

Enhanced Laser Sentinel SLS10

SAFETY LASER SCANNER



LASER SENTINEL SLS 10 is the innovative solution for safe area protection in a large variety of applications in automation and intralogistic industries. It offers a complete and flexible solution for the safeguard of robotic cells, automated guided vehicles and general machinery.

- Safety laser scanner based on Time Of Flight measurement
- Almost to 240 m² safely monitored, with 10 m safety range over 275°
- High detection performances in compact size
- Advanced dust filtering
- Easy programming with new 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
- 30/40/50/60/70/150 mm selectable detection capability
- Up to 70 zone sets with 4 simultaneous detection areas each
- Partial muting
- Metal brackets allowing full orientation and fast replacement
- Advanced measurement data protocol
- Colour graphic display for monitoring and diagnostics
- Speed and positioning measurement with encoder inputs



CODE DESCRIPTION

SLS - M 10 - E - 08 E

series	SLS	Enhanced Laser Sentinel SLS10
	M	Master, 10 zones sets
	R	Remote unit
encoder inputs	10	10 m
	E	encoder inputs on secondary connector
		not present
I/O connectors	08	M12 8-pin male
	0812	M12 8-pin male or M12 12-pin male
	1708	M12 17-pin male and M12 8-pin male
enhanced version	E	Enhanced version

TECHNICAL SPECIFICATIONS

	SLS-M10-0812-E	SLS-M10-1708-E	SLS-M10-E-1708-E	SLS-R10-E
FEATURES AND PERFORMANCES				
Detection capability (dc)	30/40/50/60/70/150 mm selectable			
Angular resolution min	Progr. up to 0,059°			
Safety range with dc = 30 mm	5 m			
Safety range with dc = 40 mm	5,5 m			
Safety range with dc = 50 mm	7,5 m			
Safety range with dc = 60 mm	8,75 m			
Safety range with dc = 70 and 150 mm	10 m			
Max warning zone range	40 m @ 90% remission target (white)			
Max simultaneous safety zones	1 M12 8 p. connector 2 M12 12 p. connector	3		Not applicable
Response time	Min 62 ms @5,5 m; 84 ms @9 m; 103 ms @10 m programmable			
Tolerance zone	100 mm			
Supplement for retroreflectors on scan plane in front of a safety zone	200 mm			
NUMBER OF ZONESET				
With 1 safety zone min	3 M12-8 p. connector	20 M12-17 p. connector		
With 1 safety zone max	10 M12-12 p connector	70 M12-17 p. + M12-8 p. connectors		
With 1 safety zone + 1 warning zone min	2 M12-8 p. connector	20 M12-17 p. connector		
With 1 safety zone + 1 warning zone max	6 M12-12 p. connector	70 M12-17 p. + M12-8 p. connectors		
With 1 safety zone + 2 warning zone min	3 M12-12 p. connector	20 M12-17 p. connector		
With 1 safety zone + 2 warning zone max	3 M12-12 p. connector	70 M12-17 p. + M12-8 p. connectors		
With 2 safety zone min	3 M12-17 p. connector	20 M12-17 p. connector		
With 2 safety zone max	3 M12-12 p connector	70 M12-17 p. + M12-8 p. connectors		
With 2 safety zone + 1 warning zone min	2 M12-12 p. connector	10 M12-17 p. connector		
With 2 safety zone + 1 warning zone max	2 M12-12 p. connector	70 M12-17 p. + M12-8 p. connectors		
With 2 safety zone + 2 warning zone min	1 M12-12 p. connector	6 M12-17 p. connector		
With 2 safety zone + 2 warning zone max	1 M12-12 p. connector	70 M12-17 p. + M12-8 p. connectors		
With 3 safety zone min	2 M12-12 p. connector	10 M12-17 p. connector		
With 3 safety zone max	2 M12-12 p. connector	70 M12-17 p. + M12-8 p. connectors		
ELECTRICAL DATA				
Power Supply	16,8v <= Vdc <= 28,8v			
Power consumption	8 W @24 V, Single device, without load			
CONFIGURABLE INPUT / OUTPUT				
OSSD	1x2 M12-8 p. connector 2x2 M12-12 p. connector	3x2		
Configurable input max	2	12	12 4 HF inputs for encoders	Not applicable
Configurable output max	0	2		Not applicable
Configurable input/output max	1	4		Not applicable
High-speed inputs (100 kHz)	Not applicable		4	Not applicable
COMMUNICATION				
Network Interface	10/100 Mbit/s Ethernet			Not applicable
HMI/UI				
Configuration and monitoring interfaces	DL Sentinel 5.0 (with Optima Tune Technology)			
LED indicators	OSSD / Warning / Interlock			

