



Magnetic Digital Laser Level
Model No. 40-6080



Instruction Manual

Congratulations on your choice of this Magnetic Digital Laser Level with Rotating Display. We suggest you read this instruction manual thoroughly before using the instrument. Save this instruction manual for future use.

This is a Class IIIa laser tool and is manufactured to comply with CFR 21, parts 1040.10 and 1040.11 as well as international safety rule IEC 285.



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1. Kit Contents

<u>Description</u>	<u>Qty.</u>
"AAA" Alkaline Batteries	3
Soft-Sided Pouch	1

2. Features and Functions

- LCD can rotate 180°
- 5 construction languages - units of measure (degrees, percent, mm/m, in/ft in decimal, in/ft in fractional)
- Self-calibrated
- 0° and 90°-position of inclination is confirmed by a signal tone
- Numbers invert for working overhead
- Automatic Shut-off
- Magnetic Base
- 1/4" - 20 thread for connection to tripod





3. Safety Instructions

Please read and understand all of the following instructions, prior to using this tool. Failure to do so, may void the warranty.

ATTENTION



IMPORTANT

- Read all instructions prior to operating this laser tool. Do not remove any labels from tool.
- Do not stare directly at the laser beam.
- Do not project the laser beam directly into the eyes of others.
- 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.
- Do not place the laser tool in a manner that may cause someone to unintentionally look into the laser beam. Serious eye injury may result.
- Do not operate the tool in explosive environments, i.e. in the presence of gases or flammable liquids.
- Keep the laser tool out of the reach of children and other untrained persons.
- Do not attempt to view the laser beam through optical tools such as telescopes as serious eye injury may result.
- Always turn the laser tool off when not in use or left unattended for a period of time.
- Remove the batteries when storing the tool for an extended time (more than 3 months) to avoid damage to the tool should the batteries deteriorate.
- Do not attempt to repair or disassemble the laser tool. If unqualified persons attempt to repair this tool, warranty will be void.
- Use only original Johnson® parts and accessories purchased from your Johnson® authorized dealer. Use of non-Johnson® parts and accessories will void warranty.

DANGER!

Class IIIa Laser Product
Max. Power Output: $\leq 5\text{mW}$
Wavelength: 640-660nm

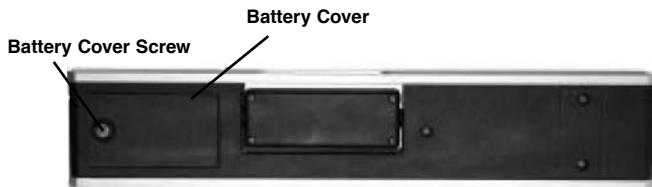
**THIS TOOL EMITS LASER RADIATION.
DO NOT STARE INTO BEAM.
AVOID DIRECT EYE EXPOSURE.**



4. Location/Content of Warning Labels



5. Location of Part/Components



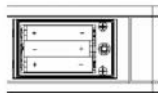


6. Operating Instructions

IMPORTANT: It is the responsibility of the user to verify the calibration of the instrument before each use.

Battery Installation

1. Open the battery cover by turning the screw counter-clockwise, and then put the 3 “AAA” batteries into the battery case according to the polarity shown in the battery slot.
2. Snap the battery cover back, and then tighten the screw clockwise.



Note:

1. Take out the batteries if the instrument is not going to be used for a long time.
2. Replace the batteries when the voltage gets low.
3. Turn the instrument off while taking out the old batteries from the battery case.

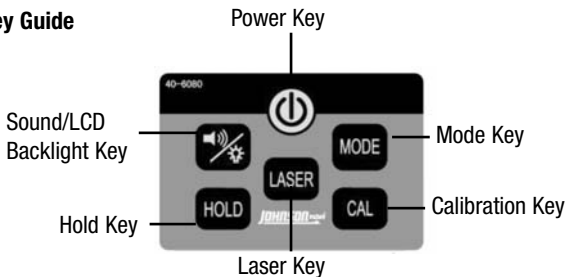
Display After Installing the Batteries

1. After installing the new batteries the LCD will display “good”.
2. Then the LCD will display “-0-”.
3. Calibrate the instrument following the calibration procedure in Section 8.



