BOSCH UniversalLevel 2 Basic Cross Line Laser Self-Levelling Range Instruction Manual

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Contents

Safety Instructions

 All instructions must be read and observed in order for the measuring tool to function safely. The safeguards integrated into the measuring tool may be compromised if the measuring tool is not used in accordance with these instructions. Never make warning signs on the measuring tool unrecognisable.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE AND INCLUDE THEM WITH THE MEASURING TOOL WHEN TRANSFERRING IT TO A THIRD PARTY

- Warning! If operating or adjustment devices other than those specified here are used or other procedures are carried out, this can lead to dangerous exposure to radiation.
- The measuring tool is delivered with a laser warning sign (marked in the illustration of the measuring tool on the graphics page).
- If the text of the laser warning label is not in your national language, stick the provided warning label in your national language over it before operating for the first time.

   **Do not direct the laser beam at persons or animals and do not stare into the direct or reflected laser beam yourself**. You could blind somebody, cause accidents or damage your eyes.
- **If laser radiation hits your eye, you must close your eyes and immediately turn your head away from the beam.**
- Do not make any modifications to the laser equipment.
- **Do not use the laser goggles (accessory) as protective goggles**. The laser goggles make the laser beam easier to see; they do not protect you against laser radiation.
- **Do not use the laser goggles (accessory) as sunglasses or while driving**. The laser goggles do not provide full UV protection and impair your ability to see colours.
- **Have the measuring tool serviced only by a qualified specialist using only original replacement parts** . This will ensure that the safety of the measuring tool is maintained.
- **Do not let children use the laser measuring tool unsupervised**. They could unintentionally blind themselves or other persons
- **Do not use the measuring tool in explosive atmospheres which contain flammable liquids, gases or dust**. Sparks may be produced inside the measuring tool, which can ignite dust or fumes

Product Description and Specifications

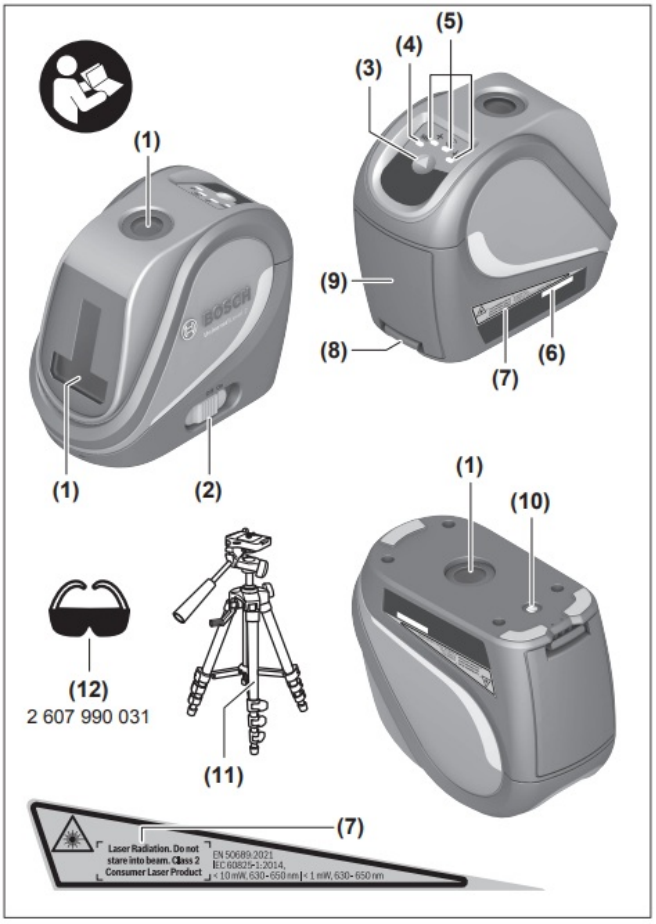
Please observe the illustrations at the beginning of this operating manual.

