

STABILA®



How true pro's measure

LAX 50 G

Operating instructions



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1. Intended use

Congratulations on the purchase of your STABILA measuring tool. The STABILA LAX 50 G is an easy-to-operate cross line laser. It is self-levelling through a range of $\pm 4.5^\circ$ and enables levelling that is both fast and accurate. The laser lines, which are projected horizontally and vertically, allow you to work with precision. Their green colour also ensures that you can see them perfectly, even in bright lighting conditions.

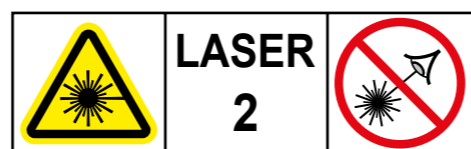


If you still have questions after reading through the operating instructions, you can obtain advice by telephone:



+49 / 63 46 / 3 09 - 0
1.800.869.7460 U.S. and Canada

2. Safety information



IEC 60825-1:2014



Warning:

In Class 2 laser units, your eyes are usually protected from accidental, short-term exposure to the laser beam by the lid-closing reflex and/or the reflex reaction to turn one's head. If a laser beam hits your eye, consciously close your eyes and move your head out of the path of the beam. Do not look into the direct or reflected beam. The STABILA laser goggles available for our laser devices do not constitute safety eyewear; their function is to improve the visibility of the laser beam.

- Do not aim the laser beam directly at people.
- Avoid dazzling other people with the unit.
- Keep the unit out of the reach of children.
- If other operating or adjustment equipment than that specified here is used or if the unit is operated in ways other than described here, this may result in hazardous exposure to radiation.
- No manipulation (modification) of the laser unit is permitted.
- If the unit is dropped or subjected to strong vibrations it may malfunction.
- Always check that the unit is functioning correctly and accurately before you start work, particularly if it has been exposed to heavy vibrations.
- Do not use in explosive or corrosive environments.
- Do not dispose of the batteries or unit with domestic waste.
- Keep this user manual in a safe place and hand it over when passing the unit to another person.

3. Before first commissioning

Carefully read the safety instructions and operating instructions.



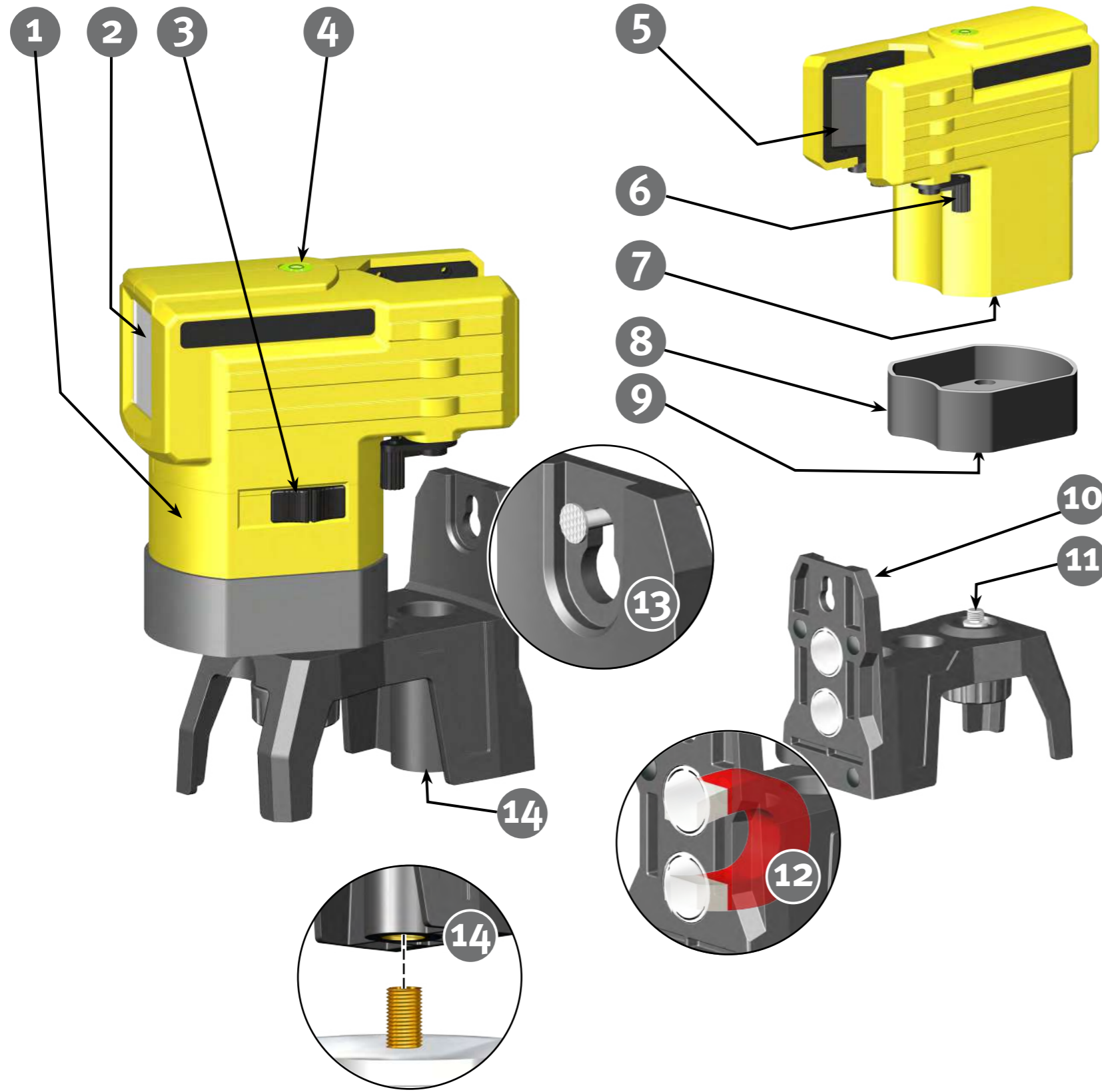
Only allow qualified persons to operate the unit.



