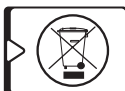
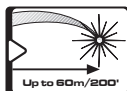




**Prolaser® 4D Green**

**Model No. 864G**

**User Manual**





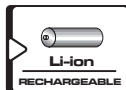
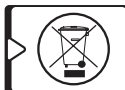
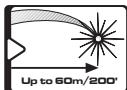
EN

Thank you for purchasing Kapro's 864G Prolaser 4D Green. You now own one of the most advanced laser tools available. This manual will show you how to get the most out of your laser tool.

## APPLICATIONS

The 864G Prolaser 4D Green is a laser level with 4 green diodes, that emits 4 circular beams. The laser is innovatively designed for a very broad range of professional and DIY jobs, including:

- Hanging cabinets and shelves.
- Setting floor and wall tiles.
- Drywall installation and hanging acoustic ceilings.
- Framing and aligning windows and doors.
- Leveling electrical outlets, plumbing and studs.
- Accurately laying out right angles for flooring, fences, gates, decks, pergolas and gazebos.
- Leveling slopes for stairs, rails, roofs and more (manual mode).



### NOTE

**Keep this user manual for future reference.**

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## FEATURES

- This laser tool automatically determines the horizontal and vertical planes.
- This laser emits 2 horizontal 360° and 2 orthogonal 360° vertical green beams, that intersect on 4 walls, floor and ceiling.
- $\pm 3^\circ$  self-leveling range in automatic mode.
- Visual and auditory warning when the laser level is out of leveling range.
- Pulse mode for working with a detector.
- Max. indoor working range - 30 m (100') with goggles.
- Max. detectable range of the laser in pulse mode is 60 m (200').
- Manual mode allows angular layout/marketing.
- IP65 rating for water and dust protection.
- 1/4" tripod thread.
- Shock resistant rubber over molded casing.
- Multi-purpose magnetic mount.
- Rechargeable Li-Ion battery and type-C USB charger.

### NOTE

**This device contains precision components sensitive to external shock, impact or falls that may compromise its functionality. Handle with care to maintain its accuracy.**

## SAFETY INSTRUCTIONS



### WARNING

**This product emits radiation classified as Class II according to EN 60825 -1**

The laser radiation can cause serious eye injury



- Do not stare into the laser beam
- Do not position the laser beam so that it unintentionally blinds you or others.
- Do not operate the laser level near children or let children operate the laser level.
- Do not look into a laser beam using magnifying optical devices such as binoculars or a telescope, since it will increase the level of eye injury.



**WARNING:** This product contains lead in soldered joints and certain Electrical parts contain chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

(California Health & Safety Code Section 25249.6- Proposition 65)



### NOTE

**The green goggles are intended to enhance the visibility of the laser beam. They will not protect your eyes against laser radiation.**



- Do not remove or deface warning labels on the laser level.
- Do not disassemble the laser level. Laser radiation can cause serious eye injury.
- Do not drop the laser.
- Do not use solvents to clean the laser.
- Do not use in temperatures below -10°C or above 40°C (14°F / 104°F)
- Do not operate the laser in the presence of flammable liquids or gases. Sparks from the tool can cause ignition.
- When not in use, turn off the power, engage the pendulum lock and place the laser in the carrying pouch.
- Make sure the pendulum lock mechanism is engaged before transporting the laser.

#### **NOTE**

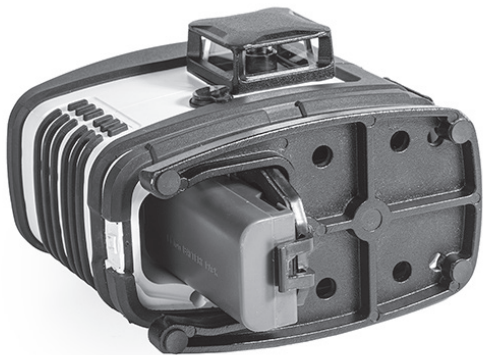
**If the pendulum lock mechanism is not engaged before transportation, internal mechanical damage can occur.**

## BATTERY INSTALLATION & SAFETY

The 864G Prolaser 4D Green is powered by a rechargeable Li-Ion battery. 2 batteries packs are included in the set. The laser can be powered by using only the included charger.

