



NOTE 007  
LASER WIRING

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Version	Date	Written by	Reviewed by	Comments
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## I. Introduction

This document describes the wiring of a laser whose series is S3.

## II. Reference Document

- [1] DAK\_COR\_E007E – User Manual, Gips Vision
- [2] Electrical schematics according to the system, Gips Vision

## III. Steps to follow

### III.1 WARNING - Laser safety

Class 3B visible-light lasers are hazardous for eye exposure. They can cause burns to the retina. A person cannot turn away or blink fast enough to prevent retinal eye injury from a nearby Class 3B laser.

- At the low end, around 5 to 50 milliwatts, a Class 3B laser poses a moderate risk of eye injury. It is unlikely that a handheld beam aimed from more than a few dozen feet away would cause injury -- laser light could not stay on one spot on the retina long enough for heat to build up to injurious levels. However, the risk is increased if the beam is held steady or if the laser is relatively close to the eye.
- As the laser power increases, the risk of eye injury also increases. At the high end, around 250 to 500 milliwatts, even a brief exposure could cause retinal damage.

**Avoid all eye exposure to beams from Class 3B lasers.** This includes unintentional or accidental exposures – Be careful to keep the beam away from eyes and faces.

**You have glasses, but they are adjustment glasses and NOT protective glasses. You must not look at the laser directly.**

## III.2 Connection according to laser type

### III.2.a Laser – Series V2

The outputs of laser Z80M18B or Z120M18B are as follows:

- Pin 1: voltage + → 24V
- Pin 2: NA
- Pin 3: Voltage - → 0V
- Pin 4: NA

So, to get a 100% continuous operation it is necessary:

- Pin 1 → 24V
- Pin 3 → 0V

Designation	Harting Nb	Color of laser cable
GND Cam/Laser	B1	Blue
+24V Laser	B7	Brown

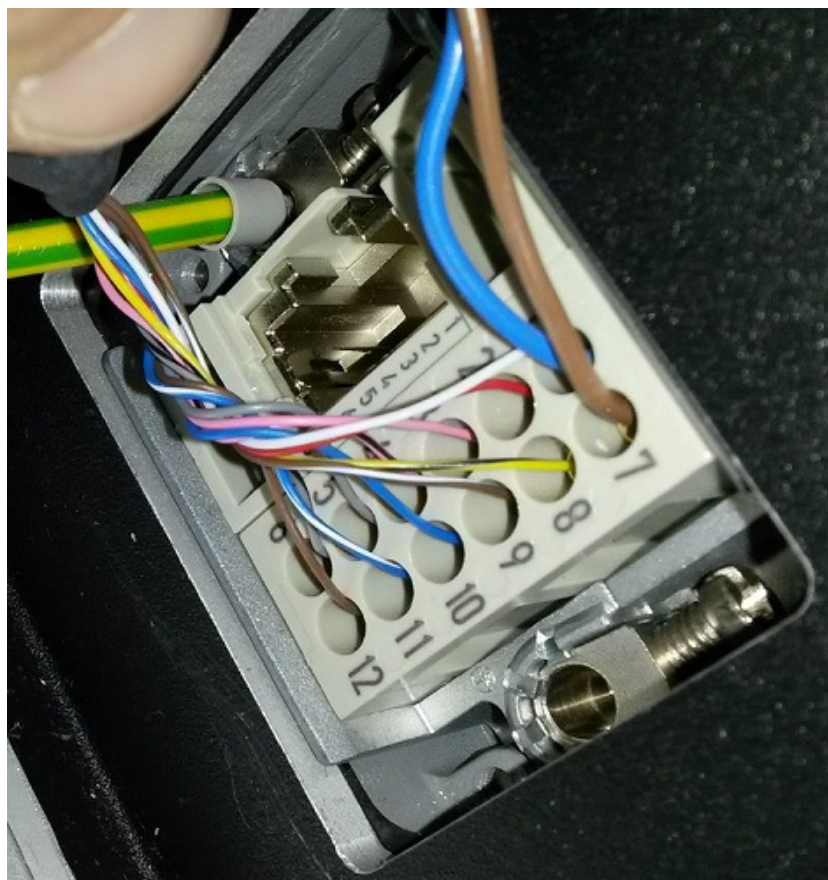


Figure 1: Laser V2 - Harting connexion

### III.2.b Laser – Series S3

The outputs of laser Z80M18S3 or Z120M18S3 are as follows:

- Pin 1: Power → +24V
- Pin 2: TTL digital trigger signal. To be set 24V for continuous operation.
- Pin 3: Ground → 0V
- Pin 4: Analog dimming control. To be set 24V to reach 100% power

So, to get a 100% continuous operation it is necessary:

- Pin 1+ Pin 2 + Pin 4 → 24V
- Pin 3 → 0V

Designation	Harting Nb	Color of laser cable
GND Cam/Laser	B1	Blue
+24V Laser	B7	Brown + White + Black

Retrofit to S3-Serie laser an existing module equipped with V2-Serie laser can be done either by connecting directly the 3 wires Brown+White+Black on the B7 pole at the Harting connector (**Figure 3**) or by adding a terminal block between the Harting connector and the laser cable (**Figure 2**).

