

EN

INSTRUCTIONS
CROSS LINE LASER



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Information on the use of these instructions

Symbols


 **Warning of electrical voltage**
This symbol indicates dangers to the life and health of persons due to electrical voltage.


 **Warning of laser radiation**
This symbol indicates dangers to the health of persons due to laser radiation.

 **Warning**
This signal word indicates a hazard with an average risk level which, if not avoided, can result in serious injury or death.

 **Caution**
This signal word indicates a hazard with a low risk level which, if not avoided, can result in minor or moderate injury.

Notice
This signal word indicates important information (e.g. material damage), but does not indicate hazards.

 **Info**
Information marked with this symbol helps you to carry out your tasks quickly and safely.

 **Follow the manual**
Information marked with this symbol indicates that the instructions must be observed.

You can download the current version of the instructions and the EU declaration of conformity via the following link:




BD8A



<https://hub.trotec.com/?id=47207>

Safety

Read this manual carefully before starting or using the device. Always store the manual in the immediate vicinity of the device or its site of use.

-  **Warning**
Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.
Save all warnings and instructions for future reference.
- Do not use the device in potentially explosive rooms or areas and do not install it there.
 - Do not use the device in aggressive atmosphere.
 - Do not immerse the device in water. Do not allow liquids to penetrate into the device.
 - The device may only be used in dry surroundings and must not be used in the rain or at a relative humidity exceeding the operating conditions.
 - Protect the device from permanent direct sunlight.
 - Do not open the device.
 - Do not remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in legible condition.
 - Avoid looking directly into the laser beam.
 - Never point the laser beam at people or animals.
 - Only use the device, if sufficient safety precautions were taken at the surveyed location (e.g. when performing measurements along public roads, on building sites etc.). Otherwise do not use the device.
 - Observe the storage and operating conditions (see Technical data).

Intended use

Only use the device BD8A for the projection on non-reflective surfaces as an aid to determine and check horizontal, vertical and / or parallel lines. Observe and comply with the technical data.

To use the device for its intended use, only use accessories and spare parts which have been approved by Trotec.

Any use other than the intended use is regarded as misuse.

Reasonably foreseeable misuse

Do not use the device BD8A in potentially explosive atmospheres or in liquids. Never point it at people or animals. Trotec accepts no liability for damages resulting from improper use. In such a case, any warranty claims will be voided.

Any unauthorised modifications, alterations or structural changes to the device are forbidden.

Personnel qualification

People who use this device must:

- be aware of the dangers that occur when working with laser measuring devices.
- have read and understood the instructions, especially the Safety chapter.

Residual risks



Warning of electrical voltage

There is a risk of a short-circuit due to liquids penetrating the housing!
Do not immerse the device and the accessories in water. Make sure that no water or other liquids can enter the housing.



Warning of electrical voltage

Work on the electrical components must only be carried out by an authorised specialist company!



Warning of explosive substances

Do not expose the batteries to temperatures above 60 °C! Do not let the batteries come into contact with water or fire! Avoid direct sunlight and moisture. There is a risk of explosion!



Warning of laser radiation

Laser class 2, P max.: < 1 mW, λ: 400-700 nm, EN 60825-1:2014

Do not look directly into the laser beam or the opening from which it emerges.

Never point the laser beam at people, animals or reflective surfaces. Even brief eye contact can lead to eye damage.

Examining the laser output aperture by use of optical instruments (e.g. magnifying glass, magnifiers and the like) entails the risk of eye damage.

When working with a laser of class 2, observe the national regulations on wearing eye protection.



Warning

Risk of suffocation!

Do not leave the packaging lying around. Children may use it as a dangerous toy.



Warning

The device is not a toy and does not belong in the hands of children.



Warning

Dangers can occur at the device when it is used by untrained people in an unprofessional or improper way! Observe the personnel qualifications!



Caution

Lithium-ion batteries might catch fire in case of overheating or damage. Ensure a sufficient distance to heat sources, do not subject lithium-ion batteries to direct sunlight and make sure not to damage the casing. Do not overcharge lithium-ion batteries. If the battery is not permanently installed in the device, only use smart chargers that switch off automatically when the battery is fully charged. Charge lithium-ion batteries in due time before they are discharged completely.



Caution

Keep a sufficient distance from heat sources.

Notice

To prevent damages to the device, do not expose it to extreme temperatures, extreme humidity or moisture.

Notice

Do not use abrasive cleaners or solvents to clean the device.

