# How to swap laser modules

Before doing any wiring changes, make sure to power off at the wall!

To swap laser modules you'll need to remove and insert the corresponding jumper leads. There is one labelled '"12V 15W" which is just a short lead with crimped connectors on one end, and a green plug on the other, and one labelled "24V 30W" with a green connector, barrel connector, and 2 crimped plugs. The latter is attached to a black in-line power supply.
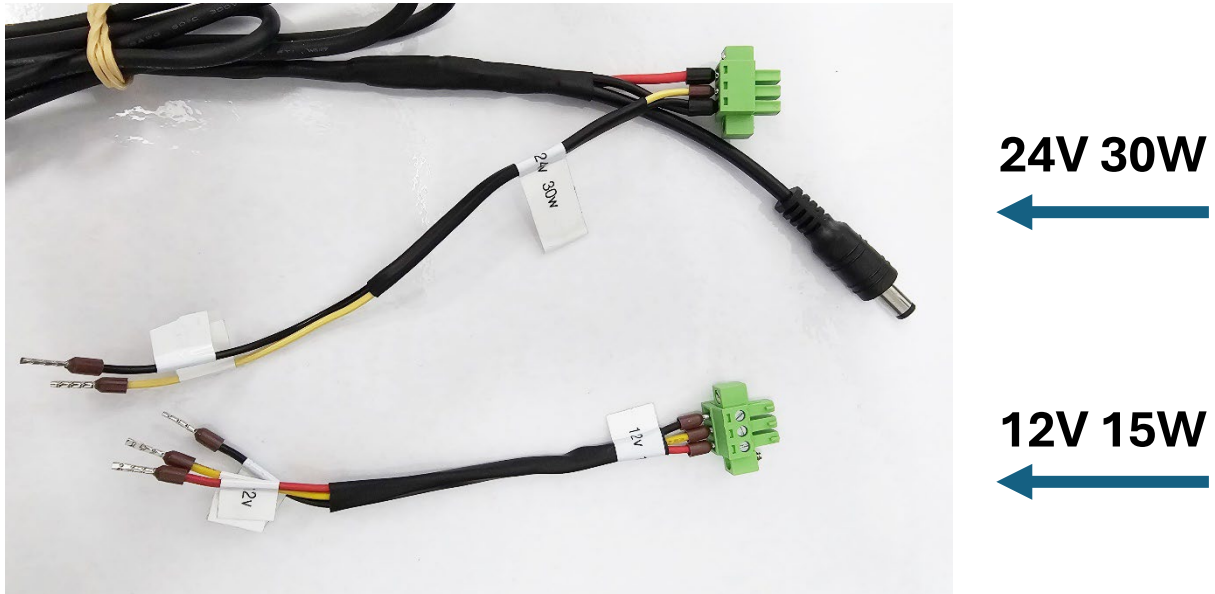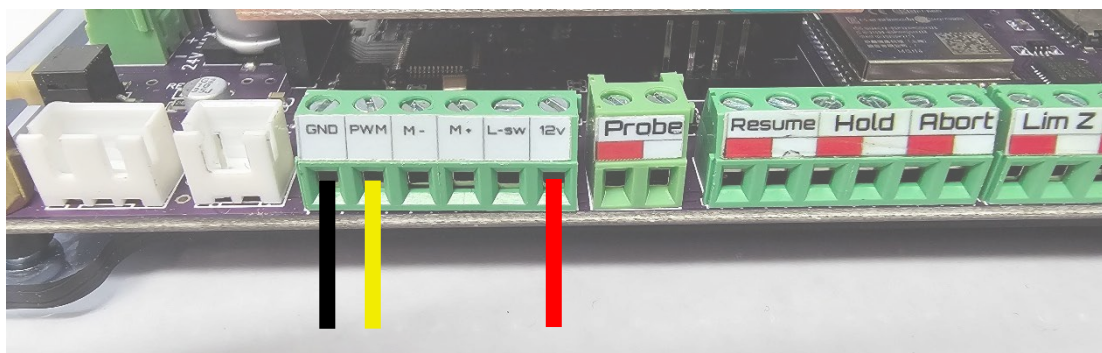

24V 30W ⟵

12V 15W ⟵

The green connector on the end will plug into the wire that runs along the machine to the laser.

When swapping, pay close attention to the jump lead being used. If you use the 24V 30W lead with the 12V 15W laser, it will be severely damaged.

With both jumper leads, the individual wires are labelled and follow the same colour scheme.

Red	⟶	**12V DC Power**
Yel	⟶	**PWM control signal**
Blk	⟶	**GND return**

These will screw into the corresponding hole in the SCRIBE board.

24V 30W

The 24V 30W plug does not have a red wire, as its power is supplied from the mains plug and not from the Scribe board.

The barrel connector on the 24V 30W jumper lead will power the air assist pump.

The black and yellow wires must be connected to the GND and PWM pins respectively on the Scribe board as this is what controls the laser's output power.

12V 15W

The 12V 15W plug has a red, black, and yellow wire with a crimp termination. All 3 of these wires will need to be inserted into their respective pin following the colours outlined on the previous page.

The green plug on the end of the jumper lead will plug into the end of the wire running through the machine up to the laser head. This does not change between modules. These can only be plugged in one way.

Changes to build manual

The build manual asks for the laser module to be attached to the plate before attaching it to the gantry. If you follow those instructions you will not be able to change the module without disassembling the machine.

Instead, you can use the holes in the bottom of the X-axis acrylic plate to easily attach and detach a laser module. These holes can be accessed even when the machine is fully assembled.