Ensure that the safety precautions are observed.
To insert batteries -> Battery replacement

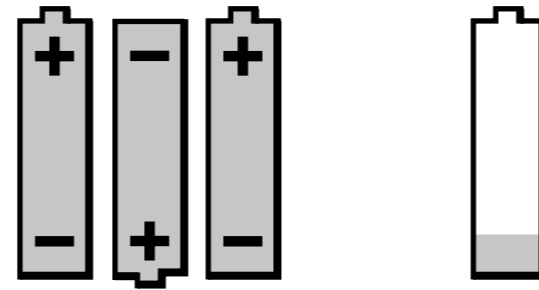
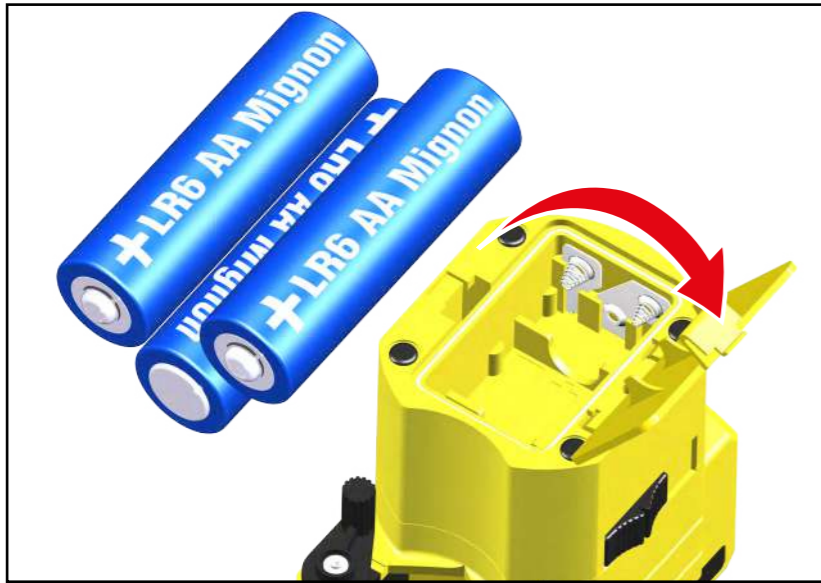
LAX 50 G

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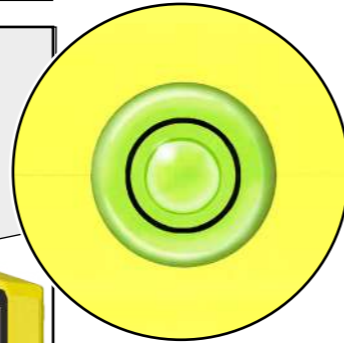
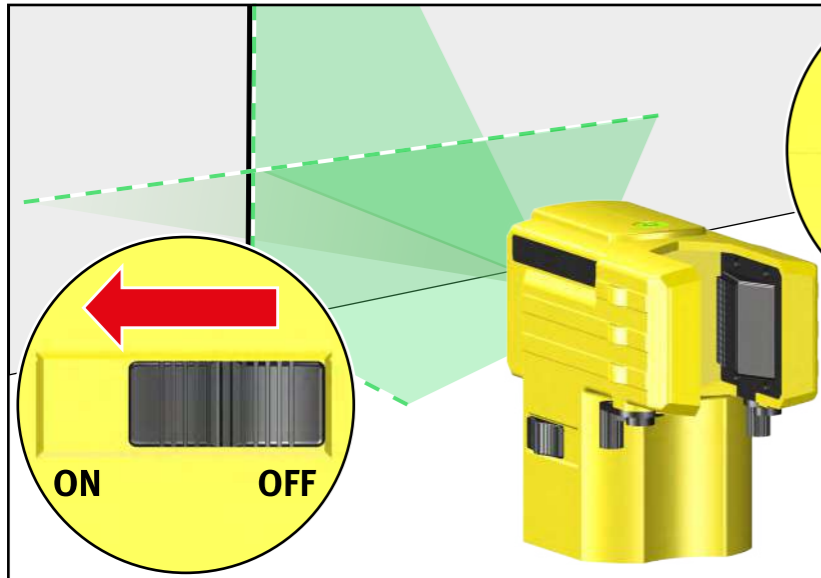


4. Components of the unit

- 1. Casing
- 2. Exit window for horizontal and vertical laser line
- 3. ON / OFF sliding switch with transport lock
- 4. Rough adjustment vial
- 5. Clamping jaws
- 6. Locking lever for clamping jaws
- 7. Battery compartment lid
- 8. Foot adapter
- 9. 1/4" tripod socket
- 10. Foot
- 11. 1/4" threaded screw
- 12. Magnets
- 13. Hanging hole
- 14. 5/8" tripod socket



3 x 1.5 V
Alkaline
AA, LR6, Mignon



5. Commissioning

5.1 Inserting batteries/Battery replacement

Open the battery compartment cover in the direction of the arrow and insert new batteries as indicated by the symbol in the battery compartment.

Suitable rechargeable batteries can also be used.

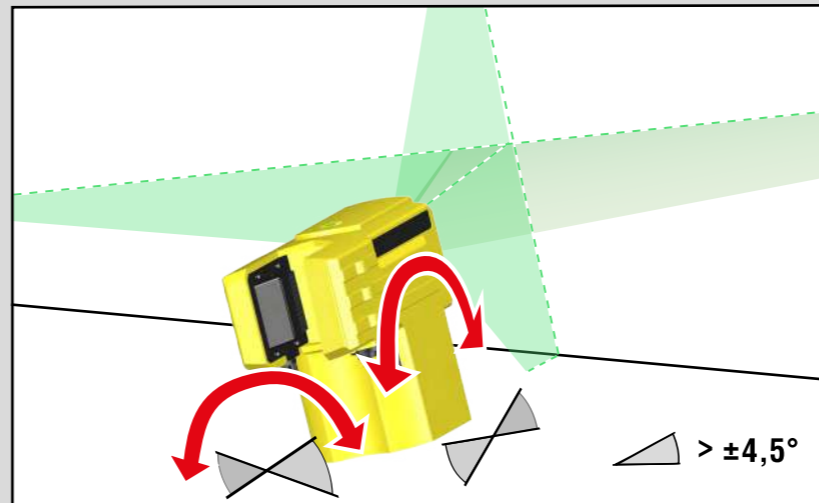


Dispose of used batteries at suitable collection points – not with household waste. If you do not intend to use the unit for an extended period, remove the batteries.

