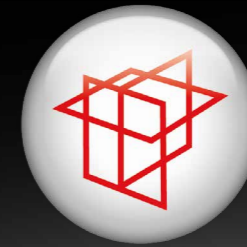
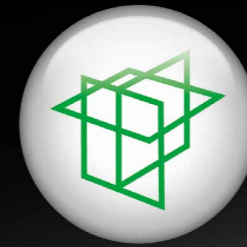


STABILA®



How true pro's measure



**3x 360°
LINES**

LAX 600 series

Operating instructions



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1. Intended use

Congratulations on the purchase of your STABILA measuring tool.

STABILA laser units from the LAX 600 series are simple to operate laser lines with three 360° laser lines for levelling in a horizontal and vertical direction, for transferring/creating 90° angles and for plumb lines.

The laser units have a sealed casing (IP 65) for use on building sites.

They are self-levelling within a range of $\pm 4^\circ$.

The laser lines are pulsed, which makes it possible to work over greater distances using a special STABILA line receiver. For more information refer to the operating instructions for the line receiver.

The LAX 600 series can only be operated with a 12 V Li-Ion CAS System battery.

LAX 600 G:

Receivers must be suitable for green laser beams.

These operating instructions are valid for all devices from the LAX 600 series.

The laser beams are only displayed in one colour.



If you still have questions after reading the operating instructions, you can obtain advice over the phone at any time:



+49 / 63 46 / 3 09 - 0

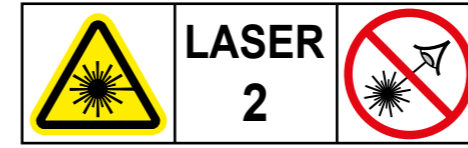
Equipment and functions:

- Pulsed laser lines
- 1x 360° horizontal laser line
- 2x 360° vertical laser lines
- 90° angle in horizontal and vertical direction
- Plumb line laser function
- Manual mode
- 1/4" tripod socket
- Carrying case
- STABILA CAS – 12 V Li-Power 2.0 Ah battery – not included in every set
- SC 30 charger, 12-18 V, CAS system – not included in every set

LAX 600 G:

- Includes green laser beams to improve visibility with the naked eye.

2.1 Safety instructions for laser units



IEC 60825-1:2014



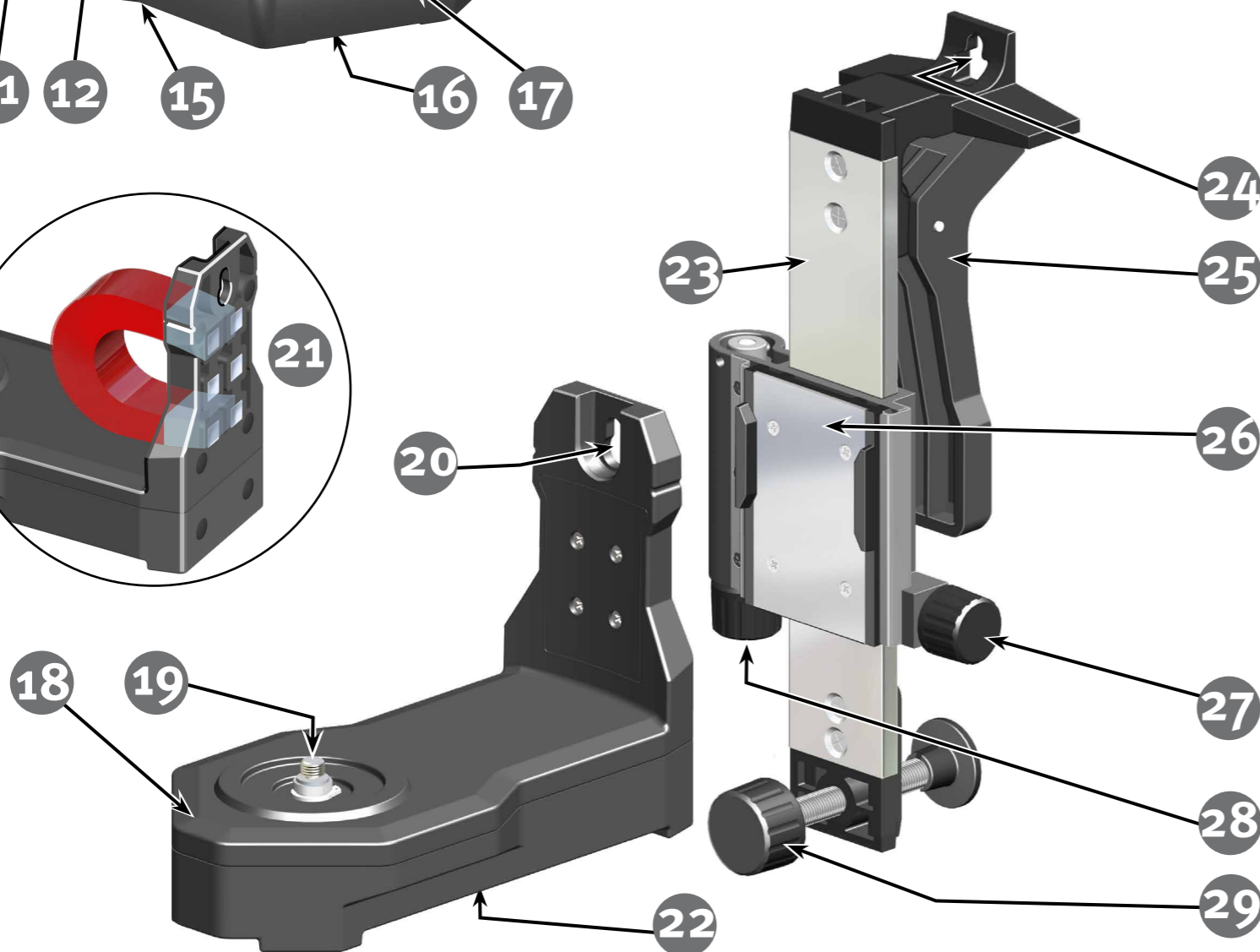
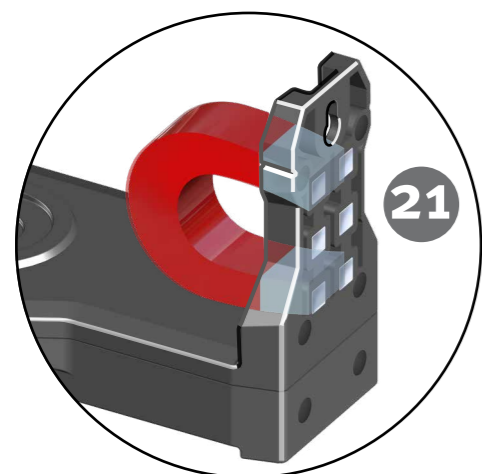
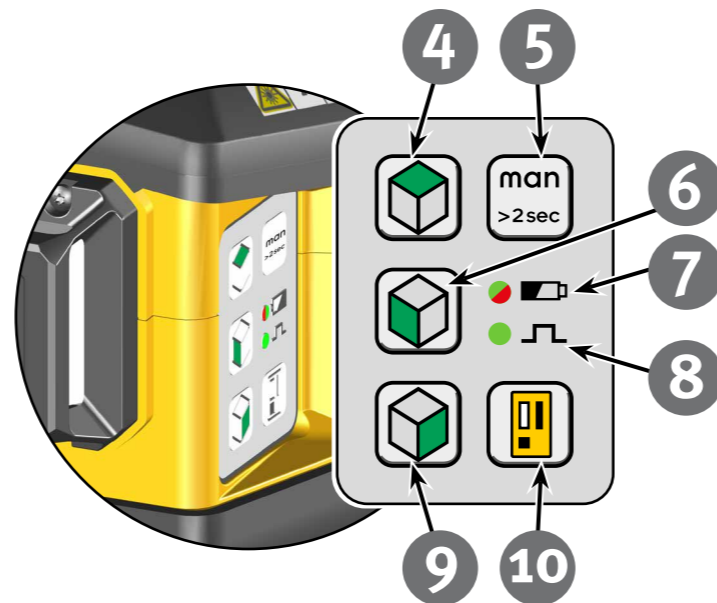
In Class 2 laser units, your eyes are usually protected from accidental, short-term exposure to the laser beam by the eyelid-closing reflex and/or the reflex reaction to turn one's head. If a laser beam hits your eye, deliberately close your eyes and move your head out of the path of the beam. Do not look into the direct or reflected beam. The STABILA laser goggles available for our laser units are not 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 operating or adjustment equipment that has not been specified here is used, or if the unit is not operated in the ways described here, this may result in hazardous exposure to radiation!