Information about the device

Device description

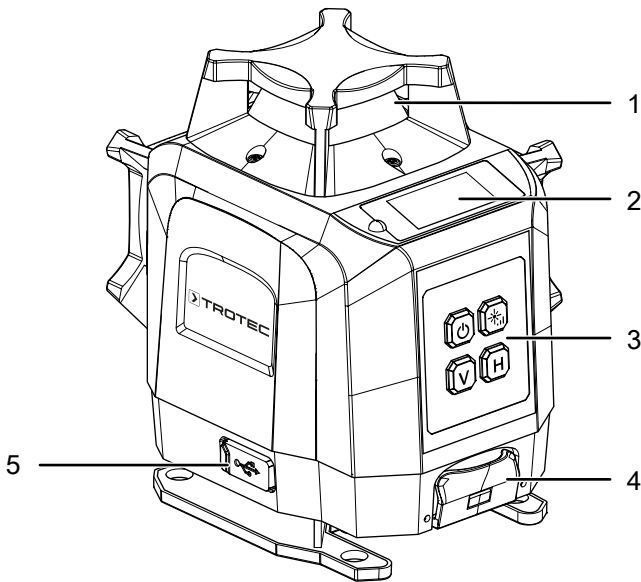
The cross line laser BD8A projects laser lines on surfaces, e.g. to drill holes in a straight line – similar to using a spirit level.

The device comes with the following features:

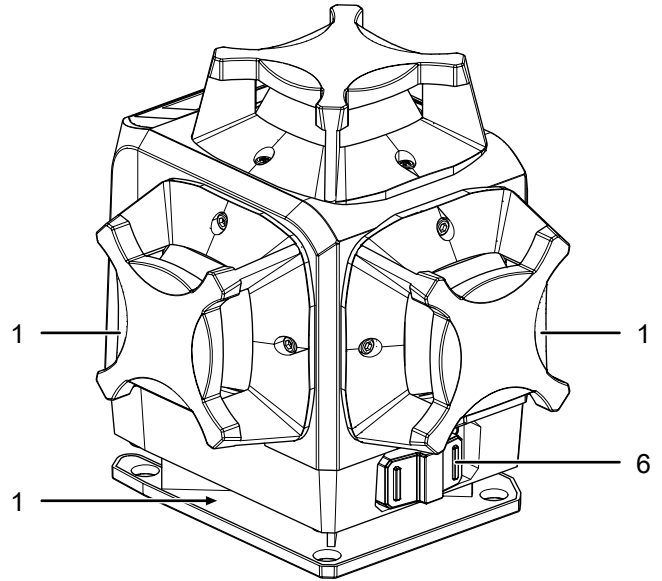
- Projects light-intense laser lines up to a distance of 30 m
- Green light for optimum reflectance
- Self-levelling up to an inclination of 3.5°, can be deactivated
- Laser projection either as cross line, individual vertical line or horizontal 360° line
- Battery-powered
- Integrated ¼ inch tripod connection

Device depiction

Front

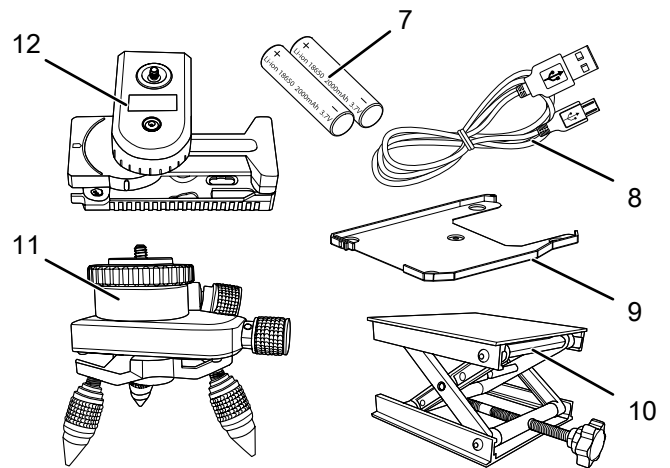


Rear



No.	Designation
1	Laser
2	Display
3	Operating elements
4	Battery compartment
5	USB-C port
6	Self-levelling switch

Accessories



No.	Designation
7	Batteries
8	USB cable
9	Tripod mounting plate
10	Platform
11	Mini tripod
12	Wall bracket

