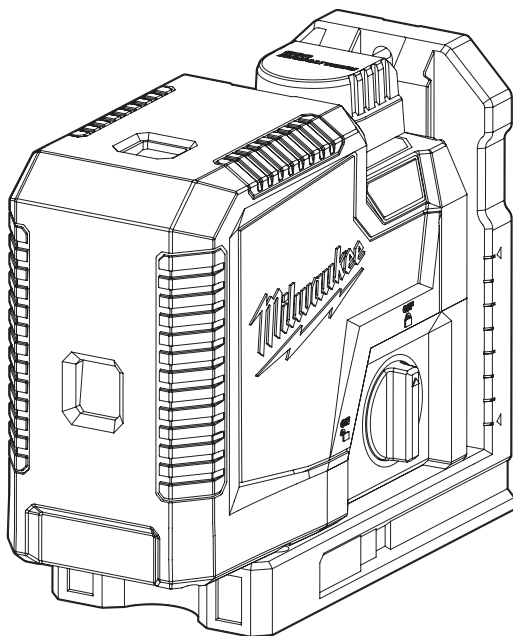





OPERATOR'S MANUAL



Cat. No.
L4 3PL

REDLITHIUM® USB 3 POINT LASER

 **WARNING**

 To reduce the risk of injury, user must read and understand operator's manual.

GENERAL POWER TOOL SAFETY WARNINGS

- ⚠WARNING** Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury. **Save all warnings and instructions for future reference.**
- **Save these instructions** - This operator's manual contains important safety and operating instructions.

LASER SAFETY

- ⚠WARNING** The device produces visible laser beams, which are emitted from the tool.

- This device complies with AS/NZS 60825.1, Class 2 Laser.
- **Laser light - Do not stare into beam or view directly with optical instruments.** Do not point laser light at others. Laser light can cause eye damage.

PERSONAL SAFETY

- **Do not allow persons unfamiliar with the tool, these safety instructions, and the tool's operator's manual to operate the tool.** This tool can be dangerous in the hands of untrained users.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the tool in unexpected situations.

BATTERY USE AND CARE

- **USE AND CHARGE ONLY REDLITHIUM® USB BATTERIES IN THIS USB RECHARGEABLE TOOL. OTHER TYPES OF BATTERIES MAY CAUSE PERSONAL INJURY AND DAMAGE.**
- **BEFORE USING THE BATTERY AND TOOL, READ THIS OPERATOR'S MANUAL AND ALL LABELS ON THE BATTERY AND TOOL.**
- **USE ONLY WITH LISTED/CERTIFIED ITE POWER SUPPLY.** Others may result in a risk of fire, electric shock or personal injury.
- **CHARGE IN A WELL VENTILATED AREA. Do not block charger vents.** Keep them clear to allow proper ventilation. Do not allow smoking or open flames near a charging battery. Vented gases may explode.
- **MAINTAIN CORD.** When unplugging charger, pull plug rather than cord to reduce the risk of damage to the electrical plug and cord. Never carry charger by its cord. Keep cord from heat, oil and sharp edges. Make sure cord will not be stepped on, tripped over or subjected to damage or stress. Do not use charger with damaged cord or plug. Have a damaged charger replaced immediately.
- **USE ONLY RECOMMENDED ATTACHMENTS.** Use of an attachment not recommended or sold by the battery charger or battery manufacturer may result in a risk of fire, electric shock or personal injury.
- **TO REDUCE THE RISK OF ELECTRIC SHOCK,** always unplug charger before cleaning or maintenance.
- **DO NOT BURN OR INCINERATE BATTERY PACKS.** Battery may explode, causing personal injury or damage. Toxic fumes and materials are created when battery are burned.
- **DO NOT CRUSH, DROP, OR DAMAGE battery.** Do not use a battery or charger that has received a sharp blow, been dropped, run over, or damaged in any way (e.g., pierced with a nail, hit with a hammer, stepped on).