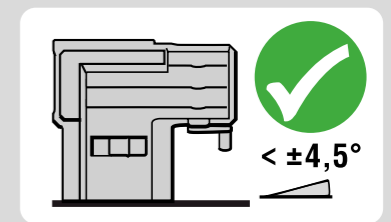
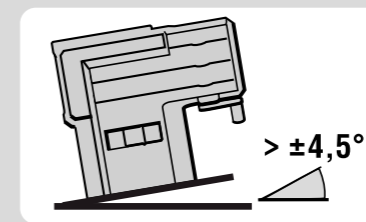
5.2 Switching the unit on

Place the laser unit in the working position. Use the sliding switch to switch on the laser unit. Horizontal and vertical laser lines appear. The LAX 50 G levels itself automatically.

Always use the centre of the laser line when marking and aligning!



The laser lines flash if the laser unit is at too steep an angle. The laser unit is outside the self-levelling range and cannot level itself automatically.

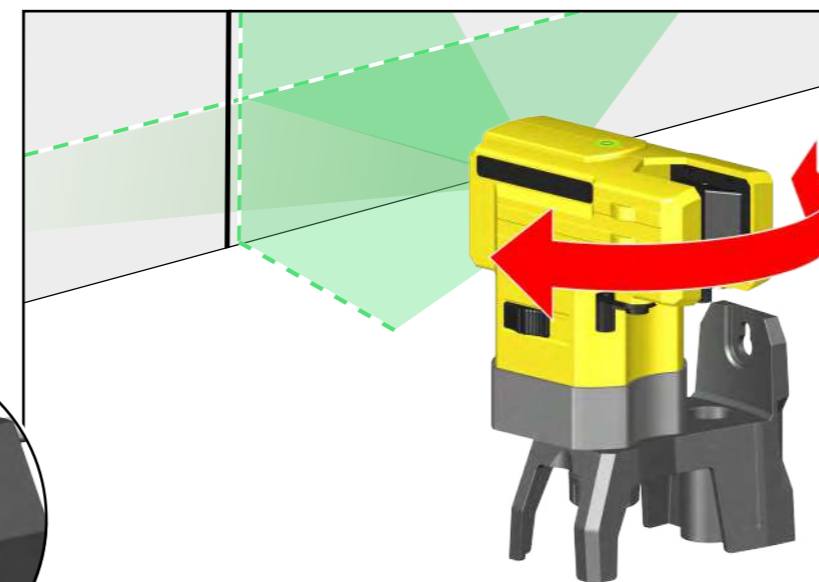
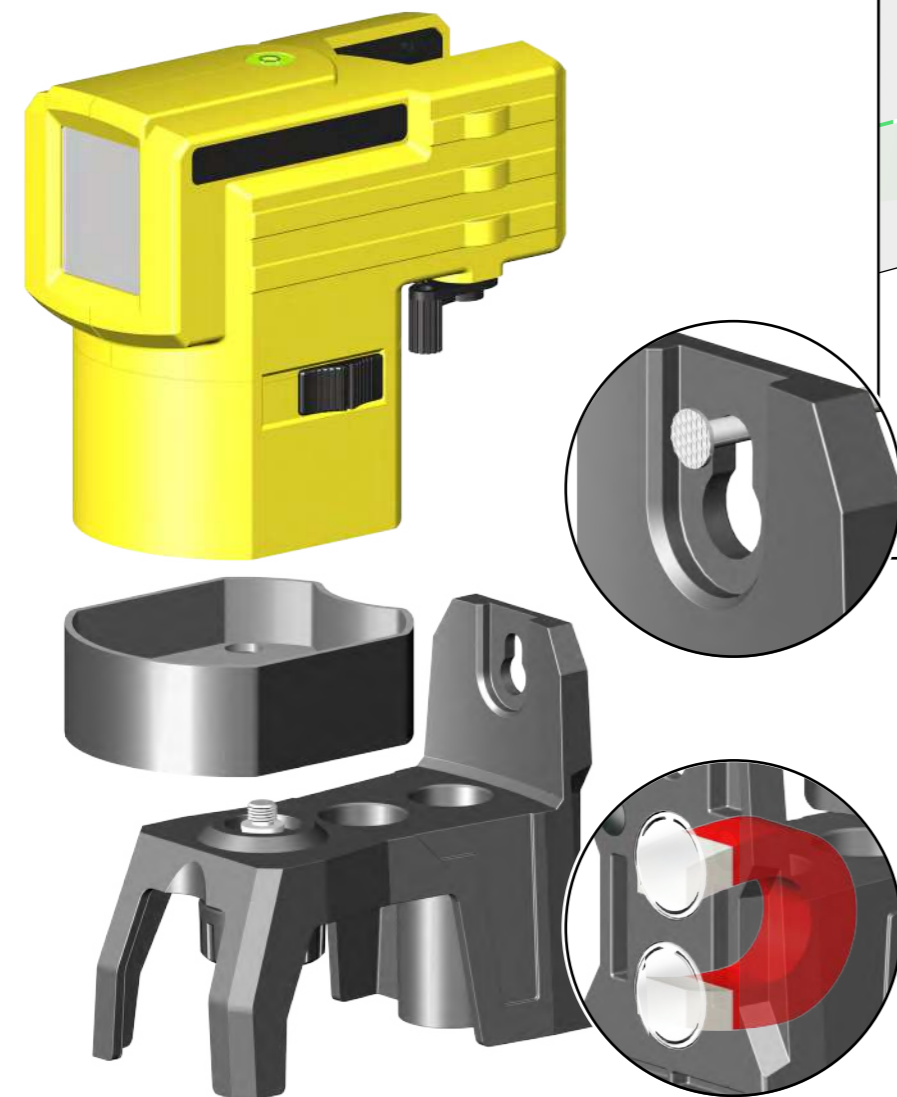