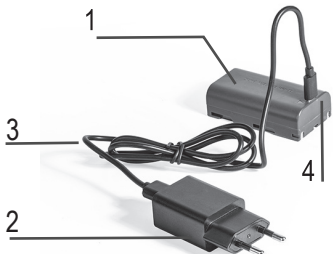
### Installation

1. Press down the latch of the battery cover.
2. Insert the Li-Ion battery pack.
3. Close the battery cover.



The LED indicator (c) on the laser will flash when the battery is low. In this case, use the included charger to charge the battery or replace it with a new one. The battery can be charged while inside the laser.

- 1. Rechargeable Li-Ion battery**
- 2. Charger unit**
- 3. Type-C USB charging cable**
- 4. Battery LED indicator**
  - Red – charging
  - Blue – fully charged



**WARNING:** Battery can deteriorate, leak or explode and can cause injury or fire.

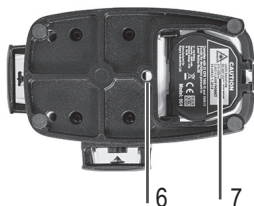
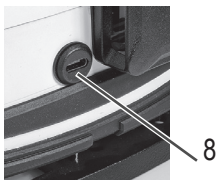
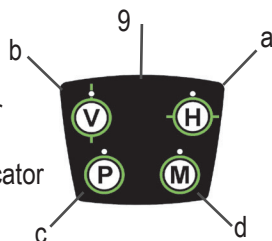
1. Do not shorten the battery terminals.
2. Do not dispose of battery into household waste.
3. Do not dispose of battery in fire.
4. Defective or dead batteries must be disposed of according to local regulations.
5. Keep the batteries out of children's reach.



# OVERVIEW

1. Power switch
2. Top horizontal beam
3. Side vertical beam
4. Front vertical beam
5. Bottom horizontal beam
6. 1/4" tripod mount
7. Battery cover
8. Type-C USB charging port
9. Keypad

- a. Horizontal beam selector & indicator
- b. Vertical beam selector & indicator
- c. Pulse Mode button\Low battery indicator
- d. Manual Mode button & indicator





## OPERATING INSTRUCTIONS

### Working in Automatic mode (self-leveling):

In Automatic mode the laser level will level itself within a  $\pm 3^\circ$  range.

1. Remove the laser level from the case and place it on a solid, flat, vibration free surface or on a tripod.
2. Push the **POWER** switch to **ON** mode. The bottom horizontal beam and its LED indicator will turn on.
3. Choose the required beams by using the selector buttons:
  - a. Horizontal beam selector (a) operates in the following cycle:  
Bottom beam (default)  $\rightarrow$  Upper beam  $\rightarrow$  Both beams  $\rightarrow$  No beams.
  - b. Vertical beam selector (b) operates in the following cycle:  
Side beam (default)  $\rightarrow$  Front beam  $\rightarrow$  Both beams  $\rightarrow$  No beams.
4. If the initial inclination of the laser level is beyond  $\pm 3^\circ$ , the laser will alert by flashing and beeping. In this case reposition the laser level on a more suitable surface.

### Working in Manual mode:

In manual mode the 864G self-leveling mechanism is disabled and the laser can be set at any required slope.

The laser beams will flash every 2 seconds to indicate that the laser is in Manual mode.

1. In **OFF** mode, press the Manual mode button (d) for 2 seconds.

The Manual mode red LED indicator (d) will turn on.

The bottom horizontal beam and its LED indicator will turn on.

2. Select the required laser beams.
3. To mark a slope, tilt the laser to the desired angle.
4. To return to self-leveling mode, push the **POWER** switch to **ON**.

The laser will return to Automatic mode and the Manual mode LED indicator will turn off.

Make sure you are within the self-leveling range before activating the automatic mode.



### **Working in Pulse mode with a detector:**

For outdoor work under direct sunlight or bright conditions, and for extended indoor ranges of up to 60 meters (200 ft.), use the pulse mode with a detector.

1. Push the **POWER** switch to **ON** mode.
2. Press the Pulse mode button (d) to activate it. The Pulse mode indicator (d) will turn on.
3. Turn on the detector and search for the laser beam.
4. While in Pulse mode, you can select different beams by pressing the appropriate beam selector buttons.
5. To switch off the Pulse mode, press the Pulse mode button (d) again. The Pulse mode indicator (d) will turn off.

## MAINTENANCE

This laser level left the factory fully calibrated. To keep your laser level accurate, check the accuracy of the device according to the field calibration tests procedures (p. 14).

