

Laser Safety Systems



**Your Engineered Laser
Safety Solution**



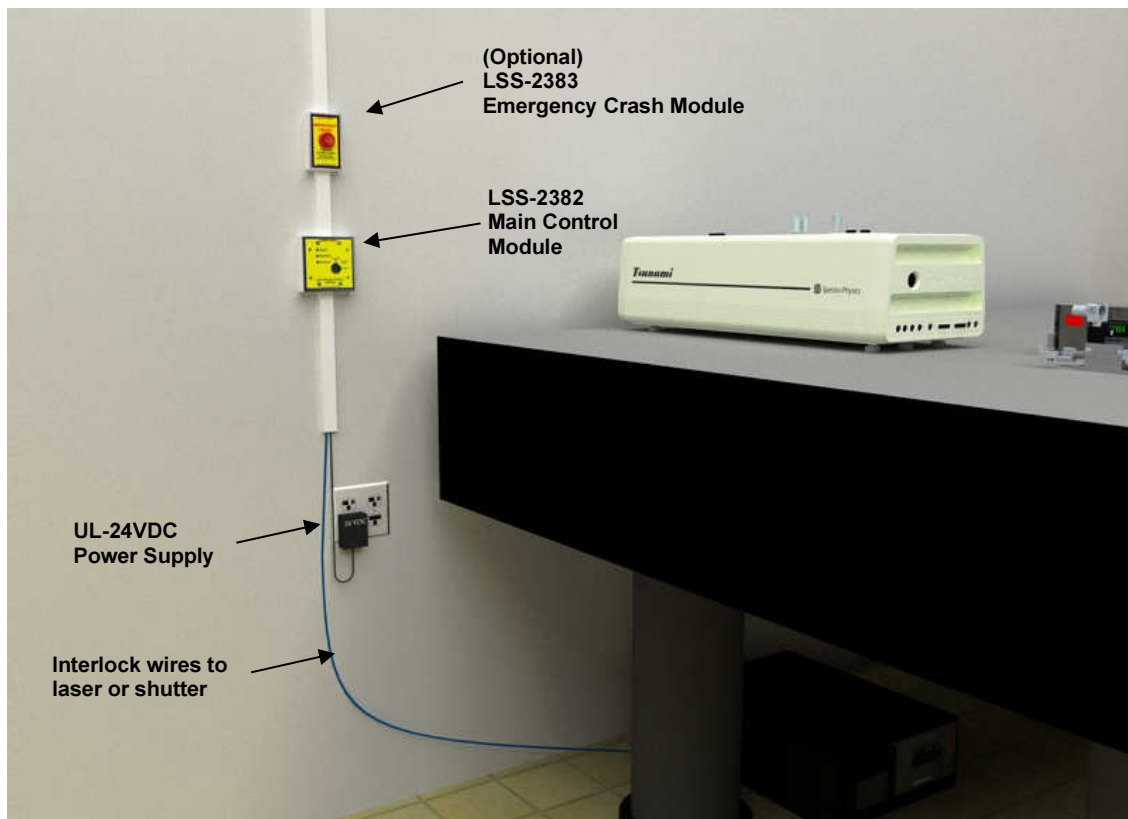
The image above shows a typical lab with a non-defeatable door interlock and a single laser table. Multiple doors and laser stations can be accommodated, but this document is intended to convey the simplicity of the system. The conduit surface track along the wall contains our 8-conductor main interlock cable. The cable provided with the system is UL Plenum rated. If desired, it can be run within walls or above a false drop ceiling without conduit.



The front door is shown from the exterior. The LSS-2380 Laser Warning Module is the starting point of our system. The module shows the armed or safe status of the room using our LED backlit hidden text display.



The interior exit is shown above. The LSS-2387 will trip the interlock system if the door is opened. If an upgrade to defeatable operation is desired in the future, this module will be replaced by the LSS-2388 Defeatable Access Control Kit and there would be no other changes required in the rest of the room.



The LSS-2382 Main Control Module is placed at any convenient location in the room. Here we have shown it installed near the table to allow the user to arm and disarm the entire system from the table. System 24VDC power is introduced at this module, so it must be located within 5 feet of a power outlet. The module utilizes a high-security key for arming or lockout and has two sets of dry relay contacts that can be used to interlock up to 2 lasers or shutters. If additional laser systems need to be interlocked, our system can be expanded with one or more LSS-2384 Local Interlock Modules. The 2382 Main Control Module will permit or lock out all system modules.

This installation plan shows a surface track and surface boxes for installation. Laser Safety Systems carries a selection of Hellermann-Tyton low-voltage surface mount track, boxes, and interconnects. These components are completely compatible with a laser cleanroom environment and use a simple “peel and stick” double sided permanent tape. Using this material, the entire installation can be made without drilling any holes in the walls. Some drilling will be required at the door casing to mount the door limit switch; unless a 3M VHB tape or equivalent is used to mount the switch and magnet.