7. Using the Product

Key Guide



Power Key

Turn on/off the instrument. The instrument will beep twice when turned on and beep once when turned off.



Hold Key

Pressing this key will lock the current angle reading displayed on the LCD.



Sound/LCD Backlight Key

Press this key once and hold for 2 seconds to turn on/off the LCD back light. The instrument will beep once. Press button once to turn on/off the sound function. When sound function is on you will see the horn symbol on the LCD. There will be no beeps if the instrument is between 10° to 80° . A faster beep will start as you move closer to level or plumb. A steady tone will beep when level is at 0.0° or 90° .





Mode Key

Push the MODE button to switch from one construction language to another. This controls which construction language your electronic module will measure in. Your level has the capability to measure in Degrees, Percentage of slope, Millimeters per Meter, Inches per Foot (Slope, Pitch) in decimal form and Inches per Foot in fractions of an inch. A symbol on the upper right of the screen will explain which MODE you are currently in.



Laser Key

Turn on/off the laser. The instrument will beep once.



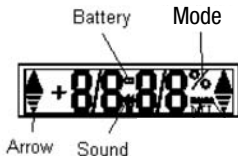
Calibration Key

Please refer to Section 8 “Self-Check and Fine Calibration”.



Auto Shut-off

The electronic module will automatically shut-off in 20 minutes if no key is pressed.



Low Voltage Indication




If the battery symbol on the display is low, change the batteries as soon as possible. Non-display of battery symbol means the battery is full.






Sound Function

 The SOUND symbol displayed on the LCD means that the sound function is activated. The level will beep faster when the instrument gets closer to the position of 0° and 90° . When the LCD displays 0° or 90° , there will be a continuous tone sound.

Hold Function

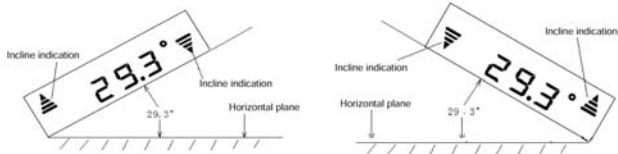
Press the hold key once (unit will beep once) to activate this function and to display the HOLD symbol on the LCD. Now the instrument will hold the current angle reading and the display will flash.

Laser Indication Function

 The Laser symbol displayed on the LCD means that the laser beam is activated. The laser output window will emit a bright red laser dot.

Inclination Indication

The triangle arrows displayed on the two ends of the LCD indicate the inclination direction of the laser digital level.

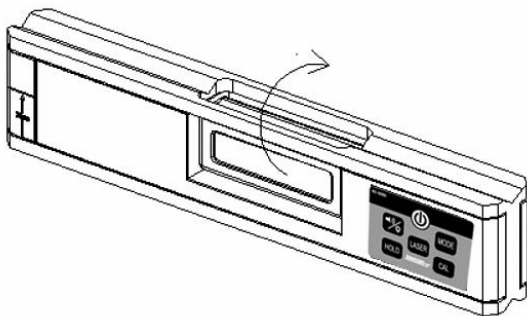


When the laser digital level is at the position of 0 degree, the two arrows will show as follows:



Rotating Display

The LCD of the instrument can rotate 180 degrees.





8. Self-Check and Fine Calibration

IMPORTANT: It is the responsibility of the user to verify the calibration of the instrument before each use.

Checking the Horizontal Calibration

Select a flat and horizontal platform as a reference surface, like a table-surface.

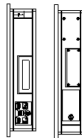
1. Place the laser digital level on this reference surface, as shown in figure 1, and then record the measured angle reading. Record this as A1.
2. Turn the laser digital level 180 degrees, as shown in figure 2, and then record the measured angle reading. Record this as A2.
3. If A1-A2 is greater than 0.2° , it is necessary to calibrate the horizontal accuracy.



