV	300 mm	6 mm	957501050
DS2-05-07-045-JV	450 mm	6 mm	957501060
DS2-05-07-060-JV	600 mm	6 mm	957501000
DS2-05-07-075-JV	750 mm	6 mm	957501070
DS2-05-07-090-JV	900 mm	6 mm	957501010
DS2-05-07-105-JV	1050 mm	6 mm	957501080
DS2-05-07-120-JV	1200 mm	6 mm	957501020
DS2-05-07-135-JV	1350 mm	6 mm	957501090
DS2-05-07-150-JV	1500 mm	6 mm	957501100
DS2-05-07-165-JV	1650 mm	6 mm	957501030
DS2-05-25-045-JV	450 mm	25 mm	957501110
DS2-05-25-060-JV	600 mm	25 mm	957501140
DS2-05-25-075-JV	750 mm	25 mm	957501120
DS2-05-25-090-JV	900 mm	25 mm	957501130

A CD-ROM with graphic user interface, fixing brackets and screws are supplied with the product

## ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	ORDER N°
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
CS-A1-06-B-03	axial M12-8 pole unshielded 3 m connector	95ACC2230
CS-A1-06-B-05	axial M12-8 pole unshielded 5 m connector	95ACC2240
CS-A1-06-B-10	axial M12-8 pole unshielded 10 m connector	95ACC2250
CV-A1-22-B-03	axial M12 4-pole shielded 3 m connector	95ACC1480
CV-A1-22-B-05	axial M12 4-pole shielded 5 m connector	95ACC1490
CV-A1-22-B-10	axial M12 4-pole shielded 10 m connector	95ACC1500
CV-A1-26-B-03	axial M12 8-pole shielded 3 m connector	95ACC1510
CV-A1-26-B-05	axial M12 8-pole shielded 5 m connector	95ACC1520
CV-A1-26-B-10	axial M12 8-pole shielded 10 m connector	95ACC1530
ST-KSTD	mounting brackets - 4 pcs kit	95ACC1670
ST-K4AV	anti-vibration supports - 4 pcs kit	95ACC1700
ST-K6AV	anti-vibration supports - 6 pcs kit	95ACC1710
ST-K4OR	orientable supports - 4 pcs kit	95ACC1680
ST-K6OR	orientable supports - 6 pcs kit	95ACC1690

# AREA SENSORS



Distributed by:

### HEADQUARTERS

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