

LuxStar[®] Lx-50

Laser Welding System



- 50J 100Hz 50W
- Reproducible output for consistent weld penetration
- Pulse on demand
- Once only parameter setting
- Compatible with automated production lines

gsi lumonics

The GSI Lumonics series of LuxStar® lasers can address a wide range of precision spot welding applications in the electronics, medical, automotive and fine mechanics markets.

The Lx-50 is one of the mid-power models in the LuxStar portfolio. Available options include energy share and either internal or external time share beam delivery systems in order to obtain welds at multiple locations.

The Lx-50 model has WeldPerfect™ control which provides fully automated control of the laser output resulting in high stability and hence consistency of the welding process. In addition, the laser

pulse parameters are programmed directly in kilowatts for peak power and milliseconds for pulse duration. These can be set via either the front panel control or RS232 interface.

Laser welding has a number of advantages over conventional techniques including:

- low heat input
- reduced distortion
- single sided welding access
- no mechanical forces applied to the workpiece
- no tool wear and hence consistent weld penetration

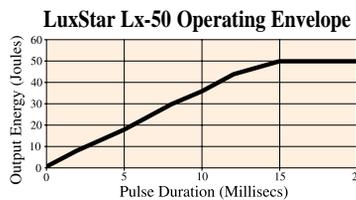
Global Service and Support

GSI Lumonics' dedication to the electronics and general manufacturing industry is backed by a network of service and spare parts facilities around the world. GSI Lumonics' field service engineers are fully trained in LuxStar system maintenance and troubleshooting. A full complement of spare parts is stocked in North America, Europe, Asia Pacific and Japan to assure a rapid response to fulfil your service needs. GSI Lumonics also offers a full line of custom Comprehensive Service Contracts and Maintenance Agreements.

Specifications

Laser Performance:

Max average power	50 watts
Max peak power	5kW
Pulse width	0.5 to 20 msec
Main pulse width	0.5 to 10 msec
Pre-pulse width	0 to 10 msec
Max pulse energy	50 Joules*
Maximum repetition rate	100Hz
Ramp time (for seam weld)	0 to 10 secs



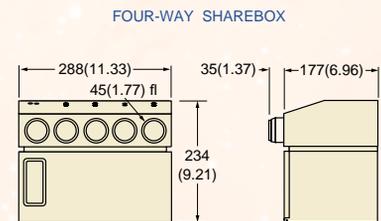
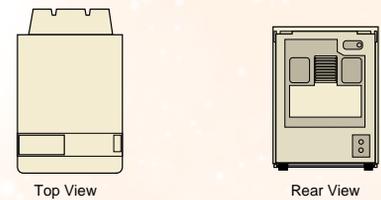
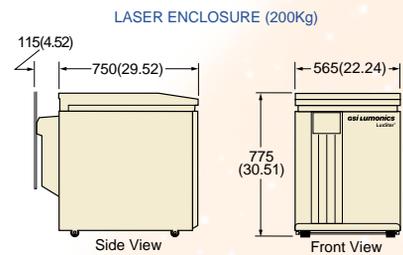
Beam Delivery:

Standard fiber lengths	Link fibers 5, 10, 15m (15, 30, 45ft). Output fibers 2, 5, 10m (6, 15, 30ft)
Focus head dimensions	25, 30 and 57mm (.98, 1.18, 2.24 in). Straight or right-angled twin spot and other special focus heads available on request
Laser spot sizes	0.2mm (0.008 in) to 1.2mm (0.047 in) (0.12mm (0.005 in) on request)
Viewing options	Pointing diode/monocular viewer/CCTV (right angled focus head only)
Time-share options	Internal time-share (ITS): 2 way or External time share: 2, 3, 4 way Switching time: 0.5 sec
Energy-share options	2, 3, 4 way with continuously variable share ratio - resolution and repeatability ± 1%

Services:

Environmental conditions	5° - 40°C (41° - 104°F) ambient. 97% RH up to 35°C (95°F) falling to 88% at 40°C (104°F)
Mains voltage	Single phase 200, 208, 220, 230, 240 volts ± 10% continuous. Wider variations for short periods in accordance with IEC 204
Electrical supply	6kVA
Mains frequency	50Hz, 60Hz ± 4%
External coolant	Water at 5°C (41°F) min to 20°C (68°F) max, 6 bar max, 2 bar differential pressure 5l/min flow rate. Maximum heat dissipation 5.5kw

*The maximum pulse energy specification of the Lx-50 is achievable up to the end of the lamp's operating life. There is no need to reduce this energy value to compensate for lamp aging during routine production.



Dimensions in mm (inches)

Specifications are subject to change. Please consult Product Center for complete details.

GSI Lumonics

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