

Model LST200SLP Laser Shutter Specifications

This model is designed for use as a fast process shutter and quick reaction safety interlock. The inherent speed is achieved with minimum electrical power requirement. This model is used routinely in application that operates 24/7/365, accumulating billions of cycles. It is our highest reliability product. Controller choice affects switching speeds. The all copper package efficiently manages thermal flow, delivering the heat to the mounting surfaces.

Compatible system controllers include the CX2450B series, CX3000B, CX1100, and user-built circuits designed around 24 VDC. Specs below are for use with a typical 24 V capacitor discharge or PWM circuit. The CX2450B is our standard version of a PWM circuit, but with added speed enhancements.

Options are available using a suffix code system. Many options cannot be installed after manufacture, so choose carefully. A dual aperture, offering Normally Open and Normally Closed apertures, side by side, is designated with the –NONC suffix. A 10 W optical rating is available, with aluminum mirror, specifying the –AL suffix. Other suffix designations may be offered by our applications staff.

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 are primarily thermal mounting. The Output Aperture face is the ideal surface for high heat loads, and the bottom threaded surface for lower heat loads.

Restricted use for this model include close proximity to high magnetic fields and strict observance of optical power rating. Environments subjecting shutter to large size particles could inhibit shutter motion.

Recommended Controller to Achieve Specs	24 VDC PWM, Cap Discharge, or CX2450B
Aperture Diameter	2.3 mm
Typical Beam Diameter used for Specs	1.0 mm
Maximum Shutter Repetition Rate	100 Hz
CW and Quasi-CW Optical Power Handling	2 W Standard
Typical Damage Threshold, Aligned Polarization	30 mJ/cm ² (PW=10 ns)
Delay to Begin Opening after Command Open	2 ms
Opening Time Switching Speed	1 ms
Delay to Begin Closing after Command Close	1 ms
Closing Time Switching Speed	1 ms
Minimum FWHM Exposure Capability	2.5 ms
Thermal Power Dissipation Holding Open	4 W
Thermal Power Dissipation, Repetitive Cycling	10 W @ 50 Hz
Nominal Magnetic Winding Impedance	22 Ohms
Cable/Wire Type and Length	18 Inch twisted pair, 22 g.
Mounting Surface for Thermal Sinking	Output Face, Bottom
Position Sensors	N/A
Weight	5 Oz.
Size (see mechanical drawing)	2.10 x 1.35 x 0.38 Inches