Dear User,

Thank you very much for choosing LAISAI LS526/LSG526 rotary laser, please read this instruction manual before operating it.

Content

1. Features and functions

LS526 (red laser)/LSG526 (green laser) full automatic rotating laser can project self-leveling horizontal laser plane and plumb up line, and vertical laser plane and horizontal line. It supplies accurate horizontal reference for working construction lay out and calibration indoor and outdoor. It is convenient for operation and widely used.

Features:
※Electronic auto-leveling, when beyond the range, the instrument stops rotating and sound indication.
※360° rotary laser, able to work horizontally and vertically
※Able to set different rotation speed and area scanning angle
※Able to unbalance alarm in TILT mode. The instrument stops rotating when knocked, in order to make sure work accurately.
※Slope mode function could set single axis or double axis slope
※Accuracy self-calibration function
※Timing power-off function
※Remote operation function
※ Able to connect with tripod through 5/8'' thread.
※ Rainproof and dustproof

2. User safety

※Laser output sign lies near the output aperture.
※Do not stare into laser beam directly.
※Do not disassemble the instrument or attempt to perform any internal servicing. Repairs and servicing could be performed only by authorized service centers.
※The instrument complies with the safety classification standards of laser radiation.

3. Instrument nomenclature

Laser output window

Rotary head

Remote receiving tube

Hand wheel

Operation keypad

Battery cover screw

Battery cover

Side 5/8″ screw thread

Central 5/8″ screw thread

4. Operation instruction

4.1 Battery mount

a) Mount 3*C alkaline batteries into battery box according to polarity direction, then fix the battery box on the instrument.
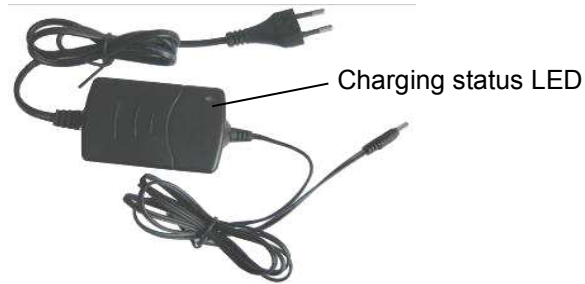
b) Fix the rechargeable battery on the instrument

4.2 Charging to rechargeable battery

Insert the charger into charging jack, then the rechargeable battery in charging. The indication light is red when it is in charging, it turns green when the battery is in full.

Charging status LED

Charging directly to rechargeable battery box directly:

Charging to the rechargeable battery on the instrument:

Note:
a) When the power LED is flashing, the battery is in low voltage. It can extend the life of the battery when charging the battery as the battery is use up.
b) Charging once to rechargeable battery every two or three months since the instrument leaving factory.

4.3 Placement of the instrument
Instrument in horizontal placement:
a) Place on a horizontal platform directly

b) Connect with the tripod through 5/8" thread of the bottom of the instrument.
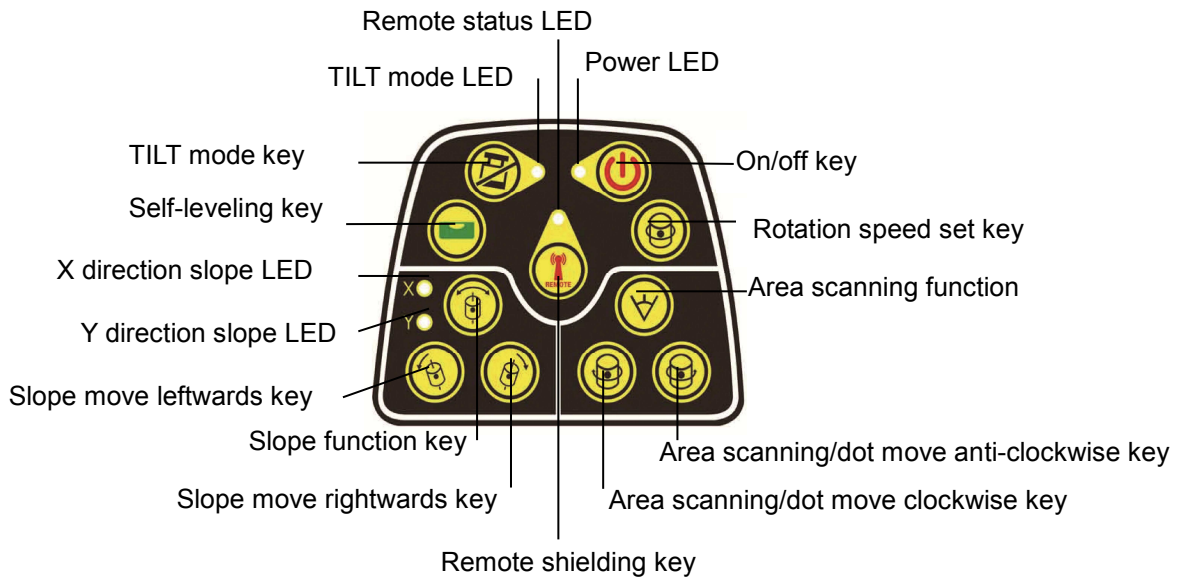
Place the instrument transversely:

a) Able to place the instrument on the horizontal platform

b) Set on the tripod with side 5/8″ screw thread

4.4 Instrument operation keypad

Remote status LED

TILT mode LED

Power LED

TILT mode key

On/off key

Self-leveling key

Rotation speed set key

X direction slope LED

Area scanning function

Y direction slope LED

Slope move leftwards key

Area scanning/dot move anti-clockwise key

Slope function key

Slope move rightwards key

Area scanning/dot move clockwise key

Remote shielding key

Power LED:

Lighted LED means power-on

Extinguished LED means power-off

Flashing LED means low battery voltage

TILT mode LED:

Flashing slowly (1Hz): The instrument enter into TILT preparation status

Lighted constantly: The status of TILT function become effective

Flashing quickly: The instrument is in TILT alarming status

Extinguished: The instrument exit from TILT status

Slope axis LED:

Both X and Y LEDs, the LEDs are on means this axis is in the slope set status.

Remote control indication LED

ON: remote control function is on, and able to use the remote control to operate the instrument.

OFF: remote control function is off, could only operate the instrument with keypad

4.5 on/off key

a) Press on/off key, the instrument is power on, the power LED is lighted.

b) The instrument is in auto-leveling status when the power is on. Then rotating in high speed after auto leveling, the rotating speed is 500rpm.

4.6 Rotation speed set key

After the instrument is self-leveling, the instrument is in high speed rotation status, the rotation speed is 500rpm.Press rotation speed set key, the rotation speed is switched to low speed, and the rotation speed is 200rpm.

4.7 Area Scanning function key

a) When the instrument is rotating, press this key to enter the area scan mode, the instrument enter into big area scanning status, press this key again, enter into small area scanning status, press this third time, enter into dot status, the area scanning order will be switched as follows,

Big area scanning ⟶ Big area scanning ⟶ Dot
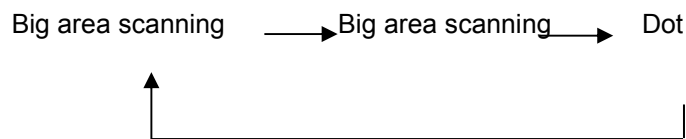
4.8 Area scanning moving key

a)Under area scanning status, press area scanning moving key, single press to move slowly, long press to move continuously.

b) Under dot status, press area scanning moving key, single press to move slowly, long press to move continuously.

4.9 TILT mode key

a) Press TILT key to exit or enter TILT mode(the instrument will power on and enter into TILT mode automatically).

b) After entering into TILT mode, the status LED flash slowly (1Hz), after leveling, the head rotates, and TILT function is activated after 30 seconds, the status LED is always on, the instrument will sound TILT alarming once shocked, the status LED flash quickly, the laser stop rotating and start flashing, the instrument will not self-leveling, press TILT key again, exit TILT status and enter into self-leveling status.

c) If the instrument is under double axis slope working status, TILT key is invalid.

4.10 Slope function key

a) Place the instrument horizontally

  Press slope function key, the instrument enter into double axis slope, the default is X axis slope, X LED is on, Y axis is not leveling, press slope left/right moving key could make slope adjustment, short press slope function key could switch X/Y direction, long press to exit slope function.

