

# Datalogic Safety Laser Scanners



Datalogic Safety Laser Scanners provide a cost-effective way to safeguard static applications such as robot cells and moving applications such as automatic guided vehicles (AGVs). They are also ideal for providing safe access to potentially dangerous locations or areas.

The Safety Laser Scanners are configurable to meet a wide range of area protection needs. They feature a 275° viewing window and support several user-definable zones of protection.

These scanners can also be configured to filter out dust to eliminate false trips.

## Features

- 275° viewing window
- Easy programming with intuitive Graphical User Interface (GUI) for stand-alone as well as master/remote systems
- Three levels of advanced dust filtering configurable via GUI
- Can be installed to monitor either horizontally or vertically
- Configurable warning areas extending up to 40m [131.2ft] out
- Two distinct and assignable warning signals
- Muting capability for vertical installations
- Multiple I/O points depending on model, each configured either as input or output via GUI
- Master/remote units can be daisy chained using only a single cable

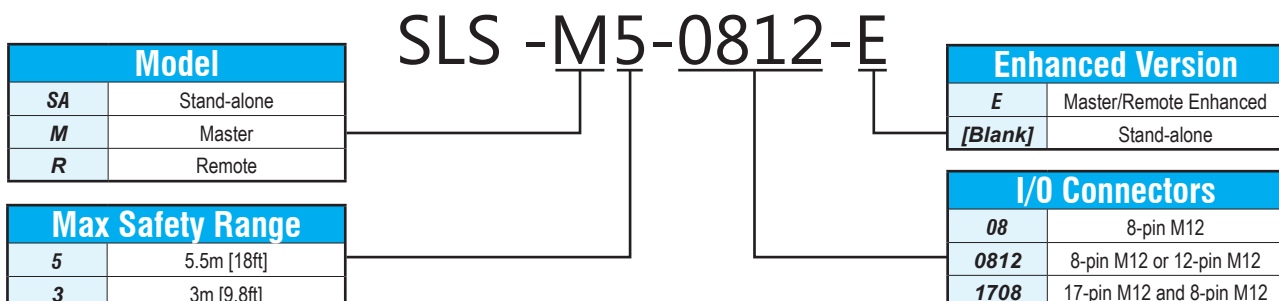


## Datalogic Safety Laser Scanner Selection Guide

Part Number	Price	Scanner Type	Safe Operating Range	Number of Safe Operating Zones	Switching Output	Connection Points and Function	Drawing
<a href="#"><u>SLS-SA3-08</u></a>	\$2,472.00	Stand-alone	Up to 3m [9.8ft]	1	1 pair OSSD	<b>IO:</b> (1) 8-pin M12 quick-disconnect <b>Programming:</b> (1) 4-pin d-coded M12 ethernet quick-disconnect <b>Connection to master/remote:</b> None	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-SA5-08</u></a>	\$3,008.00	Stand-alone	Up to 5.5m [18.0ft]	1	1 pair OSSD	<b>IO:</b> (1) 8-pin M12 quick-disconnect <b>Programming:</b> (1) 4-pin d-coded M12 ethernet quick-disconnect <b>Connection to master/remote:</b> None	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-M3-1708-E</u></a>	\$4,337.00	Enhanced master	Up to 3m [9.8ft]	3	3 pair OSSD	<b>IO:</b> (1) 17-pin and (1) 8-pin M12 quick-disconnect <b>Programming:</b> (1) 4-pin d-coded M12 ethernet quick-disconnect <b>Connection to master/remote:</b> (1) 8-pin a-coded M12 quick-disconnect	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-M3-0812-E</u></a>	\$4,267.00	Enhanced master	Up to 3m [9.8ft]	2	2 pair OSSD	<b>IO:</b> (1) 12-pin and (1) 8-pin M12 quick-disconnect (only one can be used) <b>Programming:</b> (1) 4-pin d-coded M12 ethernet quick-disconnect <b>Connection to master/remote:</b> (1) 8-pin a-coded M12 quick-disconnect	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-R3-E</u></a>	\$3,531.00	Enhanced remote	Up to 3m [9.8ft]	Same as Master	None	<b>IO:</b> None <b>Programming:</b> None <b>Connection to master/remote:</b> (2) 8-pin a-coded M12 quick-disconnect	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-M5-1708-E</u></a>	\$5,047.00	Enhanced master	Up to 5.5m [18.0ft]	3	3 pair OSSD	<b>IO:</b> (1) 17-pin and (1) 8-pin M12 quick-disconnect <b>Programming:</b> (1) 4-pin d-coded M12 ethernet quick-disconnect <b>Connection to master/remote:</b> (1) 8-pin a-coded M12 quick-disconnect	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-M5-0812-E</u></a>	\$4,978.00	Enhanced master	Up to 5.5m [18.0ft]	2	2 pair OSSD	<b>IO:</b> (1) 12-pin and (1) 8-pin M12 quick-disconnect (only one can be used) <b>Programming:</b> (1) 4-pin d-coded M12 ethernet quick-disconnect <b>Connection to master/remote:</b> (1) 8-pin a-coded M12 quick-disconnect	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-R5-E</u></a>	\$3,889.00	Enhanced remote	Up to 5.5m [18.0ft]	Same as Master	None	<b>IO:</b> None <b>Programming:</b> None <b>Connection to master/remote:</b> (2) 8-pin a-coded M12 quick-disconnect	<a href="#"><u>PDF</u></a>

