

## Safety and general information

This safety and general information document contains safety and information symbols that are relevant while using the device. The document contains detailed laser safety information. The following handling aspects are also dealt with: storage, care, disposal and transport. Contents subject to change without further notice, particularly in the interest of further technical development.

### Complete PULLALIGN handbook

The complete PULLALIGN handbook which describes the device and the related applications in details may be accessed via the provided QR code.



[manuals.pruftechnik.com/pullalign](http://manuals.pruftechnik.com/pullalign)

## Safety

### Signal words

The following signal words panels are used in this document to draw attention to important sections of text. The sections of text provide useful information in using PULLALIGN.

#### Notice

Notice is used for general information and tips regarding operation of PULLALIGN. It addresses practices not related to personal injury.

#### Warning

Warning is used for potential hazard, which if not avoided, could result in minor or moderate injury.

	The laser safety warning symbol denotes laser radiation.
	The <b>Electrical hazard</b> symbol is used to identify electrical hazard and high voltage areas.

### General safety

To prevent possible electrical shock, fire, or personal injury:

- ▶ Read all safety information before you use the device.

#### Warning

Use the device only as specified, or the protection supplied by the device can be compromised.

- ▶ Make sure machines are locked out, tagged out, and cannot be started accidentally or deliberately during maintenance.



### Laser safety

PULLALIGN system uses either PULLALIGN laser ALI 2.100 or PULLALIGN Lite 2 laser ALI 2.131. According to IEC 60825-1:2014, both PULLALIGN and PULLALIGN Lite 2 lasers are classified as Class 2 laser products. They comply with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No.50, dated June 24, 2007. The lasers operate at a wavelength of 630 – 680 nm (red laser) and 505 – 535 nm (green laser) respectively. They have a maximum radiant power < 2.8 mW. The radiant power determined according to IEC 60825-1:2014 condition 3 is < 1.0 mW. No maintenance is necessary to keep the products compliant as outlined above.

#### Warning

Do not look directly into the laser beam at any time. (The natural blink reaction of the human eye is normally sufficient to protect the eyes from any dangers posed by looking at the laser beam briefly. But as natural blink reaction may fail to occur, care should be taken to avoid staring into the beam.)  
Do not insert any optical devices into the beam path.  
CAUTION – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

To prevent eye damage and personal injury:

- ▶ Do not point laser directly at persons or animals or indirectly off reflective surfaces.
- ▶ Do not look directly into the laser with optical tools (for example: binoculars, telescopes, microscopes). Optical tools can focus the laser and be dangerous to the eye.
- ▶ Use the PULLALIGN laser only as specified or hazardous laser radiation exposure can occur.
- ▶ Do not open the PULLALIGN laser. The laser beam is dangerous to eyes. Have the device repaired only through an approved PRÜFTECHNIK service centre.

### Transporting magnetic components

#### Warning

Due to the powerful magnets on the PULLALIGN units, handle the units with care, and DO NOT transport the units without covering the magnets with the provided cover plate which is designed to lower the magnetic field strength significantly. When covering the magnets, slide the plate onto the surface of the magnets. DO NOT snap it on as this can cause painful nips and pinches. The relevant safety data sheet is available for download and reference on the PRÜFTECHNIK website at [www.pruftechnik.com](http://www.pruftechnik.com)  
The units must be kept away from magnetic materials such as watches, spectacle frames and other units that can be damaged.