Technical data

Parameter	Value
Model	BD8A
Device dimensions (width x height x depth)	105 x 132 x 130 mm
Device weight	747 g
Interfaces	USB-C port for charger
Range	30 m
Type of protection	IP54
Operating conditions	-10 °C to 50 °C < 70 % RH
Storage conditions	-20 °C to 60 °C < 80 % RH
Levelling compensation	3.5° ± 1°
Levelling duration	< 3 s
Laser output	< 1 mW (515 nm)
Laser accuracy	±0.3 mm/m
Laser class	2
Power supply	
Battery	2 x 3.7 V Li-ion (2000 mAh)
Capacity	4000 mAh
Charging time	1 – 2 h
Nominal voltage	5 V

Scope of delivery

- 1 x Cross line laser BD8A
- 1 x USB cable
- 1 x Wall bracket
- 1 x Height-adjustable platform
- 1 x Tripod mounting plate
- 1 x Tripod
- 1 x Manual

Transport and storage

Notice

If you store or transport the device improperly, the device may be damaged.

Note the information regarding transport and storage of the device.

Transport

The supplied Li-ion batteries are subjects to the requirements of dangerous goods legislation.

Observe the following when transporting or shipping Li-ion batteries:

- The user may transport the batteries by road without any additional requirements.
- If transport is carried out by third parties (e.g. air transport or forwarding company), special requirements as to packaging and labelling must be observed. This includes consulting a dangerous goods specialist when preparing the package.
 - Only ship batteries if their housing is undamaged.
 - Please also observe any other national regulations.

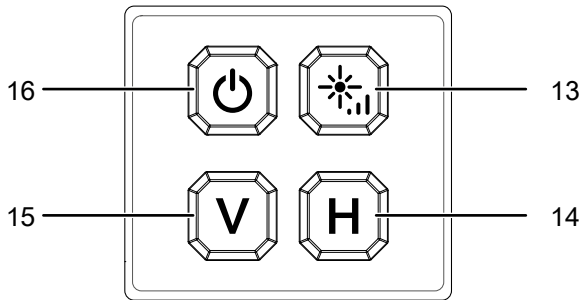
Storage

When the device is not being used, observe the following storage conditions:

- dry and protected from frost and heat
- protected from dust and direct sunlight
- the storage temperature complies with the values specified in the Technical data

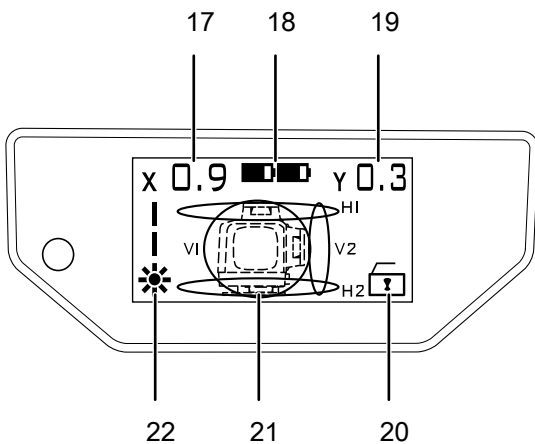
Operation

Operating elements



No.	Operating element
13	Laser brightness button
14	H button
15	V button
16	Power button

Display



No.	Indication
17	Inclination angle x-axis
18	Battery status
19	Inclination angle y-axis
20	Self-levelling status on/off
21	Laser status
22	Laser brightness

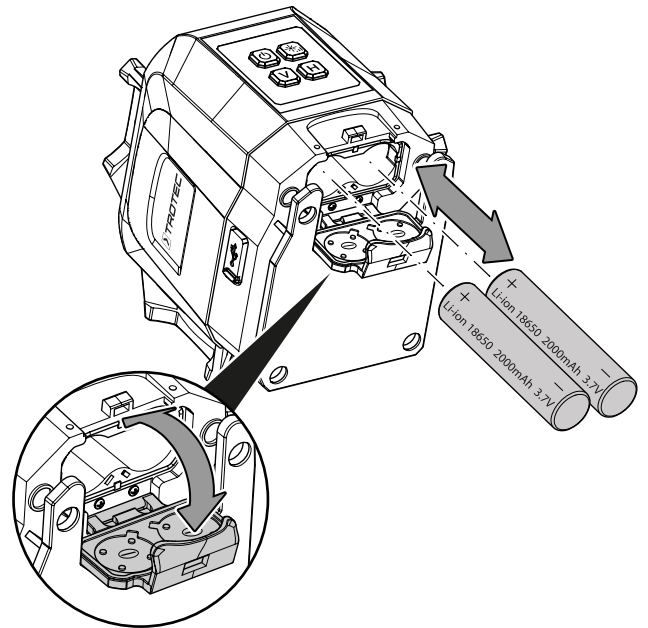
Inserting the batteries

Insert the supplied batteries into the device before first use.