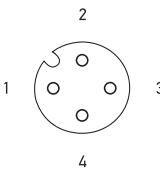
TECHNICAL SPECIFICATIONS

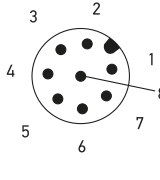
	SLS-M10-0812-E	SLS-M10-1708-E	SLS-M10-E-1708-E	SLS-R10-E
MECHANICAL DATA				
Dimensions	102 x 113 x 152 mm			
Material	Metal - Aluminium / PMMA			
Housing material	Painted aluminium / PC			
Optic window material	PMMA			
ENVIRONMENTAL DATA				
Humidity	15 ... 95 %			
Mechanical protection	IP 65 (EN 60529)			
Operating Temperature	-10 ... 50 °C			
Storage temperature max.	-20 ... 70 °C			
OPTICAL DATA				
Laser class	1 (EN 60825-1:2014)			
SAFETY PARAMETERS				
Type	3			
SIL	SIL 2 (IEC 61508)			
Cat.	3 (EN ISO 13849-1)			
PFHd	6.38 10 ⁻⁸			
Mission Time (TM)	20 years according to EN ISO 13849			
FUNCTIONS				
Generic Alarm	Available			
Clean Window Alarm	Available			
Muting functions	Available	Not applicable		
Partial / dynamic Muting	Available	Not applicable		
Muting enable	Available	Not applicable		
Override functions	Available	Not applicable		
EDM (External Device Monitoring)	Available	Not applicable		
Pre-alarm (warning)	Available	Not applicable		
Advanced data transfer protocol	Available			
Reset (restart cycle)	Available	Not applicable		
Shut off (mute)	Available	Not applicable		
Manual / automatic restart	Available	Not applicable		
Reference points	Available			
Encoder management for zone set switch (speed and positional)	Available (SLS-M10-E-1708-E only)			
Start-up external trigger	Available	Not applicable		

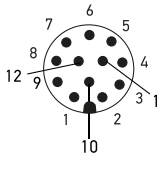
AVAILABLE MODELS

Part Number	Model	Description
958000033	SLS-M10-0812-E	SLS-M10-0812-E Very Long range 8/12p Enhanced
958000034	SLS-M10-1708-E	SLS-M10-1708-E Very Long range 17/8p Enhanced
958000035	SLS-M10-E-1708-E	SLS-M10-1708-E Very Long range encoders 17/8p Enhanced
958000036	SLS-R10-E	SLS-R10-E Remote Very Long range Enhanced

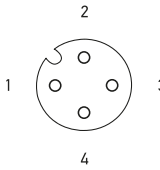
CONNECTIONS

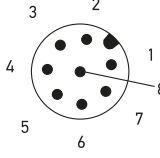
SLS-M10-0812-E		
 FEMALE M12 4-poles Ethernet, F, Key D	1	Transmit data+
	2	Receive data+
	3	Transmit data-
	4	Receive data-

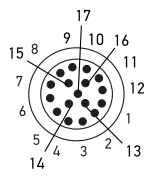
SLS-M10-0812-E		
 MALE M12 8-po- les Safety SLS master 0812	1	White CONFIGURABLE INPUT/OUTPUT
	2	Brown 24 Vdc
	3	Green CONFIGURABLE INPUT
	4	Yellow CONFIGURABLE INPUT
	5	Grey OSSD11
	6	Pink OSSD12
	7	Blue 0 Vdc
	8	Red F_Earth