2.2 Safety instructions for the Li-ion battery pack

Thoroughly read the safety instructions and operating instructions for the Li-ion battery pack.

LAX 600 series



3. Unit components

- | | |
|--|--|
| 1. Exit window | horizontal 360° laser line |
| 2. Exit window | vertical 360° laser lines |
| 3. Sliding switch: | ON/OFF switch with transport lock |
| 4. Button: | Horizontal laser line |
| 5. Button: | Manual mode ON/OFF |
| 6. Button: | Vertical laser line |
| 7. Green/red LED: | Operating status ON/OFF, battery |
| 8. Green LED: | Pulse mode, operating temperature |
| 9. Button: | 90° vertical laser line |
| 10. Button: | Pulse mode for receiver operation |
| 11. Battery | |
| 12. Battery release | |
| 13. Red button: | Activation of the capacity display |
| 14. Green LED: | Display of charge capacity |
| 15. Serial number | |
| 16. 1/4" tripod socket | |
| 17. Casing | - Protected against water jets and dust in accordance with IP 65 |
| 18. SUB 10 | |
| 19. 1/4" connection bolt | |
| 20. Hanging hole | |
| 21. Magnet surface | |
| 22. 1/4", 5/8" tripod socket | |
| 23. SWB 10 | |
| 24. Hanging hole | |
| 25. Clamp | |
| 26. Sliding switch | |
| 27. Locking screw – height adjustment | |
| 28. Fine adjustment | |
| 29. Adjusting screw to align the bracket | |

4. Commissioning

4.1 Inserting and charging the battery

Only 12 V Li-ion CAS System (Cordless Alliance System) battery packs can be used.

Push in the battery pack in the direction of the arrow until it engages. The battery pack must have an adequate charge capacity. Fully charge the battery pack before initial commissioning (observe the display).

Do not recharge a fully charged battery pack.

Check the charge capacity: Press the red button.

The battery pack must not be inserted in the charger.

LED display:

low charge capacity (<20%) – charge the battery pack
Do not allow the battery pack to become fully discharged.

Charging the battery pack:

Thoroughly read the safety instructions and operating instructions for the battery pack.

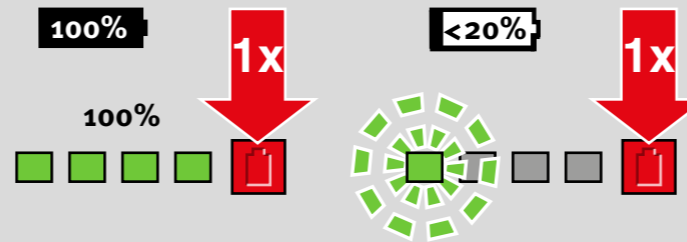
Release the locking device and remove the battery pack from the laser unit. Insert the battery pack into the charger. Connect the charger to the mains plug.

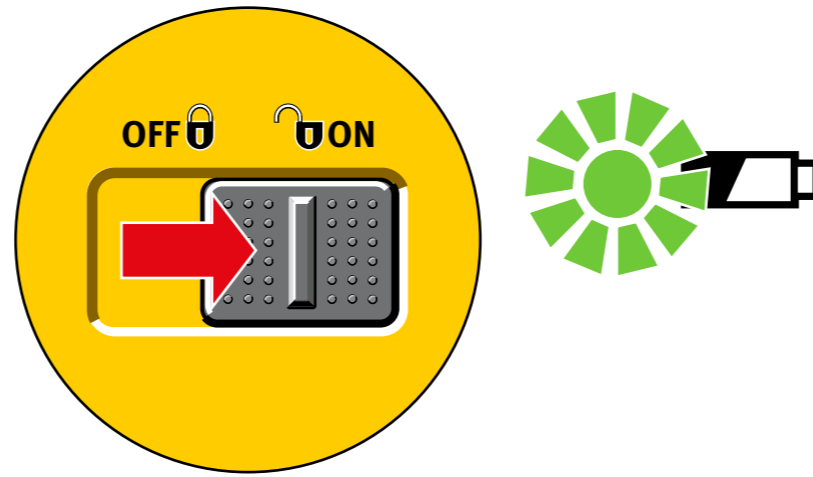
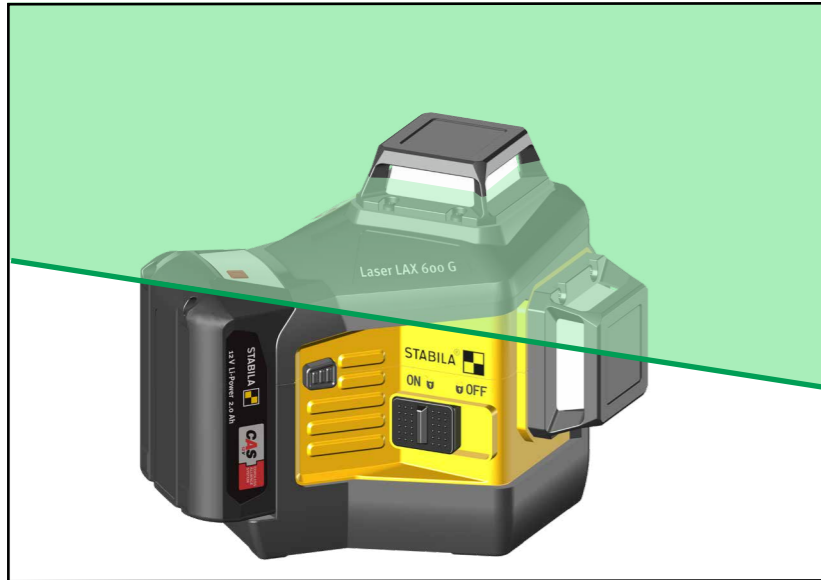
Once the charging process has finished, the charger automatically switches to conservation mode. The battery pack can remain in the charger.



12 V Li-Power 2.0 Ah

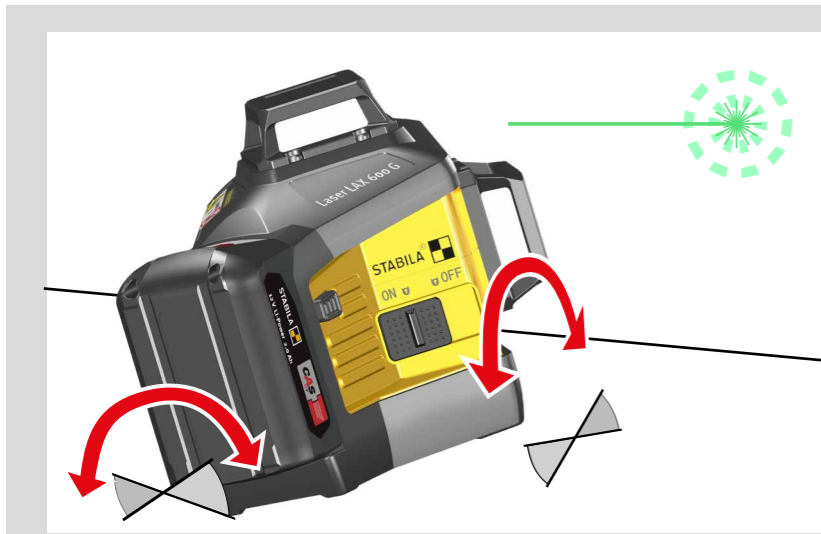
12 V Li-Power 4.0 Ah (optional)



