

Датчики площади AS1, DS1, DS2, DS3

Технические характеристики

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AS1

```
operation = "Normal"
mirror_mod.use x = false
mirror_mod.use y = true
```

OVERVIEW

- ✓ Crossed beam area sensors
- ✓ 100mm controlled height
- ✓ Adjustment trimmer
- ✓ Optical or wire synchronism
- ✓ Scan Mode input



APPLICATIONS

Processing lines

Food, Cosmetic and Pharmaceutical

Electronics and mechanical assembling

Conveyor lines and sorting systems

TECHNICAL SPECIFICATION

Power supply	24 Vdc $\pm$ 15%
Consumption on emitter unit (TX)	150 mA max.
Consumption on receiver unit (RX)	40 mA max. load excluded
Light emission	IR LED 880 nm
Setting	adjustment trimmer (mod. AS1...P)
Indicators	yellow OUTPUT LED green POWER ON LED
Output	PNP
Output current	100 mA max.
Saturation voltage	1,5 V max.
Response time	2,75 – 8 ms (mod. AS1-HR) 1,75 ms (mod. AS1-SR)
Connection	M12 4-pole connector (TX), M12 5-pole connector (RX)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 M Ω , 500 Vdc between electronics and housing
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	black electro-painted aluminium
Lens material	PMMA
Operating temperature	0 ... 50 °C
Storage temperature	-25 ... 70 °C
Weight	300 g

DS1

```
operation = "Normal",  
mirror_mod.use_x = false,  
mirror_mod.use_y = true,  
false
```

OVERVIEW

- ✓ 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

TECHNICAL SPECIFICATION

Power supply	24 Vdc $\pm$ 15%
Consumption on emitter unit (TX)	150 mA max.
Consumption on receiver unit (RX)	50 mA max. load excluded
Light emission	IR LED 880 nm
Setting	adjustment trimmer (mod. DS1...PV)
Indicators	yellow OUTPUT LED green POWER ON LED
Output	PNP; analog output
Output current	100 mA max.
Saturation voltage	1,5 V max.
Response time	1 – 2,75 ms
Connection	M12 4-pole connector (TX), M12 5-pole connector (RX)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 M Ω , 500 Vdc between electronics and housing
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	black electro-painted aluminium
Lens material	PMMA
Operating temperature	0 ... 50 °C
Storage temperature	-25 ... 70 °C
Weight	300 g (mod. DS1...010)
	400 g (mod. DS1...015)
	600 g (mod. DS1...030)

DS2

```
position = 0;
mirror_mod.use x = false;
mirror_mod.use y = true;
```

OVERVIEW

- ✓ 6 or 25 mm resolution
- ✓ Relative measurement precision ± 6 mm or ± 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



APPLICATIONS

Processing and Packaging machinery

Food, Cosmetic, Pharmaceutical

Electronics and mechanical assembling

Conveyor lines and sorting systems

TECHNICAL SPECIFICATION

Power supply	24 Vdc $\pm$ 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.
Response time	1 – 2,75 ms
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 M Ω , 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

```
operation == "MIRROR_Y"  
mirror_mod.use_x = False  
mirror_mod.use_y = True
```

The AREAscan™ light arrays 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 DS3 light grids particularly suitable to the many different applications of automatic packaging and industrial automation in general.



Control of the correct material positioning during functioning	Detection of objects with different shapes in the food industry
Loop control and positioning (also transparent material	Detection of objects with different shapes in the food industry

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 kW load
	1 analog output; 0 – 10 V (D Vmax. 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
	DS3-LD: 0.8 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 equal- ly detected objects in the absolute teach-in mode:	± 6 mm
Dimensional difference between equal- ly detected objects in the absolute teach-in mode:	Δ = 12 mm
Operating distance:	0.2 – 0.6 m (SD vers. parallel beams)
	0.3 – 0.6 m (SD vers. crossed beams)
	0.6 – 1.5 m (LD vers.)
Receiver indicators:	green POWER ON LED
	orange OUT LED
	red FAILURE/ERROR LED
Emitter indicators:	green POWER ON LED
Operating temperature:	– 10 ... + 55 °C
Storage temperature:	– 25 ... + 70 °C
Humidity:	15...95 % (uncondensed)
Electrical protection:	class 1
Mechanical protection:	IP 65 (EN 60529)
Vibration resistance:	0.7 mm width
	10 ... 55 Hz amplitude,
	10 sweep for X, Y, Z axis;
	1 octave/min., (EN 60068–2–6)
Shock resistance:	16 ms (about 10 G) 1.000
	shock for axis (EN 60068–2–29)
Housing material:	painted aluminium (shiny black RAL9005)
Optics material:	PMMA
Connections:	M12–4 pole connector for T
	M12–8 pole connector for R
Weight:	DS3–015: 310 g. per unit
	DS3–030: 530 g. per unit
	DS3–045: 700 g. per unit
	DS3–060: 980 g. per unit

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