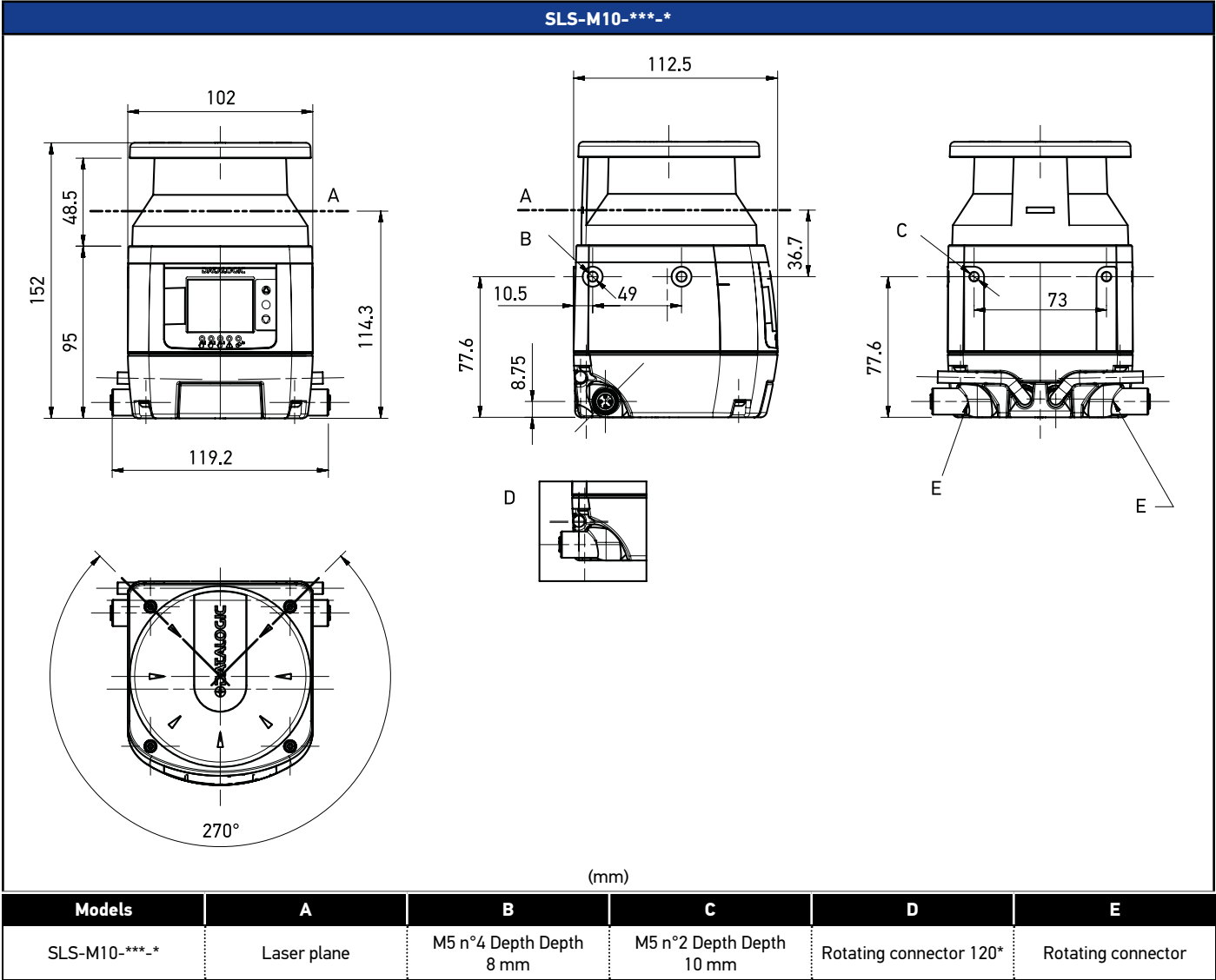
SLS-M10-0812-E		
 MALE M12 12-poles Safety	1	Brown 24 Vdc
	2	Blue 0 Vdc
	3	White CONFIGURABLE INPUT
	4	Green 24 Vdc
	5	Pink OSSD12
	6	Yellow 0 Vdc
	7	Black CONFIGURABLE INPUT/OUTPUT
	8	Gray OSSD11
	9	Red CONFIGURABLE INPUT/OUTPUT
	10	Violet CONFIGURABLE INPUT/OUTPUT
	11	Gray/Pink CONFIGURABLE INPUT/OUTPUT
	12	Red/Blue F_Earth