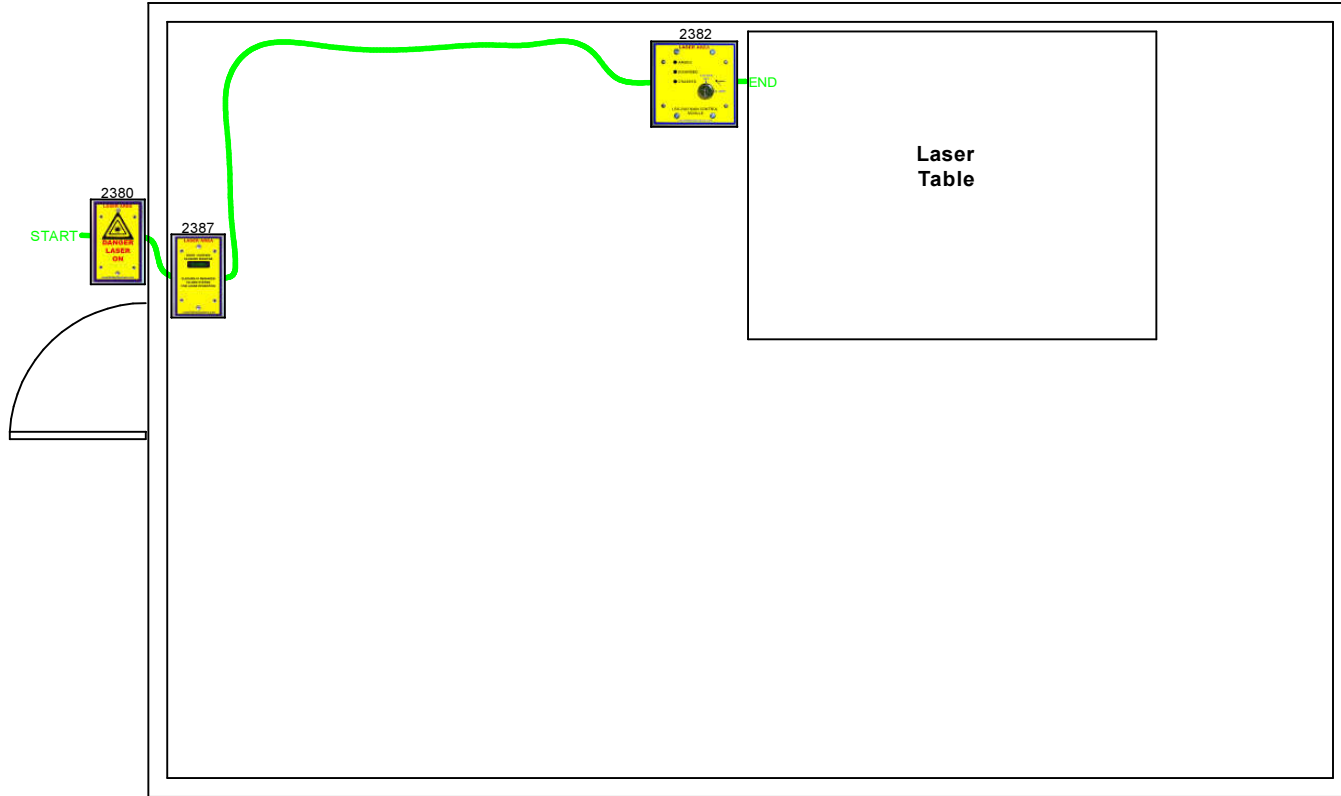
The modules can also be mounted using conventional metal boxes and conduit, or they can be dropped into the wall using “drop-in” boxes.

The three pages that follow are a typical example of the plan Laser Safety Systems provides to our clients after they fill out our Quote Questionnaire and give us a rough room layout diagram.

There is no charge for the plan. It benefits all parties to understand the final layout and it helps us produce an accurate custom quote based on the components selected.

This document is also transmitted electronically to our clients and is useful for attaching to their Laser Operational Safety Procedure (LOSP) for future reference to the schematic and general layout.

