



LASER SENTINEL SERIES

Safety Laser Scanner

QUICK GUIDE



*This Quick Reference Guide does not replace the Instruction Manual. Download the Instruction Manual by reading the QR code here or at www.datalogic.com. Click on **Support > Search by product** and enter the Laser Sentinel family name, then select your product from the dropdown list. Click on the **Manuals & Technical Literature** link to download your Instruction Manual. The Instruction Manual must be available at all times when installing and working with the product.*



SAFETY INFORMATION



For a correct use of the Laser Sentinel, the following points must be observed:

- The machine stopping system must be electrically controlled.
- This control system must be able to stop the dangerous movement of the machine within the total machine stopping time T and during all the working cycle phases.
- The device mounting and connections, must be carried out by qualified personnel only, according to the indications included in the special sections (refer to chapters 6 and 7 of the Instruction Manual) and in the applicable standards.
- The safety laser scanner must be securely placed in a particular position so that access to the dangerous zone is not possible without passing throughout the safety area (refer to chapter 5 of the Instruction Manual).
- The personnel operating in the dangerous area must be well trained and must have adequate knowledge of all the operating procedures of the safety laser scanner.
- In case of Manual Restart, the Restart button must be located outside the safety area to let the operator control the safety zone during resetting or testing sessions.
- Please carefully read the instructions for the correct functioning before powering the device.
- The requirements for the electrical safety and electromagnetic compatibility and the regulations or standards in all countries and/or regions, must be met by the power supply where the Laser Sentinel is used. If the Laser Sentinel power supply is shared with the machine or the other electronic devices, voltage reduction to the Laser Sentinel or noise influence to the device may occur due to the temporary increasing of the current consumption on the machine or the other electronic devices. We do not recommend sharing the Laser Sentinel power supply with the one for the machine or the other electronic devices, because the device may go to the error status in such circumstance.
- Do not place the connection cables in contact with or near high-voltage cables and/or cables with undergoing high current variations (e.g. motor power supplies, inverters, etc.).
- Do not connect any of the Laser Sentinel inputs to DC power sources outside of the declared range or to any AC power source, in order to avoid the risk of electric shock.
- Every access to the configuration tools must be allowed only to restricted and highly qualified personnel. The access to the configuration through the GUI is allowed only by password.

MECHANICAL MOUNTING

For mechanical mounting, the Laser Sentinel has two different procedures depending on the operation necessities. The two mounting possibilities are: direct mounting or angle adjustment bracket mounting (if the pitch and the roll angles need to be adjusted).

Optionally, the protection bracket can be added to applications using the angle adjustment brackets.



Required tool adjustable torque driver with 3 mm hex bit.

DIRECT MOUNTING

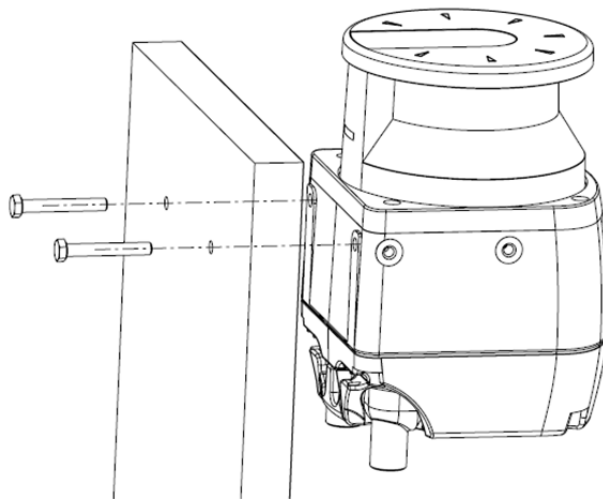
The device has two M5 threaded holes on the back and four M5 threaded holes on the side.