Intended Use

- The measuring tool is intended for determining and checking horizontal and vertical lines and plumb points.
- The measuring tool is suitable for indoor use.
- This product is a consumer laser product in accordance with EN 50689.

Product features

The numbering of the product features shown refers to the illustration of the measuring tool on the graphic page.



1. Laser beam outlet aperture
2. On/off switch
3. Button for laser operating mode
4. Battery warning
5. “Laser operating mode” indicator
6. Serial number
7. Laser warning label
8. Battery compartment cover locking mechanism
9. Battery compartment cover
10. 1/4″ tripod mount
11. Tripoda)
12. Laser viewing glassesa)

a) Accessories shown or described are not included with the product as standard. You can find the complete selection of accessories in our accessories range.

Technical data

Cross line laser	UniversalLevel 2
Article number	3 603 F63 8..
Working range up to approx.A)	10 m
Laser line aperture angle	120°
Levelling accuracyB)C)	
– Laser lines	±0.5 mm/m
– Laser points	±1.0 mm/m
Self-levelling range	±4°
Levelling time	< 4 s
Operating temperature	–5 °C to +40 °C
Storage temperature	–20 °C to +70 °C
Max. altitude	2000 m
Max. relative air humidity	90%
Pollution degree according to IEC 61010-1	2 D)
Laser class	2
Laser lines	
– Laser type	< 10 mW, 630-650 nm
– C_6	10
– Divergence	0.8 mrad (full angle)
Tripod mount	1/4″
Batteries	3 × 1.5 V LR6 (AA)
Approx. operating timeB)	5 h
Weight according to EPTA-Procedure 01:2014	0.46 kg

Dimensions (length × width × height): 125 × 64 × 115 mm

A) The working range may be reduced by unfavourable environmental conditions (e.g. direct sunlight).
B) At 20–25 °C
C) The values stated presuppose normal to favourable environmental conditions (e.g. no vibration, no fog, no smoke, no direct sunlight). Extreme fluctuations in temperature can cause deviations in accuracy.
D) Only non-conductive deposits occur, whereby occasional temporary conductivity caused by condensation is expected.

The serial number (6) on the type plate is used to clearly identify your measuring tool.

Assembly

Inserting/Changing the batteries
It is recommended that you use alkaline manganese batteries to operate the measuring tool.

To open the battery compartment cover **(9),** press on the locking mechanism **(8)** and remove the battery compartment cover. Insert the batteries.

When inserting the batteries, ensure that the polarity is correct according to the illustration on the inside of the battery compartment. If the batteries become weak, the battery warning **(4)** will light up red.

Always replace all the batteries at the same time. Only use batteries from the same manufacturer and which have the same capacity

- **Take the batteries out of the measuring tool when you are not using it for a prolonged period of time**. The batteries can corrode and self-discharge during prolonged storage in the measuring tool