Note: Master can be used individually or with Remote units. Remote unit requires a Master unit.

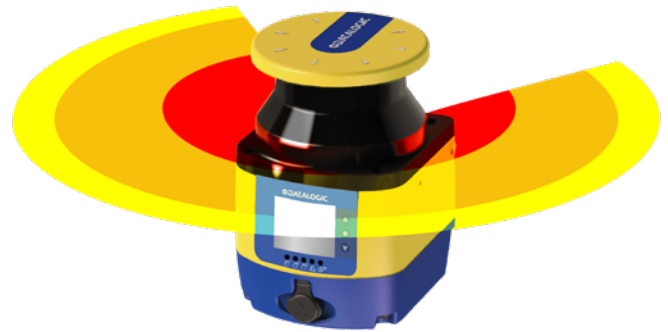
## Part Number Nomenclature



# Datalogic Safety Laser Scanners



General Specifications	
Supply Voltage	24 VDC ± 20%
Safety Outputs (OSSD)	0.25A max / each OSSD
Operating Temperature	-10 to +50 °C [14 to 122 °F]
Humidity	Up to 95% (no condensation)
Safety Category	Type 3, SIL 2, Pld
PFHd	6.38 x 10 <sup>-8</sup>
Response Time	Varies based on configuration (min: 62 ms)
MTTFd	61 years
DCavg	96.6%
Degree of Protection	IP65
Power Consumption	8W multiplied by (number of Remote units plus 1)*
Weight	2.92 lb [1.3 kg]
Maximum Connection Length	25m [82.0ft]
Warning Zone Operating Range	40m [131.2ft]
Certifications	TUV, CE, cULus



**Datalogic Safety Laser Scanners can manage two simultaneous warning zones and up to three safe zones. Safe zones can extend up to 5.5m [18.04ft], depending on the model, over an angle of 275°. Warning zones can extend 40m [131.2ft].**

\* The power consumption of each unit is 8W. However, each Remote unit receives its power from a Master unit. For example, a system with one Master unit and one Remote unit will draw 16W.

$$8W \times (1 \text{ [Master unit]} + 1 \text{ [Remote unit]}) = 8W \times 2 = 16W$$

IP Addresses	
Default IP Address	192.168.0.10 and 192.168.0.11
Default Password	admin

\* Note: Each SLS also reserves the successive IP address for internal functions. If a Remote unit is used with a Master unit, each Remote unit will reserve the successive two IP addresses following the IP address of the Master unit.