- **DO NOT DISASSEMBLE.** Incorrect reassembly may result in the risk of electric shock, fire or exposure to battery chemicals. If it is damaged, take it to a MILWAUKEE® service facility.
- **BATTERY CHEMICALS CAUSE SERIOUS BURNS.** Never allow contact with skin, eyes, or mouth. If a damaged battery leaks battery chemicals, use rubber or neoprene gloves to dispose of it. If skin is exposed to battery fluids, wash with soap and water and rinse with vinegar. If eyes are exposed to battery chemicals, immediately flush with water for 20 minutes and seek medical attention. Remove and dispose of contaminated clothing.
- **DO NOT SHORT CIRCUIT.** A battery pack will short circuit if a metal object makes a connection between the positive and negative contacts on the battery pack. Do not place a battery pack near anything that may cause a short circuit, such as coins, keys or nails in your pocket. Do not allow fluids to flow into battery pack. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach containing products, etc., can cause a short circuit. A short circuited battery pack may cause fire, personal injury, and product damage.
- **Store your battery and tool in a cool, dry place.** Do not store battery where temperatures may exceed 50°C (120°F) such as in direct sunlight, a vehicle or metal building during the summer.

SPECIFIC SAFETY RULES FOR LASER LEVELS

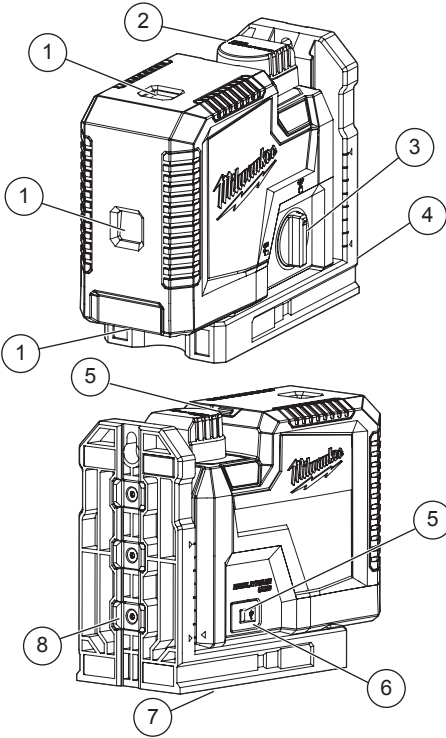
- **Do not dispose of tool or batteries with household waste material!** Tool and batteries that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.
 - **Maintain labels and nameplates.** These carry important information. If unreadable or missing, contact MILWAUKEE® for a replacement
- ⚠CAUTION** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- **Be sure to power off instrument after use.** When instrument will not be used for a long period, place it in storage after removing batteries.

ADDITIONAL BATTERY SAFETY RULES

- ⚠WARNING** To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse your tool, battery pack or charger in fluid or allow a fluid to flow inside them. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach-containing products, etc., can cause a short circuit.
- ⚠WARNING** Do not charge non-rechargeable batteries.

FUNCTIONAL DESCRIPTION

1. Laser apertures
2. Battery compartment
3. On/Off dial
4. Adjustable clearance bracket
5. Fuel gauges
6. USB power inlet
7. Threaded mounting point
8. Magnets



SPECIFICATIONS

Cat. No. **L4 3PL**
 USB Input Volts 5V DC
 USB Input Amps 0.1 - 2.1 A
 Output Volts 4V DC
 Output Amps 2.1 A

REDLITHIUM® USB Batteries

Volts 4V DC
Power Supply Cat. No. **4931 4605 95A**
 Laser Class 2
 Points Max Power $P_{AVG} \leq 1 \text{ mW}$
 Wavelength 510-530 nm
 Max. altitude 2000 m
 Relative air humidity max. 80%
 Points Beam Divergence 0.5 mrad
 Storage Temp -20°C to 50°C
 Working Range 45m
 Accuracy $\pm 3.18 \text{ mm}$ over 10 m
 Settle Time < 3 Seconds
 Tripod Mount 1/4"-20
 Ingress Protection IP54
 Impact Resistant 1 m
 Leveling Auto $\pm 4^\circ$ side to side, front to back
 Operating Temperature
 Battery and Charger -5°C to 40°C
 Battery and Tool -10°C to 40°C

SYMBOLGY

V	Volts
---	Direct Current
	LASER 2 DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT



Universal Serial Bus (USB)



Magnets



Read operator's manual



Amps



Regulatory Compliance Mark (RCM). This product meets applicable regulatory requirements.



Do not dispose of electric tools together with household waste material. Electric tools and electronic equipment that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

BATTERY

⚠WARNING To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse your tool, battery pack or charger in fluid or allow a fluid to flow inside them. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach containing products, etc., can cause a short circuit.