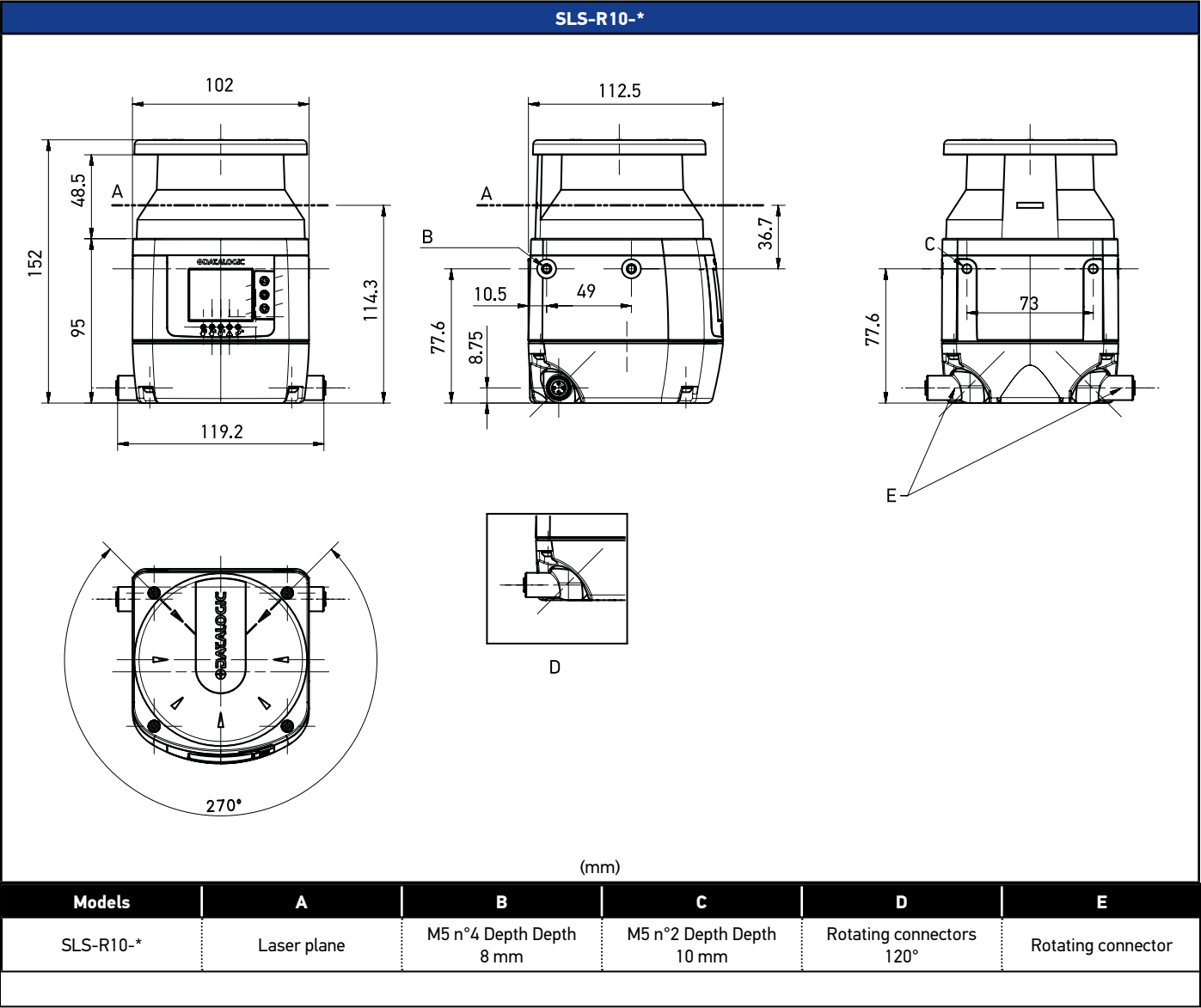
CONNECTIONS

SLS-M10-1708-E			
 FEMALE M12 4-poles Ethernet, F, Key D	1	—	Transmit data+
	2	—	Receive data+
	3	—	Transmit data-
	4	—	Receive data-

SLS-M10-1708-E			
 MALE M12 8-poles Safety SLS master 1708	1	White	CONFIGURABLE INPUT
	2	Brown	CONFIGURABLE INPUT
	3	Green	CONFIGURABLE INPUT
	4	Yellow	HF INPUT (ENC 11)
	5	Grey	HF INPUT (ENC 21)
	6	Pink	HF INPUT (ENC 12)
	7	Blue	CONFIGURABLE INPUT
	8	Red	HF INPUT (ENC 22)

