光泰激光器开箱接线及检测演示说明

Demonstration of GT laser's connection and detection

我们强烈建议如需检测激光器工作状态或出光功率，请务必在专业测试机构，由专业人员在仔细阅读用户手册后，全程佩戴经过认证的激光防护眼镜的前提下进行。**对于错误的接线方式或供电电压以及不正确的操作带来的意外或者间接后果，光泰激光不承担任何责任。**

Note: if you need to test the working state or output power of the laser, please be sure to do so at a professional testing organization, the professional must wear certified laser protective glasses after reading of our user manual. GT Lasers is not responsible for the accidental or indirect consequences of the wrong connection or supply voltage and incorrect operation.

1. 选择合适额定工作电流的断路器与激光器电源线正确连接，并确保可靠接地。
2. 激光器主体、光纤输出头 QBH 和光功率计必须正确连接功率与之匹配的水冷机（如连接光功率计水冷机功率需加倍）。
3. 请勿在激光输出头保护帽未取下的情况下输出激光，否则将造成激光输出镜头或晶体烧毁。

1. Select the circuit breaker with appropriate rated working current to connect it to the laser power line and ensure reliable grounding.
2. The laser body, the fiber output head QBH and the optical power meter must correctly connect the water cooler with which the matching power (if connecting the optical power meter, the power of the water cooler must be doubled).
3. Do not output the laser without removing the protective cap of laser output head (QBH), otherwise the laser output lens or crystal will be burned.

下面是开箱及电源接线演示视频:
The following is a demonstration video of unpacking and power-line connection:

开箱取出激光器时应当注意避免对激光器造成碰撞或剧烈震动。取出盘绕的激光输出光缆（QBH)时要特别注意，不能扭曲、弯折、拉扯激光输出光缆，同时应避免激光输出头受到碰撞和震动。

When taking out the laser, avoid collision or violent vibration on the laser. When taking out the coiled laser output cable (QBH), pay special attention. Do not twist, bend or pull the laser output cable. At the same time, avoid collision and vibration of the laser output head.

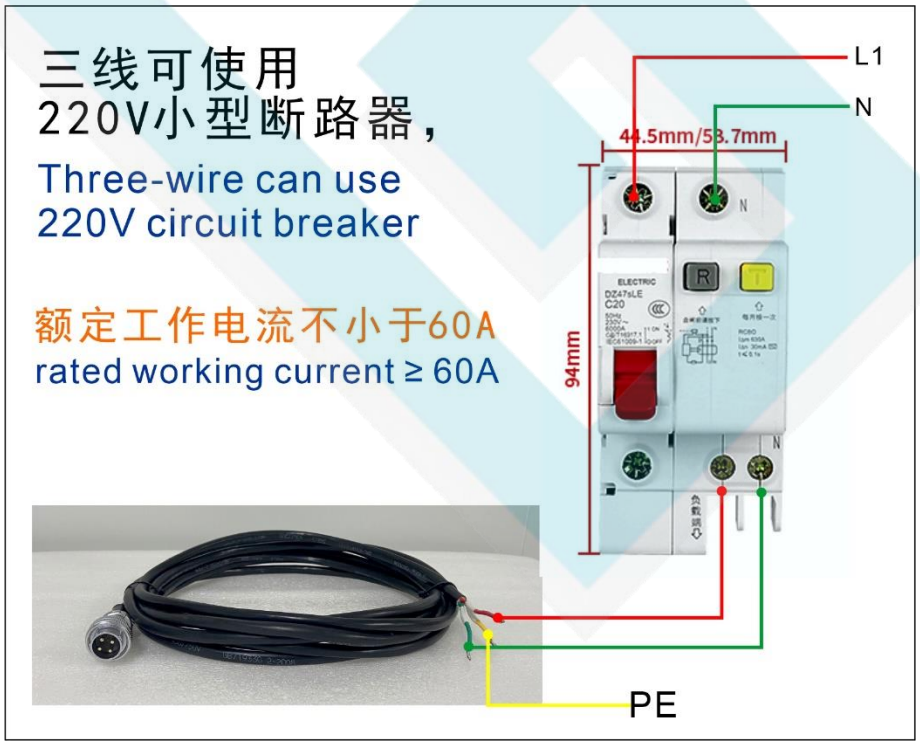
1. 连接电源线（Connect Power cord）

根据激光器的功率不同，2KW 以下使用单相三线的电源线，可使用 220V,额定工作电流不小于 60A 的断路器；2KW 及以上功率的采用的 4 芯线，建议使用 380V 三相四线，额定工作电流不小于 100A 的断路器。

