

5.2 Electrical Connections

All electrical connections for the laser are made through one twelve-pin connector located on the back of the laser. The mating connector will accommodate a combination of 14 AWG [2.0 mm²] wire for power and 22 AWG [.30 mm²] wire for signals. Figure 7 below details the electrical characteristics of each of the pins in the connector. Figure 8 details the circuits inside the laser attached to the pins.

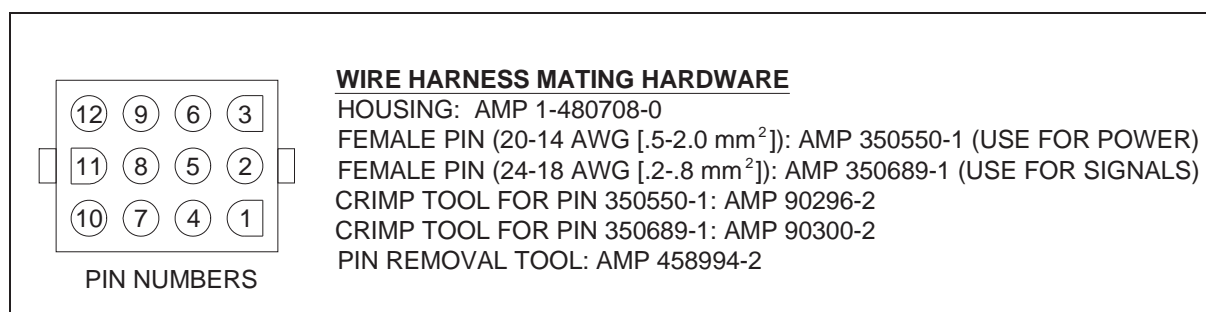


Figure 7 – Laser connector pin diagram

Pin Number	Input Name	Laser Input/Output	Wire Size	Description
1 & 4	+48V	Power input	14 AWG [2.0 mm ²]	+48 volt power. Do not swap polarity
2	Reserved	Do not use		Reserved for future use.
3	Laser Operational	Optically isolated output	22 AWG [.30 mm ²]	Optional indicator requires an external +5V source and 470 ohm current-limiting resistor between pins 3 and 9. The optoisolator will activate if the laser has power and the temperature is within limits. The optoisolator will remain open if the laser does not have power, is not connected, or the temperature is out of range.
5	Interlock sense	Interlock input	22 AWG [.30 mm ²]	+12 volt source applied to this pin enables RF power generation to laser. Intended to be used with safety switches. Do not modulate laser with this signal. See pin 8 for connection info.
6	Modulation +	Optically isolated Input	22 AWG [.30 mm ²]	Laser modulation signal is connected between pins 6 and 9.

7 & 10	Ground	Power input	14 AWG [2.0 mm ²]	Power Ground.
8	+12V	12 volt source (Only use for interlock)	22 AWG [.30 mm ²]	Connect safety switches between pins 8 and 5 to enable laser. Do not use this pin as a power source for other purposes.
9	Return	Optoisolator return signal	22 AWG [.30 mm ²]	Optically isolated return signal for "modulation +" (pin 6), "Laser diode" (pin 11), laser status (pin 3).
11	Laser Diode	Optically isolated input	22 AWG [.30 mm ²]	+5 V signal between pins 11 and 9 will turn on red laser pointer (if equipped).
12	Reserved	Do not use		Reserved for future use.