- Change the battery when the laser beams begin to dim.
- Wipe the aperture lens and the body of the laser level with a clean soft cloth. Do not use solvents.
- Although the laser is dust and dirt resistant to a certain degree, don't store in dusty places, since long term exposure may damage internal moving parts.
- If the laser level is exposed to water, dry the laser level before returning it to the carrying case to prevent corrosion damage.
- Remove the battery if the laser level is unused for a long period of time to prevent corrosion damage.



## FIELD CALIBRATION TEST

This laser level left the factory fully calibrated.

Kapro recommends that the user will check the accuracy of the laser periodically, or if the unit falls or is mishandled.

1. Check the height accuracy of the cross created by the side vertical and the horizontal beams.
2. Check the height accuracy of the cross created by the front vertical and the horizontal beams.
3. Check the accuracy of the front vertical beam.
4. Check the accuracy of the side vertical beam.
5. Check the perpendicularity between the 2 vertical beams.

**NOTE:** All the calibration tests must be done in Automatic mode.

### **1. Checking the height accuracy of the cross created by the side vertical and horizontal beams.**

#### **(Up and down deviation)**

- 1) Place the laser on a table or on the floor between 3 walls **A**, **B** and **C**. The distance between **A** and **B** should be approximately 5 meters.
- 2) Place the laser approximately 0.5 meters from wall **A** and 2 meters from wall **C**.
- 3) Turn the device **ON** and activate the bottom horizontal and the 2 vertical beams.
- 4) Place the intersection point of the horizontal and the side vertical beam on wall **A**. Place the intersection point of the horizontal and the front vertical beams on wall **C**.

- 5) Mark on wall **A** the intersection point as **a1**, and on wall **C** mark the intersection point as **c1** (see figure 1).

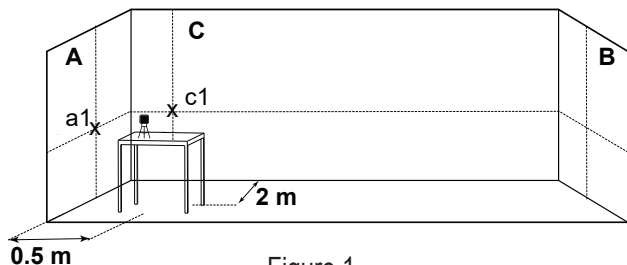


Figure 1

- 6) Turn the laser 180° and reposition it. Verify that the 2 vertical beams pass through **a1** and **c1** points.  
7) Mark on wall **B** the intersection point as **b1**(see figure 2).

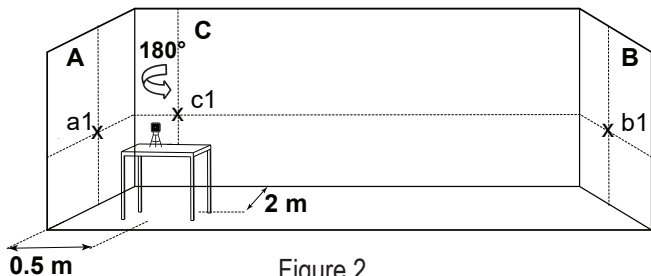


Figure 2

- 8) Without turning the laser, move the laser towards wall **B** and place it approximately 0.5 meter from wall **B**.
- 9) Verify that the vertical beam passes through **a1** and **b1**.
- 10) On wall **B**, mark the intersection point as **b2** (see figure 3).

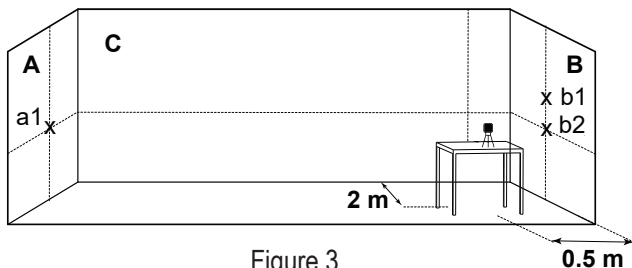


Figure 3

- 11) Turn the laser 180° and reposition it. Verify that the 2 vertical beams pass through **b2** and **a1** points.
- 12) On wall **A**, mark the intersection point as **a2** (see figure 4).



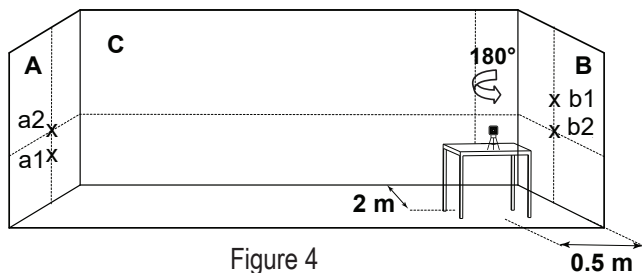


Figure 4

13) Measure the distances:

$$\Delta a = |a2 - a1|$$

$$\Delta b = |b1 - b2|$$

- 14) The difference  $|\Delta a - \Delta b|$  should be no more than 3 mm,  
otherwise send the laser to a qualified technician for repair.
- 15) Repeat the procedure for top horizontal beam.



