

## Laser Interlock and Illuminated Warning Sign System For Operating Theatre

(This is a locking interlock system recommended for operating theatres, to protect staff while preventing interruptions to the laser)

### - Functions and Operation

- 1) Each laser to be used in the theatre should have its own interlock lead (Lasermet part no LEAD-IC-OE). This should be kept with the laser. Since different laser manufacturers use different sockets for the interlock connector on their lasers, the owner of the laser must obtain the correct plug from the manufacturer and connect it to the open end of the interlock lead (some lasers use screw terminals, in which case no plug is required).
- 2) When required for use the laser should be moved into position in the theatre. The interlock connector lead must then be plugged into the interlock operator socket provided as part of the interlock system (the laser must also be plugged into a mains supply as specified by the laser manufacturer).
- 3) The laser is disabled until the ICS-1 is reset.
- 4) The ICS-1 will not reset until:
  - i. The ICS-1 power switch is turned on.
  - ii. The ICS-1 interlock keyswitch is turned on.
  - iii. All doors are closed.
- 3) When all the above are done the 'Reset ready' LED on the ICS-1 will light.
- 4) Press the reset button on the ICS-1. This has the following effects:
  - i. The laser is now enabled
  - ii. All illuminated signs will light
  - iii. All doors are locked (electromagnetically).
- 5) The laser can now be used, safely and without interruption.
- 6) Persons can leave the theatre without interrupting the laser, by pressing the override pushbutton (press to exit button) next to any of the doors. This will activate the override and release the maglock allowing the door to be opened. As long as the door is shut within the preset override time (adjustable between 6 and 27 seconds) the laser will stay enabled and can continue to be used. When the override is active the red 'Override On' LED on the ICS-1 will light. An audible alarm will also sound. If desired the alarm can be disabled by removing Link 10 from the override PCB.

- 7) Authorised personnel can enter the theatre without interrupting the laser, by entering the code into the keypad outside any door. This activates the override and releases the maglock in the same way as in 6).
- 8) In the event of an emergency, exit from the theatre can always be made by any one of the following methods:
  - i. Turning off the ICS-1 mains switch or interlock keyswitch
  - ii. Pressing the override pushbutton next to each exit doorway
  - iii. Breaking the emergency stop / door release breakglass next to each exit doorway.
- 9) In the event of an emergency entry to the theatre can always be made by use of the emergency stop / door release breakglass outside any of the doors. This will release all door maglocks. Subsequent opening of any door will disable the laser.
- 10) When use of the laser is finished the ICS-1 interlock keyswitch should be turned off. This will disable the laser, release all door maglocks and turn off the illuminated signs. The ICS-1 mains switch should then be turned off.

**See Next Page for Schematic**

# Interlock System Schematic Laser Theatre - locking, with overrides

