



Swisslas Lasermodule

BLUE4500-445

Manual

Please read carefully before use



DANGER LASER RADIATION!

Danger for eyes and skin. All protective measures for a safe operation of this laser must be applied.

Safety instructions

Make sure to use the correct voltage. The operator has to ensure that laser radiation – also reflected laser radiation – higher than the maximum permissible level is avoided by technical or organisational measures. Always ensure that the maximum permissible exposure (MPE) is not exceeded in the area accessible to the public. In some countries, the operator must notify the insurance and the authorities for industrial safety before operating a laser. For more information, contact the relevant authorities. Don't use the module if housing, or electrical parts are visibly damaged. Do not turn device on and immediately off again frequently. Always disconnect from mains, when handling or installing the laser. Do not look into the laser beam directly, especially not with optical instruments. Do not touch the device with wet hands. When the laser diode becomes dim or broken, please contact your dealer timely.

Laserworld Swisslas BLUE4500-445 Lasermodul

High end Swisslas blue diode laser - used in collimation, scientific experimentation, optics instrument, laser display and lighting etc.

IMPORTANT

Mounting of SWISSLAS MODULES all Powerranges

Swisslas modules are delivered without heat sink. However, it's very important to use a heat sink or similar cooling device. Operating without a heat sink will damage the module in less than one minute.

This heat sink has to be very planar. If it is not, the beams will not be in one line and the module will be disaligned.

Between the SwissLas Module and your heat please use some steel plain washers with 0.1 to 0.3mm thickness at the screw. Use the thinnest possible plain washers, but it is important that they are at least as thick as the non-flatness of your heat sink.

Use thermal compound between your heat sink and the ground-plate of the Laser module. It is very important to fill the complete gap!

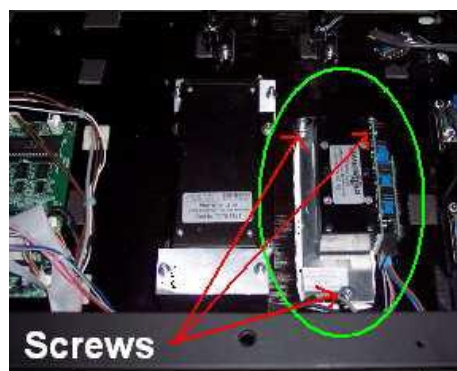
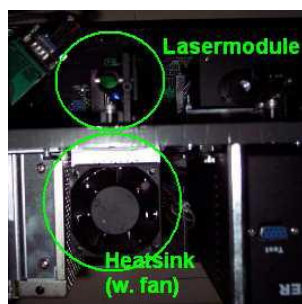
We don't take on any cost for the repairs of any possible failures according to incorrect mounting!

Left image: The heat sink has to be directly beneath the laser module.

Use thermal grease under the TEC element of the laser (don't overturn the mounting screws, the TEC could break):

Centre image: Use 3 screws to mount the module (2 on one side, one centred on the other, see image), to avoid bending of the mounting plate. Use thin washers (0.1mm) to compensate for unevenness of the surface.

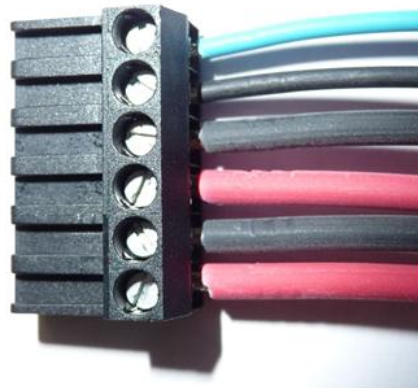
Right image: Use a good heat sink with a strong fan. Also use thermal grease between heat sink and mounting plate. The temperature of the module may not exceed 40°C – if it is exceeded the module will reduce output power (to ca. 50%) to protect the diodes!



Connectors:

Caution: Do not switch supply voltage and ground – this will damage the driver! You can supply TEC and Diode from one, or two separate

PSUs – always connect both pins 3 and 5 to the PSU ground connection. When using single ended modulation (one side connected to ground) connect pin2 to gnd!



