Self-leveling Rotary Laser

Operating Manual

1. Functions

This instrument is equipped with the semiconductor diode with wavelength of 635nm(green:520nm), which the laser beam has supreme visibility. And the laser module of instrument will rotate freely to form a laser-scanning surface. Emitting direction of rotary laser-beam illustrated as follows:
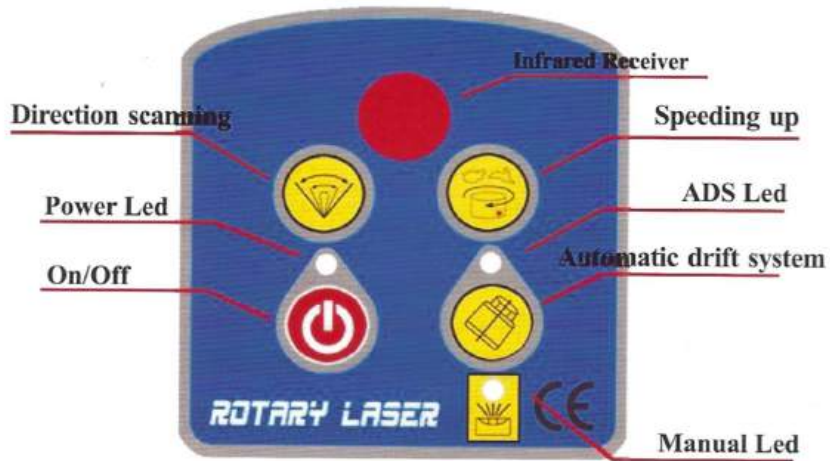

When the instrument is set upright, it will emit laser-beam to form a horizontal scanning surface.

2. Introductions
2.1 Main body

Laser Module

Windows of Beam

Panel

Handle

Infrared Receiver

Direction scanning

Speeding up

Power Led

ADS Led

On/Off

Automatic drift system

ROTARY LASER

Manual Led

2.2 Panel
2.3 Utilities of Panel

(1) ON/OFF: Controlling the state of power.

(2) Power indicator: When it lights, the instrument is starting up. Otherwise it is closing down.

(3) Mode indicator: When it lights, the instrument is leveling manually. When it winks, it stays in alarm. (The slope of the instrument is out of range).

(4) Key of Automatic drift system model: Warns the user for a misaligned device

(5)Light of Automatic drift system model: When the light is twinkling slowly, it is in Automatic Drift System model. When the light is twinkling quickly, the laser level will not level when it is shaked.

(6)Speeding-up: Circling knob. Speed of scanning includes 5-knots:0-60-120-300-600-0 r.p.m

(7) Directional scanning: Circling knob. Angle of scanning includes 5 levels:0-10°-45°-90°-180°

Notice:By using the remote control to implement other functions.

3. Directions:

3.1 Battery Installment

4×C size Ni-MH Rechargeable batteries can be used in instrument.

(1) Take down the cover of battery case at the bottom of the instrument.

(2) Put the batteries into the case according to the right electrode.

(3) Lay the cover on the box, and then tighten all the screws.

3.2 Instrument Placement

Lay the instrument on the tripod or stable flat surface, or even hang it on the wall. Set upright the instrument, and keep the slope of instrument within the range from   -5°to +5°.

3.3 Operations

3.3.1 Power

Press the Key ON/OFF to bring automatic leveling into function when the power indicator lights.

When Power indicator lights, it shows the voltage of the batteries is insufficient. Then the rechargeable batteries need to be charged.

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

3.3.2 Leveling

Press the Key ON/OFF to bring automatic leveling into function when the laser beam begins to wink.After

automatic leveling, the laser module will rotate right at the speed of 600r.p.m.

If the instrument is placed improperly, or the slope of instrument exceeds the range from -5° to +5°, when mode indicator and the laser beam will wink at the same time. Then place the instrument properly.

Notice: The instrument will close down automatically after five minutes alarm.

3.3.3 Spinning

(1) Continuous spinning

Press the Key Speeding-up to control the spinning speed of the laser module. If press the key repeatedly, the spinning speed of the laser module will continuously change as follows:0-60-120-300-600-0 r.p.m.