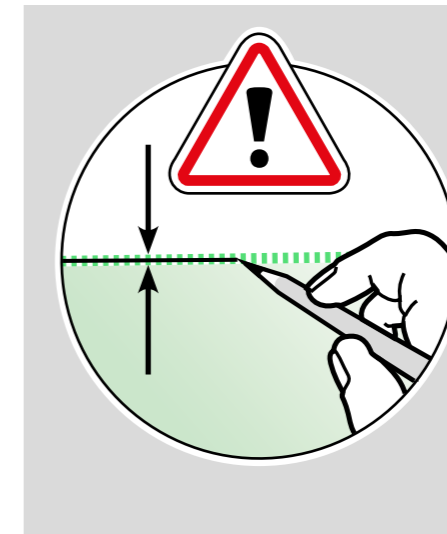


4.2 Switching the unit on

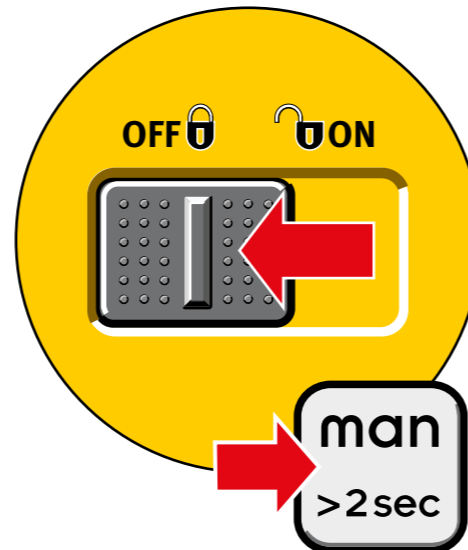
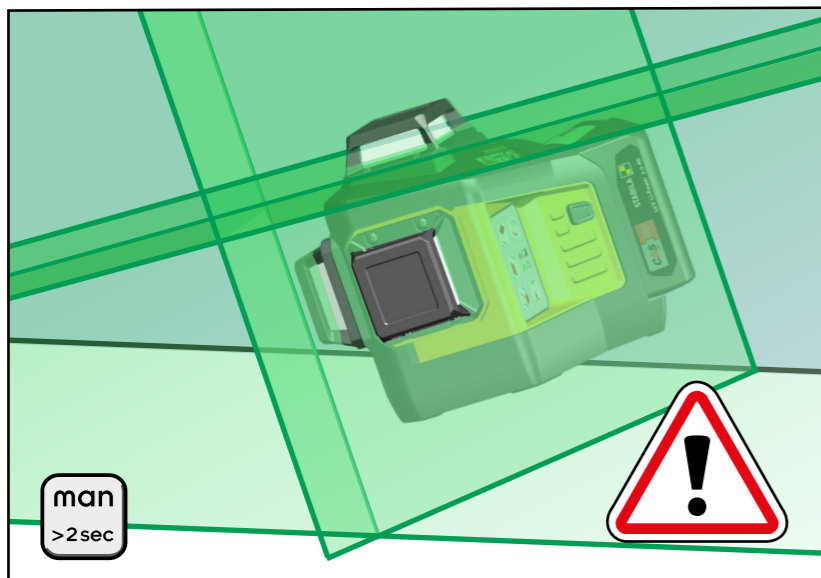
Move the laser unit to the working position and switch on using the sliding switch. The LAX 600 / LAX 600 G always starts in horizontal mode and levels itself automatically. The green LED indicates that the unit is switched on.



The laser beam flashes if the inclination of the laser unit is too steep. The laser unit is outside the self-levelling range and cannot level itself automatically.



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



4.3 Commissioning without the levelling function

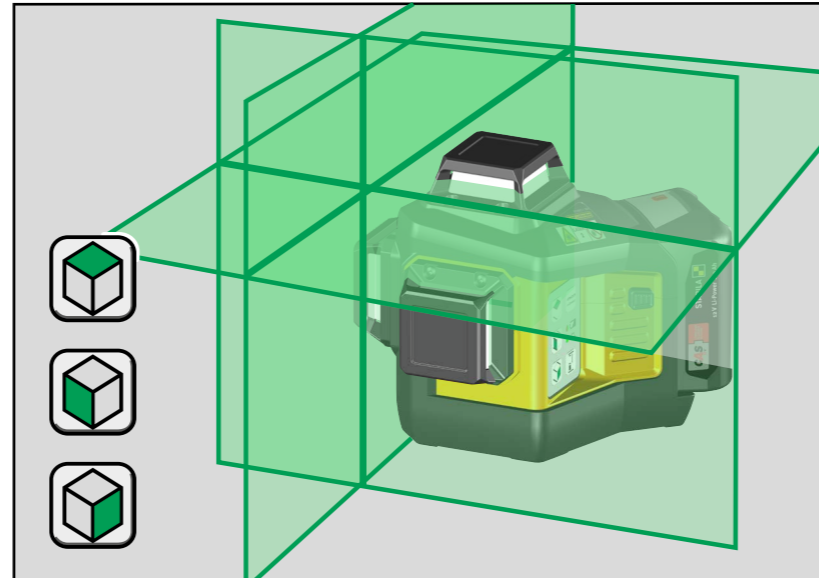
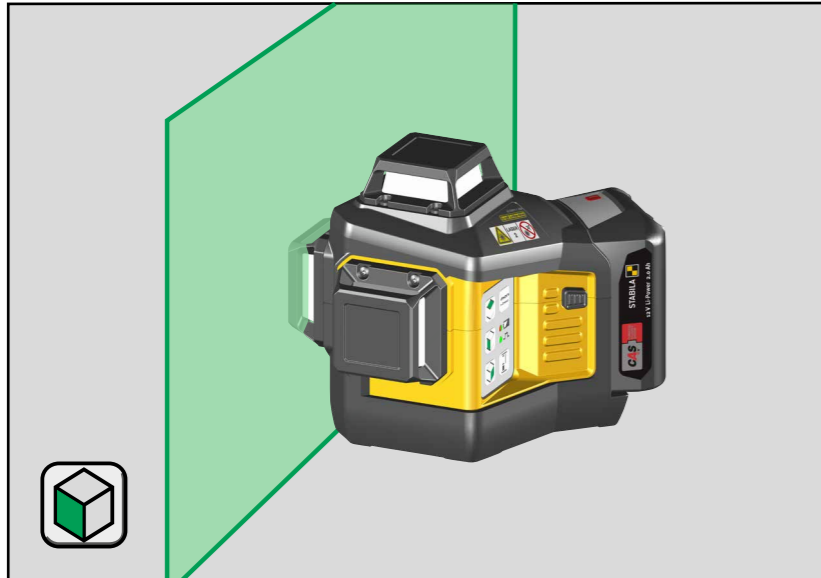
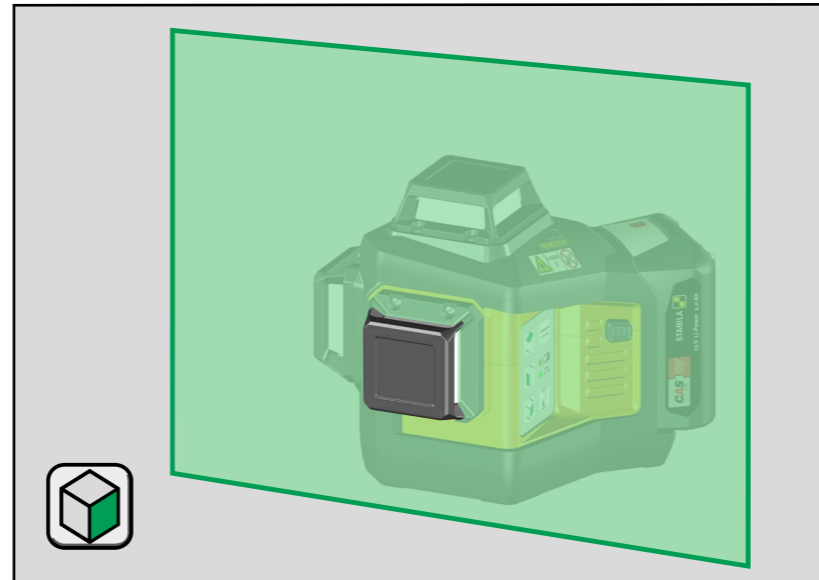
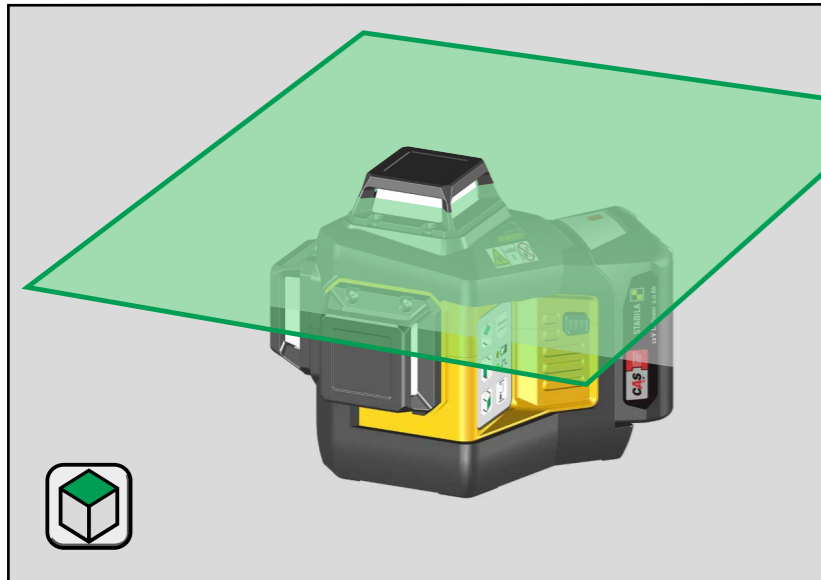
Marking function mode can only be switched on with the "Manual mode" switch. The laser beam flashes twice every 5 seconds. The LAX 600 / LAX 600 G is not in self-levelling mode and can only be used in this mode for marking and alignment.

