

## Model LSH4 Laser Shutter Specifications

This model is designed for use as a low optical power safety and process shutter. It is driven directly from 12 VDC. The bore segment is designed for attachment to 1.750" diameter tube lasers, such as HeNe, using an elastomer bond. This model operates very quietly with low shock and vibration.

Compatible system controllers include user built 12 V drive circuits. All of our controllers can operate the LSH4, but it is intended to use low cost 12 VDC power supplies and a simple switch for operation.

Options are available using a suffix code system. Many options cannot be installed after manufacture, so choose carefully. Only custom suffixes are used on this model, assigned by our application engineers.

See the "Mechanical Drawing" tab for dimensions. Also see the "Application Notes" tab on the home page menu for important operational issues including: thermal mounting, user-built circuits, polarization, lifetime, jitter, vacuum operation, and contamination. See the "Accessories" tab for useful system components.

Special Considerations for this model include clamping/bonding techniques to cylindrical laser tubes. Check with our staff for recommendations.

Restricted use for this model include high optical power or high fluence.

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|--|----------------------------------|
| Recommended Controller to Achieve Specs        | User Supplied 12 V DC and switch |
| Aperture Diameter                              | 4.0 mm square                    |
| Typical Beam Diameter used for Specs           | 1.0 mm                           |
| Maximum Shutter Repetition Rate                | 10 Hz                            |
| CW and Quasi-CW Optical Power Handling         | 1 W                              |
| Typical Damage Threshold, Aligned Polarization | 50 mJ/cm <sup>2</sup> (PW=10 ns) |
| Delay to Begin Opening after Command Open      | 20 ms                            |
| Opening Time Switching Speed                   | 5 ms                             |
| Delay to Begin Closing after Command Close     | 20 ms                            |
| Closing Time Switching Speed                   | 5 ms                             |
| Minimum FWHM Exposure Capability               | 30 ms                            |
| Thermal Power Dissipation Holding Open         | 2 W                              |
| Thermal Power Dissipation, Repetitive Cycling  | 1 W @ 10 Hz                      |
| Nominal Magnetic Winding Impedance             | 75 ohms                          |
| Cable/Wire Type and Length                     | 6 inch, Teflon leads, Jacket     |
| Mounting Surface for Thermal Sinking           | Not required                     |
| Position Sensors                               | N/A                              |
| Weight   | 5 Oz.                            |
| Size (see mechanical drawing)                  | 2.00 Dia. X 3.00 Long            |