Maintenance and Storage

Do not expose your battery or cordless tools to water or rain, or allow them to get wet. This could damage the tool and battery. Do not use oil or solvents to clean or lubricate your battery. The plastic casing will become brittle and crack, causing a risk of injury.

Store batteries at room temperature away from moisture. Do not store in damp locations where corrosion of terminals may occur. As with other battery types, permanent capacity loss can result if the pack is stored for long periods of time at high temperatures (over 50°C (120°F)). **MILWAUKEE®** Li-Ion batteries maintain their charge during storage longer than other battery types. After about a year of storage, charge the battery as normal.

⚠WARNING To reduce the risk of injury or explosion, never burn or incinerate a battery pack even if it is damaged, dead or completely discharged. When burned, toxic fumes and materials are created.

Disposing of **MILWAUKEE®** Li-Ion Battery

MILWAUKEE® Li-Ion batteries are more environmentally friendly than some other types of power tool batteries. Always dispose of your battery according to federal, state and local regulations. Contact a recycling agency in your area for recycling locations. Even discharged batteries contain some energy. Before disposing, use electrical tape to cover the terminals to prevent the battery from shorting, which could cause a fire or explosion.

ASSEMBLY

⚠WARNING Use and charge only **REDLITHIUM®** USB batteries in this USB rechargeable tool. Other types of batteries may cause personal injury and damage.

Inserting the Battery

1. Twist the battery cap and remove.
2. Line up the arrow on the battery with the arrow in the compartment and fully insert the battery.
3. Replace the cap and twist to secure.

Charging the Battery

When the tool is turned on under battery power only, the remaining battery life is indicated:

Green Solid: 50-100% remaining

Yellow Solid: 11-49% remaining

Red Solid: 3-10% remaining

To indicate low battery level, the laser beams will blink quickly 3 times, followed by 4 seconds of solid on (repeating). Charge the battery.

To charge the battery with laser powered off:

1. Connect your USB cable to a suitable power source such as an AC USB wall adaptor, computer, or car USB outlet.

2. Lift the rubber cover to expose the micro USB port. Insert the micro USB plug into the micro USB port. Users may experience longer charge times from laptops and other power sources.
3. The indicator light will display the charging status:
Pulsing Red: Charging, 0-49% charged
Pulsing Yellow: Charging, 50-99% charged
Solid Green: 100% Charged.

To charge the battery with laser in use, follow steps 1-2 listed in the section above. The indicator light will display the charging status:

Pulsing Red (Continuous)

Upon removal of USB cable, fuel gauge will display current battery life.

To charge the battery while continuing to use the laser, follow steps 1-2 listed in the section above. The indicator light will pulse Red indicating charging is occurring.

When the USB cable is removed from the tool, the fuel gauge will indicate the current charge status of the inserted battery.

Flashing Red/Green: If the indicator light flashes Red/Green continuously, the battery is either not inserted correctly; too hot or too cold; or the battery is faulty or damaged. Check that the battery is fully seated into the bay. Remove the battery and reinsert. If the light continues to flash red and green, the battery may be too hot or too cold, or damaged. Allow the battery to cool down or warm up (as appropriate) and then reinsert. If the problem persists, contact a **MILWAUKEE®** service facility.

⚠WARNING To reduce the risk of injury or damage, securely mount/attach the laser before starting an operation. Injury/damage may occur if the laser falls.

Mounting/Adjusting the Laser Level

The adjustable clearance bracket can be used to mount the laser level in multiple ways:

- Use the embedded magnets to secure the laser level to framing steel studs, steel beams, etc.
- Use the keyhole slot to hang the laser level on the wall with a nail or screw.
- Set the laser level on a flat surface.
- Position the laser and/or wall mount on a stable surface.
- Use the ¼" - 20 threaded insert to mount on a standard tripod with a corresponding mounting point.

Adjustable Clearance Bracket

Hold the bracket and adjust the laser up or down until the desired clearance is achieved.

OPERATION

⚠WARNING To reduce the risk of injury or temporary effects on vision, do not look directly into the laser when it is on.

⚠CAUTION Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

NOTICE Perform the Accuracy Field Check procedure immediately upon unboxing of each new Laser Level and before exposure to jobsite conditions. See "Accuracy Field Check" for information.

Turning On/Off

To turn on the laser and unlock the pendulum, rotate the On/Off dial to the desired position. The remaining battery life will be displayed.