5. Functions

5.1 Selecting laser functions

Once the unit has been switched on using the sliding switch, the "Laser lines" button can be used to set the various laser functions, as required.

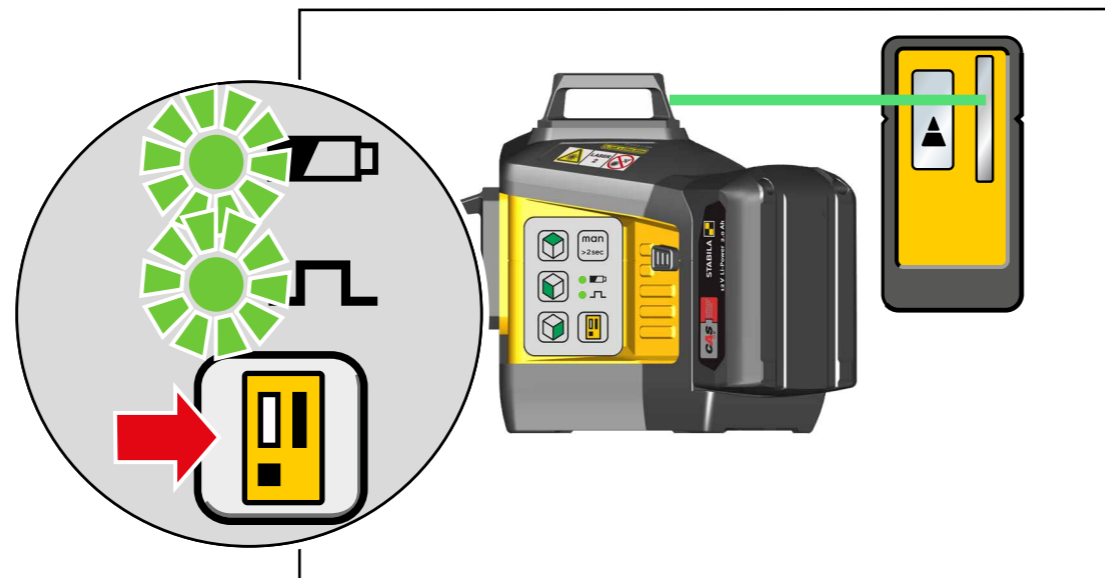
To indicate that the unit is switched on and the transport lock is open, it is not possible to switch off all of the laser lines at the same time via the "Laser lines" buttons. One laser line therefore always remains activated and visible. All of the laser lines can only be switched off via the sliding switch or via the "man" button in manual mode.



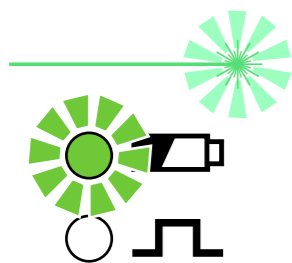
5.2 Working with the receiver

Pulse mode must be activated for work completed over larger distances or using a suitable receiver.

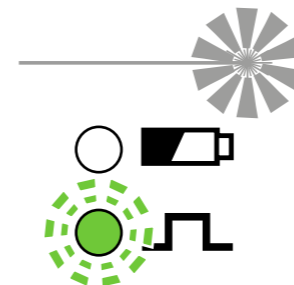
Note:
The receiver must be suitable for pulsed line lasers and for the colour of the laser beam.



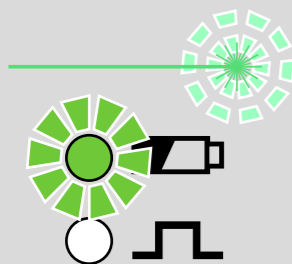
6. LED indicators



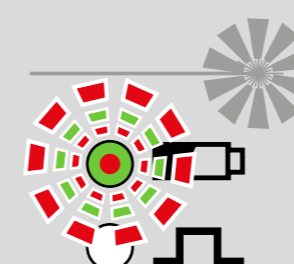
Operation with levelling function



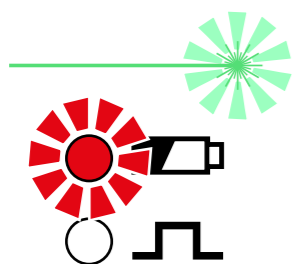
Operation activated
Unit temperature > 60°C / 140°F
Ensure the unit is in the operating temperature range



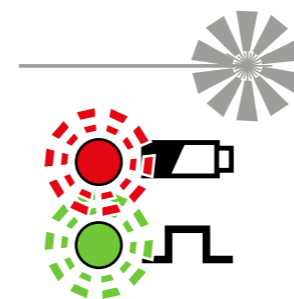
Operation without levelling function



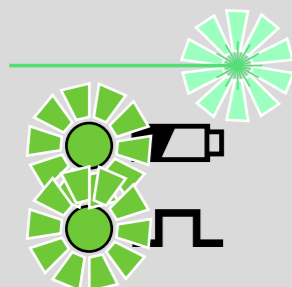
Operation activated
Battery check failed
Replace the battery pack



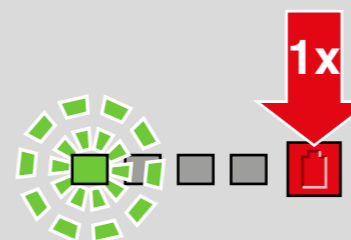
Operation with levelling function
Battery capacity low



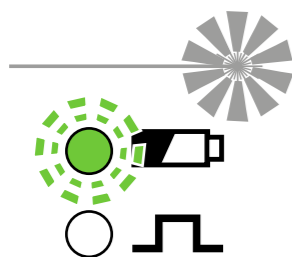
Operation activated
Get in touch with STABILA



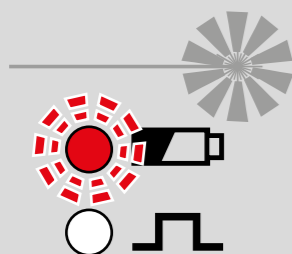
Operation with levelling function
Laser in pulse mode



CAS battery
charge capacity too low
--> Insert battery pack and charge



Operation activated
Battery temperature < -20°C / -4°F
Ensure the unit is in the operating temperature range
Check accuracy



Operation activated
Battery temperature > 70°C / 158°F
Ensure the unit is in the operating temperature range
Check accuracy