Detection / Operating Range*		
Object Size	Distance At Which Object Can Be Detected	
	SLS-x3-x	SLS-x5-x
30mm [1.18in]	2.5m [8.2ft]	2.5m [8.2ft]
40mm [1.57in]	3m [9.8ft]	3m [9.8ft]
50mm [1.97in]	3m [9.8ft]	4m [13.1ft]
70mm [2.76in]	3m [9.8ft]	5.5m [18.0ft]
150mm [5.91in]	3m [9.8ft]	5.5m [18.0ft]

\* Minimum operating range is 50mm [2.0in]

## Connection Example Using 5m Cables



**In this example, SLS-CABLE-R-5 cables are used. These are part of Datalogic's SLS-CABLE-R-x series of cables, any of which may be used. Note that performance or safety function cannot be guaranteed if different or additional cables are used.**

# Datalogic Safety Laser Scanners (Enhanced Master 1708)



Configurable Input/Output Options		
Type I/O	Description	Notes
Inputs	Shut Off	Enables the Shut off function for energy savings
	EDM x2	Enables External Device Monitoring
	Restart x2	Restarts the device following OSSD Off-Status
	Reset	Restores the device after a failure condition
	Restart/Reset x2	Restarts or restores the device
	Restart/Reset/EDM x2	Restarts or restores the device, or enables the EDM Function
	Area Switch x 8	Switches the detection area by employing external signals
	Override (pulsed) x3	Enables the override function (either pulse or level)
	Override (level) x3	
	Muting x6	2 separate muting functions
Outputs	Muting Lamp	Intended for 24 VDC LED lamp. Lit when Muting Function Signal is active
	Warning x2	Detection has occurred in warning area
	Alarm x2	Clean window, device error
	OSSD x4	Two more OSSD Pair
	Override Status	If Override is Active this is high.



## Connection Diagrams

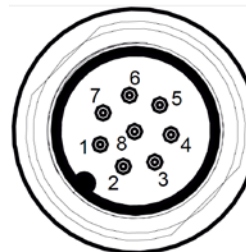
Note: The user must choose to use either the 17-pin OR both the 17-pin and 8-pin connections.

M12 17-pin Connection (SLS-MG-1708)		
Pin	Color	Description
1	Brown	24 VDC
2	Blue	0V
3	Blue	0V
4	Green	Configurable Output (by GUI)
5	White/Black	Input or Output (by GUI)
6	Orange	Configurable Input (by GUI)
7	Black	Configurable Input (by GUI)
8	Pink	Safety Output (OSSD)
9	Red	Input or Output (by GUI)
10	Brown	24 VDC
11	Brown	24 VDC
12	Blue	0V
13	Gray	Safety Output (OSSD)
14	White	Configurable Input (by GUI)
15	Yellow	Configurable Output (by GUI)
16	Yellow/Green	Ground
17	Violet	Configurable Input (by GUI)

Pins 1, 10 and 11 are pre-connected for the Datalogic cables.  
Pins 2, 3, and 12 are pre-connected for the Datalogic cables.

M12 8-pin Connection (SLS-MG-1708)			
Pin	Color (292 Cable)	Color (295 Cable)	Description
1	White	White	Configurable Input (by GUI)
2	Brown	Brown	Configurable Input (by GUI)
3	Green	Green	Configurable Input (by GUI)
4	Yellow	Yellow	Not Used
5	Gray	Gray	Not Used
6	Pink	Pink	Not Used
7	Blue	Blue	Configurable Input (by GUI)
8	Red	Red	Not Used

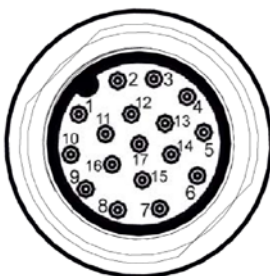
Note: Cable color represents standard industrial pinout. Confirm the specific color and pinout during installation. Datalogic cables use the 292 color code.



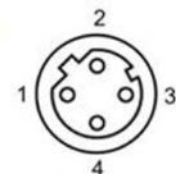
Note: The SLS-Mx-1708-E includes two M12 8-pin connections.

One connection (described above) is for I/O.

The second is for connection to Remote units using only a SLS-CABLE-R-x cable. Performance or safety function cannot be guaranteed if different or additional cables are used.



