

1.) Components of the Laser Optic Module

Located in a central position inside the inner casing shell, the laser optic module (014008-001-25) is suspended on and fixed with four screws to two guide rails. In its lower part, the laser optic module is additionally attached to a steel angle bracket. This prevents undue strain impacts onto the laser optic module, mainly during transportation. Once the four screws have been removed and all cable connections been removed from the laser optic module, it can be taken off.

The laser optic module is designed as a die-cast aluminum part that provides a physical link between all involved light-handling components.

This setup ensures that:

- the various components will accurately preserve their mutual positions
- "laser optic module" components are interchangeable with each other.

Figure 6 and Figure 7 show the setup of essential laser optic module components and cross-sectional views of the emitter and the receiver channel.

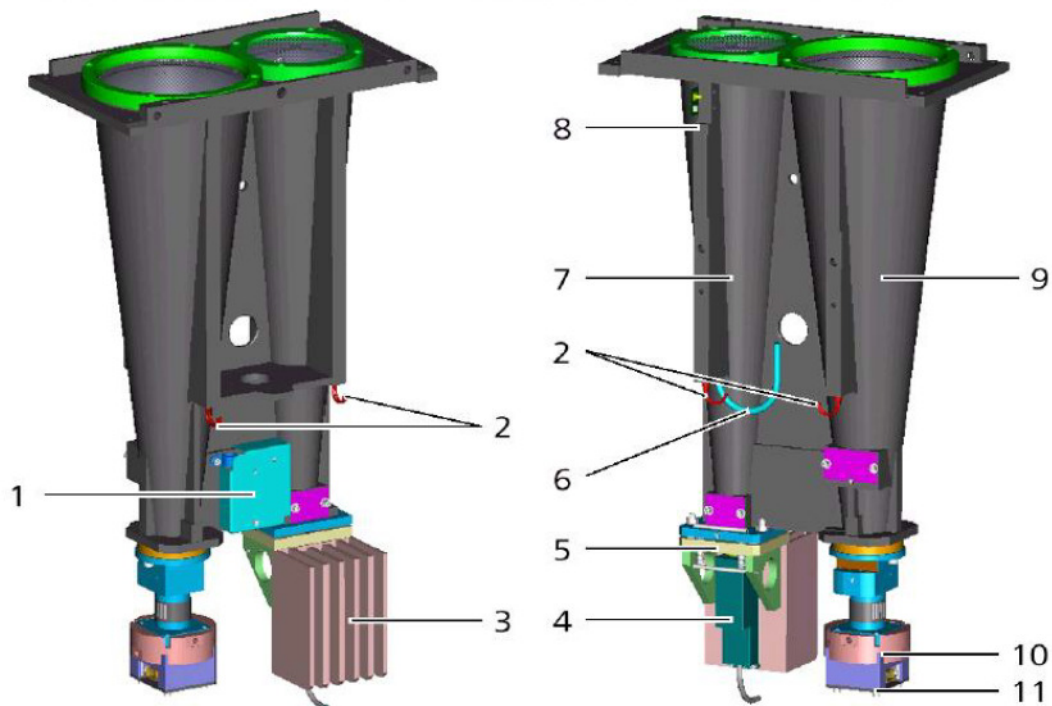


Fig. 6: Laser optic module components

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|---|--|----|--------------------|
| 1 | Switch, wired [25] | 7 | Emitter channel |
| 2 | Cartridge heater | 8 | Trigger board [6] |
| 3 | Heat sink | 9 | Receiver channel |
| 4 | Laser head [59] | 10 | APD alignment unit |
| 5 | Laser head alignment unit | 11 | APD unit [29] |
| 6 | Laser optic module cable [15] with thermo sensor | | |

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2.) Recommended tools



allen wrench with ball head 5mm
for # 1: screws (4 x)

allen wrench 5mm
for #4: fixing screw

allen wrench 3mm
for #2: shield fixing screw

slotted screw driver
0,5 x 3 mm
for #3: hood screws (2 x)