LED/laser beam lights up constantly



LED/laser beam flashes



LED flashes and changes colour

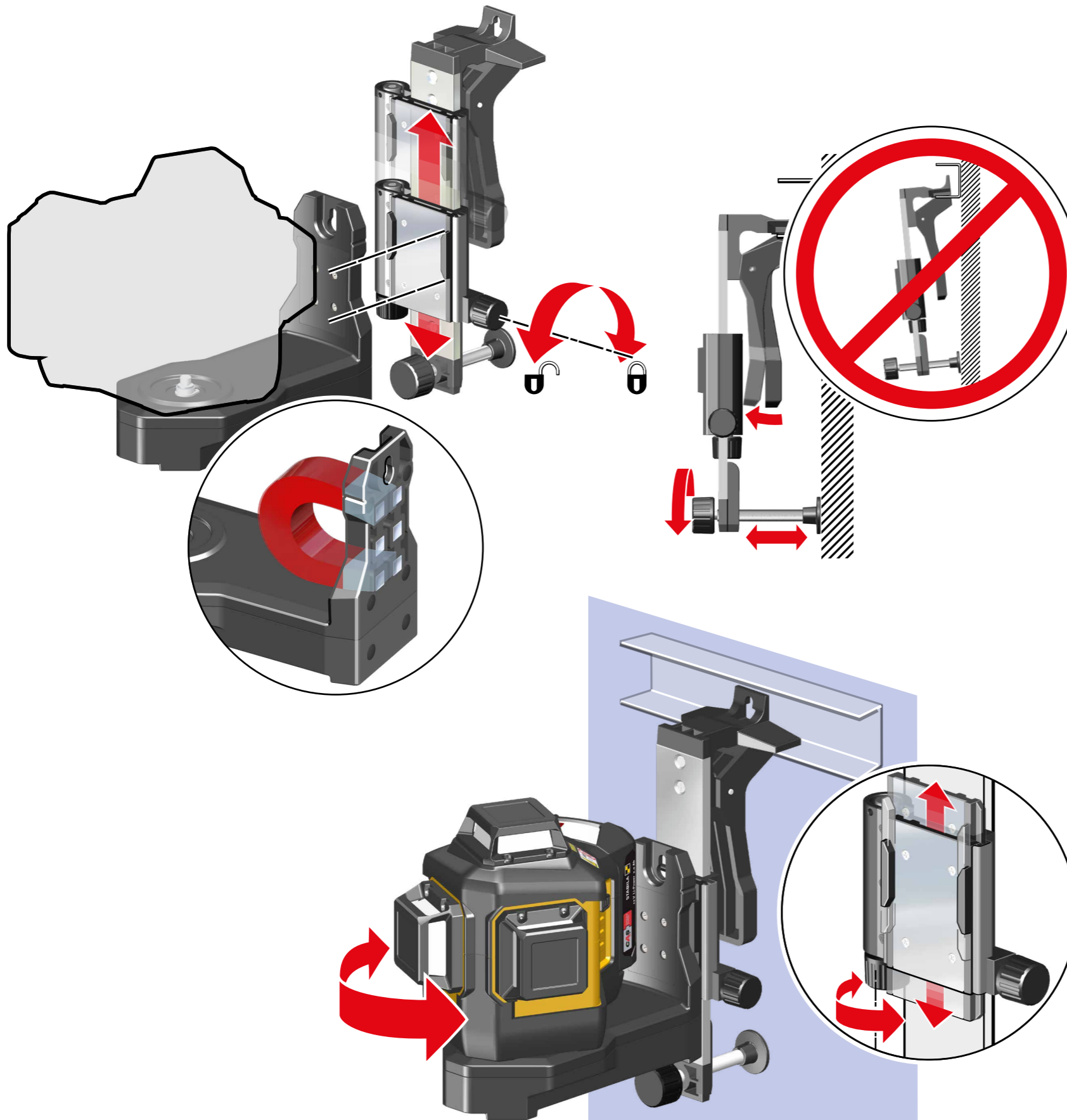
7. Using the SWB10 bracket

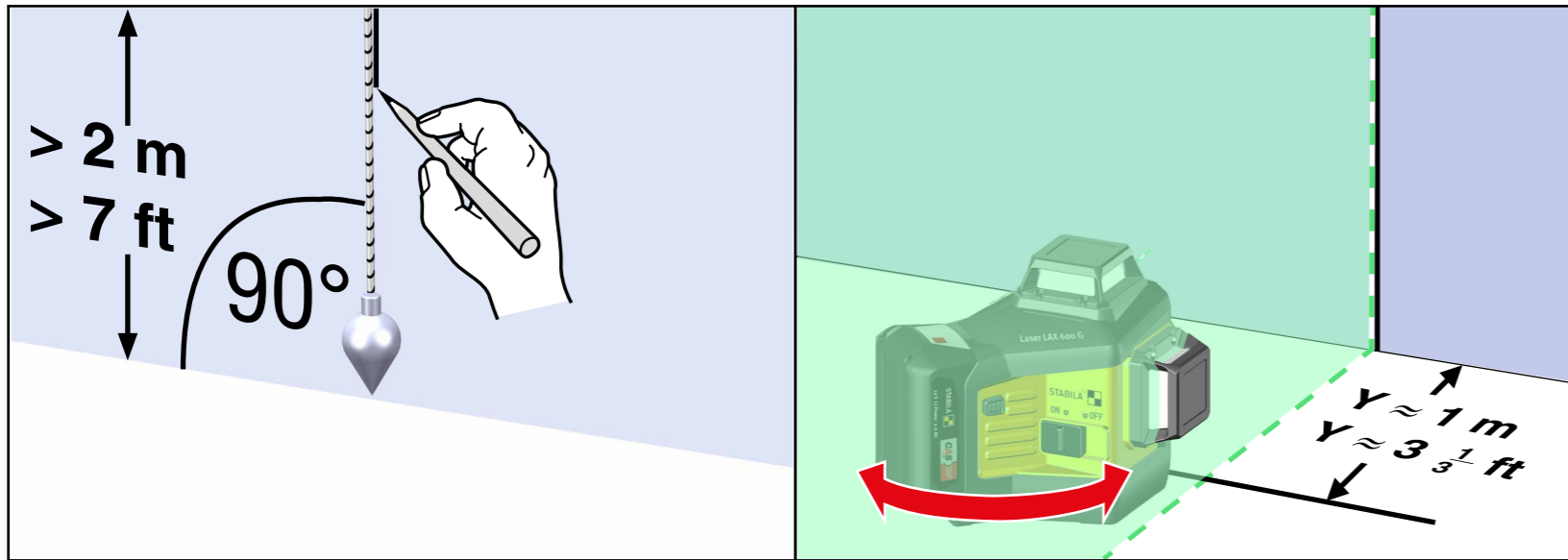
The LAX 600 / LAX 600G can be attached and aligned on walls or profiles using the SWB10 bracket. The clamp can be used to attach the bracket to interior construction profiles. The hanging hole enables it to be hung on nails or hooks.

The LAX 600 / LAX 600G is bolted to the retaining bracket. Using the magnet surface, the retaining bracket is either attached to the sliding plate on the bracket or directly to magnetic metal surfaces.

The bracket must roughly be aligned vertically using the adjusting screw, so that the LAX 600 / LAX 600G is in the self-levelling range.

Once the clamping screw has been released, the LAX 600 / LAX 600G can be moved upwards by 11 mm / 0,4". The exact height is set using the fine adjustment.