6. Applications



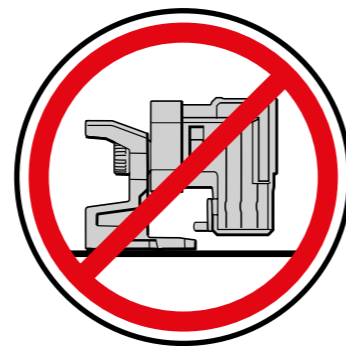
Clamping onto round profiles

Using the clamping side, push the LAX 50 G onto the round profile (maximum $\text{Ø } 30 \text{ mm} / 1\frac{3}{16}''$) until you detect the clamping jaws latching into place. Use the clamping lever to secure the clamping jaws.



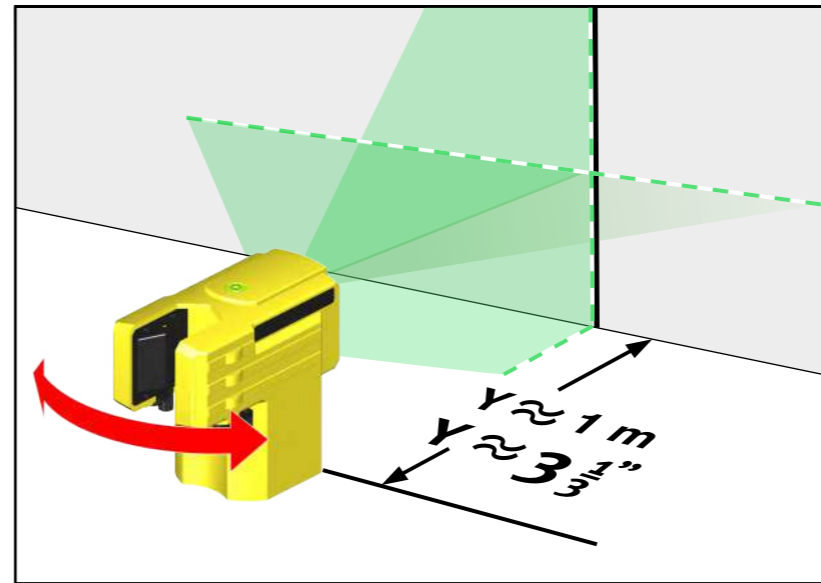
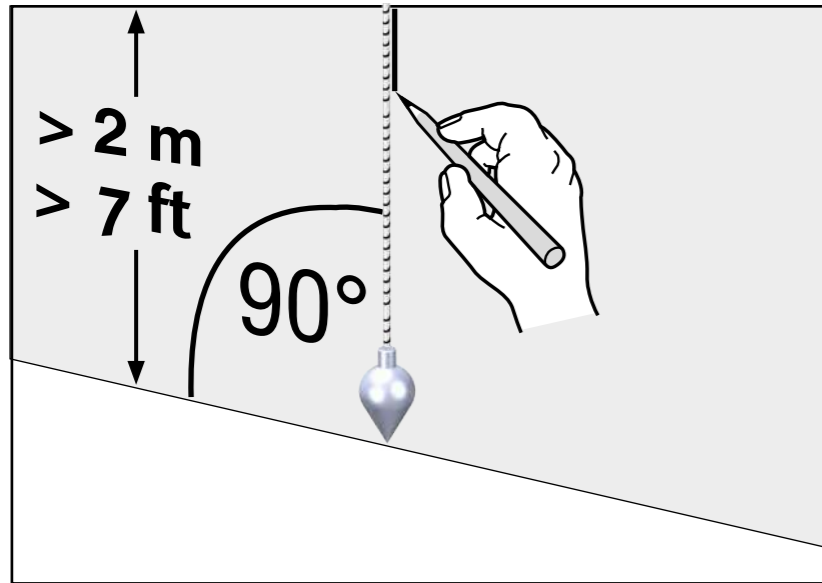
Using with the foot

You can use the foot to fix the LAX 50 G in a specific position. Thanks to the hanging hole and magnets, it is even possible to attach the foot to construction elements. The $\frac{5}{8}''$ tripod socket allows you to mount the unit on a construction tripod. Use the $\frac{1}{4}''$ thread to secure the adapter on the foot, then insert the LAX 50 G in the adapter. Rotate the unit to ensure the laser lines are precisely aligned. The $\frac{1}{4}''$ tripod socket in the adapter also allows you to mount the unit on a camera tripod.



LAX 50 G

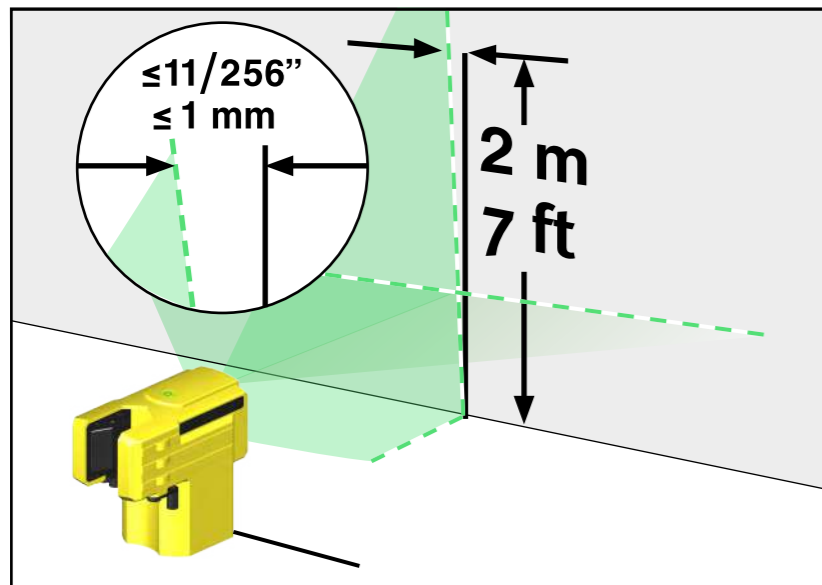
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7. Checking accuracy

