

Model LST400 Laser Shutter Specifications

This model is designed for use as a safety interlock and for some processing applications. For high activity processing, consider the LS055W8 model. The LST400 provides TTL output position sensors for the open and closed states as standard equipment. The thin body style and 8 mm aperture accommodate many popular laser sources. The –IR suffix replaces the over -coated aluminum mirror with gold, for use in the IR, including CO2. This option must be used for CO2 lasers.

Compatible system controllers include user built capacitor discharge, PWM current drivers, and our controller models CX3000B, CX1100, and CX2450B.

Options are available using a suffix code system. Many options cannot be installed after manufacture, so choose carefully. Choose the –IR suffix for CO2 and IR use, starting at about 700 nm. The standard over-coated aluminum mirror is good from deep UV to about 4 microns. Special mirrors are not currently available, except for OEM applications. Cable options are available, call for details.

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 damage threshold assessment. The shutter is not designed for high energy, low repetition rate Q-switched lasers. See LS055W8 and LSTXY-W8 for these applications. Thermal mounting must be given strong attention if optical power dissipation is near the upper limit of the rating.

Restricted use for this model is only limited to damage threshold and wavelength considerations. It can be used in any orientation w/r to gravity.

Recommended Controller to Achieve Specs	User Circuit, Our Controllers
Aperture Diameter	8.0 mm
Typical Beam Diameter used for Specs	6.0 mm
Maximum Shutter Repetition Rate	3 Hz
CW and Quasi-CW Optical Power Handling	25 W (OEM to 50 W)
Typical Damage Threshold, Aligned Polarization	300 mJ/cm ²
Delay to Begin Opening after Command Open	10 ms
Opening Time Switching Speed	20 ms
Delay to Begin Closing after Command Close	10 ms
Closing Time Switching Speed	20 ms using CX3000B
Minimum FWHM Exposure Capability	30 ms using CX3000B
Thermal Power Dissipation Holding Open	4 W
Thermal Power Dissipation, Repetitive Cycling	8 W @ 3 Hz
Nominal Magnetic Winding Impedance	15 Ohms
Cable/Wire Type and Length	18 Inches, 6 leads, 22 g
Mounting Surface for Thermal Sinking	Base Plate
Position Sensors	Logic TTL, Require 5 VDC @ 20 mA
Weight	4 Oz.
Size (see mechanical drawing)	3.80 x 2.06 x .64 Inches