LABORATORY INTERLOCK SYSTEM

The new laboratory interlock system , designed by Laser Support Services, is a modular concept allowing the user to expand the capability of the system as the laboratory needs to change.

The term laboratory covers a wide range of experimental environments all with varying needs. When designing our interlock system it was decided it would need to be expandable, so a simple and easy to install modular concept developed, making it versatile to accept different requirements in many different environments. Our system also had to be easily installed by the user if that is their wish, and finally it had to cover a broad range of adaptable needs, not just today but going forward into the future.

Using well-established ethernet type connections doors can be connected to each other simply and with little fuss; just plug and go. Our system can control entrances and exits so any door can be open at any time suiting the multiple user laboratory, or only one entry or exit at a time - a must for the bio-hazard laboratory.

The result is a cost-effective set of units which can be purchased for existing laboratories and which will also fit to our laser panels and doors. Installation can be arranged, or it can be self-installed

We are happy to visit your laboratory and offer a free no-obligation consultation

THE SYSTEM

THE MAIN CONTROL UNIT (MCU)

As the name implies the MCU controls all the functions of the system, the easy to read LCD states current status and also indicates, should a problem arise, which door it is on.

The MCU also has the E Stop, Key switch and Energise/de-energise controls.

The MCU connects into the rest of the system using standard easily available
RJ45 (ethernet) cables

The MCU provides a switched 240 Voltage AC function and also a switched 24 or 12 DC voltage function. These switched supplies can be used to control other equipment such as shutters or lights.

THE DOOR CONTROL UNIT (DCU)

The DCU controls the door where it is located, communicating the status of the door switches and the magnetic locks back to the MCU.

The DCU houses the system over-ride button which when depressed allows someone to leave the laboratory without interrupting an experiment. Should the door switch remain open for longer than the programmed time, the DCU communicates with the MCU, which in turn instigates a programmed hazard control. In the case of a laser this may be a shutter blocking the beam or switching the laser off.

THE KEYPAD AND STATUS INDICATOR.

The Keypad can be programmed to not only control access into the hazardous area, but also control how the system is working.

It may be that a maintenance engineer is working inside the laboratory and a greater hazard exists than when in normal use. Under these circumstances all access codes can be over-ridden so no one can enter until the greater hazard has been controlled again.

In the maintenance mode the status indicator and warning message would flash red, indicating there would be no access to the area.

Other products available for use with the interlock system include;

- Shutters: various sized apertures will stop most laser beams and provide a safe environment.
- Magnetic door locks: once locked these will require 600Lb force to open the door in an interlocked condition
- Door switches: there are various types and standards available to suit most lab needs
- Override **PLUS**: a feature for use with the maintenance function. Allows for entry from outside the laboratory in cases of emergency
- 12 or 24 volt socket blocks for operating shutters and other devices
- Remote interlock sockets for use with ancilliary equipment.

For More information please contact;

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