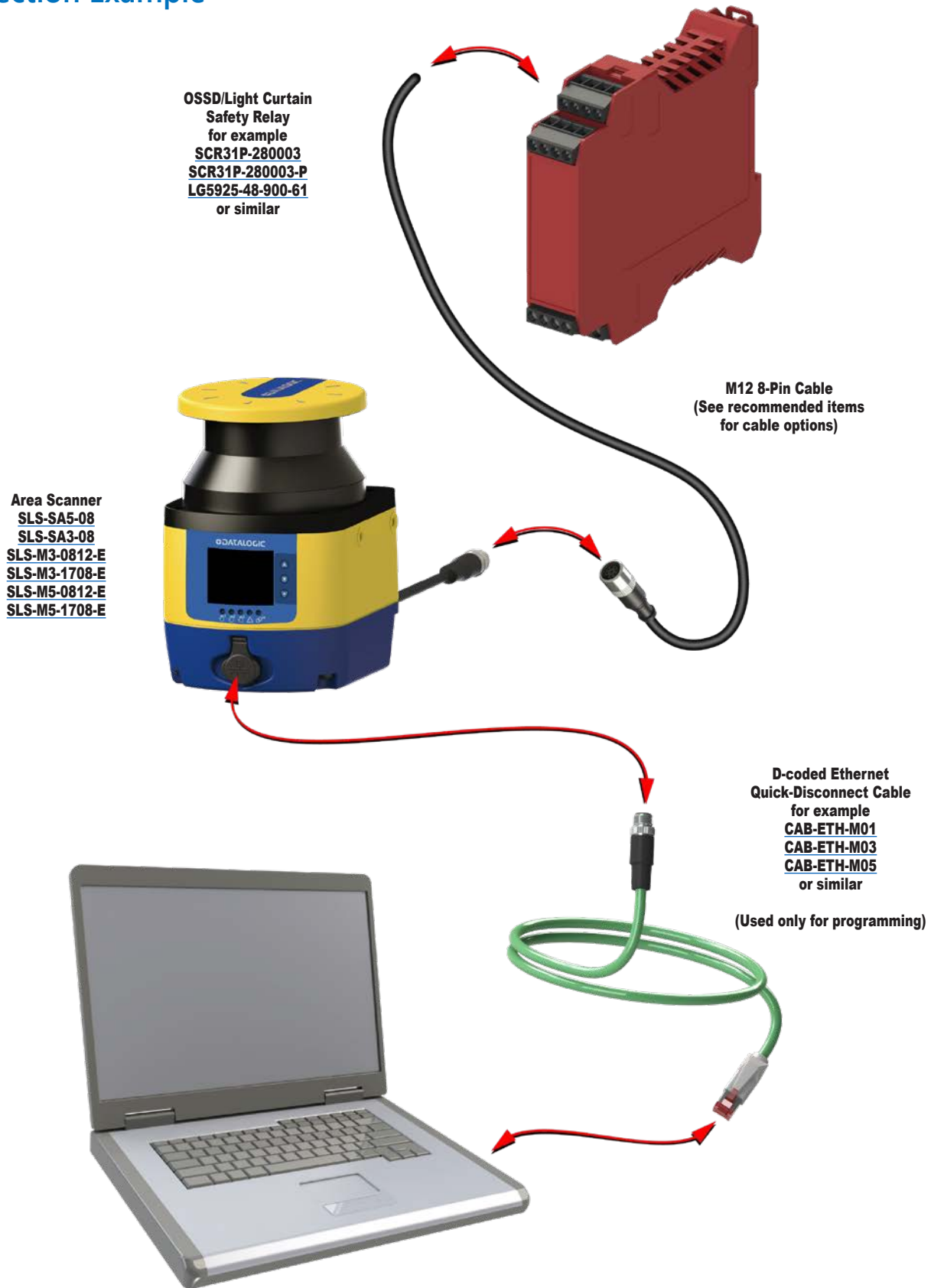
Connection (M12 D-coded Ethernet)	
Pin	Signal
1	TxD+, transmit data +
2	RxD+, receive data +
3	TxD-, transmit data -
4	RxD-, receive data -



