

Automatic Self-leveling Plumb Laser JC100

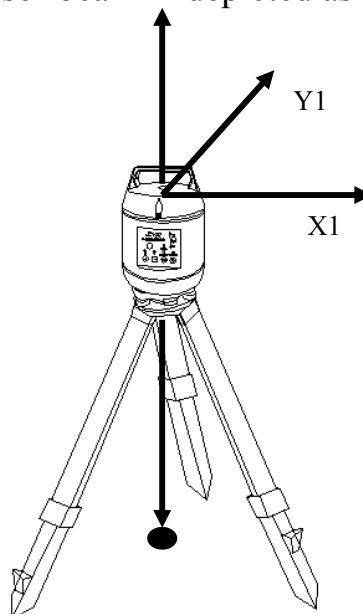
Operating Manual



1.Function

The instrument is equipped with the semi-conductor diode with wavelength of 635 nm that will emit the laser beam of supreme visibility.

Emitting direction of the laser beam depicted as follows:



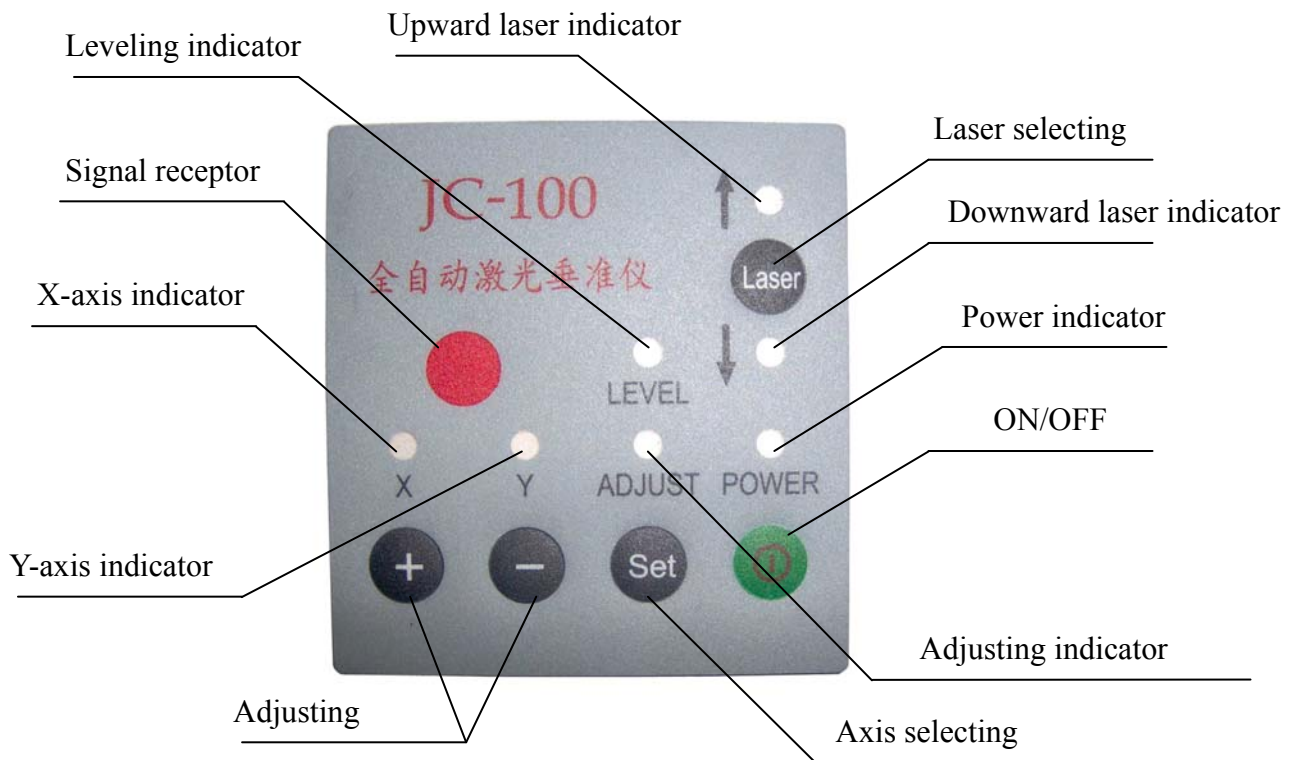
2. Introductions

2.1 Main body



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2.2 Panel



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3. Directions

3.1 Battery installment

The rechargeable batteries (NI-HI) are available for this instrument

Put the battery box into the base for battery box, and then tighten the screw of battery box.



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3.2 Instrument placement

Place the instrument on the evaluating tripod or a stable flat surface.

(1) Turn around the stand leg of the base to make the vial stay within the center ring when doing precise plumb measurement.

(2) Set the instrument upright roughly (slope of instrument within $\pm 2.5^\circ$) when just making the instrument to provide a plumb reference line within the accuracy of $\pm 10''$.

Upward laser :The slope of instrument within the range of $\pm 3^\circ$ is permitted.

Downward laser: The slope of instrument within the range of $\pm 1^\circ$ is permitted

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3.3.Operations

3.3.1 Power switch

Press the key ON/OFF to start up the instrument when the power indicator lights, and also automatic self-leveling of instrument functions.

When the power indicator winks, the rechargeable batteries need to be charged immediately.

Press the key ON/OFF again to close down the instrument when the power indicator goes out.

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3.3.2 Leveling