Fig. 1



Fig. 2



Checking the Vertical Calibration

Select a flat and vertical platform as a reference surface.

1. Place the laser digital level on this reference surface, as shown in figure 3, and then record the measured angle reading. Record this as A1.
2. Turn the laser digital level 180 degrees, as shown in figure 4, and then record the measured angle reading. Record this as A2.
3. If A1-A2 is greater than 0.2° , it is necessary to calibrate the vertical accuracy.

The same vertical reference surface

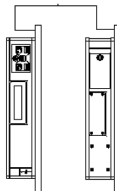


Fig. 3

Fig. 4





Horizontal Calibration

1. Press and hold the ZERO key for 3-plus seconds, unit will beep once. When the LCD shows -0-, it means the instrument has already entered the calibration status.
2. Place the laser digital level on the horizontal reference surface, as shown in figure 5, after 10 seconds, press the ZERO again, and the LCD shows -1-.
3. Turn the laser digital level 180 degrees, as shown in figure 6, and after 10 seconds, press the ZERO key again, and the LCD shows -2-. Wait for 2 seconds, and the laser digital level will show the angle reading. The horizontal calibration is now completed.

The same horizontal plane



Fig. 5

Fig. 6

Vertical Calibration

1. Press and hold the ZERO key for 3-plus seconds, unit will beep once. When the LCD shows -0-, it means the instrument has already entered the calibration status.
2. Place the laser digital level on the vertical reference surface, as shown in figure 7, after 10 seconds, press the ZERO again, and the LCD shows -1-.
3. Turn the laser digital level 180 degrees, as shown in figure 8, and after 10 seconds, press the ZERO key again, and the LCD shows -2-. Wait for 2 seconds, and the laser digital level will show the angle reading. The vertical calibration is now completed.

The same vertical reference surface

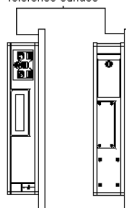


Fig. 7

Fig. 8





9. Technical Specifications

Laser Wavelength	650nm \pm 10
Laser Classification	Class IIIa
Maximum Power Output	\leq 5mW
Accuracy	\pm 0.1° for 0° and 90°, and \pm 0.2° for 1° to 89°
Laser Accuracy	\pm 1/8"/50 ft. (\pm 0.2mm/m)
Range	0° to 90°
Power Supply	3 "AAA" alkaline batteries
Battery Life	Approx. battery life 70 hours continuous use
Dimensions	12" x 2.36" x 1.25" (305 x 60 x 32mm)
Weight	1.48 lbs (0.67 Kg)
Working Temperature	14°F to 113°F (-10°C to +45°C)





10. Care and Handling

- This laser unit is a precision tool that must be handled with care.
- Avoid exposing unit to shock vibrations and extreme temperatures.
- Before moving or transporting the unit, make sure that the unit is turned off.
- Remove the batteries when storing the unit for an extended time (more than three months) to avoid damage to the unit should the batteries deteriorate.
- Always store the unit in its case when not in use.
- Avoid getting the unit wet.
- Keep the laser unit dry and clean, especially the laser output window. Remove any moisture or dirt with a soft, dry cloth.
- Do not use harsh chemicals, strong detergents or cleaning solvents to clean the laser unit.





11. Product Warranty

Johnson Level & Tool offers a one year limited warranty on each its products. You can obtain a copy of the limited warranty for a Johnson Level & Tool product by contacting Johnson Level & Tool's Customer Service Department as provided below or by visiting us online at www.johnsonlevel.com. The limited warranty for each product contains various limitations and exclusions.

NOTE: The user is responsible for the proper use and care of the product.

It is the responsibility of the user to verify the calibration of the instrument before each use.

For further assistance, or if you experience problems with this product that are not addressed in this instruction manual, please contact our Customer Service Department.

In the U.S., contact Johnson Level & Tool's Customer Service Department at 888-9-LEVELS.

In Canada, contact Johnson Level & Tool's Customer Service Department at 800-346-6682.