# Datalogic Safety Laser Scanners



## Connection Example



# Datalogic Safety Laser Scanners Accessories



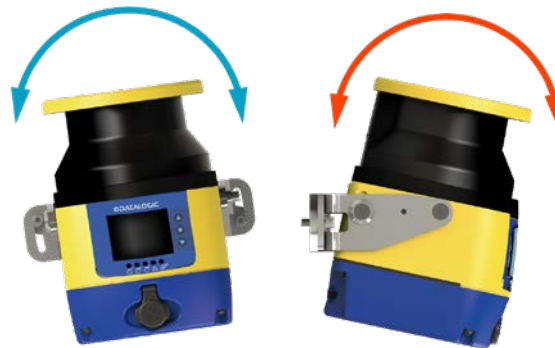
Datalogic Safety Laser Scanner Accessories Selection Chart				
Part Number	Price	Description	Weight (kg [lb])	Dimensional Drawing
<a href="#"><u>SLS-BRACKET-A</u></a>	\$113.00	Bracket, mounting, pitch and roll regulation bracket system	0.53 [1.17]	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-BRACKET-B</u></a>	\$71.00	Bracket, mounting, pitch regulation bracket system	0.24 [0.53]	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-BRACKET-C</u></a>	\$41.50	Bracket, mounting, head protective bracket	0.47 [1.04]	<a href="#"><u>PDF</u></a>
<a href="#"><u>SLS-WINDOW</u></a>	\$308.00	Lens, SLS, replacement window	0.22 [0.49]	<a href="#"><u>PDF</u></a>

Will work with all Datalogic SLS models

## BRACKET WITH PITCH AND ROLL ADJUSTMENT



**SLS-BRACKET-A**



**SLS-BRACKET-A** assembled with **SLS-SA5-08**

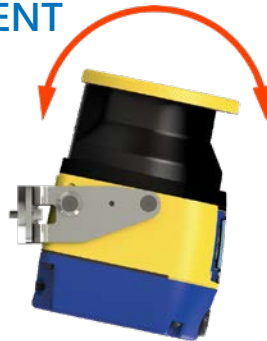


**SLS-BRACKET-A** and **SLS-BRACKET-C** assembled with **SLS-SA5-08**

## BRACKET WITH PITCH ADJUSTMENT



**SLS-BRACKET-B**



**SLS-BRACKET-B** assembled with **SLS-SA5-08**



**SLS-WINDOW**

## HEAD PROTECTIVE BRACKET



**SLS-BRACKET-C**



**SLS-BRACKET-C** assembled with **SLS-SA5-08**

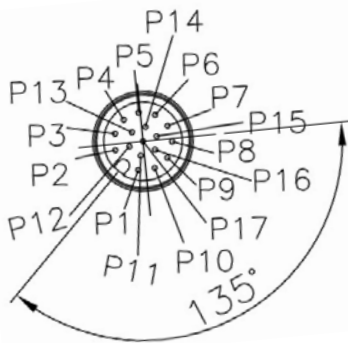
# Datalogic M12 Cables



Datalogic M12 Cables					
Part Number	Price	Description	Cable Length	Connection 1	Connection 2
<a href="#">CS-A1-15-U-10</a>	\$120.00	Connection cable	10m [32.8ft]	17-pin M12 female quick-disconnect	Pigtail
<a href="#">CS-A1-15-U-15</a>	\$92.00	Connection cable	15m [49.2ft]	17-pin M12 female quick-disconnect	Pigtail
<a href="#">CS-A1-15-U-25</a>	\$173.00	Connection cable	25m [82.0ft]	17-pin M12 female quick-disconnect	Pigtail
<a href="#">SLS-CABLE-R-5</a>	\$46.50	Connection cable	5m [16.4ft]	8-pin M12 male quick-disconnect	8-pin M12 male quick-disconnect
<a href="#">SLS-CABLE-R-10</a>	\$52.00	Connection cable	10m [32.8ft]	8-pin M12 male quick-disconnect	8-pin M12 male quick-disconnect
<a href="#">SLS-CABLE-R-20</a>	\$72.00	Connection cable	20m [65.6ft]	8-pin M12 male quick-disconnect	8-pin M12 male quick-disconnect