(2) Stepping spinning

Locate the Key Speeding-up at 0 r.p.m, the laser module will stop spinning. And press the Key Right-spinning, the laser module will step-move clockwise. Then if press the Key Left-spinning, the laser module will step-move counter-clockwise.

3.3.4 Directional scanning

(1) Press the Key Directional scanning; the laser module will scan directionally. If press the key repeatedly, the angle of scanning of laser module will continuously change as follows: 0°- 10°- 45°- 90°- 180°- 0°.

(2) Press the Key Left-spinning or the Key Right-spinning to change the direction of scanning.

3.3.5 Slope Adjustment （with remore control）

When the instrument is set upright to do horizontal scanning, the slope of X-axis and Y-axis can be adjusted.

Press the Key Manual/Automatic when mode indicator lights, the instrument enters the mode of manual leveling.

(1) Slope of X-axis

a. Aim the X1-beam to the direction of the slope required to adjust, as depicted below:
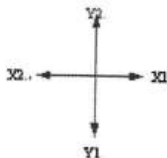
b. Press the Key ⟨▢ or ▢⟩ to move the laser beam up or down.

(2) Slope of Y-axis

a. Aim the Y1-beam to the direction of the slope required to adjust.

b. Press the Key ⬆or⬇ to move the laser beam up or down.

Notices: Press the Key Manual/Automatic again when mode indicator goes out, the instrument will enter mode of automatic leveling.

4. Remote

The remote of the instrument adopts the infrared technique.

Aim the aperture of infrared ray to the instrument (as depicted below) to bring remote controlling into function (Available distance: indoor: 30M; outdoor: 20M). The telecontrolling panel includes 9 keys; the indicator on the device will wink to show the operating signal has been sent out once pressing any key.
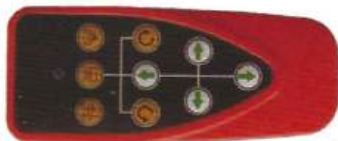

Remote Control

Functions fulfilled by the remote as follows:

(1) Spinning: Operating method referring to 3.3.3

(2) Directional scanning: Operating method referring to 3.3.4

(3) Slope adjustment: Operating method referring to 3.3.5

5. Accuracey Checking

(1) Place the instrument at the point of 50m in front of wall (or set a scaleplate at the point of 50m away from the instrument), and then adjust the level of the base approximately to aim the X1 to the wall (or scaleplate), as depicted below:

Approximately 50 m
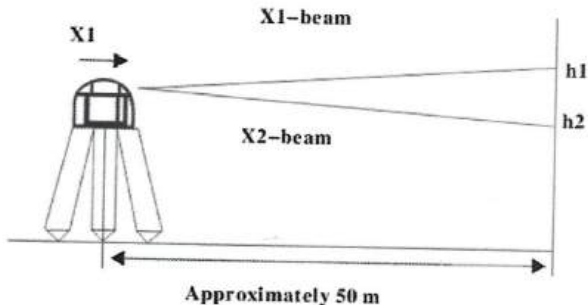
(2) After switching on the power, use the laser detector measuring the h1 of X1-beam on the wall or scaleplate.

(3) Loose the screw of the tripod ,and then turn around the instrument 180°to measure the h2 of X2-beam on the wall or scale- plate.

D-value between h1 and h2 ought to be less than 10mm.

(4) Check the Y-beam in the same way.

6. Specifications

Leveling Accuracy	Horizontal:±20″
Leveling Range	±5°
Measuring Range	Diameter:500m(Using the laser detector)
Spinning Speed	0、60、120、300、600 r.p.m
Directional-Scanning Angle	0°、10°、45°、90°、180°
Slope-adjusting Range	±5°(Bi-directional)
Light Source	Laser Diode, wavelength: 635nm(green:520nm)
Remote controlling Distance	Approximately 20m
Working Temperature	-10℃ -- 45℃ (14°F-- 113°F)
Power Supply	DC 4.8-6V(4 section of NI-MH batteries or 4 section of NI-MH rechargeable batteries)
Hours in continuous use	Approximately 20 hours
Water-proof	IP 64
Dimension	120(L)×120(W)×150(H)mm
Weight	1.2kg