Notice

Make sure that the surface of the device is dry and the device is switched off.

1. Open the cover (4) of the battery compartment.
2. Insert the batteries into the battery compartment with correct polarity.
3. Then close the cover of the battery compartment (4) again.



Charging the batteries

The batteries are partially charged upon delivery to avoid damage to the batteries caused by a deep discharge.



Info

Upon delivery, the battery is only slightly charged. Therefore, please charge the battery for at least 5 hours before using the device for the first time.



Warning of electrical voltage

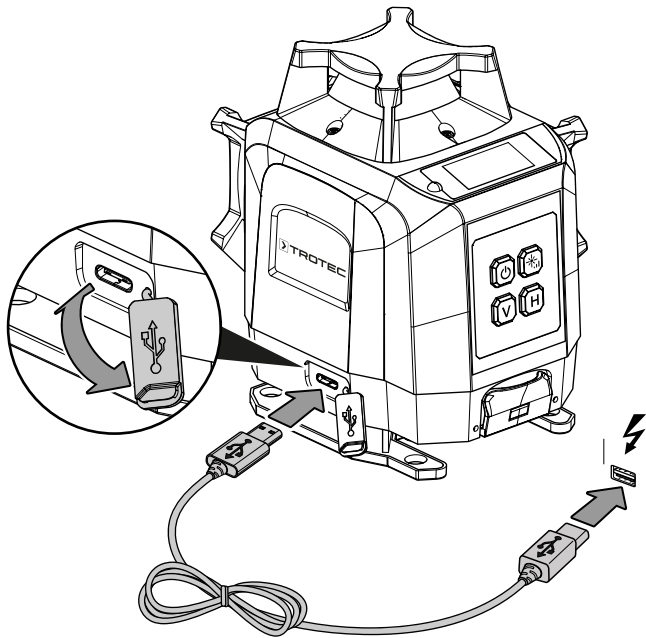
Before each use of the charger or power cable, check for damages. If you notice damages, stop using the charger or power cable!

Notice

The battery can be damaged in case of improper charging. Never charge the battery at ambient temperatures below 10 °C or above 40 °C.

The batteries should be charged prior to initial start-up and when the batteries are low. To do so, please proceed as follows:

1. Open the rubber cover of the USB-C port (5).
2. Plug the charging cable into a USB port or, using a USB power adapter, into a properly fused mains socket.
3. Connect the charging cable to the device's USB-C port (5).



Switching the device on



Warning of laser radiation

Laser class 2, P max.: < 1 mW, λ: 400-700 nm, EN 60825-1:2014

Do not look directly into the laser beam or the opening from which it emerges.

Never point the laser beam at people, animals or reflective surfaces. Even brief eye contact can lead to eye damage.

Examining the laser output aperture by use of optical instruments (e.g. magnifying glass, magnifiers and the like) entails the risk of eye damage.

When working with a laser of class 2, observe the national regulations on wearing eye protection.

1. Press the Power button (16) for approx. 3 seconds to switch the device on.

Selecting the mode

The device comes with two operating modes, a self-levelling and an inclination mode. In self-levelling mode, the device automatically compensates for an angle of up to 3.5° and aligns the laser lines horizontally or vertically. In the inclination mode, the device can be aligned at any angle.

Self-levelling function

1. Place the device on a horizontal, solid surface or secure it to a suitable holder, e.g. the tripod included in the scope of delivery.
2. Slide the self-levelling switch (6) to the "ON" position.
 - ⇒ The self-levelling indicator (20) shows an open lock.
3. Press the *H* button (14) to switch the horizontal laser lines on and off in succession and the *V* button (15) to switch the vertical laser lines on and off in succession.
 - ⇒ The laser lines that are currently switched on are shown on the display (21).
 - ⇒ The device automatically compensates for unevenness within the self-levelling range of ± 3.5°. During levelling, the laser lines move.
 - ⇒ As soon as the laser lines stop moving, levelling is completed.



Info

If the inclination exceeds the range of 3.5°, an acoustic signal is emitted, the laser lines flash and the self-levelling function does not work. This may be due to the fact that the surface structure is not even enough or covered with dirt, so the device is positioned too obliquely to be able to self-level within the possible angle of 3.5°. Check the surface. If required, reposition the device or secure it to the tripod included in the scope of delivery to compensate for unevenness of the ground.