3.) Remove the Laser Optic Module

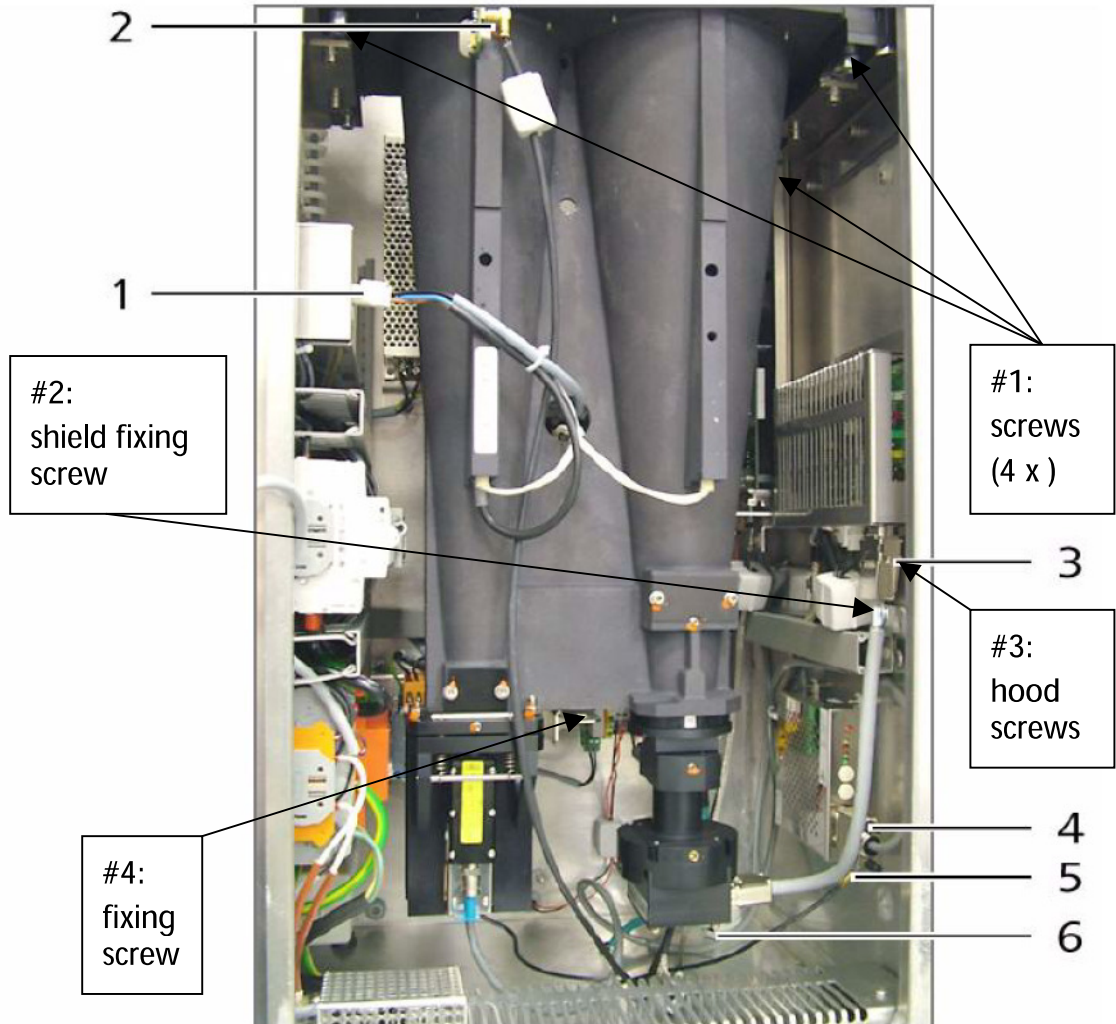


Fig. 20: Cable connection points

- | | | | |
|---|------------------------------------|---|---------------------------|
| 1 | Laser optic module cable connector | 4 | Laser cable connector |
| 2 | Cable 4 connector | 5 | Connector lug of cable 20 |
| 3 | Cable 19 connector | 6 | Cable 5 connector |

Attention: Power off the ceilometer!

Please remove all the shown cables.

Attention: At last remove cable point 5 , the connector lug of cable 20 between Laser heatsink and Laser controller case (locked flat connector 6.35mm).

#1) After that unfast the 4 screws (2 on each bottom side, lose protected). The screws in the back are problematic.

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- #2) Remove the shield fixing screw of cable 19.
- #3) Remove the looking screws for the D-Sub hood of cable 19.
- #4) Remove the fixing screw on the bottom of the Laser Optic Module.

Take out the Laser Optic Module, be careful about cable 19. Park the Laser optic Module on a table, do not prop up on heatsink of the Laser.

5.) Mounting the Laser Optic Module

Bring in the Laser Optic Module, be careful with cable 19.
Mount the 4 screws (#1, 2 on each bottom side). The screws in the back are problematic.

Mount the fixing screw (#4) on the bottom of the Laser Optic Module.

Attention: At first connect cable point 5 , the connector lug of cable 20 between Laser heatsink and Laser controller case (locked flat connector 6.35mm).

Fix the shield of cable 19 (#2).
Fix the looking screws for the D-Sub hood of cable 19 (#3).
Connect all the other shown cables.
Power on the CHM15k.