AREAscan™ DETECTION AND MEASUREMENT LIGHT GRIDS







- Operating distance reaching 1.5 m and up to 600 mm controlled height
- Digital PNP and 0 10 V analogue outputs
- · Simple configuration obtained using the internal dip-switches
- Teach-in setting with Remote and self-calibration function

simple and transparent detection

DS3 SERIES

The *AREAscan*™ light grids of the **DS3** series are optoelectronic multibeam devices that can be used to detect, measure and control the position of objects, also transparent and small.

Models with 150, 300, 450 or 600 mm detection field height are available, as well as presenting 0.2 - 0.6 m or 0.6 - 1.5 m operating distances.

Internal dip-switches for configuration are available on all models, together with the Teach-in setting button with Remote and self-calibration function, LED indicators for the signalling of the device operating and auto-diagnostic status.

The synchronisation via cable of the emitter and receiver units guarantees high optic and electromagnetic interference immunity. The integrated electronics eliminates the need for an external control unit.

The compact dimensions (35 x 40 mm), easy installation and excellent performances make the $AREAscan^{TM}$ light grids particularly suitable to the many different applications of automatic packaging and industrial automation in general.



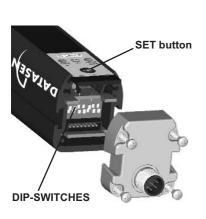
DS OBJECT DETECTION AND MEASUREMENT GRIDS

The following operating modes can be selected via internal dipswitches on the receiver unit and the SET and calibration button:

- Scanning with parallel or crossed beams
- Manual calibration or at powering on
- Absolute 1 or relative 2 measurement
- Absolute 3 or relative 4 detection
- Precise detection or with a tolerance channel
- Light or dark output
- Sensitivity level

Notes:

- In this mode, the analogue output is proportional to the last obscured optic
- In this mode, the analogue output is proportional to the the total number of obscured optics
- In this mode, a certain object in a certain position in the sensitive area can be detected through Teach-in. The digital ouput switches every time the object is in this position
- In this mode, a certain object can be detected through Teach-in. The digital output switches each time the object is inside the sensitive area in any position



DIMENSIONS







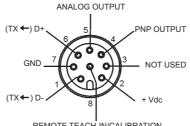
EMITTER



MODEL	a x b (mm)	h (mm)
DS3-SD-015	35 x 40	226
DS3-SD-030	35 x 40	376
DS3-SD-045	35 x 40	526
DS3-SD-060	35 x 40	676
DS3-LD-015	35 x 40	226
DS3-LD-030	35 x 40	376
DS3-LD-045	35 x 40	526
DS3-LD-060	35 x 40	676

CONNECTIONS

RECEIVER (RX)



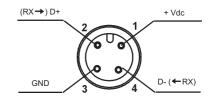
REMOTE TEACH-IN/CALIBRATION

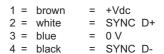
1 = white = SYNC D-2 = brown= +Vdc = NOT USED 3 = green 4 = yellow PNP output 5 = grey Analog output 6 = red SYNC D+

7 = blue = 0 V

REMOTE TEACH-IN / 8 = red**CALIBRATION**









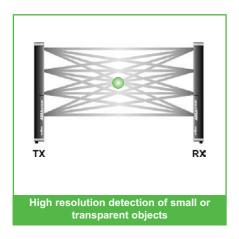
Power supply: 24 Vdc ± 15 % Consumption on emitter unit: 100 mA max. Consumption on receiver unit: 100 mA max. without load Outputs: 1 PNP output; max. 10 kΩ load Load current on PNP output: 100 mA; short circuit protection Saturation voltage on PNP output: 1 V a T=25°C Response time: refer to selection table Emission type: infrared 880 nm Resolution with crossed beams DS3-SD: 0.5 mm minimum object detectable: DS3-LD: 0.8 mm Resolution with parallel beams 6 mm Resolution with parallel beams ± 6 mm Resolution with parallel beams b 6 mm Resolution measurement precision (parallel beams): \pm 3 mm b mm Dimensional difference between equally detected b 6 mm Objects	TECHNICAL DATA				
Consumption on emitter unit: 100 mA max. Consumption on receiver unit: 100 mA max. without load Outputs: 1 PNP output; max. 10 kΩ load 1 analog output; 0 - 10 V (Δ V _m , 5%) Load current on PNP output: 100 mA; short circuit protection Saturation voltage on PNP output: 1 V a T=25°C Response time: refer to selection table Emission type: infrared 880 nm Resolution with crossed beams minimum object detectable: DS3-SD: 0.5 mm Resolution with parallel beams minimum object detectable: 0 DS3-LD: 0.8 mm Relative measurement precision (parallel beams): ± 6 mm Absolute measurement precision (parallel beams): ± 3 mm Dimensional difference between equally detected objects in the absolute teach-in mode: ± 6 mm Operating distance: 0.2 - 0.6 m (SD vers.) Operating distance: 0.2 - 0.6 m (SD vers.) Receiver indicators: green POWER ON LED orange OUT LED red FAILURE/ERROR LED Departing temperature: -10 + 55°C Storage temperature: -25 + 70°C Humidity: 1595% (uncondensed) Electrical protection: class 1 Mechanical protection: 0.7 mm width, 10 55 Hz amplitude, 10 sweep for X, Y, Z axis; 1 octave/min., (EN 60068-2-6) Shock resistance: 10.3 - 45°. Sion g, per unit DS3-045°. 700 g, per unit DS3-045°.	Power supply:	24 Vdc + 15 %			
Consumption on receiver unit: Outputs: 1 PNP output; max. 10 kΩ load 1 analog output; 0 - 10 V (Δ V _{min} 59%) Load current on PNP output: 100 mA; short circuit protection Saturation voltage on PNP output: 1 V a T=25°C Response time: refer to selection table infrared 880 nm Resolution with crossed beams minimum object detectable: DS3-SD: 0.5 mm Resolution with parallel beams minimum object detectable: 6 mm Relative measurement precision (parallel beams): ± 6 mm Absolute measurement precision (parallel beams): ± 3 mm Dimensional difference between equally detected objects in the absolute teach-in mode: bimensional difference between equally detected objects in the relative teach-in mode: 0 0.2 - 0.6 m (SD vers.) 0 0.6 - 1.5 m (LD vers.) Receiver indicators: green POWER ON LED orange OUT LED red FAILURE/ERROR LED green POWER ON LED Operating temperature: - 10 + 55 °C Storage temperatur					
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DS3-015: 310 g. per unit DS3-030: 530 g. per unit DS3-045: 700 g. per unit		M12-8 pole connector for RX			
DS3-030: 530 g. per unit DS3-045: 700 g. per unit	Weight:				
DS3-045: 700 g. per unit					
		DS3-030: 530 g. per unit			
DS3-060: 980 g. per unit					
		DS3-060: 980 g. per unit			