USER MANUALS CAN BE DOWNLOADED FROM:
https://lasersafetysystems.com/technical_data

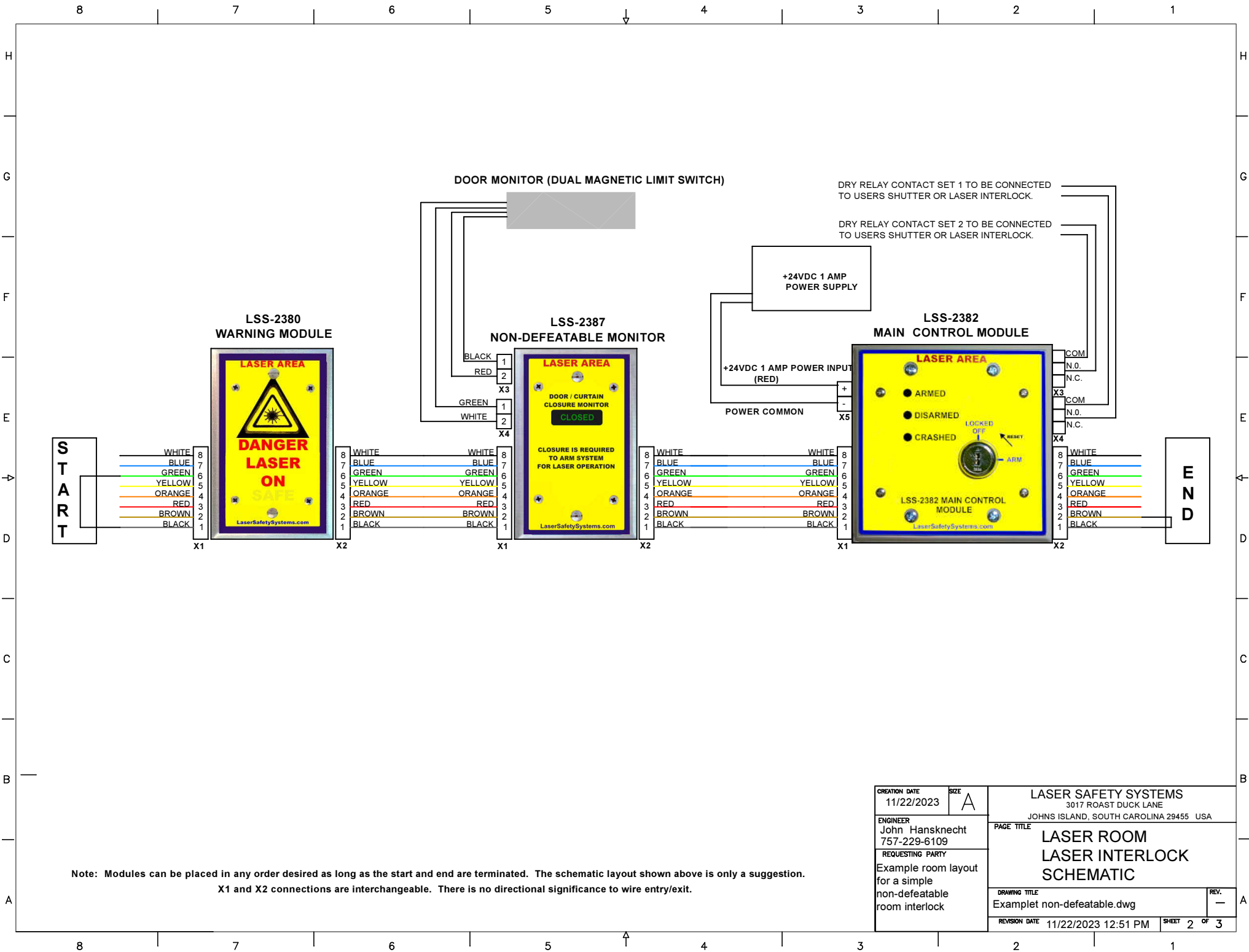


PHYSICAL LAYOUT IN LASER ROOM
GREEN LINE DEPICTS PATH OF 8-CONDUCTOR INTERLOCK CABLE

BILL OF MATERIALS (BOM) FOR THIS PLAN

ITEM	QUANTITY
LSS2380 Warning Module	1
LSS2382 MAIN CONTROL MODULE	1
LSS2383 EMERGENCY CRASH MODULE	0
LSS2384 LASER/SHUTTER INTERFACE RELAY MODULE	0
LSS2387 NON-DEFEATABLE ACCESS MONITOR KIT WITH 1 DOOR SWITCH	1
LSS2381 ROOM INTERLOCK CONTROL MODULE	0
LSS2388 DEFEATABLE ACCESS CONTROL KIT WITH MAIN CONTROLLER, KEYPAD, PTE, AND ONE DOOR SWITCH	0
LSS2306-12 EXTRA DOOR SWITCH FOR ADDITIONAL MONITORED DOOR LEAF	0
LAS2305 MAGNETIC LOCK (MAXIMUM OF TWO PER SYSTEM)	0
UL24V POWER SUPPLY	1
8CUL 8-CONDUCTOR INTERLOCK CABLE (FEET)	50

