



# Enhanced Laser Sentinel

958001050

SLS-M5-E-1708-E  
LASER SENTINEL™ ENHANCED

## OVERVIEW

- Safety laser scanner based on Time Of Flight measurement
- More than 72 m<sup>2</sup> safely monitored, with 5.5 m over 275°
- High detection performances in compact size
- Advanced dust filtering
- Easy programming with intuitive Graphic User Interface
- Dimensions (w,d,h): 102 , 112.5, 152 mm
- I/O connection with standard M12 cables
- Up to 3 simultaneous safety zones
- 2 Warning zones up to 40 m
- 30/40/50/70/150 mm selectable detection capability
- Up to 70 zone sets
- Partial dynamic muting
- Metal brackets allowing full orientation and fast replacement
- Advanced measurement data protocol
- Colour graphic display for monitoring and diagnostics
- Speed measurement with encoder in

## TECHNICAL FEATURES

### Detection properties

Nominal sensing distance	≤5.5 m
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controlled height	5.5 m
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Sensitivity adjustment	GUI
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Muting enable	disponibile
Scan angle	275°
Warning zone max range	40m@target bianco (90%)
Detection capability	30/40/50/70/150 mm selezionabile
With 1 safety zone	20 (17poli) / 70 (17+8 poli)
With 1 safety zone + 1 warning zone	20 (17poli) / 70 (17+8 poli)
With 1 safety zone + 2 warning zones	20 (17poli) / 70 (17+8 poli)
With 2 safety zone	20 (17poli) / 70 (17+8 poli)
With 2 safety zone + 1 warning zone	10 (17poli) / 70 (17+8 poli)
With 2 safety zone + 2 warning zones	6 (17poli) / 70 (17+8 poli)
With 3 safety zone	6 (17poli) / 70 (17+8 poli)
Max zone sets number in a particular activation order	N/A
Safety area range with detection capability =30 mm	0.05 ... 2.5m
Safety area range with detection capability =40 mm	0.05 ... 3m
Safety area range with detection capability =50 mm	0.05 ... 4m
Safety area range with detection capability =70 mm	0.05 ... 5.5m

Safety area range with detection capability =150 mm	0.05 ... 5.5m
Partial muting, dynamic for first OSSDs couple	disponibile
Total Muting (monodirectional or bidirectional)	disponibile
Override	disponibile
Reference points	disponibile
Measurement data max. angular resolution	0,1°
Angular resolution	0,1°
Response time ( Master + 3 slaves )	Min: 92 ms; Max: 1232 ms
Tolerance zone	100 mm
Operative temperature range	-10 ...+50 °C

## Application

Description	Compact scan view 275°
Functions	Master 70 areas encoder in
Wait time for next zone switching	Min 60ms
Wait time for next zone switching	30 ...5010 ms
Configuration and monitoring interface	DL Sentinel

## Safety parameters

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Type	3 (EN 61496-1)
SIL	SIL 2 (IEC 61508)
SILCL	SILCL 2 (EN 62061)
PL	PL d (EN ISO 13849-1)
PFHd	6,38 x 10-8
Cat.	3 (EN ISO 13849-1)
Mission time according ( EN ISO 13849 )	20 anni

#### Outputs

Output type	PUSH/PULL
Response time	Min: 62 ms; Max: 1202 ms
Response Time (Master + Slave)	Min: 72 ms; Max: 1212 ms
Response Time (Master + 2 Slave)	Min: 82 ms; Max: 1222 ms
Generic alarm	disponibile
Window cleaning alarm	disponibile
Safety output ( OSSDs) max number	3
Measurement data	disponibili
EDM ( external device monitoring )	disponibile
Highspeed input	4

Muting lamp	disponibile
Configurable Inputs/Outputs total number	10 (17poli) / 18 (17+8 poli)
Configurable Inputs max number	4 (17poli) / 8 (17+8 poli)
Configurable Inputs/Output max number	2
Configurable Output max number	2
Configurable OSSDs max number	3x2
Safety zone max number	3
Warning	disponibile
Advanced data transmission protocol	disponibile
Reset ( power cycle)	disponibile
Manual/automatic restart	disponibile
Shut off	disponibile

#### Electrical data

Operating Voltage	24 Vdc $\pm$ 20%
Max ripple content	+/- 5%
LED indicators	OSSD / Warning / Interlock
Max output current	0,25 A max per ogni OSSD
Emission	Laser Red

Zero-voltage switching	< 5V
Optical power class	1 (EN 60825-1:2014 )
Maximum capacitance load	2,2uF @24 Vdc
Output voltage	> Tensione alimentazione - 2V
Cabel Length (Power Supply/Output)	max 25m
Ripple	+/- 5%
Power Consumption	8W@24v singolo dispositivo, a vuoto
Input capacitive load	22uF
Input current	6..15 mA
Input saturation voltage	> 12V

#### Mechanical data

Dimensions	102x113x152
Weight	1,5 kg
Housing Material	Alluminio verniciato / PC
Connections	M12 4 poli Key D x Ethernet
Storage temperature	-20 ... 70°C
Material	Metal - Aluminium / PMMA
Plug	M12 17 poli M + M12 8 poli M

max rotation speed	1980 rpm
Optic cover material	PMMA
Mechanical protection	IP 65 (EN 60529)
Humidity	15 ... 95 % (no condensazione)

#### Test/Approvals

Approvals	CE
EMC compatibility	IEC 61496 -1 / 3

#### Generical Data

System Memory	disponibile
Storage	-20 ... 70°C
Network Interface	Ethernet
Dimensions	102x113x152
Operating Temperature	-10°C ... +50°C
Mechanical Protection	IP 65 (EN 60529)
Certifications (Safety Compliance)	TUV / UL
Power supply	24Vdc +/- 20%

## Datasensing S.r.l.

Strada S.Caterina, 235  
41122 Modena (MO)

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Tel. 059 420411  
Fax 059 253973  
E-mail  
[info@datasensing.com](mailto:info@datasensing.com)