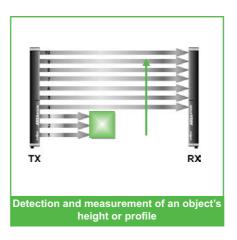
DS3-SD-015	226
total length:	226 mm
controlled area length:	150 mm
n° beams	24
response time of crossed beams:	23 ms.
response time of parallel beams:	3 ms.
operating distance:	0.2 0.6
DS3-SD-030	
total length:	376 mm
controlled area length:	300 mm
n° beams:	48
response time of crossed beams:	46 ms.
response time of parallel beams:	6 ms.
operating distance:	0.2 0.6
DS3-SD-045	
total length:	526 mm
controlled area length:	450 mm
n° beams:	72
response time of crossed beams:	69 ms.
response time of crossed beams:	9 ms.
operating distance:	0.2 0.6
DS3-SD-060	070
total length:	676 mm
controlled area length:	600 mm
n° beams:	96
response time of crossed beams:	92 ms.
response time of parallel beams:	12 ms.
operating distance:	0.2 0.6
DS3-LD-015	
total length:	226 mm
controlled area length:	150 mm
n° beams:	24
response time of crossed beams:	23 ms.
response time of parallel beams:	3 ms.
operating distance:	0.6 1.5
DS3-LD-030	
total length:	376 mm
controlled area length:	300 mm
nº hoomo:	40
n° beams:	48
response time of crossed beams:	46 ms.
	46 ms. 6 ms.
response time of crossed beams:	46 ms. 6 ms.
response time of crossed beams: response time of parallel beams: operating distance:	46 ms. 6 ms.
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045	46 ms. 6 ms. 0.6 1.5
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length:	46 ms. 6 ms. 0.6 1.5
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms.
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams: response time of parallel beams:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms. 9 ms.
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms. 9 ms.
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-060	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms. 9 ms. 0.6 1.5
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-060 total length:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms. 9 ms. 0.6 1.5
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-060	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms. 9 ms. 0.6 1.5
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-060 total length:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms. 9 ms. 0.6 1.5
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-060 total length: controlled area length:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms. 9 ms. 0.6 1.5
response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-045 total length: controlled area length: n° beams: response time of crossed beams: response time of parallel beams: operating distance: DS3-LD-060 total length: controlled area length: n° beams:	46 ms. 6 ms. 0.6 1.5 526 mm 450 mm 72 69 ms. 9 ms. 0.6 1.5

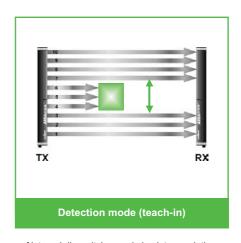
SELECTION TABLE



FUNCTIONING MODE







Note: 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 and SET button

SELECTION AND ORDER INFORMATION

MODEL	DISTANCE	CONTROLLED HEIGHT	ORDER N°
DS3-SD-015	short	150 mm	957600100
DS3-SD-030	short	300 mm	957600110
DS3-SD-045	short	450 mm	957600150
DS3-SD-060	short	600 mm	957600170
DS3-LD-015	long	150 mm	957600120
DS3-LD-030	long	300 mm	957600140
DS3-LD-045	long	450 mm	957600160
DS3-LD-060	long	600 mm	957600180

Fixing brackets and screws are supplied with the product

ACCESSORIES SELECTION TABLE

MODEL	DESCRIPTION	ORDER N°
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

Note: the cabled connectors have to be ordered separately

AREA SENSORS











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DATASENSOR SpA

via Lavino, 265 - 40050 Monte San Pietro, BO - Italy Tel. +39 051/6765611 • Fax +39 051/6759324 www.datasensor.com • e-mail info@datasensor.com

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