Operation

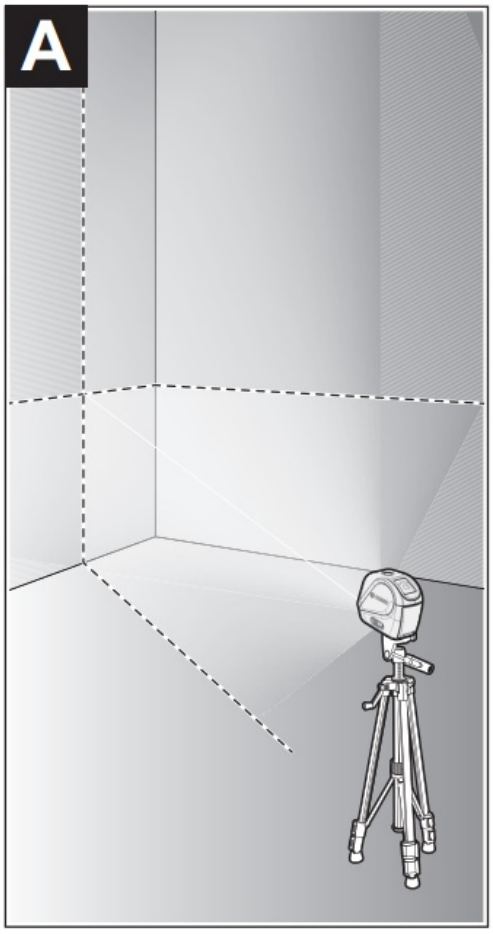
Starting Operation

- **Protect the measuring tool from moisture and direct sunlight.**
- **Do not expose the measuring tool to any extreme temperatures or variations in temperature**. For example, do not leave it in a car for extended periods of time. In case of large variations in temperature, allow the measuring tool to adjust to the ambient temperature before putting it into operation. The precision of the measuring tool may be compromised if exposed to extreme temperatures or variations in temperature.
- Avoid substantial knocks to the measuring tool and avoid dropping it. Damaging the measuring tool can cause accuracy to be compromised. If the laser line is subjected to a substantial knock or is dropped, check it by comparing it to a known horizontal or vertical reference line.
- Switch the measuring tool off when transporting it. The pendulum unit is locked when the tool is switched off, as it can otherwise be damaged by big movements. Switching On/Off
  To switch on the measuring tool, slide the on/off switch (2) to the On position. As soon as it is switched on, the measuring tool emits laser beams from the outlet apertures (1).
- Do not direct the laser beam at persons or animals and do not stare into the laser beam yourself (even from a distance).
  To switch off the measuring tool, slide the on/off switch (2) to the Off position. The pendulum unit is locked when the tool is switched off.
- Never leave the measuring tool unattended when switched on, and ensure the measuring tool is switched off after use. Others may be blinded by the laser beam

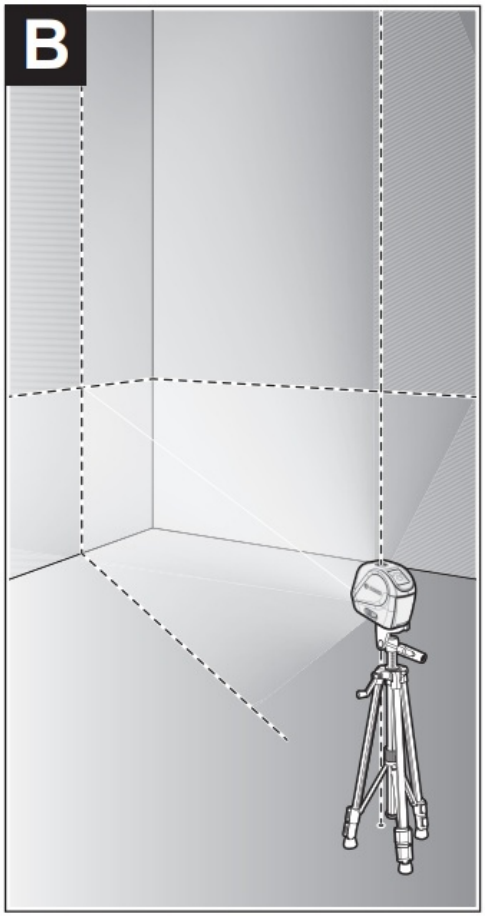
Operating Modes
The measuring tool has three operating modes, which can be selected at any time:

Operating mode

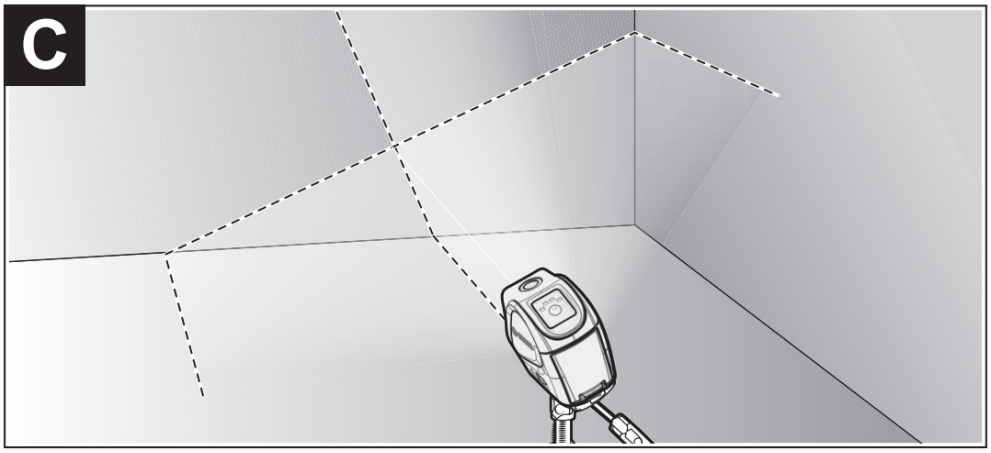
Cross-line mode with automatic levelling (see figure A): The measuring tool generates one horizontal and one vertical laser line.



Cross-line and plumb point mode with automatic levelling (see figure B):
The measuring tool generates one horizontal and one vertical laser line and two plumb points.



Cross-line mode with incline function (see figure C): The measuring tool generates one horizontal and one vertical laser line.



Once the measuring tool has been switched on, it is in cross-line operation with automatic levelling.

To change the operating mode, press the button for laser operating mode **(3)** until the required laser operating mode is displayed by the corresponding “Laser operating mode” indicator **(5)** lighting up.

Automatic Levelling

Working with automatic levelling

Position the measuring tool on a level, firm support or attach it to a tripod **(11).** Select one of the operating modes with automatic levelling.

The automatic levelling function automatically compensates irregularities within the selflevelling range of ±4°. The levelling is finished as soon as the laser lines stop moving.

If automatic levelling is not possible, e.g. because the surface on which the measuring tool stands deviates by more than 4° from the horizontal plane, the laser switches off.If this is the case, set up the measuring tool in a level position and wait for the self-levelling to take place.

In case of ground vibrations or position changes during operation, the measuring tool is automatically levelled again. Upon levelling, check the position of the laser beams with regard to the reference points to avoid errors arising from a change in the measuring tool’s position

Working with the incline function
Select cross-line mode with incline function. For work with the incline function, automatic levelling is switched off. You can hold the measuring tool freely in your hand or place it on a sloping surface. This means that the laser beams are no longer levelled and no longer necessarily run perpendicular to one another.

Working Advice

- **Only the centre of the laser point or laser line must be used for marking** . The size of the laser point/the width of the laser line changes depending on the distance.

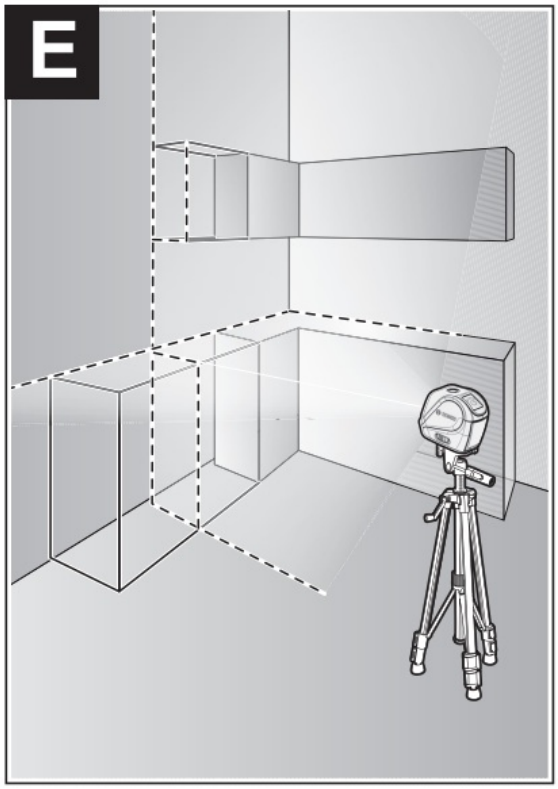
Working with the Tripod (Accessory)
A tripod offers a stable, height-adjustable support surface for measuring. Place the measuring tool with the 1/4″ tripod mount (10) on the thread of the tripod (11) or a conventional camera tripod. Tighten the measuring tool using the locking screw of the tripod.