For direct mounting, use both M5 threaded holes in the back or all four M5 threaded holes on the two sides, taking into account the following values:

- M5 on the back (tightening torque 2.3 - 5.5 Nm), maximum depth of thread engagement 9.5 mm.
- M5 on the side (tightening torque 2.3 - 3 Nm), maximum depth of thread engagement 8 mm.



For direct mounting on the sides, if the wall or panel obstructs the output window, this plane cannot be used for safety zone monitoring. The safety zone must adhere to the minimum distance to wall value given in the Laser Sentinel Reference Manual.



It is possible to mount the Laser Sentinel by employing a Bracket System. The Bracket System is not included in the Laser Sentinel package, it is an optional accessory. In this case make reference to the Bracket Manual and the Instruction Manual in order to install the device.

CONNECTIONS

All power connections to the Laser Sentinel must strictly comply with standard regulations. The device requires a supply voltage of 24 Vdc. Power must be supplied in accordance with SELV/PELV (IEC 60204-1) for all the devices electrically connected to the safety laser scanner. Make sure that the safety laser scanner is provided with an appropriate electrical fuse protection and the earthing system method is the same for all the devices connected to the Laser Sentinel.

MACHINE INTERFACE CONNECTIONS

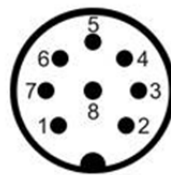
The Laser Sentinel B5 model has one OSSD pair and also includes three programmable signals. These signals allow the user to configure the device with different functions: the detection of a person or an object in the Warning Zone, the switching of the detection areas by employing external signals (Area Switch), the restart of the device caused by the OSSD Off-status (Restart) and restoring the device after a failure condition (Reset).



To mount power I/O cable you must unmount the memory group (for further information refer to chapter 7).



Make sure that the signals are aligned with the pin features and their specific function. In addition, they must be correctly connected to the external device.

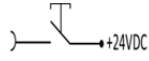
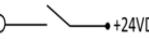
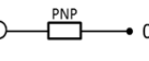
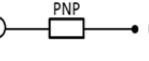


Power I/O Connector (M12 MALE 8-POLE)

TYPE	SIGNAL	COLOR	DESCRIPTION	PIN OUT
POWER	POWER SUPPLY	BROWN	24Vdc	2
	GND_ISO	BLUE	0 V	7
INPUT	MULTI IN	GREEN	Selectable by GUI	3
	MULTI IN	YELLOW	Selectable by GUI	4
INPUT/OUTPUT	MULTI IN/OUT	WHITE	Selectable by GUI	1
SAFETY OUTPUT	OSSD 1/1	GRAY	Safety Output	5
	OSSD 1/2	PINK	Safety Output	6
OTHER	F_EARTH	RED	Functional Earth	8

The **Multi In** are Input Pins, which are configurable depending on the safety application needed. These input signals can have the RESTART and RESET function, as well as being employed as Area switches (for further information refer to chapters 8 and 9).

The **Multi In/Out** is a Pin that can be configured either as input or output.

SIGNAL	FUNCTION	CONNECTION
MULTI – IN	RESTART / RESET	
	AREA SWITCH	
MULTI – OUT	WARNING	
OSSD	OSSD 1/1 OSSD 1/2	

SETUP AND CONFIGURATION



Download the *DLSentinel GUI* at www.datalogic.com. Click on **Support > Search by product** and enter the *Laser Sentinel* family name, then select your product from the dropdown list. Click on the **Software & Utilities** link to download your *Graphic User Interface*.

1. On the PC that will be used for configuration, (running Windows XP, 7, 8, or 10), download the *DLSentinel.zip* file. Extract the file, run the installation program and follow the installation procedure.
2. When the installation is complete the *DLSentinel* entry is created in the Start > All Programs menu under “Datalogic” as well as a desktop icon. Double-click the desktop icon to run it.
3. For the configuration procedure follow the steps included in the *DLSentinel User’s Manual*.











Configuration to the connected device requires the alignment between the IP Addresses of the device and the computer LAN. For further information refer to the *DLSentinel User’s Manual*.