8. Checking the accuracy

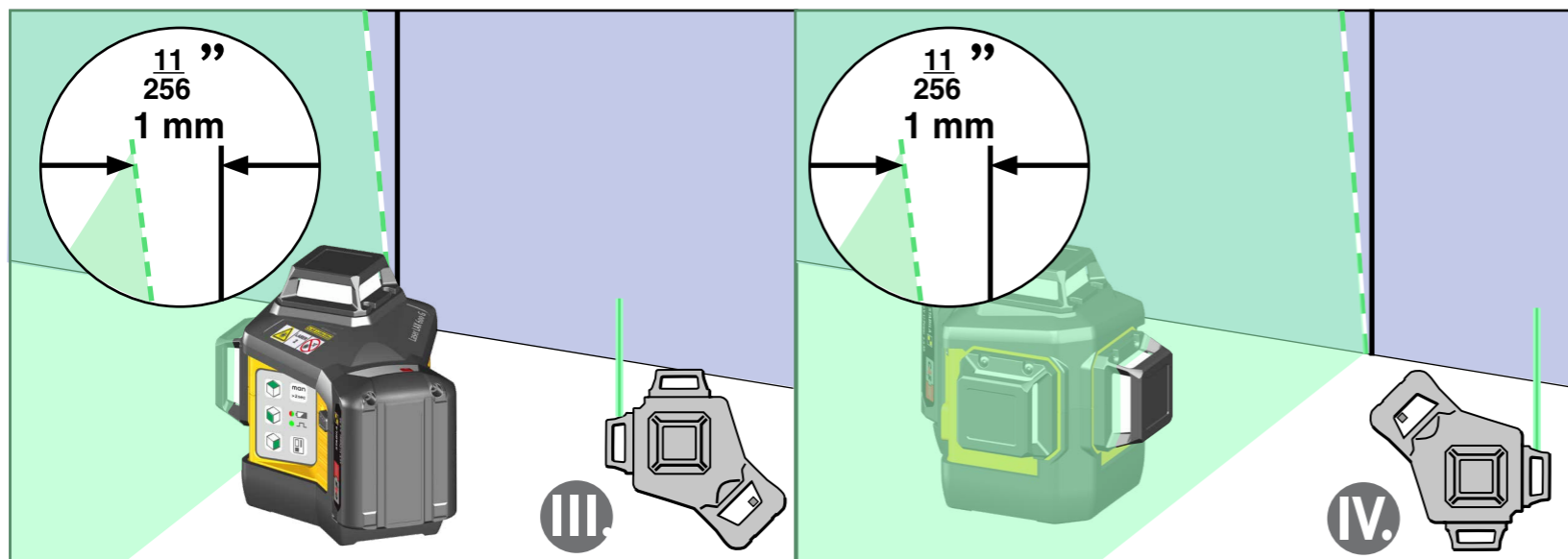
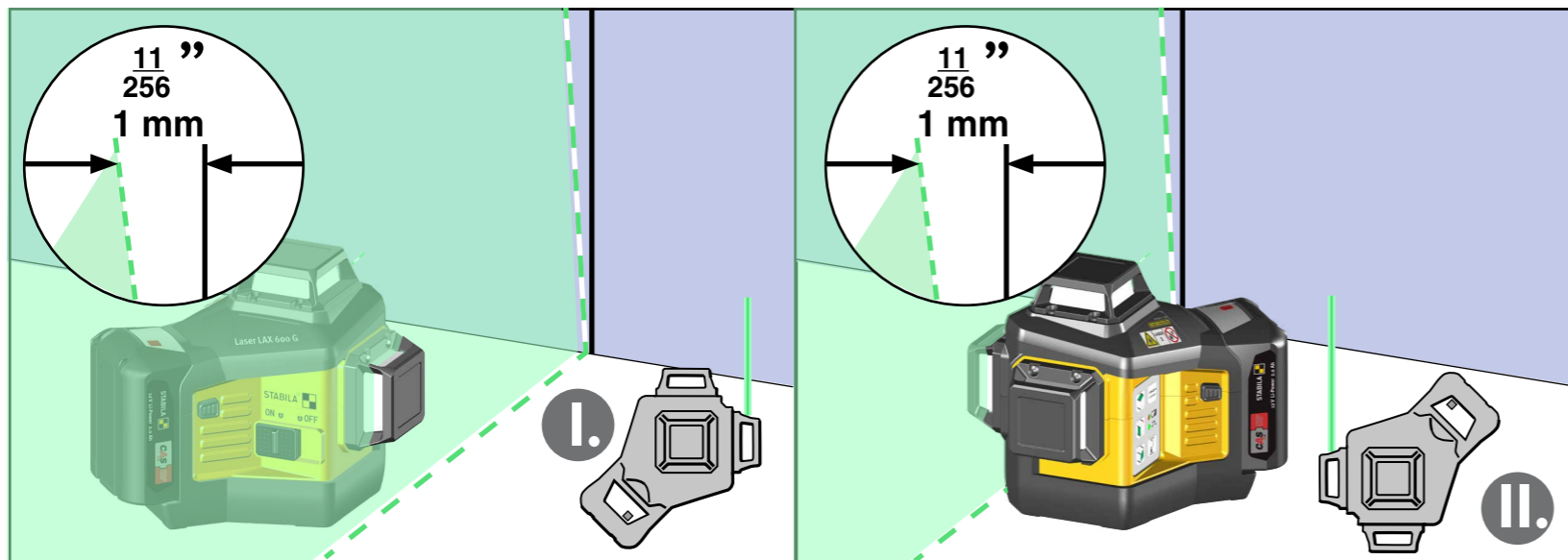
The LAX 600 / LAX 600G is designed for use on building sites and is perfectly adjusted before leaving our premises. As with all precision instruments, check the calibration accuracy of the unit on a regular basis. Always check the unit before you start work, especially if it has been exposed to heavy vibrations.