Inclination mode



Info

In this operating mode the device's self-levelling function is deactivated.

1. Slide the self-levelling switch (6) to the "OFF" position.
 - ⇒ The self-levelling indicator (20) shows a closed lock.
2. Press the *H* button (14) to switch the horizontal laser lines on and off in succession and the *V* button (15) to switch the vertical laser lines on and off in succession.
 - ⇒ The device does not perform self-levelling and the laser lines follow the inclination angle of the device.

Adjusting the brightness level of the laser lines

The laser lines can be displayed in two brightness levels.

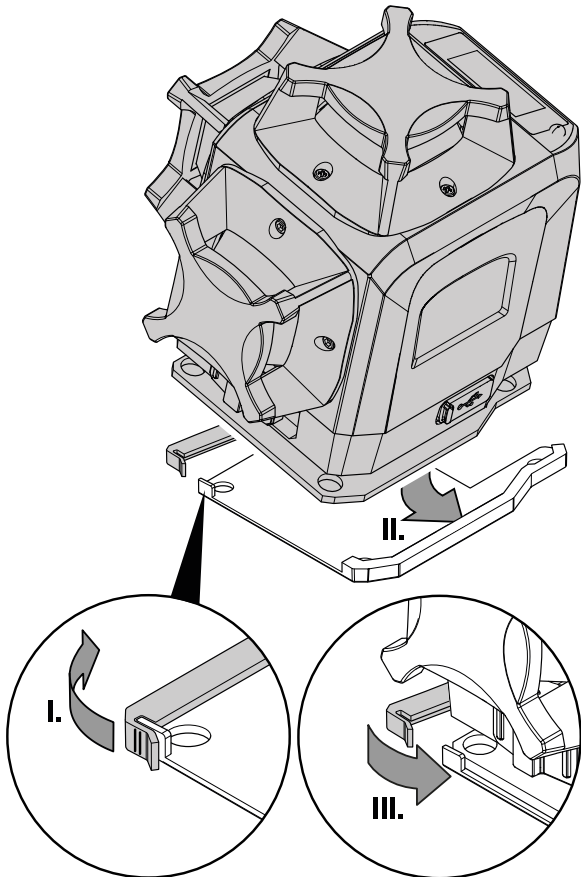
1. Repeatedly press the *Laser brightness* button (13) to set the desired brightness level.
 - ⇒ The set brightness level will be shown on the display (22).

Attaching the tripod mounting plate

The mounting plate (9) is required if the tripod or wall bracket is used.

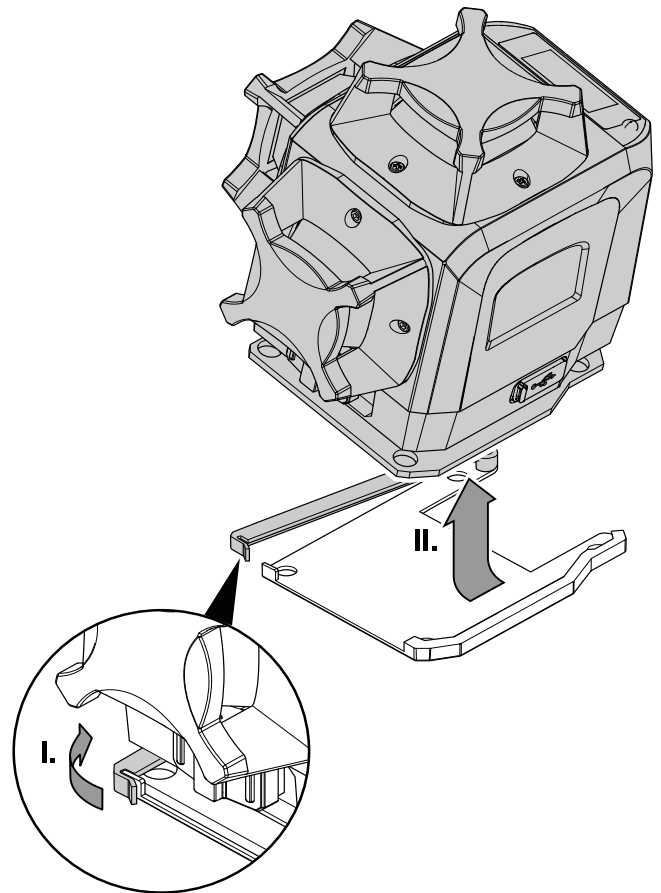
Please proceed as follows to attach the mounting plate:

1. Open the bar on the side of the mounting plate.
2. Slide the device sideways into the recess on the mounting plate.
3. Close the bar on the side of the mounting plate until it perceptibly clicks into place.