The LAX 50 G cross line laser from STABILA is designed for use on building sites and is perfectly adjusted before leaving our premises. As with all precision instruments, you must regularly check that the unit's accuracy is calibrated. Always check this before you start work, particularly if the unit has been exposed to heavy vibrations.

Horizontal check
Vertical check



7.1 Vertical check

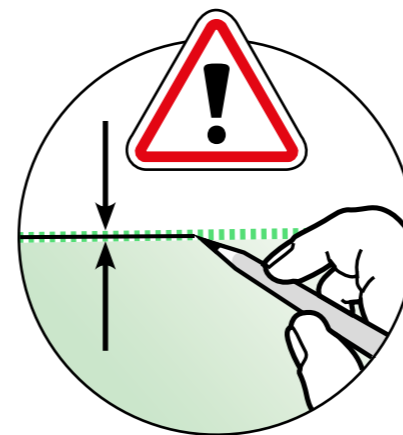
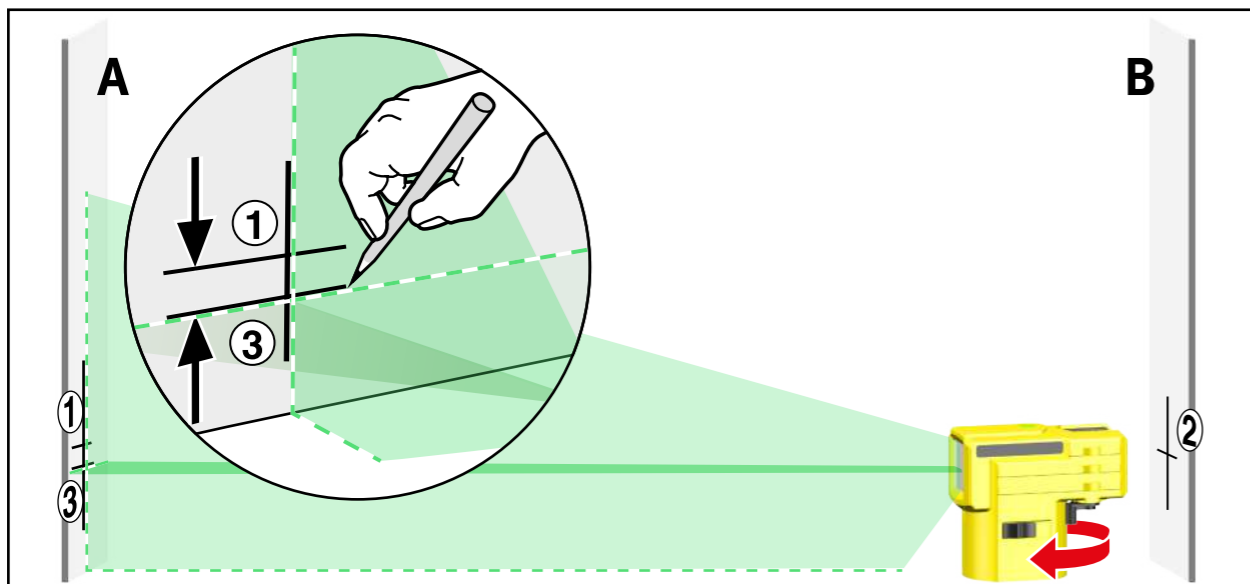
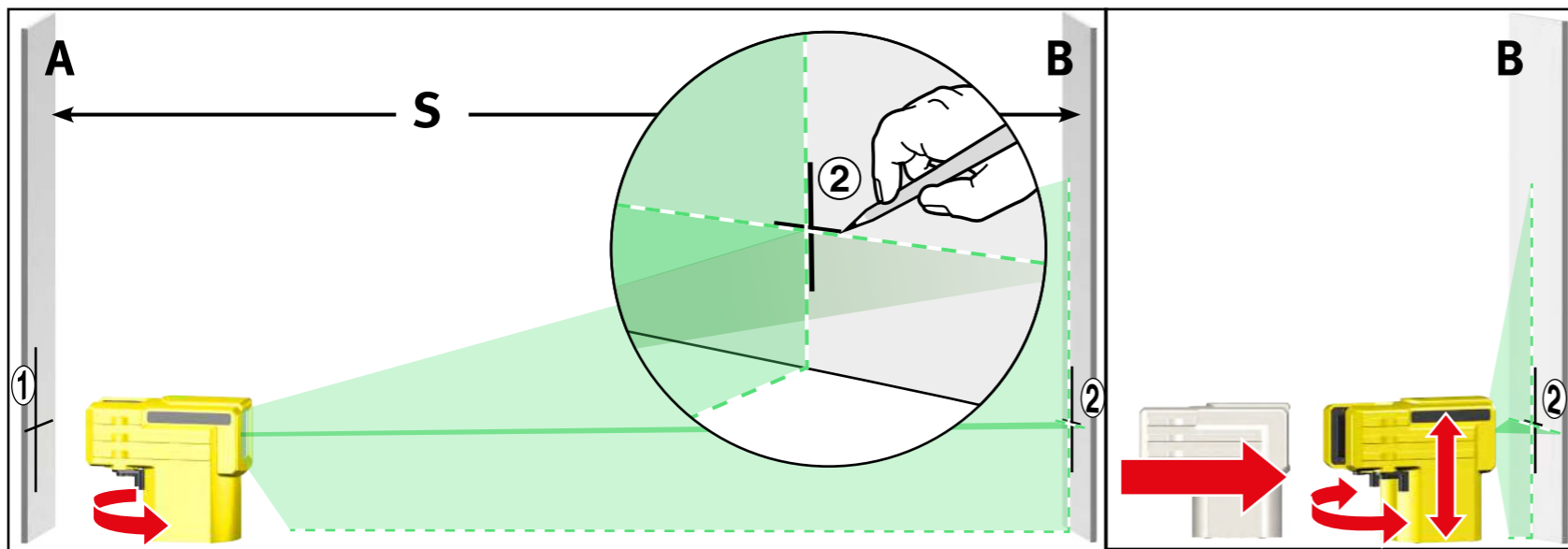
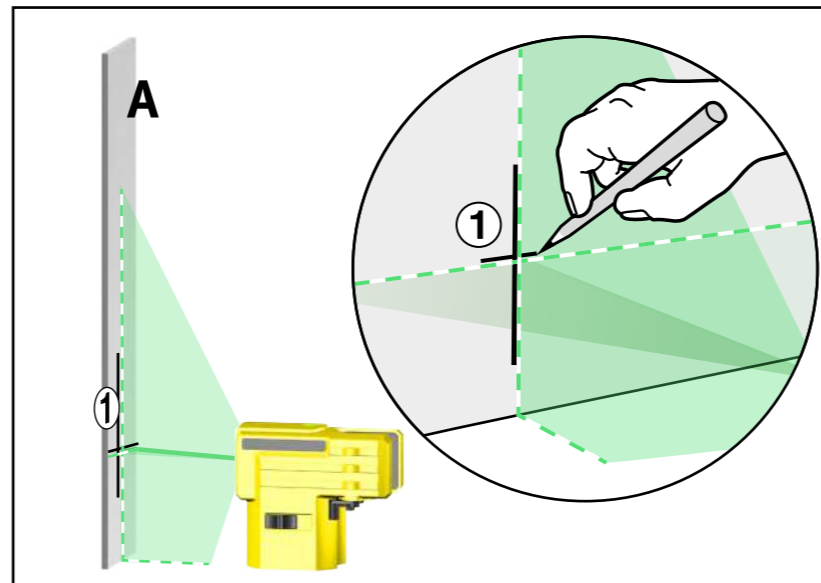
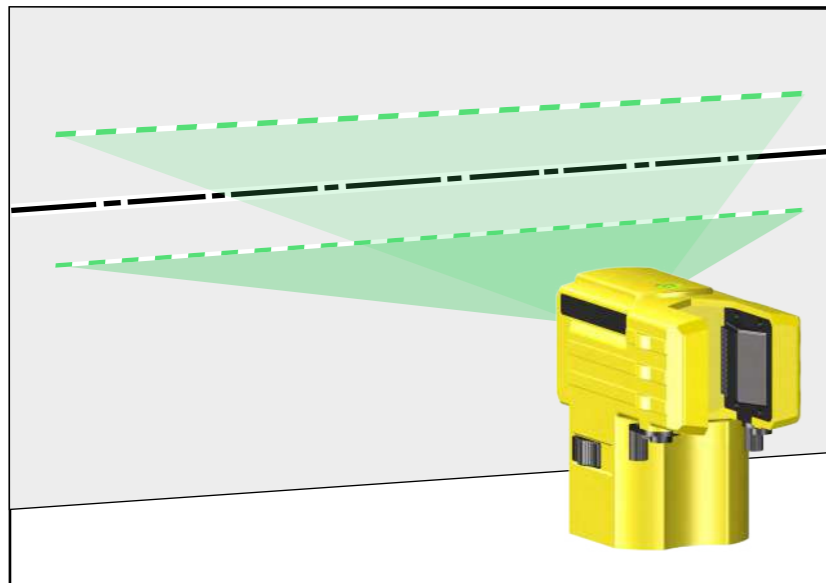
Checking the vertical laser line:

Create a reference line, e.g. with a plumb line.

Set up and align the LAX 50 G at distance Y in front of this reference line.

Compare the laser line with the reference line.

Do not allow the laser line to deviate from the reference line by more than 1 mm (11/256") over a distance of 2 m (7ft) !



7.2 Horizontal check

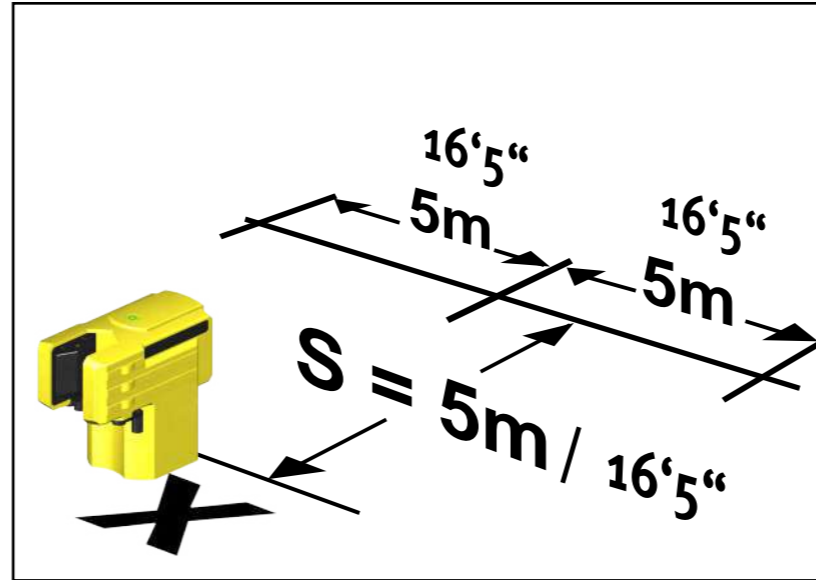
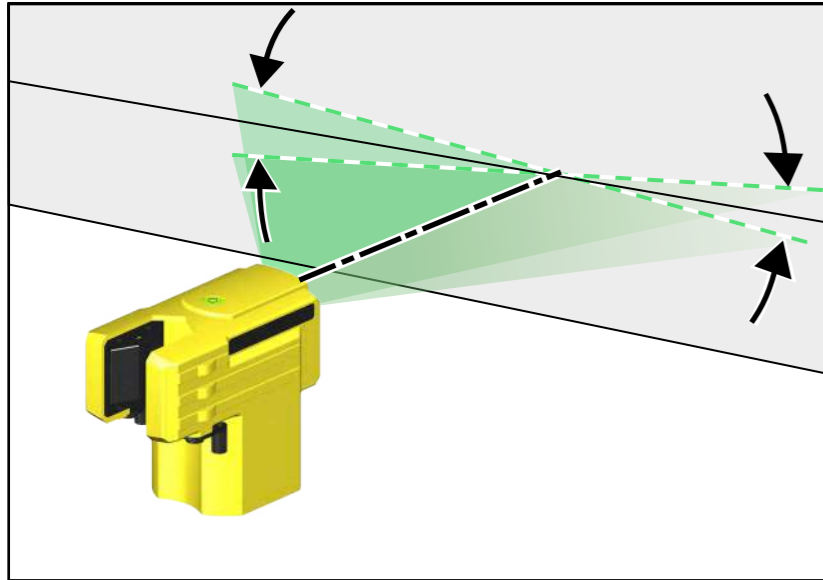
A Checking the horizontal laser line level

2 parallel walls at least 5m / 16'5" apart (distance S) are required for the horizontal check.

1. Position the LAX 50 G as close as possible to wall A on a horizontal surface.
2. Align the LAX 50 G with wall A using the exit window.
3. Switch on the laser unit.
4. Once automatic levelling has ended, mark the cross projected onto wall A. Point 1.
5. Rotate the LAX 50 G through 180° and align with wall B using the exit window.
6. Once automatic levelling has ended, mark the cross projected onto wall B. Point 2.
7. Now reposition the laser unit so that it is directly in front of wall B. Align the LAX 50 G with wall B using the exit window.
8. Move the laser line cross until it precisely coincides with point 2.
9. Rotate the LAX 50 G through 180° and align with wall A using the exit window. Do not adjust the height.
10. Move the laser line cross by turning the casing until it precisely coincides with the marking line of point 1.
11. Once automatic levelling has ended, mark the cross projected onto wall A. Point 3.
12. Measure the vertical distance between points 1 and 3.

Distance S to the wall	Maximum permissible distance:
5 m	5.0 mm
10 m	10.0 mm
15 m	15.0 mm

Distance S to the wall	Maximum permissible distance:
16'5"	3/16"
32'10"	3/8"
49'3"	5/8"

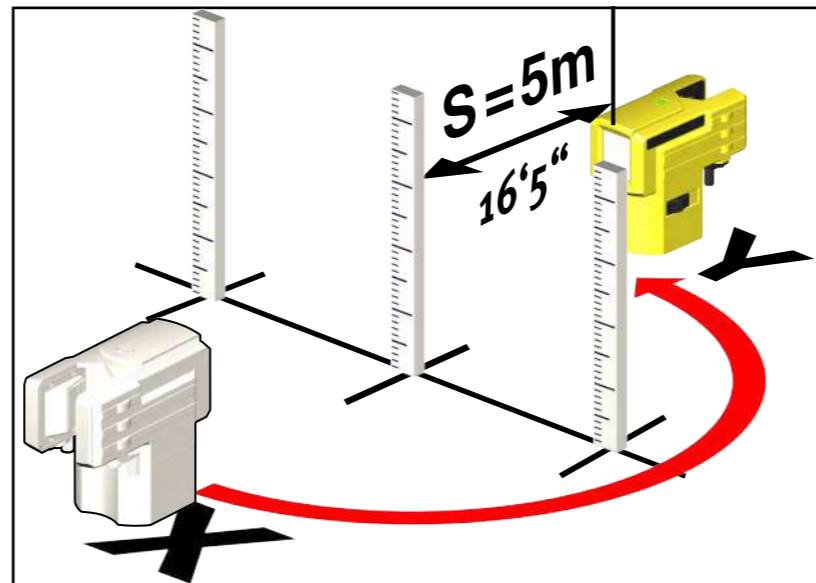
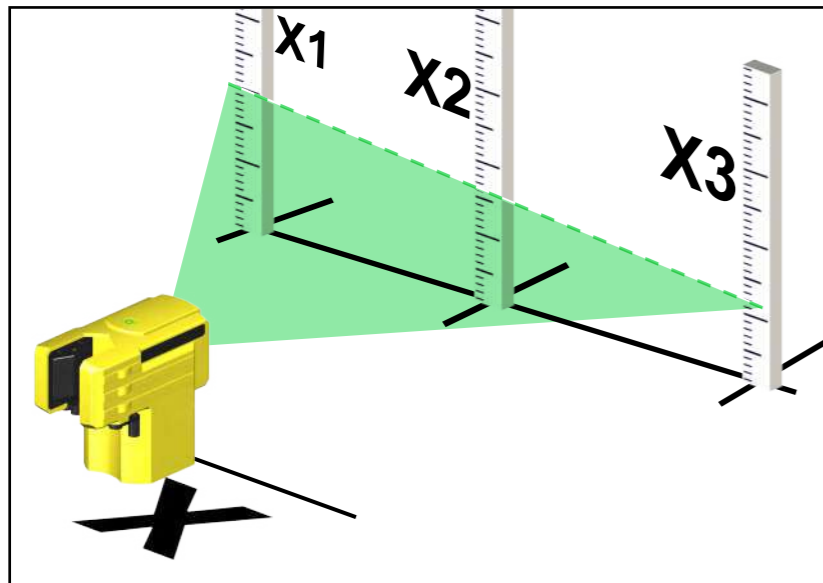


7.2 Horizontal check

B Horizontal check – Inclination of the laser line

Checking the laser line for inclination and to ensure the projection is exactly straight.