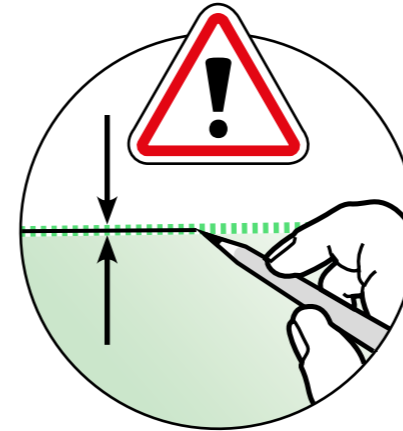
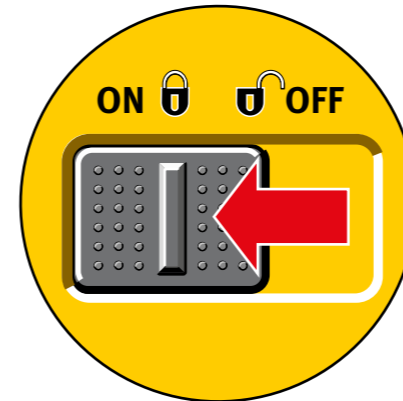
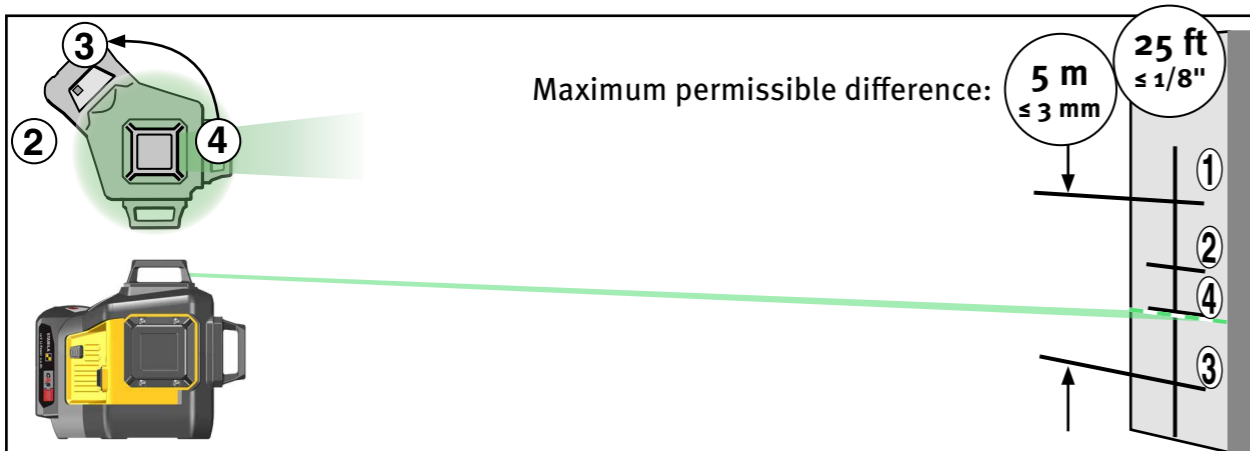
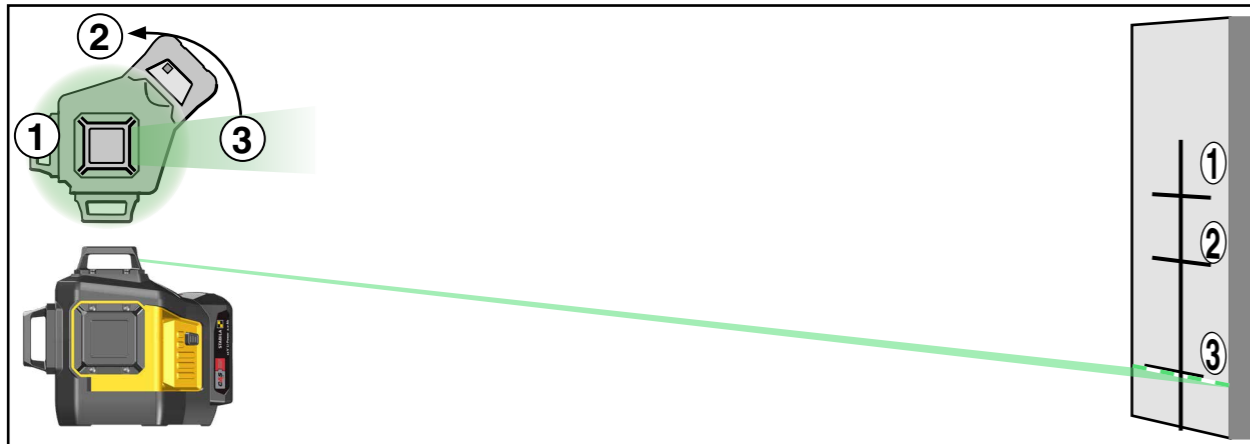
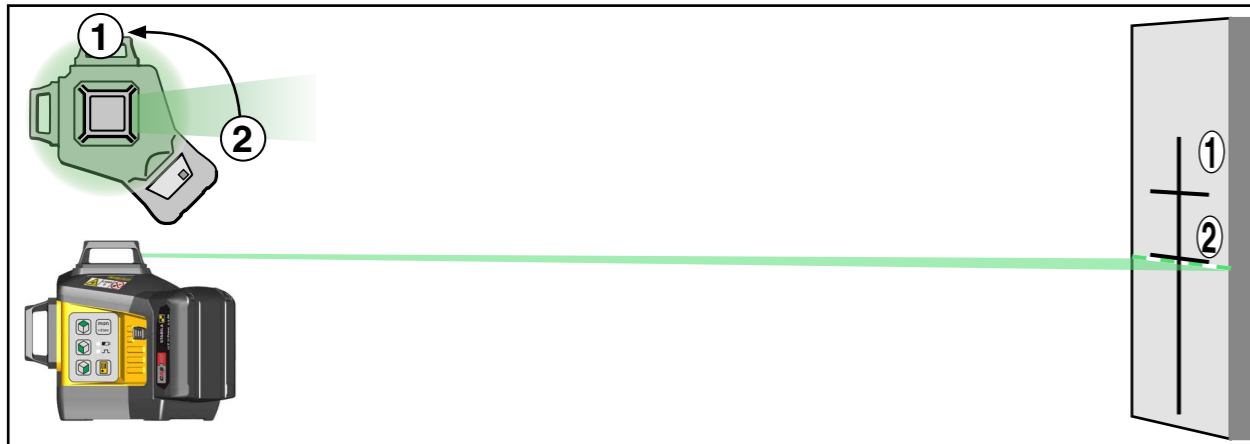
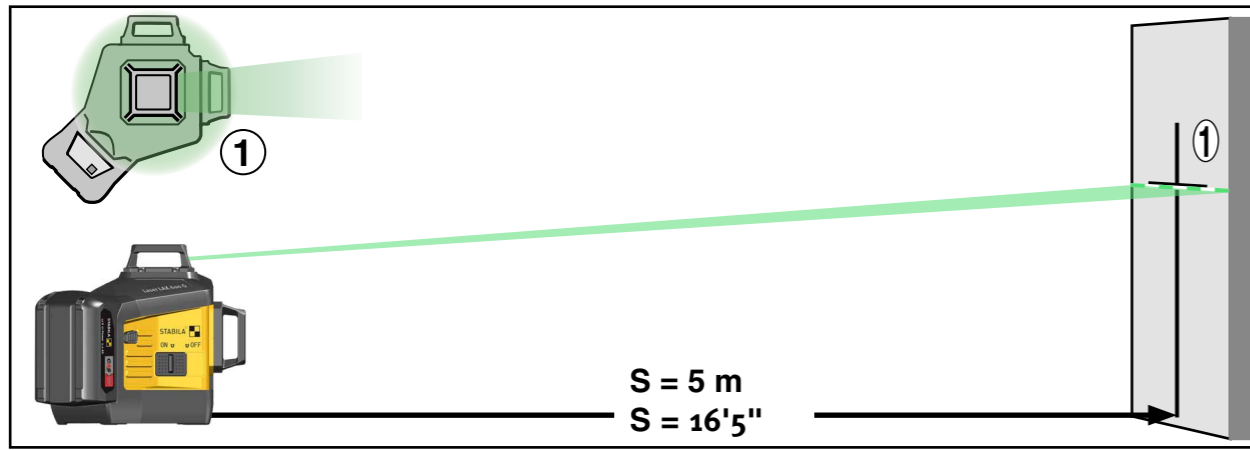
- Vertical check
- Horizontal check
- Angle check

8.1 Vertical check

Checking the two vertical laser lines

1. Create a reference line, e.g. with a plumb line.
2. Set up and align the LAX 600 / LAX 600G at distance Y in front of this reference line.
3. Compare the laser line with the reference line.
4. At a distance of 2 m / 7', the laser line must not deviate from the reference line by more than 1 mm / 11/256".
5. Perform this check for both vertical laser lines.