After automatic self-leveling is finished when the automatic self-leveling indicator lights, an upward laser will be emitted.

If the instrument is placed improper or its slope exceeds the range of $\pm 3^\circ$, the automatic self-leveling indicator will wink and no laser beam emits. On this occasion, the instrument needs to be placed again.

Notice: The instrument will close down automatically after 5 minutes alarm (no laser beam emitted) when the slope of instrument exceeds the leveling range.

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3.3.3 Laser selecting

Press the Key Laser to choose the emitting direction of the laser beam (upward/downward).

(1) After automatic self-leveling is finished, the instrument will emit a laser upwards.

(2) Press the Key Laser, and then the instrument will emit a laser downwards.

(3) Press the Key Laser again; the instrument will emit an upward laser and a downward laser at the same time.

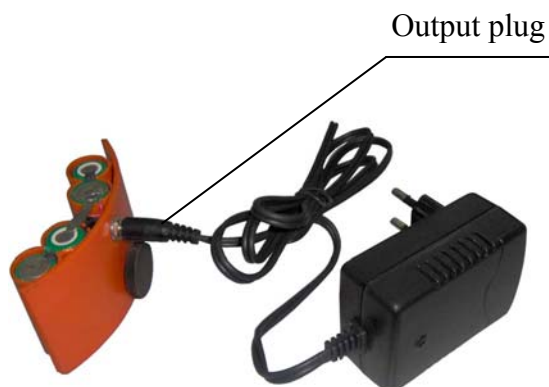
(4) Press the Key Laser third time; the instrument will emit an upward laser again.

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4. Power

If the power indicator on the panel winks, the rechargeable batteries need to be charged immediately.

Connect the charger with AC, and then insert the output plug of charger into the plughole in the battery box.



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Notice:

(1) If using the standard charger of the instrument, the whole course of charging will be finished in about 7 hours.

(2) Power required for the charger: Frequency: 50-60HZ; Voltage: 85V-265V

(3) Using and charging of the instrument can progress simultaneously.

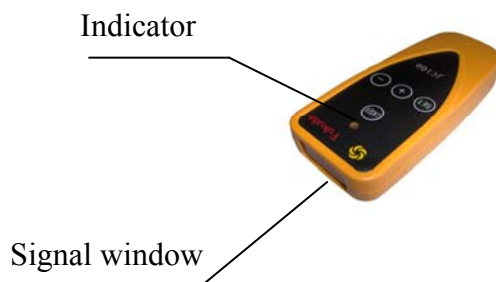
(4) If keep the instrument in storage (not using for a long time), the battery box needs to be taken out.