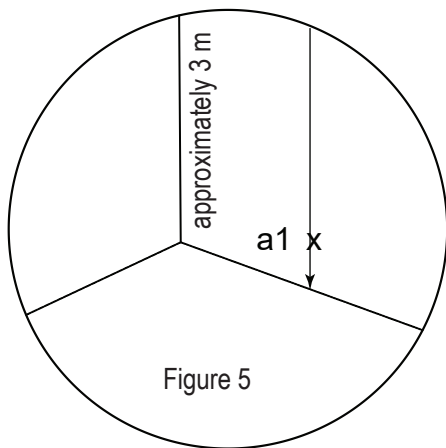
## **2. Checking the height accuracy of the cross created by the front vertical and horizontal beams.**

### **(Up and down deviation)**

- 1) Place the laser on a table or on the floor between 3 walls **A**, **B** and **C**. The distance between **A** and **B** should be approximately 5 meters.
- 2) Place the laser level approximately 0.5 meters from wall **A** and 2 meters from wall **C**.
- 3) Turn the device **ON** and activate the top horizontal and the 2 vertical beams.
- 4) Place the intersection point of the horizontal and the front vertical beams towards wall **A**.
- 5) Repeat stage 1. procedure from steps 5 – 14.
- 6) Repeat the procedure for top horizontal beam.

## **3. Checking the Accuracy of the front vertical beam.**

- 1) Hang an approximately 3 meter long plumb line on a wall.
- 2) After the plumb line has settled, mark point **a1** on the wall behind the plumb line, near the plumb cone. (see figure 5).



- 3) Place the laser on a tripod or on a solid surface in front of the wall, at a distance of approximately 2 meters.
- 4) Turn the device **ON** and activate the front vertical beam towards the plumb line.
- 5) Turn the laser, so the vertical beam will merge with the plumb line below the hanging point.

- 6) Mark point **a2** on the wall, in the middle of the vertical beam at the same height as **a1**. (see figure 6).

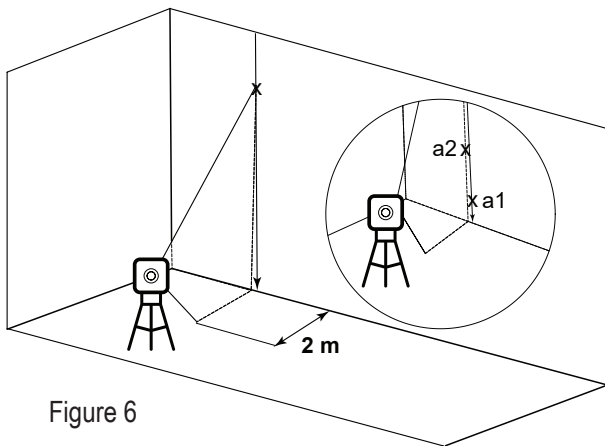


Figure 6

- 7) The distance between **a1** and **a2**, should be no more than 1 mm, otherwise send the laser level to a qualified technician for repair.

#### 4. Checking the Accuracy of the side vertical beam.

For the second vertical beam, repeat the previous marking procedures from steps 1-7.

#### 5. Checking 90° accuracy between the 2 vertical beam.

This procedure requires a room of at least 5x5 meters with 3 walls.

- 1) Place the laser on a table or on the floor in the center of the room.
- 2) Turn the device **ON** and activate the front and side vertical beam.
- 3) Mark the center of the side vertical beam in 3 places;
  - Point **a1** on the left wall **A**, in the center of the vertical beam.
  - Point **b1** on the right wall **B**, in the center of the vertical beam.
  - Point **c1** on the table at the intersection point of the 2 vertical beams.
- 4) Mark the point **c2** on the front wall **C**, in the center of the vertical beam (see figure 7).