SLS-M10-1708-E			
 MALE M12 17-poles Safety SLS master 1708	1	Brown	24 Vdc
	2	Blue	0 V
	3	Blue	0 V
	4	Green	CONFIGURABLE INPUT
	5	White/Black	CONFIGURABLE INPUT
	6	Orange	CONFIGURABLE INPUT
	7	Black	CONFIGURABLE INPUT
	8	Pink	OSSD12
	9	Red	CONFIGURABLE INPUT
	10	Brown	24 Vdc
	11	Brown	24 Vdc
	12	Blue	0 V
	13	Grey	OSSD11
	14	White	CONFIGURABLE INPUT
	15	Yellow	CONFIGURABLE INPUT
	16	Yellow/Green	F_Earth
	17	Violet	CONFIGURABLE INPUT





ACCESSORIES TO BE ORDERED SEPARATELY

	Model	Description	
Cables	95ASE1220	Cable M12 8 poles axial female unshielded 3 m	Currently Available
	95ASE1230	Cable M12 8 poles axial female unshielded 5 m	Currently Available
	95ASE1240	Cable M12 8 poles axial female unshielded 10 m	Currently Available
	95ASE1250	Cable M12 8 poles axial female unshielded 15 m	Currently Available
	95ASE1260	Cable M12 8 poles axial female unshielded 25 m	Currently Available
	95A252710	Cable M12 8 poles axial female unshielded 50 m	Currently Available
	95A252720	Cable M12 12 poles axial female unshielded 3 m	Currently Available
	95A252730	Cable M12 12 poles axial female unshielded 5 m	Currently Available
	95A252740	Cable M12 12 poles axial female unshielded 10 m	Currently Available
	95A252750	Cable M12 12 poles axial female unshielded 15 m	Currently Available
	95A252760	Cable M12 12 poles axial female unshielded 25 m	Currently Available
	95A252770	Cable M12 12 poles axial female unshielded 50 m	Currently Available
	95ASE3010	Cable M12 17 poles axial female unshielded 3 m	Currently Available
	95ASE3020	Cable M12 17 poles axial female unshielded 5 m	Currently Available
	95ASE3030	Cable M12 17 poles axial female unshielded 10 m	Currently Available
	95ASE3040	Cable M12 17 poles axial female unshielded 15 m	Currently Available
	95ASE3050	Cable M12 17 poles axial female unshielded 25 m	Currently Available
	95ASE2890	M12-8p M to M12-8p M cable with 5 m length for master-remote and remote-remote connection	Currently Available
	95ASE2900	M12-8p M to M12-8p M cable with 10 m length for master-remote and remote-remote connection	Currently Available
	95ASE2910	M12-8p M to M12-8p M cable with 20 m length for master-remote and remote-remote connection	Currently Available
	93A051346	Cable, Ethernet, CAB-ETH-M1 M12-IP67 to RJ45 1m	Currently Available
	93A051347	Cable, Ethernet, CAB-ETH-M3 M12-IP67 to RJ45 3m	Currently Available
	93A051348	Cable, Ethernet, CAB-ETH-M5 M12-IP67 to RJ45 5m	Currently Available
	93A051391	Cable, Ethernet, CAB-ETH-M10 M12-IP67 to RJ45 10m	Currently Available
Mounting brackets	SLS-BRACKET-A	SLS-BRACKET-A	95ASE2920
	SLS-BRACKET-B	SLS-BRACKET-B	95ASE2930
	SLS-BRACKET-C	SLS-BRACKET-C	95ASE2940
Safety units	SE-SR2	Safety unit 3NO + 1NC outputs	95ACC6170
	CSME-03VU24-Y14	Forced guided relay interface 3NO + 1 NC	95ASE1270
Window cleaners	SLS-CLOTH	SLS-CLOTH	95ASE3000
	SLS-CLEANER	SLS-CLEANER	95ASE2990

SPARE PARTS TO BE ORDERED SEPARATELY

	Model	Description	
Memory groups	SLS10-MG-1708	SLS10-MG-1708 Memory group for SLS10 models	95ASE0129
	SLS10-MG-0812	SLS10-MG-0812 Memory group for SLS10 models	95ASE0128
Protective windows	SLS-WINDOW	SLS-WINDOW	95ASE2971