CREATION DATE 11/22/2023	SIZE A	LASER SAFETY SYSTEMS 3017 ROAST DUCK LANE JOHNS ISLAND, SOUTH CAROLINA 29455 USA	
ENGINEER John Hansknecht 757-229-6109	PAGE TITLE LASER ROOM LASER INTERLOCK MODULE LAYOUT		
REQUESTING PARTY Example room layout for a simple non-defeatable room interlock	DRAWING TITLE Examplet non-defeatable.dwg		REV. —
REVISION DATE 11/22/2023 12:51 PM		SHEET 1 OF 3	



Note: Modules can be placed in any order desired as long as the start and end are terminated. The schematic layout shown above is only a suggestion. X1 and X2 connections are interchangeable. There is no directional significance to wire entry/exit.

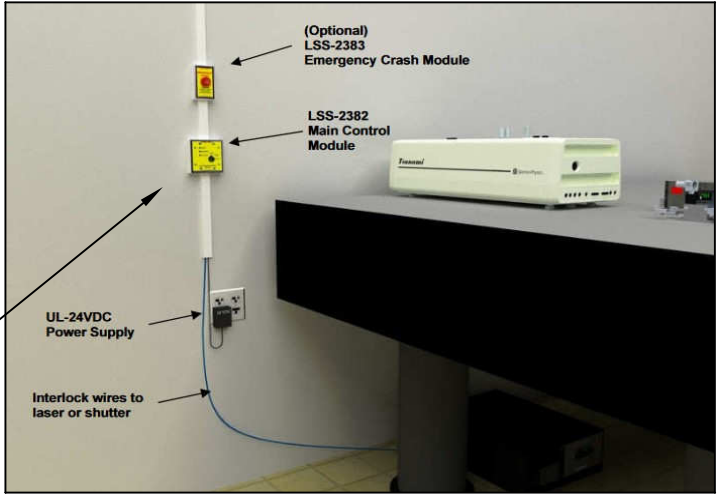
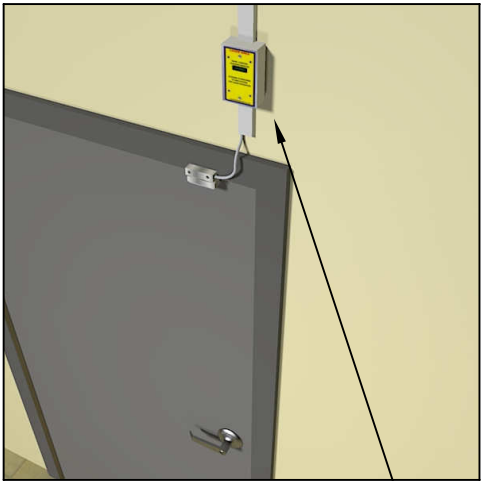
CREATION DATE 11/22/2023	SIZE A	LASER SAFETY SYSTEMS 3017 ROAST DUCK LANE JOHNS ISLAND, SOUTH CAROLINA 29455 USA	
ENGINEER John Hansknecht 757-229-6109	REQUESTING PARTY Example room layout for a simple non-defeatable room interlock	PAGE TITLE LASER ROOM LASER INTERLOCK SCHEMATIC	
DRAWING TITLE Examplet non-defeatable.dwg		REV. —	REVISION DATE 11/22/2023 12:51 PM
		SHEET 2	OF 3

8 7 6 5 4 3 2 1

LSS-2380 LASER
WARNING ON
EXTERIOR SIDE



LSS-2387
NON-DEFEATABLE
DOOR MONITOR ON
INTERIOR SIDE



Hellermann-Tyton low-voltage surface mount boxes are **HIGHLY RECOMMENDED** for clean aesthetics when module has I/O signals coming outside of wall. Laser Safety Systems carries this product. Modules with room I/O are:
 LSS-2382 mounts on Hellermann-Tyton TSRW-JBD
 LSS-2388 mounts on Hellermann-Tyton TSRW-JBD
 LSS-2384 mounts on Hellermann-Tyton TSRS-JB2
 LSS-2387 mounts on Hellermann-Tyton TSRW-JB2

CREATION DATE 11/22/2023	SIZE A	LASER SAFETY SYSTEMS 3017 ROAST DUCK LANE JOHNS ISLAND, SOUTH CAROLINA 29455 USA	
ENGINEER John Hansknecht 757-229-6109	PAGE TITLE LASER ROOM LASER INTERLOCK MODULE TYPICAL PLACEMENT		
REQUESTING PARTY Example room layout for a simple non-defeatable room interlock	DRAWING TITLE Exampler non-defeatable.dwg		REV. —
REVISION DATE 11/22/2023 12:51 PM		SHEET 3 OF 3	

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