⚠ WARNING Do not look directly into laser apertures.

- ON** Turns ON the laser and unlocks the pendulum to enable self-leveling.
- OFF** Turns OFF the laser and locks the pendulum. When not in use, turn off the tool and store the Laser Level in the protective carrying case.

Using the Laser Level

1. For best results, place the tool on a work surface that is:
 - sturdy
 - level (within 4 degrees of true level)
 - free of vibrations
 - 90° to the work area
2. Turn on the tool.
3. The tool will self-level when placed on surfaces within 4 degrees of true level.
4. The tool is ready once the emitted points are continuous and no longer moving on the work surface.
5. If the tool cannot achieve a level state (i.e., the work surface is > 4 degrees off true level), the laser points will flash rapidly (3 flashes per second). Relocate or adjust the work surface.

Troubleshooting

If the tool does not turn on:

- Ensure battery is installed properly. Fuel gauge should indicate remaining charge when correctly installed.
- Ensure battery is charged.
- Ensure the tool's internal temperature is within specified operating ranges. If stored in excessive heat or cold, allow at least 2 hours to an appropriate ambient temperature between -10°C to 40°C before turning on the tool.

If problem persists, please contact a **MILWAUKEE®** service facility for support.

ACCURACY FIELD CHECK

NOTICE Perform the Accuracy Field Check procedure immediately upon unboxing each new Laser Level and before exposure to jobsite conditions. See "Accuracy Field Check" for information. Should any deviation from listed product accuracy be found, please contact a **MILWAUKEE®** service facility. Failure to do so could result in rejection of warranty claim.

Influences on Accuracy

Ambient temperature gradients can impact laser accuracy. For accurate and repeatable results, the following procedure should be conducted with the laser elevated off the ground and placed in the centre of the working area.

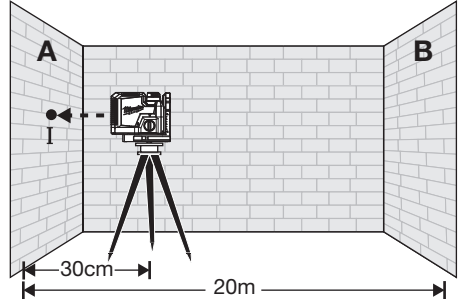
Abusive treatment of the Laser Level, such as excessive impacts from repeated or high drops, can also lead to deviations in product accuracy. Therefore it is recommended to conduct the Accuracy Field Check procedure after any impact or before completing any critical jobs.

Horizontal Leveling Accuracy

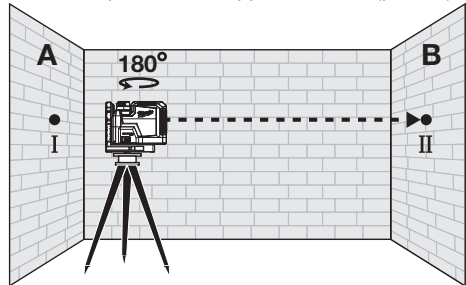
A free measuring distance of approximately 20m on a firm surface between two walls or structures (indicated as 'A' and 'B' below) is required for this check.

It is also suggested to mount the Laser Level to an appropriate tripod for easy adjustment.

1. Securely mount the tool within 30cm of wall 'A' as shown below.
2. Turn the tool **ON**.
3. Direct the front laser beam against the nearest wall A and allow to self-level. Mark the centre of the laser point on the wall (point I).




4. Rotate the tool 180° without changing the height, allow it to self-level, and mark the centre point of the laser point on the opposite wall B (point II).

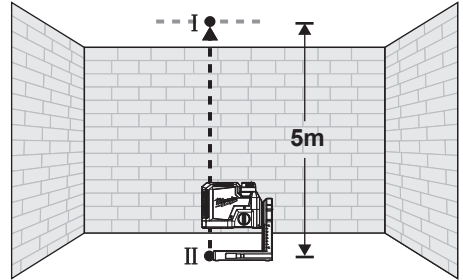


5. Move the tool within 30cm of wall B. Allow the laser to self level. Align the laser cross in the general direction of point II on wall B.
6. Adjust the height of the tool (using the tripod or by adding shims, if required) to align the centre point of the laser beam directly onto point II on wall B. Allow the tool to self-level.

