## Optical Fibers

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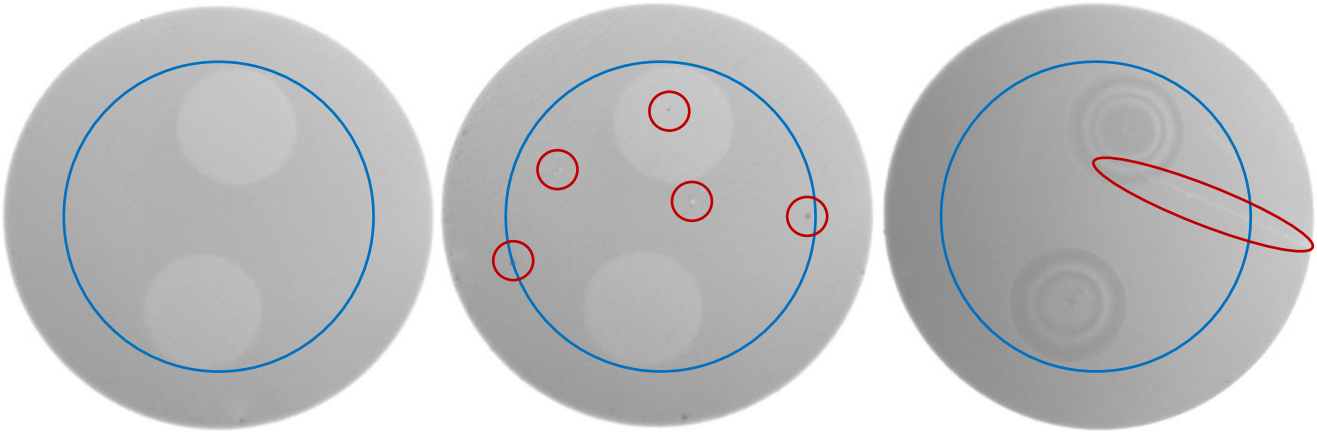
| **CAUTION!** | **Dust particles on a fiber facet will burn when illuminated by a laser beam, and damage the fiber core. Unless an optical inspection (e.g. with the help of a fiber microscope) proves the fiber facets to be dust-free, it is strongly recommended to always clean the facets before connecting a fiber to a connector port, or to another fiber.** |
| **CAUTION!** | **The bend radius of a fiber patchcord should not be smaller than 1.5 cm. If possible, use a bend radius larger than 2.5 cm. Do not drop any sharp or heavy objects on the fiber.** |

### Checking a fiber facet



**Good:** connect **Smudged:** clean **Scratched:** polish

### Operating Instructions

**Cleaning a fiber facet:**

- Before connecting an optical fiber, its facet should be cleaned with a commercially available “reel cleaner”, or a similar device that incorporates a dry woven polyester cloth as cleaning medium.
- Hold the fiber as shown in the photograph. Move the fiber across the cleaning surface twice.

**Protecting a fiber connector when not in use:**

- When the fiber is not used, carefully place the protective cap on the fiber end.

## Photoconductive Antennas

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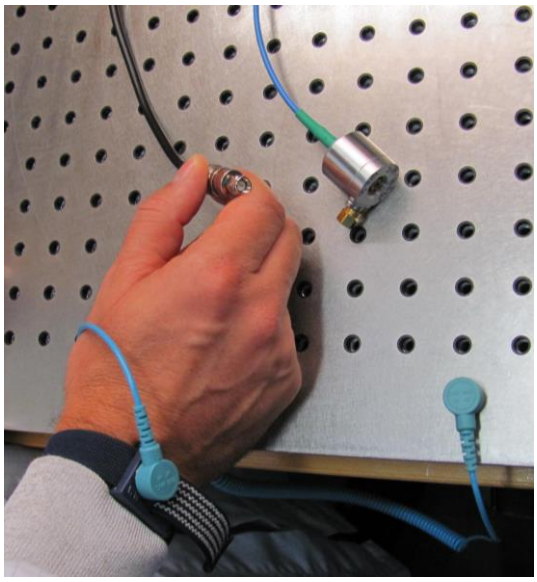
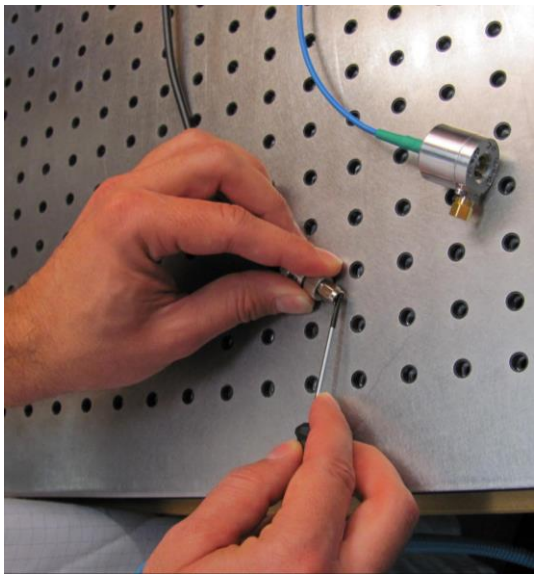
| **CAUTION!** | **Photoconductive antennas – including photomixers, photoconductive diodes and photoconductive switches – are ESD-sensitive devices. We strongly recommend wearing a high-impedance grounding strap around the wrist when handling these devices.** |
| **CAUTION!** | **Connect and disconnect the photoconductive antennas electrically only when they are illuminated with laser light. Laser illumination renders the semiconductor material conductive and reduces the risk of electrostatic damage.** |

### Operating Instructions





**Grounding of antenna module and connector cable.**

- Make sure that the antennas are optically connected to the laser source of your system. Switch the laser(s) ON.
- Take care that your hand, the antenna housing and the connector cable are grounded.
  - Wear a grounding strap around your wrist.
  - Put the antenna module and the terminating connector of the cable attached to it on an electrically grounded surface, e.g. a grounded breadboard (left).
- Short-circuit the inner and outer lead of the connector cable.
  - Take a screwdriver and put it on a grounded surface.
  - Briefly connect the inner and outer lead of the cable with the screwdriver (right).
- Connect the antennas electrically.
  - Connect the transmitter (TX) module to the DC or AC voltage output of your system, using the supplied cable.
  - Connect the receiver (RX) module to the signal input of your system (or to the transimpedance amplifier, in case of a cw-terahertz platform), using the supplied cable.
- Disconnect in reverse order.

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| **NOTE** | **When the system is switched on regularly, e.g., daily, we recommend to leave the photoconductive antennas connected.**<br>**If the devices are not used for longer periods of time, they should be disconnected.** |