BIHUI®

LLG16

Usage Instructions

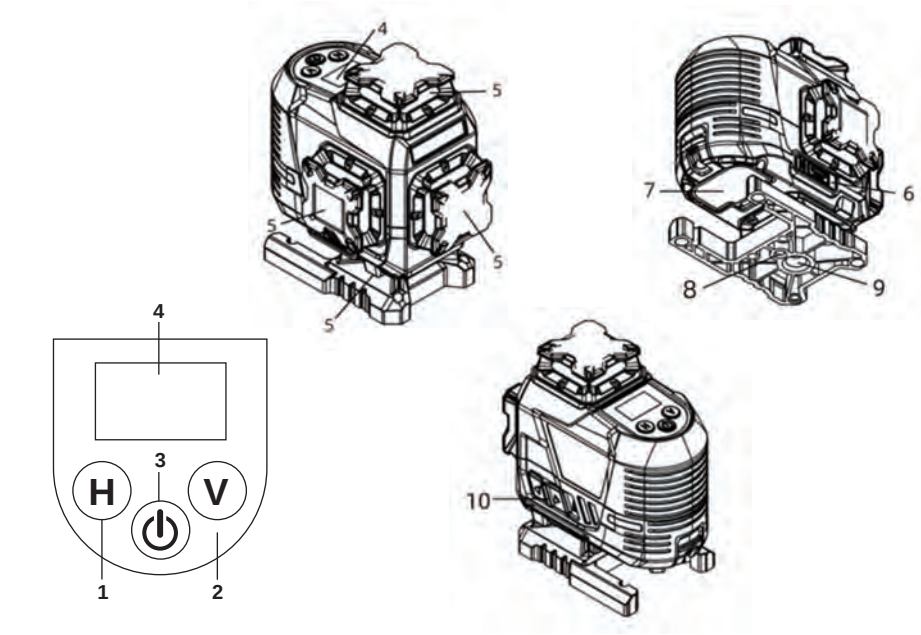
Self-levelling Green Beam Laser Level

16 Universal

Read before use

CE FC

BIHUI PROFESSIONAL WARRANTY

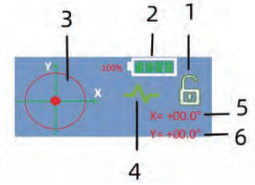


Product Overview

1	Switch Horizontal Lines
2	Switch Vertical Lines
3	Key Button & Pulse Mode Button
4	TFT Display
5	Laser Windows
6	Type-C Charging Port
7	Battery Compartment
8	1/4”-20 Threaded Mount
9	5/8” -11 Threaded Mount
10	Pendulum & Transit Lock

Icons on LCD Display

1.Pendulum Locked & Unlocked Status
2.The battery balance
3.X/Y Axis Tilt Direction
4.Pulse Mode
5.X Axis Tilt Angle
6.Y Axis Tilt Angle



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Symbols

The following are the icons that are used for the tool. Make sure you fully understand them before using them.

	Read before use		Wear safety gloves
	CE mark		Wear hearing protectors
	Caution		Wear safety glasses
	Conforms to WEEE		

1. Safety Warnings

⚠ Caution

Read all safety instructions and warnings provided with power tool. Failure to follow the instructions below may result in electric shock, fire and / or serious injury.

Keep all warnings and instructions for future reference.

The term "power tool" used in the safety instructions refers to mains operated power tools (with power cord) or to battery operated tools (without power cord).

General safety warnings for power tools

1.1 Safety in work area

a) Keep your work area clean and well lit. Disarray or unlit work areas can lead to accidents.

b) Do not work with the power tool in a potentially explosive environment in which flammable liquids, gases or dusts are present. Power tools generate sparks that can ignite the dust or fumes.

c) Keep children and bystanders away while using the power tool. Distractions can result in a loss of control.

1.2 Electrical Safety

a) The plug of the power tool must fit into the socket. The plug must not be changed in any way. Do not use adapter plugs together with electrically grounded power tools. Unmodified plugs and matching sockets reduce the risk of electric shock.

b) Avoid body contact with grounded surfaces such as pipes, heaters, stoves, and refrigerators. There is an increased risk of electric shock if your body is grounded.

c) Keep power tools away from rain or moisture. The penetration of water into a power tool increases the risk of electric shock.

d) Do not misuse the power cord to carry the power tool, hang it up, or unplug it from the power outlet. Keep the connection cable away from heat, oil, sharp edges or moving parts. Damaged or entangled leads increase the risk of electric shock.

e) When working outdoors with a power tool, only use extension cables that are also suitable for outdoor use. Using an extension cord suitable for outdoor use reduces the risk of electric shock.

f) If operation of the power tool in a damp environment is unavoidable, use a residual current device. Using a residual current circuit breaker reduces the risk of electric shock.