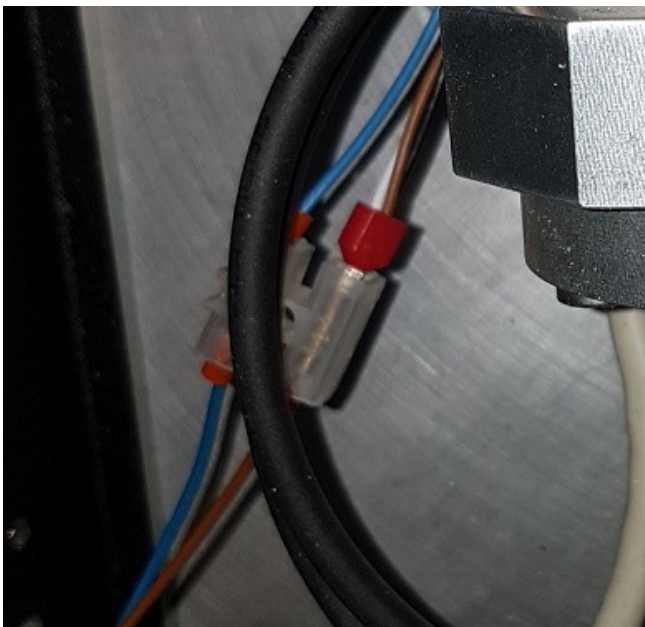


Figure 2: Laser S3 – terminal block

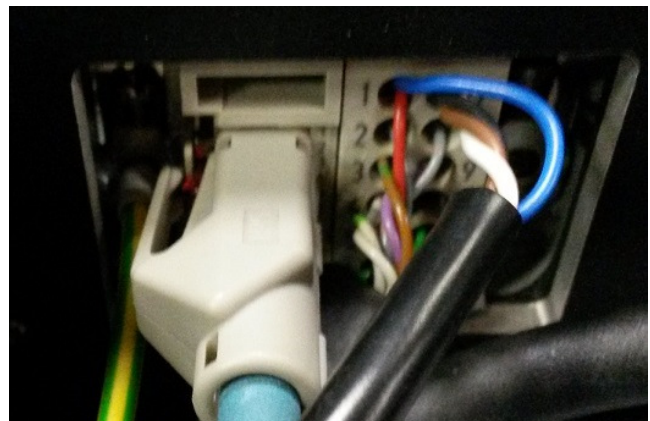


Figure 3: Laser S3 - Harting connexion

**Note:** The replacement of a standard V2 laser by an S3 serie requires the existing fuses on terminal X3 to be replaced by a 1-amp fuse, see. Document [2]. *(One fuse per module)*

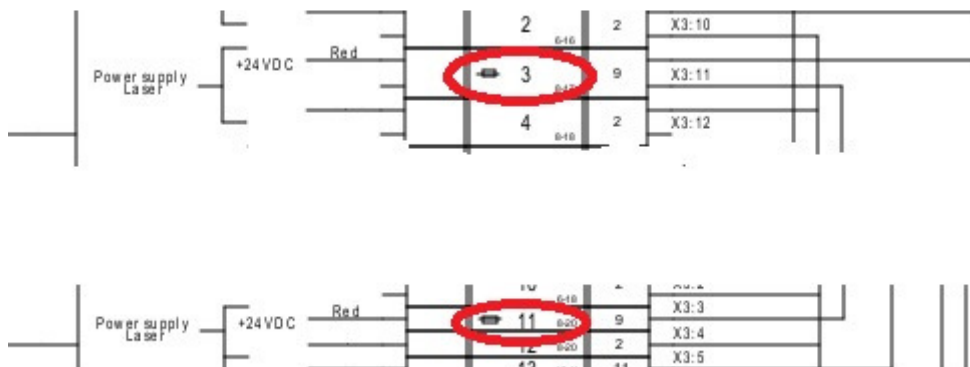


Figure 4: Terminal X3