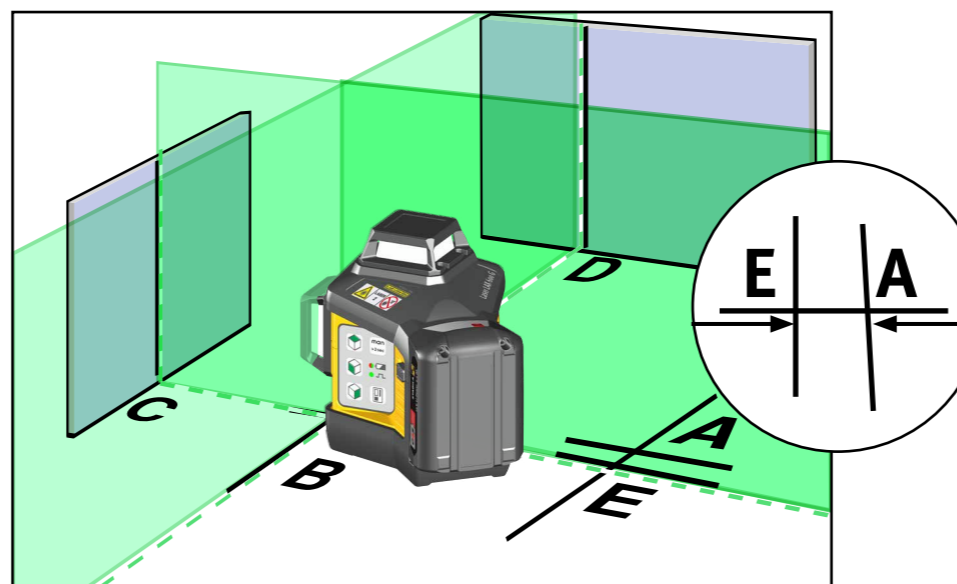
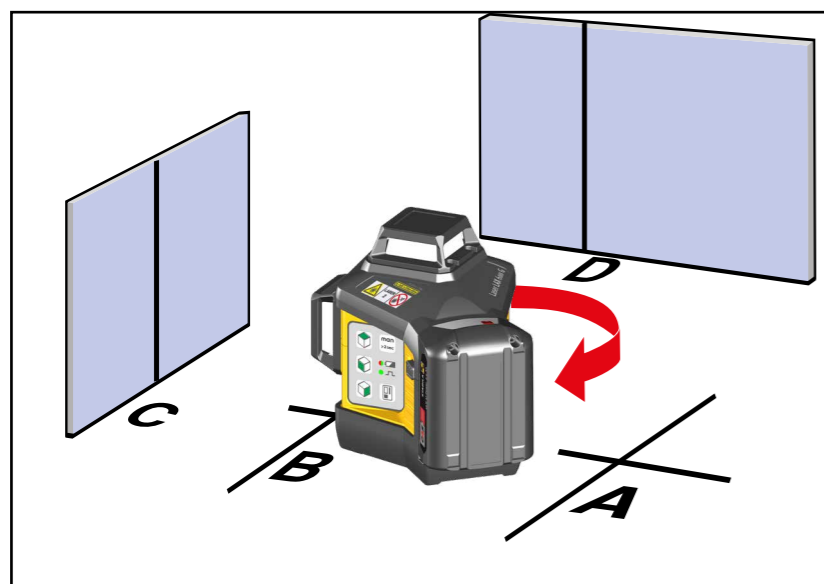
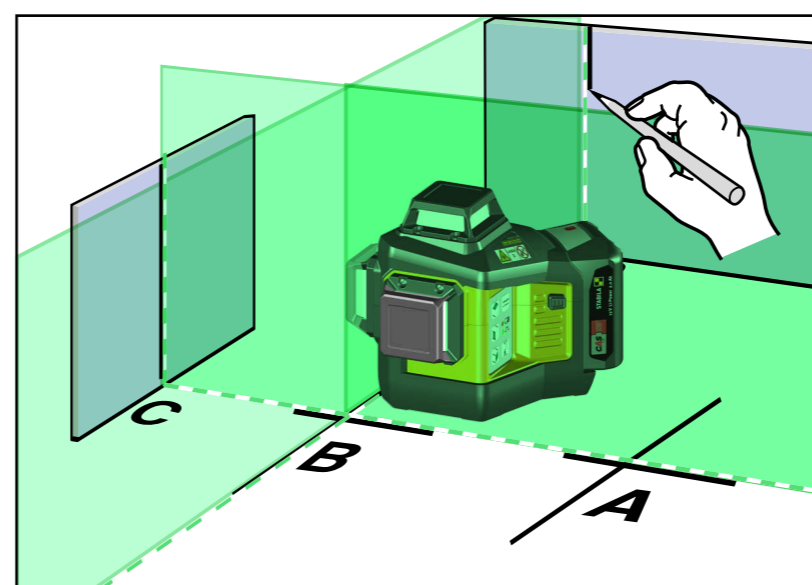
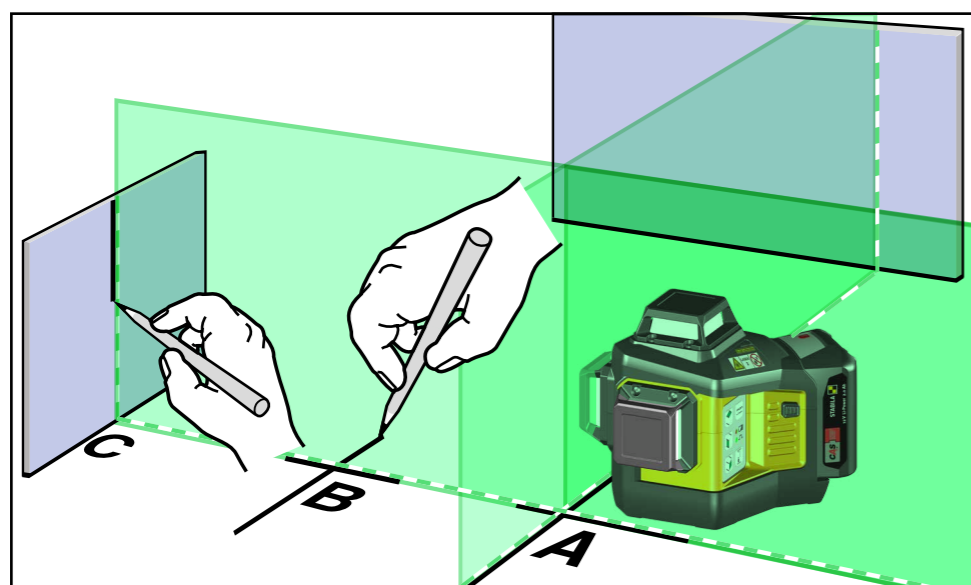
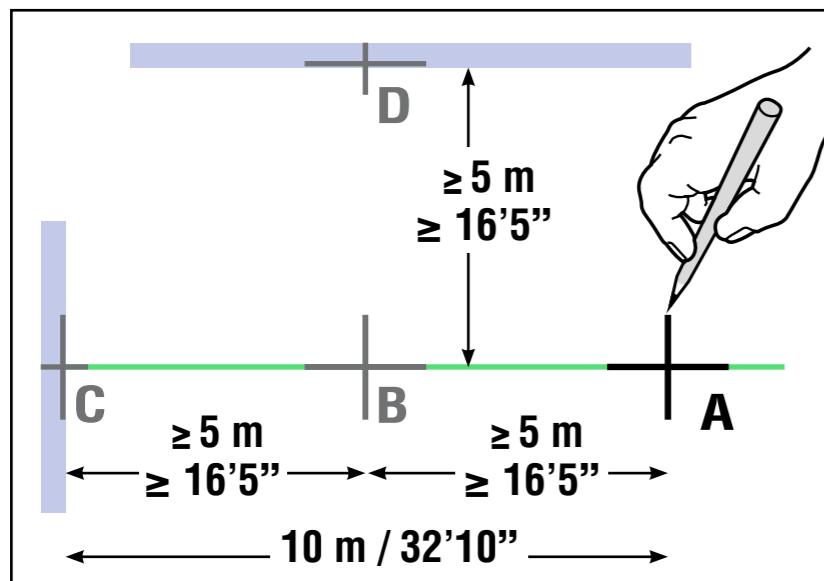
8.2 Horizontal check

Checking the horizontal laser line level

Please ensure that you adhere as closely as possible to the orientation of the unit as shown.

1. Place the LAX 600 / LAX 600G on a horizontal surface or on a tripod at distance S of at least 5 m (16'5") in front of a wall, with the operator panel facing towards the wall.
2. Switch the laser unit on and wait until it has automatically levelled itself.
3. Mark the centre of the visible laser line on the wall – measurement 1 (point 1). A receiver can also be used.
4. Rotate the entire laser unit through 90° without altering the height of the laser (i.e. do not change the tripod height). Allow the unit to level itself again automatically.
5. Mark the centre of the laser lines on the wall (point 2).
6. Repeat steps 4 and 5 twice to obtain points 3 and 4.
7. If the differences between the four control points are less than 6 mm / 1/4" for a distance of 10 m / 32'10", the unit is within its permitted tolerance of $\pm 0.1\text{ mm/m}$ ($\pm 18''$ over 100ft).
In this case, points 1 and 3 correspond to the X-axis and points 2 and 4 to the Y-axis of the unit.

Distance S to the wall	Maximum permissible distance:
5 m	3.0 mm
10 m	6.0 mm
15 m	9.0 mm
16'5"	1/8"
32'10"	1/4"
49'3"	3/8"



8.3 Angle check

Checking the 90° angle

1. Mark point A on the floor at a distance of 10 m (32'10") in a sufficiently large corner of the room.
 2. Align the LAX 600/LAX 600G with point A using the plumb-line dot.
 3. Align the LAX 600 / LAX 600G with the one wall using a laser line.
 4. Precisely mark point B on the floor at the halfway point.
 5. Precisely mark point C on the wall or floor.
 6. Shift the LAX 600 / LAX 600G and align with point B using the plumb-line dot.
 7. Align the LAX 600 / LAX 600G with point C again using the laser line.
 8. Precisely mark point D on the other wall or on the floor using the 90° laser line.
- Note:**
The distance from A to B, B to C and B to D should be the same to guarantee accuracy.
9. Turn the LAX 600 / LAX 600 G through 90° and align the first laser line with point D.
 10. Mark position E on the perpendicular second laser line as close as possible to point A.
 11. Measure the distance between points A to E.

Room length or distance between points A and C	Maximum permissible distance between points A and E
10 m	3.0 mm
20 m	6.0 mm
32'10"	1/8"
65'8"	1/4"

9. Technical data

Laser type:	LAX 600	Red diode laser, wavelength 635 nm
	LAX 600 G	Green diode laser, wavelength 510–530 nm
Power output:		< 1 mW, laser class 2 in accordance with IEC 60825-1:2014
Self-levelling range:	approx.	± 4°
Levelling accuracy*:		
Laser line:	±0.3 mm/m	± 3/16" over 50ft centre of laser line
90° accuracy:	±0.3 mm/m	± 3/16" over 50ft
Batteries:		12 V 2 Ah Li-ion CAS battery pack 12 V 4 Ah Li-ion CAS battery pack
Battery life:		
	LAX 600	≤ 28 h
	LAX 600G	≤ 15 h
Operating temperature range:		-10°C to +40°C / 14°F to 104°F
Storage temperature range:		-20°C to +63 °C / -4°F to 145°F

Subject to technical modifications.

* When operated within the specified operating temperature range

2022

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