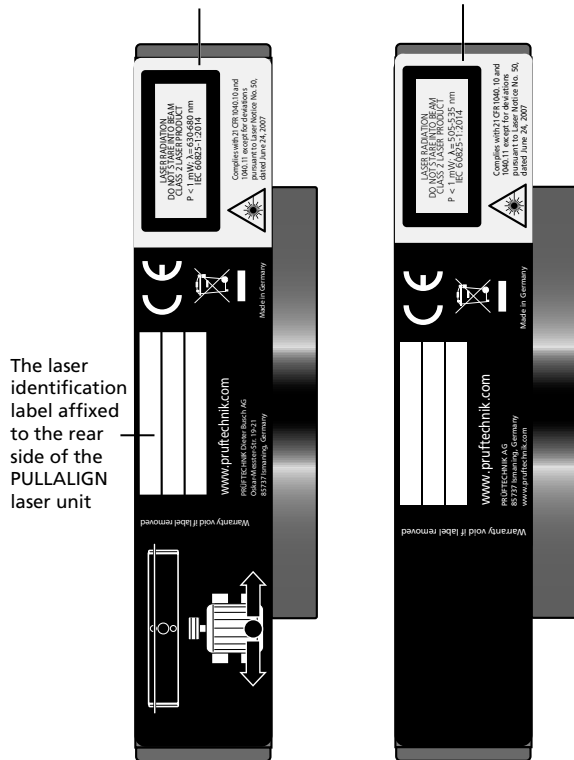
#### Notice

When not in use, the PULLALIGN magnetic units must be stored in their durable case (or pouch). For maximum performance ensure that the optics on the laser transmitter, the reflecting surface on the reflector and the outside housing of both units are kept clean and dust free. The units may be cleaned with lint free cloth. Use the optics cleaning cloth (ALI 2.911) from PRÜFTECHNIK to clean the mirror surface.

### Laser labelling

The laser safety warning label affixed to the rear side of the PULLALIGN laser unit

The laser safety warning label affixed to the rear side of the PULLALIGN Lite 2 laser unit



Laser unit ALI 2.100

Laser unit ALI 2.131

## Handling precautions

PULLALIGN components should not be dropped or subjected to physical shock.

## Storage

Use the provided case (or pouch) to transport the units.  
If the laser is not used for an extended period, remove the four batteries, and store them in a cool, dry and well-ventilated location.  
Observe the storage temperature specified in the technical data.

## Maintenance

PULLALIGN is essentially maintenance-free.

## Disposal

Any waste electrical and electronics parts of PULLALIGN must be disposed of according to applicable safety and environmental regulations.  
Customers in member states of the European Union must adhere to the EU directive 2002/96/EC on waste electrical and electronic equipment (WEEE). PRÜFTECHNIK products that fall under this directive are marked with the shown crossed-out wheelee bin symbol and must be disposed of according to this directive.



- ▶ The marked components must be disposed of with PRÜFTECHNIK or their authorized disposal partners.
- ▶ If you have any questions regarding the WEEE Directive, please contact your local PRÜFTECHNIK sales representative.

## Declaration of conformity

The device fulfills the EC Guidelines for electric devices and those relating to electromagnetic compatibility as indicated in its conformity certificate. The certificate may be downloaded from the PRÜFTECHNIK website ([www.pruftechnik.com/certificates](http://www.pruftechnik.com/certificates)).

## Warranty

PRÜFTECHNIK warrants that the system which has been purchased from PRÜFTECHNIK is free from defects in materials or workmanship under normal use during the warranty period. If not otherwise stipulated, the limited warranty period for the system is 24 months from date of invoice. This warranty is valid only for the original purchaser, and excludes expendable parts.

EXCEPT AS EXPRESSLY SET FORTH IN THIS WARRANTY; PRÜFTECHNIK MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. PRÜFTECHNIK EXPRESSLY DISCLAIMS ALL WARRANTIES NOT STATED IN THIS LIMITED WARRANTY. ANY IMPLIED WARRANTIES THAT MAY BE IMPOSED BY LAW ARE LIMITED TO THE TERMS OF THIS EXPRESS LIMITED WARRANTY. The system must be returned to PRÜFTECHNIK, or an authorized PRÜFTECHNIK service centre.

## Technical data

Laser unit	ALI 2.100	ALI 2.131
Type	Semiconductor laser diode	Semiconductor laser diode
Beam power	< 1.0 mW (according to IEC 60825-1:2014 condition 3)	< 1.0 mW (according to IEC 60825-1:2014 condition 3)
Beam divergence	< 1.0 mrad	< 1.0 mrad
Beam spread	70 deg.	70 deg.
Maximum beam power	< 3.0 mW	< 3.0 mW
Wavelength	630 – 680 nm (red visible)	505 – 535 nm (green visible)
Safety class	Class 2 according to IEC 60825-1:2014 The laser complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.	Class 2 according to IEC 60825-1:2014 The laser complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.