Roughly align the tripod before switching on the measuring tool.

Laser Goggles (Accessory)
The laser goggles filter out ambient light. This makes the light of the laser appear brighter to the eye

- **Do not use the laser goggles (accessory) as protective goggles**. The laser goggles make the laser beam easier to see; they do not protect you against laser radiation.
- u Do not use the laser goggles (accessory) as sunglasses or while driving. The laser goggles do not provide full UV protection and impair your ability to see colours.

Example applications (see figures D–F)
Examples of possible applications for the measuring tool can be found on the graphics pages.



Maintenance and Service

Maintenance and Cleaning
Keep the measuring tool clean at all times. Never immerse the measuring tool in water or other liquids. Wipe off any dirt using a damp, soft cloth. Do not use any detergents or solvents. The areas around the outlet aperture of the laser in particular should be cleaned on a regular basis. Make sure to check for lint when doing this.

After-Sales Service and Application Service
Our after-sales service responds to your questions concerning maintenance and repair of your product as well as spare parts. You can find explosion drawings and information on spare parts at: **www.bosch-pt.com** The Bosch product use advice team will be happy to help you with any questions about our products and their accessories.

In all correspondence and spare parts orders, please always include the 10-digit article number given on the nameplate of the product.

Great Britain

- Robert Bosch Ltd. (B.S.C.)
- P.O. Box 98
- Broadwater Park
- North Orbital Road
- Denham Uxbridge
- UB 9 5HJ
- At www.bosch-pt.co.uk you can order spare parts or arrange the collection of a product in need of servicing or repair.
- **Tel. Service:** (0344) 7360109
- **E-Mail:** boschservicecentre@bosch.com

You can find further service addresses at:

www.bosch-pt.com/serviceaddresses

Disposal

Measuring tools, accessories and packaging should be recycled in an environmentally friendly manner.

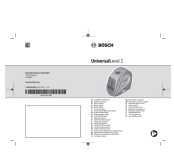
Do not dispose of measuring tools or batteries with household waste.

Only for EU countries:
According to the Directive 2012/19/EU on waste electrical and electronic equipment and its transposition into national law, measuring tools that are no longer usable, and, according to the Directive 2006/66/EC, defective or drained batteries must be collected separately and disposed of in an environmentally correct manner.

If disposed incorrectly, waste electrical and electronic equipment may have harmful effects on the environment and human health, due to the potential presence of hazardous substances

Only for United Kingdom:
According to The 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), products that are no longer usable must be collected separately and disposed of in an environmentally friendly manner.

Documents / Resources

	BOSCH UniversalLevel 2 Basic Cross Line Laser Self-Levelling Range [pdf] Instruction Manual UniversalLevel 2 Basic Cross Line Laser Self-Levelling Range, UniversalLevel 2, Basic Cross Line Laser Self-Levelling Range, Line Laser Self-Levelling Range, Self-Levelling Range, Levelling Range, Range

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- ÐÐ»ÐµÐºÑ‚Ñ€Ð¾Ð¸Ð½ÑÑ‚Ñ€ÑƒÐ¼ÐµÐ½Ñ‚Ñ‹ Bosch | Bosch Professional
- Bosch Power Tools | Bosch Power Tools
- Location selection | Bosch Power Tools
- Електроинструменти на Bosch | Електроинструменти на Bosch
- Service worldwide
- Elektrické nářadí Bosch | Elektrické nářadí Bosch
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- Bosch el-værktøj | Bosch el-værktøj
- Bosch-sähkötyökalut | Bosch-sähkötyökalut
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- Ηλεκτρικά εργαλεία Bosch | Ηλεκτρικά εργαλεία Bosch
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