LASER BEAM SAFETY (INTERLOCK) SHUTTER
SH-10 SHUTTER

FEATURES AND ADVANTAGES:
* Integrated return spring
* 0.5" (13mm) aperture, larger optional
* Small size 1.7"W x 2.3"L x 1.2"D
  Boxed: 1.9"W x 2.8"L x 1.3"D
* Low cost
* High reliability, long life
* STANDARD or CUSTOM blade
* Returns to "OFF" position with a power failure
* 5V, 12V or 15V, or 24V dc operation
* Simple drive circuit for TTL input commands
* Special pricing for OEM applications.
* RoHS compliant.

DESCRIPTION:
The SH-10 shutter consists of a blade mounted on a rotary solenoid with a limited rotation angle. When the shutter is powered, the blade moves to an "ON" position and clears the path for a laser beam. When the power is turned off, the return spring of the shutter moves the blade to an "OFF" position and blocks the laser beam. The standard blade material is 0.01" thick anodized aluminum to meet laser specifications. Other materials and thickness are available for uses like plasma, X-ray and laser light, VIS, IR and UV.
The following models are offered for the SH-10 laser beam safety shutter:
Model SH-10 shutter comes with two studs for mounting and allows horizontal and vertical mounting.
Model SH-10-M shutter comes with a mounting plate and allows horizontal and vertical mounting.
Model SH-10-MP shutter can be mounted directly to an optical table.
Model SH-10-B shutter is boxed with a 0.42" diameter through hole for laser light.
Model SH-10-PI shutter has position indicators to verify the status of the shutter (open or close) and can be mounted directly to an optical table.
Model SH-10-PI-B shutter has position indicators to verify the status of the shutter (open or close). The shutter is boxed and can be mounted directly to an optical table.
The above products have a life operation of 2 million cycles min. We also offer long life (-L) laser safety shutter for a life operation of 50 million cycles min. (e.g.: SH-10-L, SH-10-M-L, SH-10-MP-L, SH-10-PI-L or SH-10-B-L)
The DSH-10-110 or DSH-10-220 or DSH-10-110/220 driver activates the shutter and offers a TTL input signal option.
The DSH-10-110-BNC or DSH-10-220-BNC or DSH-10-110/220-BNC driver offers a BNC connector for TTL input signal option.
The DSH-10-TIMER-S is a preset timer to open the laser safety shutter for a specific time from the range of 0.1 sec to 10 minutes. Used only with the SH-10-24, operating from 110V or from 220V
The DSH-10-TIMER-L is a preset timer to open the laser safety shutter for a specific time from the range of 0.1 min to 10 hours. Used only with the SH-10-24, operating from 110V or from 220V
When ordering without a driver, please indicate power requirements: 5V, 12V or 15V or 24V dc.

To drive two SH-10 laser safety shutters simultaneously - open and close both shutters at the same time - you can use the following drivers:
DSH-20-110 or DSH-20-220 is a cased driver 5.3” x 5.3” x 2” operating from a line voltage of 110Vac or 220Vac (please specify DSH-20-110 or DSH-20-220).
DSH-20-110-BNC or DSH-20-220-BNC is a cased driver 5.3” x 5.3” x 2” operating from a line voltage of 110Vac or 220Vac (please specify DSH-20-110 or DSH-20-220) with a BNC connector for TTL input.
DSH-20-110/220 is a cased driver 5.3” x 5.3” x 2” with a selector switch for operating from a line voltage of 110Vac or 220Vac.
DSH-20-110/220-BNC is a cased driver 5.3” x 5.3” x 2” with a selector switch for operating from a line voltage of 110Vac or 220Vac with a BNC connector for TTL input.
**SPECIFICATIONS:**

APERTURE SIZE: 0.5 inch  
POWER REQUIREMENTS: 5V dc, 700 mA. Optional: 12V dc, 300 mA and 24V dc, 160 mA  
RESPONSE TIME: 15 mSec  
EXPECTED LIFE: Model **SH-10**: 2 million cycles min.  
Model **SH-10-L** shutter offers long life operation: 50 million cycles min.  
RETURN SPRING TORQUE: 0.0055 to 0.009 Nm  
SHUTTER DIMENSIONS: 1.7”W x 2.3”L x 1.2”D (1.9”W x 2.8”L x 1.3”D boxed)  
SHUTTER WEIGHT: 60 grams  
MAX. OPERATING TEMPERATURE: 75°C

**SH-10 OUTLINE DRAWING**

**SH-10-P1**

**SH-10-MP**

**SH-10-M OUTLINE DRAWING**

**SH-10-B OUTLINE DRAWING**

DIMENSIONS ARE IN INCHES  
METRIC MOUNTING HOLES ARE OPTIONAL

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