1.3 Personal Safety

a) Be attentive, pay attention to what you are doing and be reasonable about working with a power tool. Do not use a power tool when you are tired or under the influence of drugs, alcohol or medication. A moment of carelessness when using the power tool can cause serious injury.

b) Wear personal protective equipment and always safety goggles. Wearing personal protective equipment such as a dust mask, non-slip safety shoes, hard hat or ear protection, depending on the type and use of the power tool, reduces the risk of personal injury.

c) Avoid unintentional startup. Make sure that the power tool is switched off before connecting, receiving or carrying it to the power supply and / or the battery. Keeping your finger on the switch when you are wearing the power tool or plugging the power tool into power can cause an accident.

d) Remove setting tools or wrenches before turning on the power tool. A tool or key located in a rotating part of the power tool can cause injury.

e) Avoid an abnormal posture. Ensure a secure footing and maintain balance at all times. This allows you to better control the power tool in unexpected situations.

f) Wear suitable clothing. Do not wear loose clothing or jewelry. Keep hair and clothing away from moving parts. Loose clothing, jewelry or long hair can be caught by moving parts.

g) If dust extraction and collection equipment can be installed, they must be connected and used properly. Using a dust extractor can reduce dust hazards.

h) Do not weigh yourself in false safety and do not overstep the safety rules for power tools, even if you are familiar with the power tool after many uses. Careless action can lead to serious injuries within fractions of a second.

1.4 Use and care of the power tool

a) Do not overload the power tool. Use the appropriate power tool for your work. With the right power tool you work better and safer in the specified power range.

b) Do not use a power tool whose switch is defective. A power tool that can not be turned on or off is dangerous and must be repaired.

c) Unplug the power cord and / or remove a detachable battery before making any adjustments to the device, changing the tool bits, or putting the power tool away. This precaution prevents the unintentional start of the power tool.

d) Store unused power tools out of the reach of children. Do not allow persons to use the power tool that are unfamiliar or have not read these instructions. Power tools are dangerous when used by inexperienced people.

e) Maintain power tools and insert tools with care. Check that moving parts are working properly and do not jam, that parts are broken or damaged enough to impair the functioning of the power tool. Have damaged parts repaired before using the power tool. Many accidents are caused by badly maintained power tools.

f) Keep cutting tools sharp and clean. Carefully maintained cutting tools with sharp cutting edges become less jammed and easier to guide.

g) Use power tools, accessories, tools etc. according to these instructions. Take into account the working conditions and the activity to be performed. The use of power tools for other than intended applications can lead to dangerous situations.

h) Keep handles and grips dry, clean and free of oil and grease. Slippery handles and gripping surfaces do not allow safe operation and control of the power tool in unforeseen situations.

1.5 Use and care of the battery tool

a) Charge the batteries only with chargers recommended by the manufacturer. A charger suitable for a particular type of battery may cause a fire when used with other batteries.

b) Use only the appropriate batteries in the power tools. Use of other batteries may cause injury or fire.

c) Keep the unused battery away from paper clips, coins, keys, nails, screws, or other small metal objects that could cause the contacts to bridge. A short circuit between the battery contacts can cause burns or fire.

d) If used incorrectly, liquid may leak from the battery. Avoid contact with it. In case of accidental contact, rinse with water. If the fluid gets into your eyes, seek additional medical attention. Leaking battery fluid may cause skin irritation or burns.

e) Do not use a damaged or modified battery. Damaged or altered batteries can behave unpredictably and cause fire, explosion or injury.

f) Do not expose a battery to fire or high temperatures. Fire or temperatures over 130 ° C can cause an explosion.

g) Follow all charging instructions and never charge the battery or the cordless tool outside the temperature range specified in the operating instructions. Incorrect charging or charging outside the permitted temperature range can destroy the battery and increase the risk of fire.

h) If the lithium-ion battery is not used for extended time, please charge the lithium-ion battery once every 6 months, each charging time is not less than 8 hours.

1.6 Service

a) Only have your power tool repaired by qualified personnel and only with original spare parts. This ensures that the safety of the power tool is maintained.

b) Never use damaged batteries. All battery maintenance should only be done by the manufacturer or authorized service centers. Follow the instructions for lubricating and changing accessories.

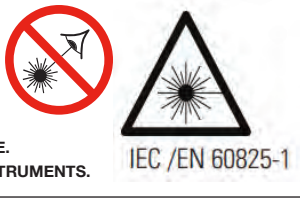
Additional safety warning from the manufacturer

ATTENTION:
Read all instructions prior to operating this laser tool. Do not remove any labels from tool.