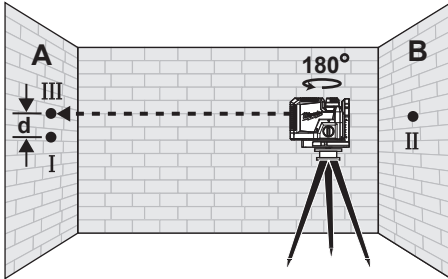
Vertical Leveling Accuracy

A free measuring distance of approximately 5m between floor and ceiling on a firm surface is required for this check.

1. Draw a straight line on the ceiling to use as a reference line.
2. Securely mount the tool within 30cm of the floor.
3. Turn the tool  ON.
4. Position the tool so that the bottom plumb point can be seen on the floor and the centre of the top plumb point is located on the reference line on the ceiling. Allow the tool to self-level.
5. Mark the centre of the top plumb point with the reference line on the ceiling (point I). Also, mark the centre of the bottom plumb point on the floor (point II).

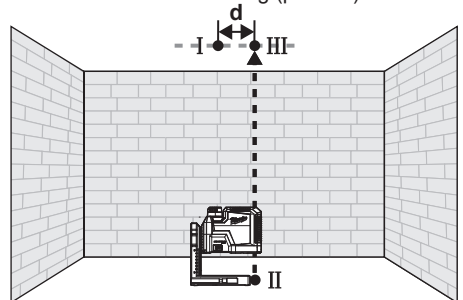


7. Rotate the tool 180° without changing the height, allow it to self-level, and mark the centre point of the laser beam on wall A (point III). Point III should be aligned as vertically above or below point I on wall A as possible.



8. The distance between points I and III on wall A is the height deviation (d) of the tool. This distance should not exceed 3.18mm (max.) at 10m (12.72mm at 40m). For the Measuring distance of 2 x 20m = 40m, the maximum allowable deviation (d) is: $40m \times \pm 3.18mm \div 10m = \pm 12.72mm$

6. Rotate the tool 180°. Align the centre point of the laser beam directly onto the floor point II.
7. Position the tool to align the centre of the top plumb point onto the reference line on the ceiling. It may be necessary to rotate the tool slightly to align. Allow the tool to self-level.
8. Mark the centre of the top plumb point on the reference line on the ceiling (point III).



9. The distance between points I and III on the ceiling is the deviation (d) of the tool. This distance should not exceed 3.18mm (max.) at 10m. For the Measuring distance of 2 x 5m = 10m, the maximum allowable deviation (d) is: $10m \times \pm 3.18mm \div 10m = \pm 3.18mm$

MAINTENANCE

▲WARNING To reduce the risk of injury, always remove the battery before performing any maintenance. Never disassemble the tool.

Maintain Laser Level

Maintain tools. If damaged, have the tool repaired before use. Accidents may be caused by poorly maintained tools.

▲WARNING To reduce the risk of personal injury and damage, never immerse your tool in liquid or allow a liquid to flow inside them.

Cleaning

Keep tool handles clean, dry and free of oil or grease. Use only mild soap and a damp cloth to clean the tool since certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include gasoline, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia. Never use flammable or combustible solvents around tools.

Cleaning the Lenses

Blow off loose particles with clean compressed air. Carefully wipe the surface with a cotton swab moistened with water.

Repairs

This tool has limited serviceable parts. Do not open housing or disassemble tool. For repairs, return the tool, battery pack and charger to the nearest authorised service centre.

ACCESSORIES

▲WARNING Use tools only with specifically designated accessories. Use of any other accessories may create risk of injury.

WARRANTY - AUSTRALIA and NEW ZEALAND

Please refer to Australian and New Zealand warranty supplied with tool. This warranty applies only to product sold by authorised dealers in Australia and New Zealand.

SERVICE - AUSTRALIA and NEW ZEALAND

MILWAUKEE® prides itself in producing a premium quality product that is Nothing But Heavy Duty™. Your satisfaction with our products is very important to us! If you encounter any problems with the operation of this tool, please contact your authorised **MILWAUKEE®** dealer.

For a list of **MILWAUKEE®** dealers, guarantee or service agents please contact **MILWAUKEE®** Customer Service or visit our website.

(Australia Toll Free Telephone Number 1300 645 928)

(New Zealand Toll Free Telephone Number 0800 645 928)

or visit milwaukeetool.com.au/milwaukeetool.co.nz.

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