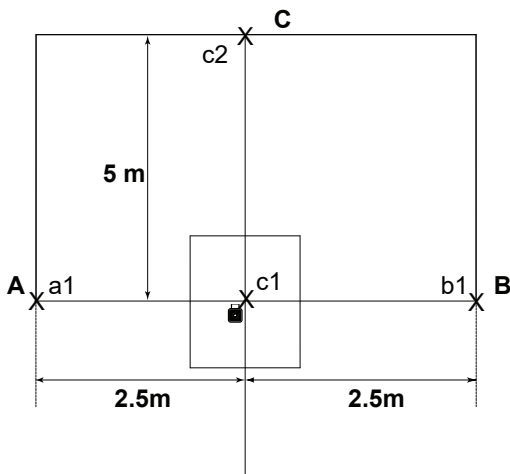


Figure 7

- 5) Rotate the laser 90° counterclockwise so that intersection point stays on **c1** point, and the front laser beam passes through the marks **a1** and **b1** on the walls **A** and **B** respectively.
- 6) Mark as **c3** the center of the side vertical beam on wall **C**, at the same height as point **c2**. (see figure 8 ).

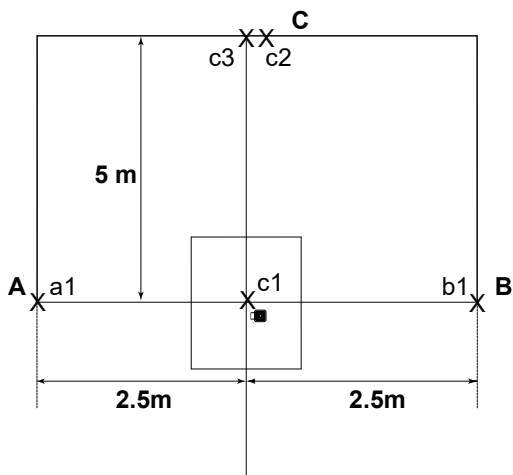


Figure 8

- 7) The distance between **c2** and **c3**, should be no more than 1.5 mm, otherwise send the laser level to a qualified technician for repair.



## SPECIFICATIONS

Laser beams output pattern	<ul style="list-style-type: none"><li>• 1 Horizontal - 360°</li><li>• 1 Vertical - 360°</li><li>• 2 Horizontals - 360°</li><li>• 2 Verticals - 360°</li><li>• All Horizontals &amp; Verticals - 360°</li></ul>
Laser range	<ul style="list-style-type: none"><li>• Indoor - 30 m (100 ft) with goggles</li><li>• With detector - 60 m (200 ft)</li></ul>
Accuracy	±0.2 mm/m (±0.0002 in/in)
Self-leveling Range	±3°
Laser line width	2 mm±0.5 mm/5 m (0.10" ±0.02" at 20' )
Horizontal lines height	<ul style="list-style-type: none"><li>• Top – 140mm from the floor</li><li>• Bottom – 14mm from the floor</li></ul>
Wavelength	510-530nm - Laser Class II
Power supply	Li-Ion battery 7.4V or DC 5v IN
Battery life	Li-Ion battery - Up to 8 hours of continuous operation
Charging time	3 hours of direct charging
Operating temp.	-10° C + 40° C (14°F +104°F)
Storage temp.	-15° C +50° C ( -5°F +122°F)
Water & dust proof	IP65
Dimensions	143 mm x 92 mm x 143 mm (5.63"x3.62"x5.63")
Weight including battery	840 gr ± 10 gr (29.6 oz ± 0.35 oz)



## WARRANTY

This product is covered by a three year limited warranty against defects in materials and workmanship. The warranty does not cover products that are used improperly, altered, or repaired without Kapro's approval, nor a process of recalibration if needed.

### REPAIR AND CALIBRATION PROCEDURE

1. If your product requires repair or calibration, please return it to the point of sale, alongside your proof of purchase.
2. After a return authorization procedure is initiated, the laser level will be sent to an authorized repair lab.
3. Once completed, the product will be returned to a point of sale of your choice for collection.

### COSTS AND WARRANTY

- Products under warranty will be shipped and repaired free of charge.
- In case of products that are not under warranty, you will be notified by the dealer of the estimated cost for the repair, before the beginning of the process.

The serial number sticker is positioned inside the battery compartment.

### CE CONFORMITY CERTIFICATE

This product meets the standards of the Electromagnetic Compatibility (EMC) established by the European Directive 2014/30/EU and the Low Voltage Directive (LVD) 2014/35/EU

### EC DECLARATION OF CONFORMITY

We declare under our responsibility that the product 864G is in accordance with the requirements of the Community Directives and Regulations:

2014/30/EU

2011/65/EU

EN60825-1: 2015

EN61326-1: 2013



**Rev. 1.0**

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