Modulation PLUS

Modulation MINUS

Diode GND

Diode +12VDC

TEC GND

TEC +12VDC

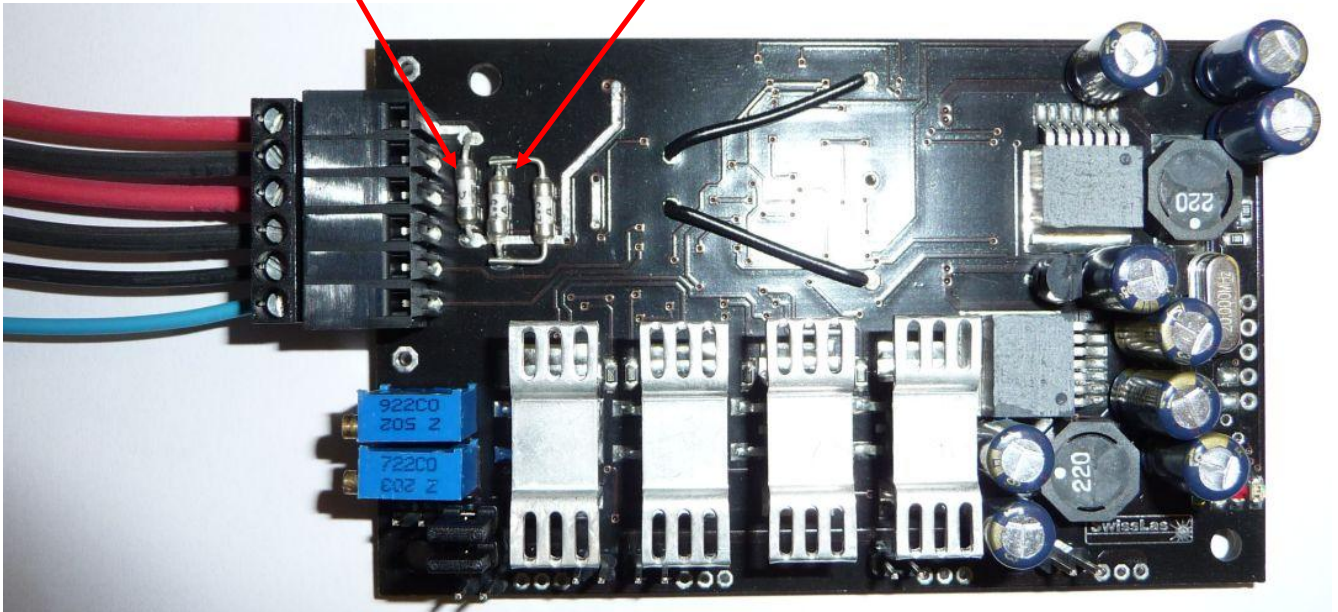
Fuse changing

Fuse 5A for TEC

If after changing Diode-Fuse the TEC does not work you have to change this fuse

Fuse 2.5A for Diode

Please solder the new fuse according this picture

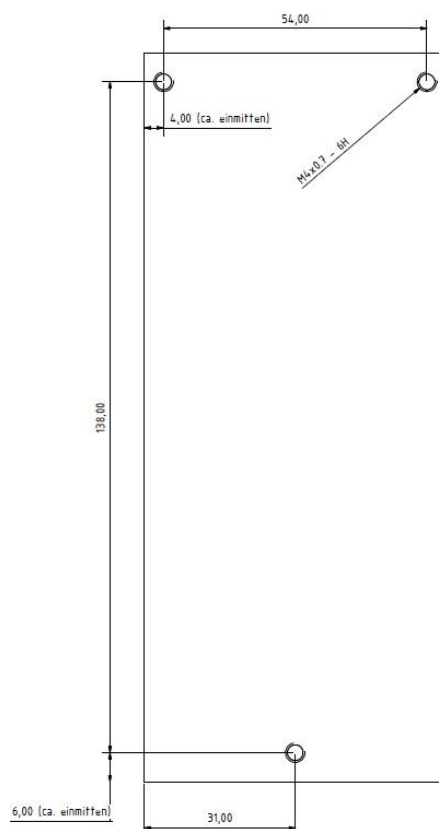


Technical data / Technische Daten:

Wavelength Wellenlänge (nm)	445	Power stability	<3%
Min power, mindest Leistung (mW)	4000	Beam height	28mm
Max Power, maximale Leistung (mW)	4500	Polarization, Polarisation	1:1
Laser class, Laser Klasse	4	Operating temperature (at mount. Plate), Betriebstemperatur	10 -40°C
Operation Mode, Betriebsmodus	CW	Expected lifetime (hours), mittlere Lebensdauer (Stunden)	10000
Warm up time, Aufwärmzeit (min)	<2	Modulation	100kHz analogue
Beam divergence, Divergenz (mrad)	~1	Size (LxWxH), weight (laser head), Grösse (LxBxH), Gewicht (Kopf)	150x80x100 mm, 2 kg
Beam diameter (at aperture), Strahldurchmesser (am Ausgang) (mm)	4x4	Power supply	12V DC stabilized 3A Diode 9A TEC

Data subject to change without notice. Errors and omissions expected!

Technical drawing:



Abschließende Erklärung

Sowohl Produkt als auch Verpackung sind beim Verlassen der Fabrik einwandfrei.

Der Benutzer des Geräts muss die lokalen Sicherheitsbestimmungen und die Warnhinweise in der Betriebsanleitung beachten. Schäden, die durch unsachgemäße Handhabung entstehen, unterliegen nicht dem Einflussbereich der Hersteller und Händler. Somit wird keine Haftung bzw. Gewährleistung übernommen.

Sollten Änderungen an dieser Bedienungsanleitung vorgenommen werden, können wir Sie darüber nicht in Kenntnis setzen. Bitte kontaktieren Sie für Fragen Ihren Händler.

Für Service wenden Sie sich bitte an Ihren Händler oder an Laserworld. Verwenden Sie ausschliesslich Laserworld Ersatzteile. Änderungen vorbehalten. Aufgrund der Datenmenge kann keine Gewähr für die Richtigkeit der Angaben gemacht werden.

Please note

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this user manual.

Laserworld cannot be made liable for damages caused by incorrect installations and unskilled operation!

For service please contact your dealer, or see <http://en.laserworld.com/en/reclamation-service.html>