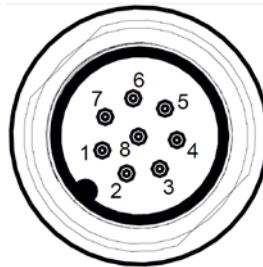
## Connection Diagrams

**CS-A1-15-U-x**



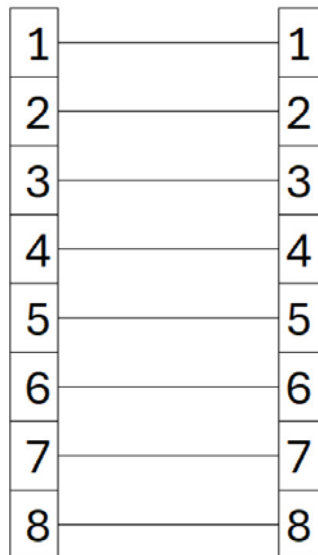
Pin Assignments	
Pin	Color
1	Brown
2	Blue
3	Blue
4	Green
5	White/Black
6	Orange
7	Black
8	Pink
9	Red
10	Brown
11	Brown
12	Blue
13	Gray
14	White
15	Yellow
16	Yellow/Green
17	Violet

**SLS-CABLE-R-x**



**Connection 1  
Pin #**

**Connection 2  
Pin #**



# Datalogic – Ethernet Cables



Datalogic Communication Cables		
Part Number	Price	Description
<b><u>CAB-ETH-M01</u></b>	\$69.00	Datalogic cable, Ethernet, PVC jacket, shielded, 1m [3.28ft] cable length, M12 4-pin male D-coded to RJ45
<b><u>CAB-ETH-M03</u></b>	\$84.00	Datalogic cable, Ethernet, PVC jacket, shielded, 3m [9.84ft] cable length, M12 4-pin male D-coded to RJ45
<b><u>CAB-ETH-M05</u></b>	\$102.00	Datalogic cable, Ethernet, PVC jacket, shielded, 5m [16.40ft] cable length, M12 4-pin male D-coded to RJ45



**CAB-ETH-M01**

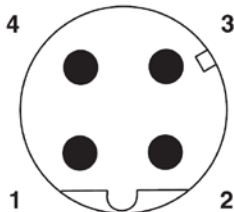


**CAB-ETH-M03**

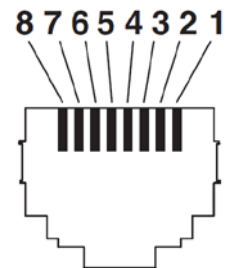
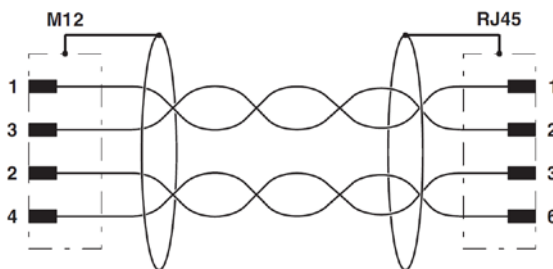


**CAB-ETH-M05**

## Diagrams



**Pin assignment M12 male connector, 4-pos., D-coded, male side**



**Connector pin assignment plug RJ45**



**Cable cross section**

# Datalogic Safety Laser Scanners Accessories Memory Group



The Datalogic Memory Group is the part of the SLS scanner that stores the program and houses the I/O connection for the SLS system. This is used in all Enhanced Master units. These memory groups come already installed in the SLS Enhanced Master units.



**SLS-MG-0812**

Datalogic Safety Laser Scanner Memory Group Selection Guide				
Part Number	Price	Item	Connection	Fits
<b>SLS-MG-0812</b>	\$193.00	Memory group	(1) 8-pin and (1) 12-pin M12 quick-disconnect (only one can be used)	Datalogic Enhanced Safety Laser scanner
<b>SLS-MG-1708</b>	\$193.00	Memory group	(1) 8-pin and (1) 17-pin M12 quick-disconnect (either the 17-pin OR both the 17-pin and 8-pin connections can be used)	Datalogic Enhanced Safety Laser scanner



**SLS-MG-0812**



**SLS-MG-1708**

# Safety Products



*Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.*

*AutomationDirect does not provide design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with the safety requirements for any application.*