MINIMUM SYSTEM REQUIREMENTS





COMPONENT	RECOMMENDED	MINIMUM
Processor(s)	Pentium 4	Pentium 4
Clock frequency	>= 3 GHz	>= 2 GHz
RAM	2 GB	1 GB
Free hard drive space	70 MB	70 MB
Monitor resolution	1280x768	1024x768
Supporting Operating System	Windows XP Windows 7 Windows 8 Windows 10	

DIAGNOSTICS

MONITORING BY DISPLAY

DISPLAYED ICON		NAME	DESCRIPTION
Configuration Valid	Configuration Pending Acceptance		
		ON State	The device is correctly functioning (OSSDs GO Condition). No presence detected in the Safety and Warning Area.
		Warning for Intrusion into Warning Zone	The device is correctly functioning. The device has detected a presence in the Warning Area.
		OFF State for Intrusion into Safety Zone	The device is correctly functioning (OSSDs STOP Condition). The device has detected a presence in the Safety Zone.
		Info or Warning Event	The device is correctly functioning; an info or warning event has been detected by the device.

Displayed Icon	Displayed Fault Code	Device Status	OSSD Status	Description/Action
	DLDNF	NORMAL	OFF	Downloading new firmware.
	DLDNC	NORMAL	OFF	Downloading new configuration.
	CLEANW2	NORMAL	ON	It is suggested to clean the window to avoid entering lockout condition.
	ITLOCK 1	NORMAL	OFF	Interlock. Waiting for the restart of OSSD.
	INTF6	NORMAL	ON	Non safety related internal test failure. Reset the system by using the reset function or cycle power to device. If failure persists, contact Datalogic Technical Support.
	EXTTEMP	NORMAL	ON	The device is operating in an environment that exceeds the specified operating temperature range: restore correct ambient temperature conditions.
	BOOTF	NORMAL	OFF	Invalid boot. Re-boot the system until the normal condition is restored. If warning persists, contact Datalogic Technical Support.
	CLEANW1	NORMAL	OFF	Window needs to be cleaned; repeat this action until the normal condition is restored. Otherwise damaged part must be replaced, contact Datalogic Technical Support.
	INPUTCF1	LOCKOUT	OFF	Check input connection or sequence.

Displayed Icon	Displayed Fault Code	Device Status	OSSD Status	Description/Action
	INPUTCF2	LOCKOUT	OFF	Check input sequence.
	OSSDF1	LOCKOUT	OFF	Check OSSD connections or integrity of the external switching device. If failure persists, contact Datalogic Technical Support.
		LOCKOUT	OFF	
	OSSD1F3	LOCKOUT	OFF	A short circuit to GND has been detected: check OSSD connections or integrity of the external switching device. If failure persists, contact Datalogic Technical Support.
	INTF1	LOCKOUT	OFF	Internal Failure. Reset the system by using the reset function or cycle power to device. If failure persists, contact Datalogic Technical Support.
	INTF2	LOCKOUT	OFF	
	INTF3	LOCKOUT	OFF	
	INTF4	LOCKOUT	OFF	
	INTF5	LOCKOUT	OFF	
	INTF7	LOCKOUT	OFF	
	INTF8	LOCKOUT	OFF	
	INTF9	LOCKOUT	OFF	
	INTF10	LOCKOUT	OFF	
	INTF11	LOCKOUT	OFF	
	INTF12	LOCKOUT	OFF	
	INTF13	LOCKOUT	OFF	
	INTF14	LOCKOUT	OFF	
	INTF15	LOCKOUT	OFF	
	INTF16	LOCKOUT	OFF	
	INTF17	LOCKOUT	OFF	
	INTF18	LOCKOUT	OFF	
INTF20	LOCKOUT	OFF		

ORIGINAL INSTRUCTIONS (ref.)

Patents. See www.patents.datalogic.com for patents list.

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Helpful links at www.datalogic.com: Contact Us, Terms and Conditions, Support.

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- END -