- Do not set up laser tool at eye level or operate the tool near a reflective surface as the laser beam could be projected into your eyes or into the eyes of others.
- While the product is in operation, be careful not to expose your eyes to the emitting laser beam (Green/Red light source). Exposure to a laser beam for an extended time may be hazardous to your eyes.
- Do not attempt to view the laser beam through optical tools such as telescopes as serious eye injury may result.
- Do not disassemble or modify the laser in any way. Modifying the tool may result in hazardous Laser Radiation Exposure.
- Do not operate the laser around children or allow children to operate the laser. Serious eye injury may result.
- An exposure to the beam of a Class 2 laser is considered safe for a maximum of 0.25 seconds. Eyelid reflexes will normally provide adequate protection.
- The first charging time is recommended to be more than 8 hours. Each charge time is not less than 6 hours, but not more than 24 hours.
- Please charge in 24 hours when the low battery indicator flashes or the laser tool turns off due to low power.

- The best charging temperature: 0℃ to 20℃ (32℉-68℉)
- If the device is not used for a long period of time, please fully charge and remove the battery. Please store the battery in a dry and room temperature environment.

WARNING!
Class 2 Laser Product
Max. Power Output: ≤ 1mW
Wavelength: 510-530nm
LASER RADIATION:
DO NOT STARE INTO BEAM.
DO NOT DIRECT EYE EXPOSURE.
AVOID VIEW WITH OPTICAL INSTRUMENTS.



2.Application

- Equipped with TFT color screen display
- Accurate self-levelling function
- Built-in memory function
- Supports tilting at any angle
- Three levels of brightness adjustable
- Professional grade waterproof and dustproof
- Auxiliary tiles fixing, wall decoration, floor tiles fixing, stair handrails, furred ceiling, floor tile, plastering etc

Model	LLG16
Laser Class	Class 2
Laser Wavelength	510-530nm,＜1 mw
Leveling Accuracy	automatic
Self-leveling Time	3seconds
Horizontal/Vertical Accuracy	±3mm/10m
Leveling/Compensation Range	4°±1°
Working Distance (Line)	30m
Operating Time (all laser beams on)	First gear (100% brightness) Approx. 5hours Second gear (50% brightness) Approx.10 hours Third gear (25% brightness) Approx.12 hours
Power Source	3.7V-5000mAh Li-ion battery
IP Rating	IP54
Operation Temperature Range	-10℃– +50℃
Storage Temperature Range	-20℃ – +70℃
Tripod mount	1/4", 5/8"

Note:
Appearance and specifications may differ due to product improvement.
Working distance varies depending on the operating environment.

3.Using Instruction

When not in use please power OFF the tool and place the pendulum lock in its locked position.

- In Manual Mode, self-leveling is OFF. The accuracy of the beam is not ensured to be level.
- The laser tool is sealed and calibrated at the plant to the accuracy specified.
- It's recommended to carry out an accuracy check before its first use and periodic checks during future use especially for precise layouts.

3.1 Operation Modes

3.1.1 Methods one: Turn the Lock/Unlock Switch at unlocked position to  turn ON the instrument and then turn the Lock/Unlock Switch at the locked position to  turn OFF the instrument.

3.1.2 Methods two: Keep the Lock/Unlock Switch at the locked position,  press the key button  and hold it for 3 seconds to turn ON the instrument, press the key button  and hold it for 7 seconds to turn OFF the instrument.

3.1.3 Line Switching

Slide the Pendulum/Transit Lock to the Unlocked Position,  the upper horizontal laser beam will be lit by default , 

the instrument is powered on. When the Pendulum/Transit Lock is in the Locked Position ,  all lines switching operations are the same.

3.2 Self-leveling Mode

Slide the Pendulum/Transit Lock to the Unlocked Position  to turn ON the instrument, the self-leveling mode is activated by default.

- The self-leveling mode icon  will be showed on the LCD display.

- The laser beam(s) blink fast when the instrument is out of self-leveling range ±4°(Prompts the user in the form of an optical signal). The self-leveling range is 4°±1°, if over leveling the laser line will not stop flashing until the user places the instrument in a level position.

- In Self-leveling mode, the laser line will flash 1 time per second. (0.5 seconds on, 0.5 seconds off.)
Note: The shutdown method in self-leveling mode is to turn the Lock/Unlock Switch at the locked position  to turn off the instrument.

3.3 Manual Mode

When the Pendulum/Transit Lock is in the Locked Position,  press the key button  and hold it for 3 seconds to turn ON the instrument, the manual mode is activated by default.

- The manual mode icon  will be showed on the LCD display.

- All laser beam light up and flash every 6 seconds.

Note: Press and hold the key button  for 7 seconds, the instrument turns off --- all lasers and indicators are turned off!

3.4 Pulse Mode

Pulse Mode (Use with Laser Detector):

Pulse mode can be activated in both Self-leveling mode or Manual mode, it is necessary to turn on the pulsemode when using with receiver for a larger working range.

Long press  the key button for 5 seconds, the pulse mode will be activated, the pulse mode icon  will be showed on the LCD display.