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5.Remote

The instrument adopts the infrared technology for remote controlling.

Aim the signal window to the instrument to utilize the remote controlling. The panel of remote includes 4 keys, and the indicator on the panel will blink when pressing any keys of the panel to show the command signal has been sent out.



Functions fulfilled by remote as follows:

(1) Adjusting: Changing the mode of adjusting through pressing the key “+” “-” “Set”.

Please refer to 6.2 to check operations in details.

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(2) Laser selecting: Choosing the upward laser or downward laser through pressing the key “Laser”. Please refer to 3.3.3 to check operations in details.

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6. Checking & Adjusting

6.1 Checking

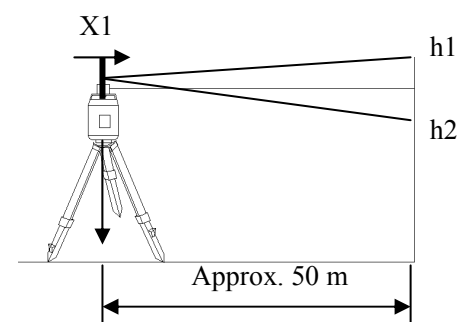
(1) Install the prism into the hole of the handle.

(2) As depicted in the next page, place the instrument at the point of approximately 50 m away from the wall (or scale plate), and

then adjust the stand leg of the base to make the vial stay within the center ring roughly.

(3) Aim the X1 to the wall (or scale plate) and switch on the power, then turn around the prism to make the laser beam direct to the wall (or scale plate), and record the height of the X1 laser beam h_1 .

(4) Turn around the instrument for 180° to aim X2 to the wall (or scale plate), and then



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record the height of X2 laser beam h2.

The D-value between h1 and h2 ought to be less than 5 mm.

(5) Check the Y1 and Y2 in the same way as checking X laser beam.

6.2 Adjusting

(1) Press the key “+” 、 “-” simultaneously for 3 seconds when the ADJUST indicator lights, the instrument enters the mode of adjusting.

(2) Press the key Set to select the adjustment of X-axis or Y-axis. If the X –axis indicator lights, adjusting of X-axis functions. Or if the Y-axis indicator lights, adjusting of Y-axis functions.

(3) Press the key “+” 、 “-” repeatedly when the LEVEL indicator lights, and check the

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height of the laser beam until the D-value between h1 and h2 is less than 5mm.

(4) Press the key “+”、 “-” simultaneously for 3 seconds to hold the adjustment ,and the instrument exit the mode of adjustment at the same time.

Switch off the power of the instrument when needing to adjust the instrument over again.

And then switch on the power of instrument when the instrument will go back to the initial state.

Notice: If the D-value is too large to exceed the leveling range when the ADJUST indicator winks, please contact the supplier to repair it.

Additional: Continuous lighting of ADJUST indicator (indicating the mode of adjusting)

1. Press the key “Set” and the ADJUST indicator lights; the laser beam will be emitted not considering the level of the instrument.
2. Press the key “Set” again and the ADJUST indicator will go out, then the instrument stop continuous lighting.

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7. Specifications

Measuring error permitted	Upward laser: ± 1 mm/100m; Downward laser: ± 1 mm/100m
Leveling accuracy	$\pm 1''$
Leveling range	$\pm 3^\circ$
Available working distance	Upward laser: 150 m Downward laser: 150 m
Light source	Semi-conductor diode (wavelength: 635nm)
Remote controlling distance	Approx.30 m
Working temperature	$-20^\circ\text{C}-- +50^\circ\text{C}$
Power supply	DC 4.8V
Continuous working time	Approx.12 hours
Dimension	160(Φ) \times 266(H) mm
Weight	3.8kg(with battery)

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