所用断路器都必须带零线，并有效接地。

必须在断电的状态下连接电源线。

拿出包装箱里的电源线，一头插入激光器交流电源接口，另一头的电源线按线上的标示接入正确孔位**（如图所示）**。



Depending on the power of the laser, below 2KW: using 220V single-phase three-wire power cords, circuit breakers with a rated working current≥60A; 2KW and above: using 4-

core wires, 380V three-phase four-wire, circuit breaker with rated working current ⩾100A.

All circuit breakers used must have zero line and be effectively grounded.

The power cord must be connected when the power is off.

Take out the power cord in the packing box, insert one end into the AC power interface of the laser, and connect the other end of the power cord to the correct hole according to the mark on the line (as shown in the figure)

2. 连接水冷机（Connection water cooler）

冷却水采用纯净水。

激光器主机上标识的进水口对应水冷机的出水口，出水口对应水冷机的进水口。QBH 的连接也是一样（包括光功率计）。

激光器主机和 QBH 分别所对应的水流量和水压值，在用户手册中有详细说明。

水冷机的水温设定：夏天 25±1℃，冬天 23±1℃。

初次启动冷却系统时，应检查整个水路系统和接头是否存在漏水现象。

开启激光器前，必须保证冷却系统工作正常，且水温达到 21℃激光器才会正常开启。

The cooling water needs to use pure water.

The water inlet marked on the laser host corresponds to the water outlet of the water cooler, and the water outlet corresponds to the water inlet of the water cooler. The connection of QBH is also the same (including optical power meter).

The corresponding water flow and water pressure values of the laser host and QBH respectively are described in detail in the user manual.

The water temperature setting of the water cooler: 25±1℃ in summer, 23±1℃ in winter.

When starting the cooling system for the first time, please check whether there is leakage in the whole waterway system and connectors.

Before turning on the laser, the cooling system must work normally, and the water temperature reaches 21℃ before the laser is turned on normally.

3. 激光器工作状态检测分出光和不出光两种

（There are two types of laser working status detection: light and no light）

1）不出光

可不接水冷机，激光器前面板钥匙保持竖直（REM)状态，参照用户手册 4.6.2 内控模式的具体步骤即可。

2）如需出光

激光器主体、光纤输出头 QBH 和光功率计必须正确连接功率与之匹配的水冷机（如连接光功率计，水冷机功率需加倍）。

全程佩戴经过认证的激光防护眼镜，固定好 QBH，对准光功率计的中心点，距离大约为 30CM 左右。

先打开水冷机，取下 QBH 的保护帽。

拿出包装箱中，控制信号（DB15 接口）线，一头连接至 CONTROL 口（用户手册上也有参考图片），另一头找到标示为 PWM+和 PWM-这两条线接上一个 24V 的小电源。后面的步骤同上，即可读取到激光器出光功率。

1) No laser emission

The water cooler is not required, and the key on the front panel of the laser is kept upright (REM). Please refer to the specific steps in 4.6.2 of the internal control mode in the user manual.

2) Release laser to measure power

The laser body, the fiber output head QBH and the optical power meter must be correctly connected to the water cooler with the matching power (if connecting the optical power meter, the power of the water cooler must be doubled).

Wear the certified laser protective glasses, fix QBH, aim at the center of the optical power meter, and the distance is about 30cm.

Turn on the water cooler first and remove the protective cap of the QBH.

Take out the control signal line(DB15 interface) in the packing box, connect one end to the CONTROL port (see the reference picture in the user manual), and find the two lines marked PWM+ and PWM- on the other end and connect to a 24V power supply. The following steps are the same as above, and the laser output power can be read.

浙江光泰激光科技有限公司
ZHEJIANG GT LASERS TECH.CO.,LTD.