LS-10-12 and LS-100-12
Laser Beam Shutters for Safety and Beam Control

- Gravity fed for fail safe operation
- Combined shutter and beam dump for added safety
- High quality engineering design
- Specially designed for compatibility with safety control systems
- LED shutter status indication
  (output available for remote indication)
- Interlocked safety shutdown or manual operation
- Safety latch prevents accidental beam switch on
- Remote switching option
- Low current requirement

LS-10-12 Shutter

LS-100-12 Shutter

The LS- range of laser beam shutters are combined shutters and beam dumps designed to be driven by a safety control system such as any Lasermet ICS laser interlock control system, for use as a means of shutting down the laser beam automatically during unauthorised access, or manually when the beam is not required. They can also be used as stand - alone shutters for manual or remote switching of the beam.

Operating Voltage

The LS-10 and LS-100 shutters are powered from 12 VDC. However, if your supply is 18 or 24 VDC, or similar, you will need the LS voltage converter (part no. LS-VC-24.12), which enables operation from 15 – 35 VDC. Alternatively, ask for information on the LS-20 high integrity beam shutter which operates at 24 VDC.

Operating Logic

The shutters will not open unless power is supplied. When power is supplied a yellow LED lights to indicate that power is present. A green LED will also light indicating that the shutter is fully closed. To open the shutter the green button must be pressed.

The green LED will go out and an orange LED will light indicating that the shutter is fully open. The shutter can be closed by pressing the red button or by cutting the power.

Remote Switching Station

For applications where the laser shutter is used in an enclosure and the buttons cannot be accessed, or for other remote switching requirements, the LS-RS can be used to open and close the shutter from a distance.

Switch Bypass Mode

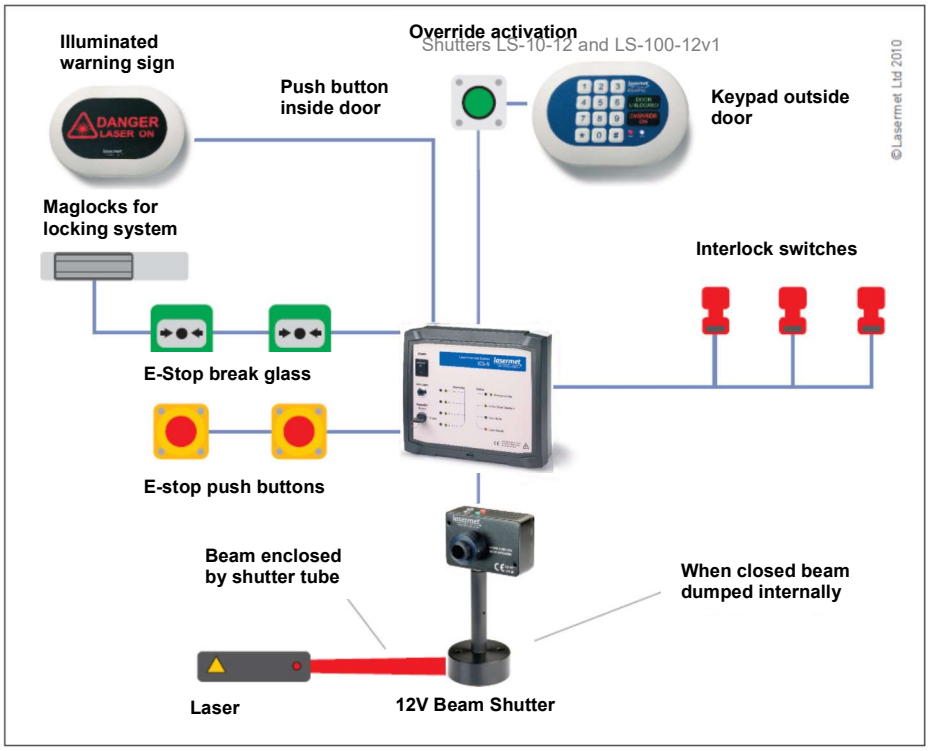
Alternatively, shutters can be put into ‘switch bypass mode’ by changing some internal links on the PCB inside the shutter. In this mode the shutter will open immediately when the power is applied and close when the power is turned off.

Remote Indication of Shutter Status

12 VDC outputs are available from the shutter to power remote LEDs indicating shutter status.

Remote Interlock Board

An optional interlock board (part no: LS -10-IB) can be fitted with common, open and closed contacts to provide verification of shutter status or interlocking to another device. These contacts are rated at 2A,, 30 VDC



When used with any of the Lasermet ICS-series of interlock control systems, the LS-shutters are used as shown here. Opening of any laboratory door without use of the override will result in the shutter closing, thus preventing unprotected persons from being exposed to the laser radiation. The shutter is fail safe and gravity fed. Loss of power will cause the shutter to close without reliance on springs or any other device. High quality engineering design ensures smooth and reliable operation.

Combined Shutter and Beam Dump

The LS- series shutters are designed to absorb all the laser beam power thus eliminating the need for an additional beam dump and avoiding hazardous reflections.

The laser beam is converted to heat which is radiated from the shutter case. The LS-100-12 has fan assisted cooling. The fan will turn on when the shutter is closed and the beam dump temperature exceeds 45 ˚C. Shutters can be used with lasers up to the maximum average power specified.

Low Current Requirement

Intelligent design results in low current consumption. This increases the number of shutters which can be run from the same power supply and keeps the shutter cool for use as a beam dump when closed.

Model	Max Laser Power (W)	Aperture Size (in)	Drive Voltage (V DC)	Current Consumption (mA)	Size (in)
LS-10-12	20	0.6	12	180	3.9 x 2.5 x 1.4
LS-100-12	200	2	12	180	5.1 x 6.3 x 5.5

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