

Model LST4WBK2 Laser Shutter Specifications

This model is designed for use as a safety interlock and for slow processing. The magnetic system allows use from 12 or 24 VDC based circuits. Position sensors are built-in standard, yielding logic outputs for both open and closed states. Dielectric mirrors are available for common wavelengths, providing optical power handling to 50 W. Very low out-gassing materials are used in the construction.

Compatible system controllers include user-built circuits, CX3000B, CX1100, and CX2450B.

Options are available using a suffix code system. Many options cannot be installed after manufacture, so choose carefully. Standard mirror is gold for IR use. The –AL suffix is for aluminum mirror, best for UV and visible. The –D123 mirror is a triple line YAG mirror for 355, 532, 1064 nm. The –C2 suffix is for CO2 use. Unit is not designed for upside down operation (w/r to photo), but can be adjusted for this orientation upon request. Other options upon request.

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 careful attention to mounting around high magnetic fields, such as Faraday Rotators. The position sensors are TTL logic, so standard handling precautions for electronic static control should be observed.

Restricted use for this model include specific laser wavelengths matching mirror options listed on serial label, high quality thermal mounting, and adequate hold voltage at user’s maximum temperature.

Recommended Controller to Achieve Specs	User Circuits, Our Controllers
Aperture Diameter	4.0 mm
Typical Beam Diameter used for Specs	2.0 mm
Maximum Shutter Repetition Rate	5 Hz
CW and Quasi-CW Optical Power Handling	25 W Au Mirror, 50 W Dielectric
Typical Damage Threshold, Aligned Polarization	1 J/cm ² Au, 3 J/cm ² Dielectric (PW = 5 ns)
Delay to Begin Opening after Command Open	20 ms
Opening Time Switching Speed	5 ms
Delay to Begin Closing after Command Close	10 ms
Closing Time Switching Speed	5 ms
Minimum FWHM Exposure Capability	30 ms
Thermal Power Dissipation Holding Open	3 W (5 V)
Thermal Power Dissipation, Repetitive Cycling	5 W @ 5 Hz
Nominal Magnetic Winding Impedance	8 Ohms
Cable/Wire Type and Length	18 Inches, 6 leads, 22 g.
Mounting Surface for Thermal Sinking	Bottom Threaded Surface
Position Sensors	Standard, TTL Logic, Require 5 V
Weight	5 Oz.
Size (see mechanical drawing)	3.00 x 1.50 x 0.75”