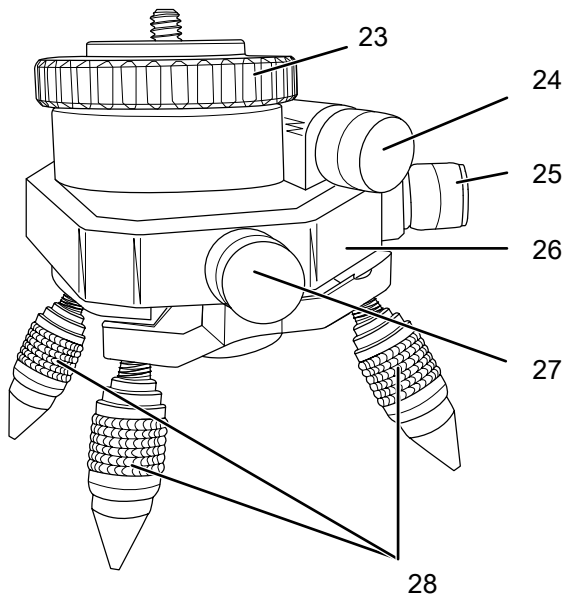


Please proceed as follows to remove the mounting plate:

1. Open the bar on the side of the mounting plate.
2. Detach the device from the recess on the mounting plate.



Using the tripod



2. Use the adjusting screws 2 (25) and 3 (27) to shift the tripod leg mounting plate (26) forwards and backwards as well as sideways.
3. Use the adjusting screw 1 (24) to rotate the rotation plate (23).
4. Turn a tripod leg (28) clockwise to extend it and counter-clockwise to shorten it.

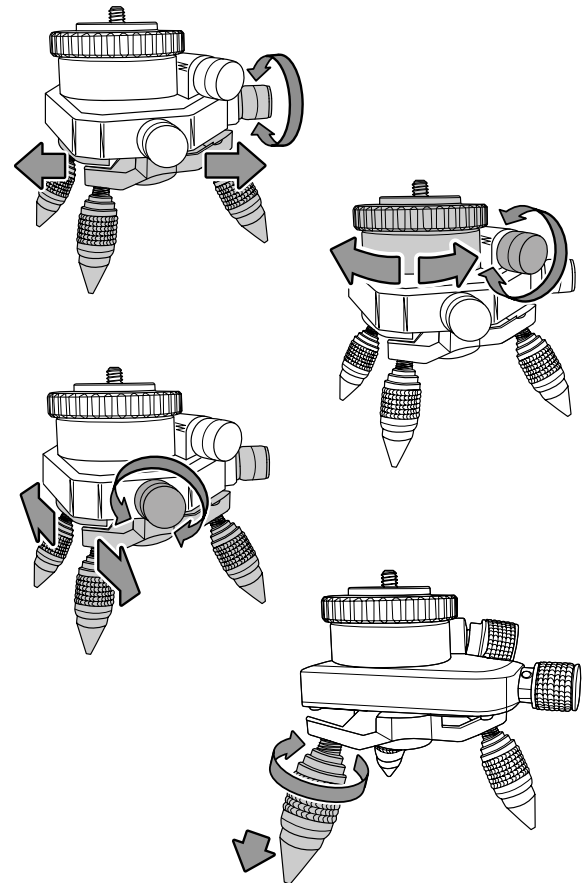


Info

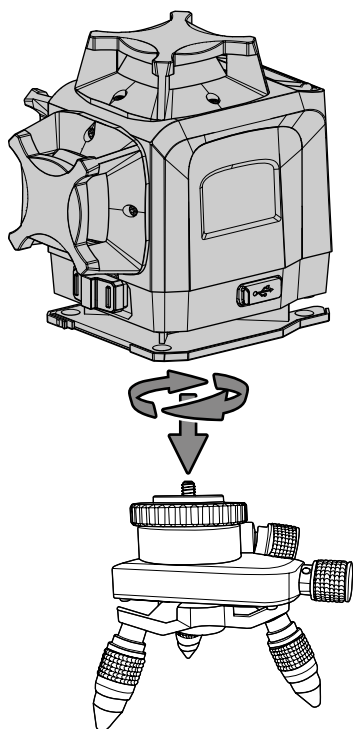
The tripod legs can only be extended by a few millimetres to level the tripod. Take care not to unscrew the screw connection too far, otherwise the tripod leg will loosen completely.