1. On the floor, mark 3 points 1–3 in an exact line at a distance of 5m / 16'5" from one another.
2. Position the laser S = 5m / 16'5" from the line, exactly in front of the middle point = position X.
3. Switch on the unit.
4. Measure the height of the laser line at the points. Measurements X₁–X₃
5. Reposition the unit.
6. Position the laser S = 5m / 16'5" from the line, exactly in front of the middle point = position Y.
7. Measure the height of the laser line at the points. Measurements Y₁–Y₃



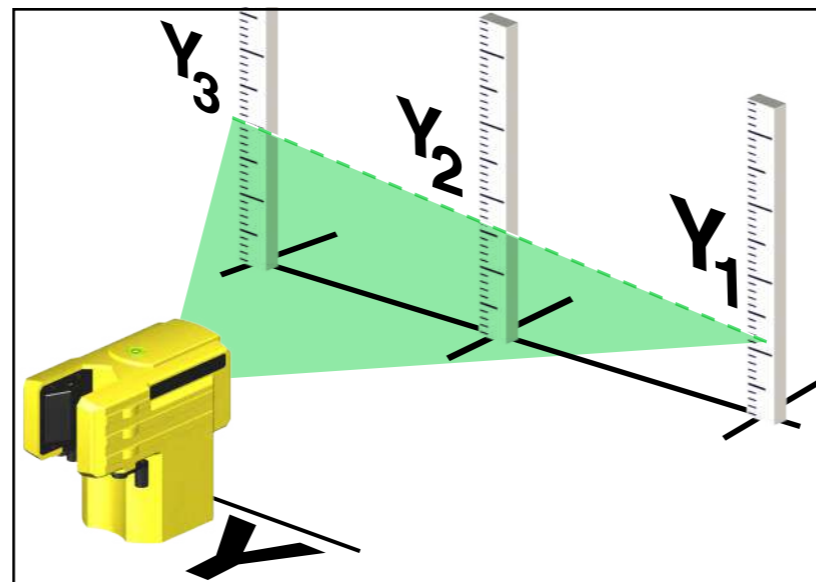
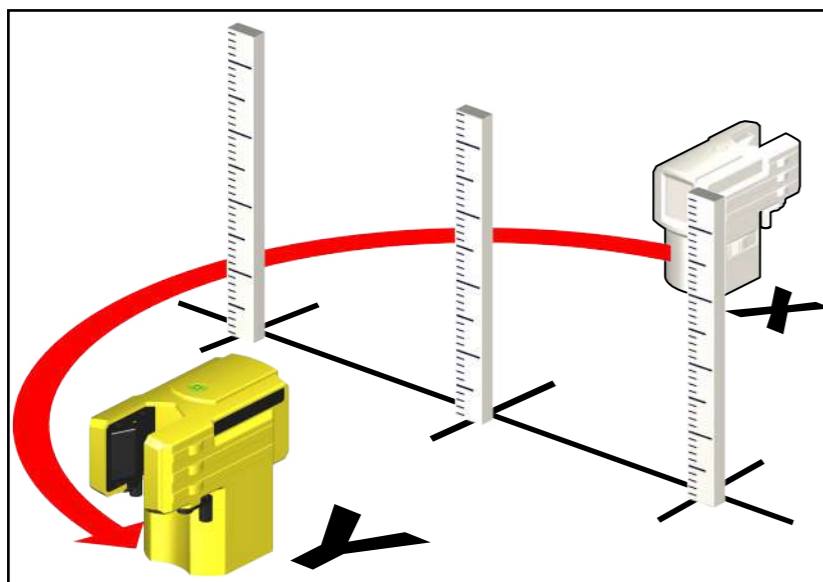
$$\Delta_1 = X_1 - Y_1 \quad \Delta_2 = X_2 - Y_2 \quad \Delta_3 = X_3 - Y_3$$

The following applies to the differences:

$$\Delta_{total 1} = \Delta_1 - \Delta_2 \leq \pm 5 \text{ mm } \quad 3/16''$$

$$\Delta_{total 2} = \Delta_3 - \Delta_2 \leq \pm 5 \text{ mm } \quad 3/16''$$

Pay attention to the plus or minus signs during calculations!



8. Care and maintenance

This STABILA laser measuring unit is a precision optical instrument and should be handled with care.

Window apertures, display windows:

Dirty window glass impairs the optical function.

Clean the unit using only a soft cloth and a little water or if necessary a mild detergent.

Casing:

Clean the unit with a damp cloth.

- Do not use solvents or thinners.
- Do not immerse the unit in water.
- Do not unscrew the laser unit.

Transport and storage

- Remove the batteries if you do not intend to use the unit for some time.
- Do not store the unit when damp.
- Allow the unit and carry case to dry first if necessary.



9. Recycling programme for our EU customers

In accordance with WEEE regulations, STABILA offers a recycling programme for electronic products when they reach the end of their service life.

For more information call: +49 / 6346 / 309-0



10. Technical data

Laser type:	Green diode laser, wavelength 510–530 nm
Power output:	< 1 mW, laser class 2 in accordance with IEC 60825-1:2014 This product compl. with the appl. requ. of 21CFR, parts 1040.10 and 1040.11.
Self-levelling range:	approx. $\pm 4.5^\circ$
Levelling accuracy*:	± 0.5 mm/m $\pm 5/18''$ over 50 ft
Batteries:	3 x 1.5 V alkaline, size Mignon, AA, LR6
Battery life:	approx. 7 hours (alkaline)
Operating temperature range:	-10°C to +50°C / 14°F to +122°F
Storage temperature range:	-20°C to +60°C / -4°F to +140°F

Subject to technical modifications.

* when operated within the specified temperature range



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