

Model LS200 Laser Shutter Specifications

This model is designed for use as a high speed modulator, providing the short exposures for pulse gating, and fast repetition rates. It can extract a single pulse from 1 K Hz pulse trains when synchronized. It is also designed with grazing incidence reflection to handle high optical loads and damage thresholds. The standard mirror is aluminum for broadband use. Cross sectional path for X-ray use is 1.3 mm through Steel.

Compatible system controller choices are CX2250 for specified performance below, and the CX2450B, CX1100, or CX3000B for utility and processing applications that do not require quick switching performance or high repetition rates.

Options are available using a suffix code system. Many options cannot be installed after manufacture, so choose carefully. The -IR suffix installs a Gold Mirror at no charge.

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 Thermal Mounting and careful review of lifetime requirements. The LS200 dissipates moderate power in order to achieve fast open/close switching performance. For the LS200, lifetime of mirror system is dependent on the electrical drive, so user built circuits need factory recommendations. Other than qualified user circuits, only NML controllers labeled for LS200 use will assure proper operation.

Restricted use for this model includes careful damage threshold calculations. High mechanical integration makes optics repair costly. Control circuitry must be matched for LS200 use, no generic settings for multiple shutter models can be used. NML controller products are labeled for intended shutter use.

Recommended Controller to Achieve Specs	CX2250
Aperture Diameter	4.0 mm
Typical Beam Diameter used for Specs	2.5 mm
Maximum Shutter Repetition Rate	200 Hz
CW and Quasi-CW Optical Power Handling	50 W, aligned polarization
Typical Damage Threshold, Aligned Polarization	1.2 J/cm ²
Delay to Begin Opening after Command Open	1.5 msec
Opening Time Switching Speed	400 microsec
Delay to Begin Closing after Command Close	1.5 msec
Closing Time Switching Speed	400 microsec
Minimum FWHM Exposure Capability	1.0 msec
Thermal Power Dissipation Holding Open	15 W
Thermal Power Dissipation, Repetitive Cycling	30 W @ 100 Hz
Nominal Magnetic Winding Impedance	20 Ohms
Cable/Wire Type and Length	10 Feet, PVC Jacket Cable
Mounting Surface for Thermal Sinking	Complete Base Plate Only
Position Sensors	Not Available
Weight	16 Oz
Size (see mechanical drawing)	2.0 x 2.8 x 1.3 Inches