5. Use the spirit level on the top of the tripod to level the device.

No.	Designation
23	Rotation plate
24	Adjusting screw 1
25	Adjusting screw 2
26	Tripod leg mounting plate
27	Adjusting screw 3
28	Tripod legs with screw threads



- ✓ The tripod mounting plate is attached.
1. Screw the tripod into the tripod thread at the bottom of the mounting plate.



Using the wall bracket



Warning

Magnetic field!

The magnet attachment can affect pacemakers and implanted defibrillators!
Always keep a minimum distance of 20 cm between the device and pacemakers or implanted defibrillators.

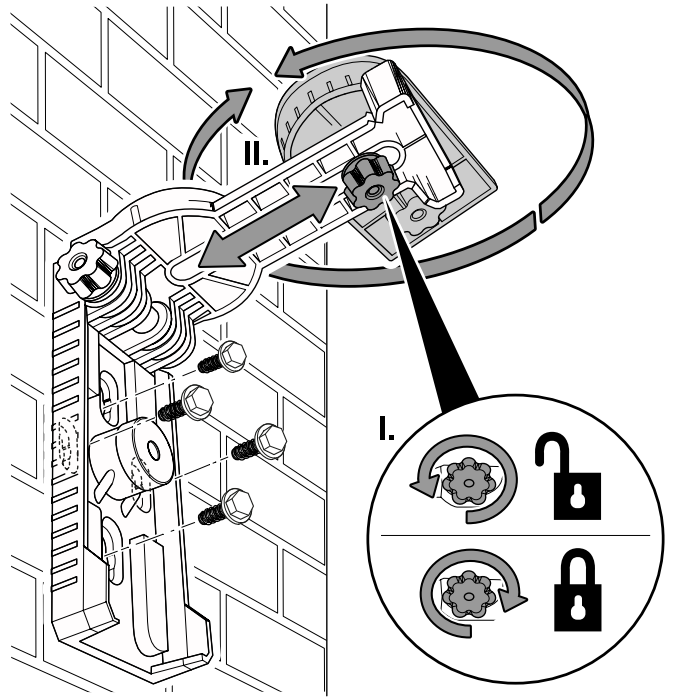
Using the L-shaped wall bracket, the device can also be fixed to vertical surfaces. For this purpose, the holder can be screwed on through the holes provided or attached using the magnets at the rear.

Notice

The L-shaped wall bracket can close unexpectedly if the adjusting screws are too loose.
Tighten the adjusting screws sufficiently during installation to prevent damage to the device.

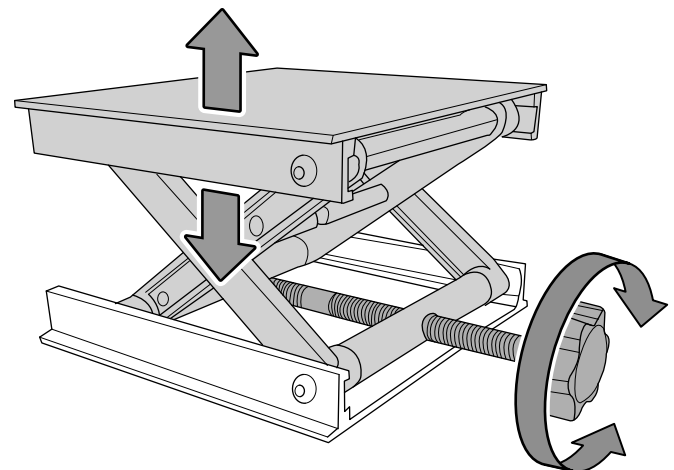
- ✓ The tripod mounting plate is attached.
- 1. Loosen the adjusting screw on the side counter-clockwise until the wall bracket can be opened easily.
- 2. Open the wall bracket to a 90° angle.
- 3. Screw the adjusting screw on the side back in clockwise.

- 6. Use the spirit level on the wall bracket as well as the adjusting screw on the side and the adjusting screw at the bottom of the wall bracket to align the device horizontally.