Long press  the key button for 5 seconds to exit the pulse mode, and the pulse icon disappears.

Note: When the pulse mode is activated, the power saving mode will automatically exit!

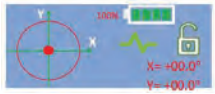
3.5 Power Saving Mode

Power saving mode can be activated in both Self-leveling mode or Manual mode. The brightness can be adjusted by short pressing the key button  , adapt to the brightness of different working environments and appropriately extend the working time of the instrument.

3.6 Shutdown memory function

- The laser beam lit state is memorized when the instrument is turned off. When the instrument is turned on again, the laser beam will keep the same lit state as when the it was last powered on.
  Note: Pulse state will not memorized.
- Turn off the instrument when all laser beams are extinguished at the same time, next time turn on the instrument, the laser beam will be displayed in the upper horizontal line lit state.
- Memory disappears after removing the battery pack. The next time insert the battery pack, the laser beam will be displayed in the upper horizontal line lit state.

3.7 LCD Display

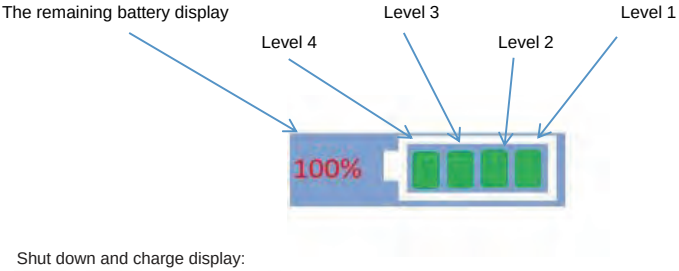


Tilt angle/Instrument status display on LCD display:
- When the instrument is in "Locked state"（ manual mode）
The small red point mark in the figure should move up and down/left and right following the tilt angle of inclination of the horizontal laser line. At the same time, the numeric value of X/Y axis should display the deflection angle value of the horizontal laser in real time on the LCD screen 

; Status indicator markers are displayed in 

3.8 Icons and LCD Display while charging

Battery capacity display: When the switch is turned on with the rechargeable battery inserted, the battery level indicator is continuously displayed as follows:
When the battery pack voltage is drained, and the LED indicator beam and laser line are both not on, the user should charge the lithium battery in time to continue using the instrument;
When the battery pack voltage is very low, power level 1 flashing in red. When the battery level 1 steadily lit in yellow, at this point, it indicates that the battery is about to run out;
When the battery pack voltage is relatively low, battery level 1 and 2 are steadily lit in green;
When the margin of battery charge is normal, power levels 1, 2 and 3 lit in green steadily;
When the battery is fully charged, power levels 1, 2, 3 and 4 are steadily lit in green;
When plugged into Type-c for charging, battery levels 1, 2, 3, and 4 will indicate the charging status in a marquee style; The remaining power value is displayed in the form of a numerical value, and the current power value is displayed in real time.



Shut down and charge display:
In the shutdown state, the charging display is as shown below:

4.Cleaning and Maintenance

- Do not store the laser tool in direct sunlight or expose it to high temperatures.
- The housing and some internal parts are made of plastics and may become deformed at high temperatures.
- Exterior plastic parts may be cleaned with a damp cloth. Although these parts are solvent resistant, NEVER use solvents. Use a soft, dry cloth to remove moisture from the tool before storage.
- Store the tool in its case when not in use. If storing for extended time, remove batteries before storage to prevent possible damage.

5.Accessories

- This accessory is recommended for use with your device specified in this manual.
- Using other accessories or attachments may result in personal injury. Only use accessories or accessories for the stated purpose.
- For more information about this accessory, contact the local distributor.

a) Tripod

b) Receiver

6. Environmental Protection

- Do not dispose of electrical appliances in the household waste.
- Follow the local provisions for the disposal of electrical or battery products.
- Valuable materials can be recovered by recycling.
- The electrical or battery components used for construction are in accordance with the regulation European Directive 2012/19 / waste electrical and electronic equipment and transposition into national law., used electrical appliances must be collected and recycled in an environmentally sound manner. - Contact us for further information.

7.Warranty

The laser tool passed rigorous and comprehensive product inspection. We are confident of the quality of our products and offer outstanding guarantee for professional users of the products.

We offer One Year Limited Warranty from date of purchasing provided that:
- Proof of purchase
- Fair wear and tear
- Have not repaired by unauthorized persons
- Has not been misused

Defective products will be repaired or replaced, free of charge or at our discretion, if sent together with proof of purchase to our authorized distributor(s)

This Warranty does not cover:
- Faults caused by accidental damage
- Failure to use according to manufacturers' instructions
- Defects caused by maintenance or renovation without our authorization
- Calibration and care are not covered by warranty
- For more detials and information, consult the general guarantee conditions at **www.bihuitools.com**