Using the platform

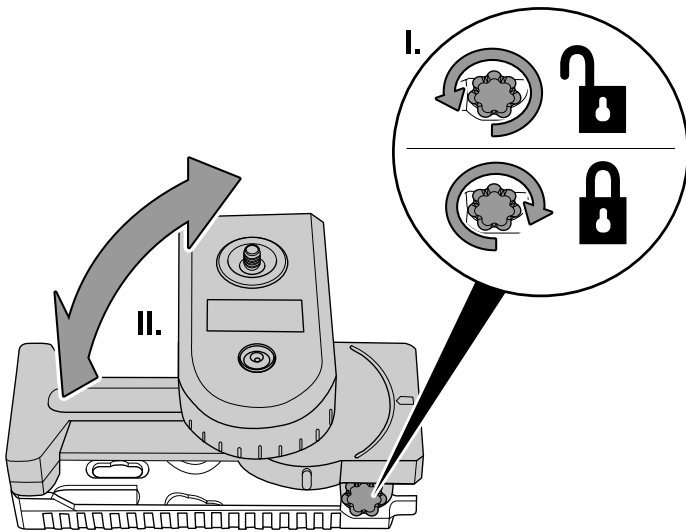
Using the height-adjustable platform, the device can be easily levelled wherever a minimum distance from the ground is required, for example.



- 1. Turn the adjusting screw counter-clockwise to raise the platform.
- 2. Turn the adjusting screw clockwise to lower the platform.

Switching the device off

- 1. Press the Power button (16) for approx. 3 seconds to switch the device off.



- 4. Screw the wall bracket to the wall using the four screws. Use the provided holes in the wall bracket to do so. Alternatively, you can mount the wall bracket on a magnetisable surface, such as a steel beam, using the magnet at the rear.
- 5. Screw the wall bracket into the tripod thread of the mounting plate at the bottom of the device.

Maintenance and repair

Charging the battery

The batteries should be charged prior to initial start-up and when the batteries are low. The battery status can be read from the *Battery status* indication (18). A weak laser beam can also indicate discharged batteries. Follow the instructions in the Operation chapter to charge the batteries.

Cleaning

Clean the device with a soft, damp and lint-free cloth. Make sure that no moisture enters the housing. Do not use any sprays, solvents, alcohol-based cleaning agents or abrasive cleaners, but only clean water to moisten the cloth.

Repair

Do not modify the device or install any spare parts. For repairs or device testing, contact the manufacturer.

Errors and faults

The device has been checked for proper functioning several times during production. If malfunctions occur nonetheless, check the device according to the following list.

Self-levelling is not possible:

1. Check whether the self-levelling switch (6) is in the "ON" position and whether the laser can move freely. If the laser is not able to move back and forth freely within the 3.5° angle even though the switch is set correctly, please contact the customer service.
2. Check the surface on which the device is placed. If necessary, remove coarse dirt.

Laser lines are not properly horizontal/vertical:

- Check the laser for freedom of movement in self-levelling mode. If the laser is not able to move back and forth freely within the 3.5° angle even though the switch is set correctly, please contact the customer service.

Horizontal laser lines are partially interrupted:

- The lateral struts of the protective cover accommodating the laser cause interruptions in the horizontal 360° laser line at defined points. This cannot be avoided. Should you detect interruptions at other points, please check the glass covers of the protective cover for scratches or dirt, which may be the cause of the laser beam interruptions. Remove external dirt with a damp cloth. Do not use any aggressive cleaning agents (see chapter Cleaning)! If you detect dirt underneath the glass covers or scratches, please contact the customer service.

Laser is weak:

- Check the battery status and recharge the batteries if required.

Disposal

Always dispose of packing materials in an environmentally friendly manner and in accordance with the applicable local disposal regulations.



The icon with the crossed-out waste bin on waste electrical or electronic equipment is taken from Directive 2012/19/EU. It states that this device must not be disposed of with the household waste at the end of its life. You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your municipality or local administration. You can also find out about other return options that apply for many EU countries on the website <https://hub.trotec.com/?id=45090>. Otherwise, please contact an official recycling centre for electronic and electrical equipment authorised for your country.

The separate collection of waste electrical and electronic equipment aims to enable the re-use, recycling and other forms of recovery of waste equipment as well as to prevent negative effects for the environment and human health caused by the disposal of hazardous substances potentially contained in the equipment.



In the European Union, batteries and accumulators must not be treated as domestic waste, but must be disposed of professionally in accordance with Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators. Please dispose of batteries and accumulators according to the relevant legal requirements.

Only for United Kingdom

According to Waste Electrical and Electronic Equipment Regulations 2013 (SI 2013/3113) (as amended) and the Waste Batteries and Accumulators Regulations 2009 (SI 2009/890) (as amended), devices that are no longer usable must be collected separately and disposed of in an environmentally friendly manner.

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