Long press slope function key, the instrument enter into single axis slope, the default is X axis slope, X LED is on, Y axis is self-leveling, Y LED flash. Press slope left/right key could make slope adjustment. Short press slope function could switch slope direction X/Y, long press to exit slope function.

b) Place the instrument transversely

Press slope function key, the instrument enter double axis slope, default is X axis slope, X direction LED is on, Y axis is not leveling, press slope left/right key could make slope adjustment, press slope function key could switch X/Y direction, long press to exit slope function.

Long press slope key, the instrument will enter single axis slope, the default is X axis slope, X LED is on ,Z axis is self-leveling, Y direction LED is flash, press slope left/right moving key could make slope adjustment, long press to exit slope adjustment function.

Y direction

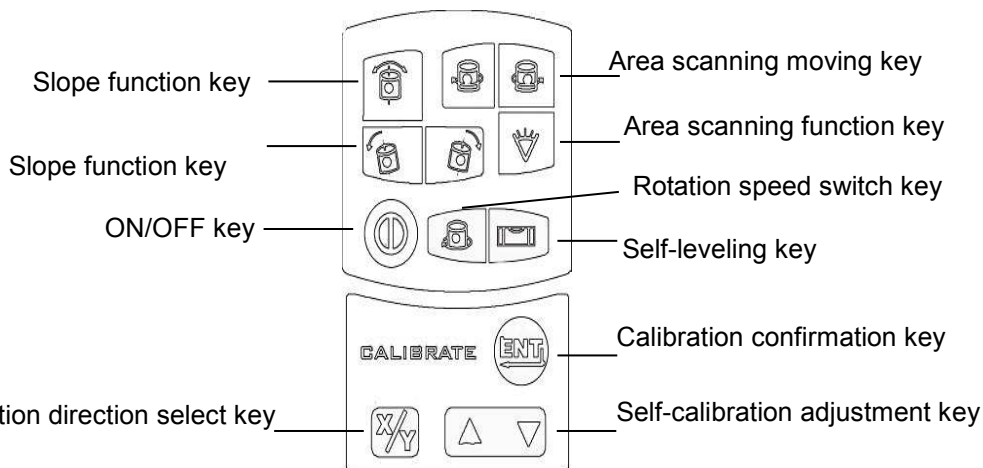X direction

Z direction
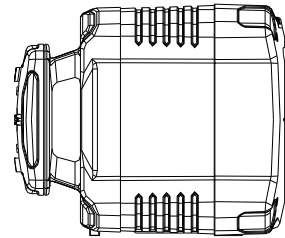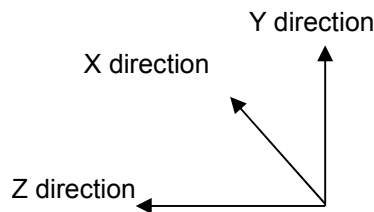
4.11 Self-leveling key

  Press this key, the instrument will enter into self-leveling status, the instrument is in TILT alarming status, press this key, the instrument exit alarming status, and make leveling, after leveling, TILT mode still remains, when the instrument is in slope adjustment status, press this key, the instrument will exit slope adjustment and enter into self-leveling status.

4.12 Remote shielding key

  Power on and the remote function is on default, the remote status indication LED is on, press this key, the LED is off, the instrument will not receive the signal of remote control.

4.13 Remote control keypad

Slope function key —— Area scanning moving key

Slope function key —— Area scanning function key

—— Rotation speed switch key

ON/OFF key —— Self-leveling key

CALIBRATE ENT —— Calibration confirmation key

Self-calibration direction select key —— Self-calibration adjustment key

Sleep key

a) Press sleep key, the instrument enter or exit sleep status.

b) The instrument enter sleep status, power LED flash interval, if the instrument will not exit sleep status in 30 minutes,

the instrument will power off automatically.

The function of the rotation speed switch key, self-leveling key, area scanning function key and slope function key on the remote control is same with the instrument.

5. Self-check and Calibration

The instrument must be self-checked after service for a certain time or before operation in a major project. If the accuracy is found beyond tolerance, user makes some adjustment according to methods as follows.

5.1 Accuracy check

X、Y accuracy check

(1) Set a platform in a room which is 20m far way from the wall, put the instrument on the platform, and take the X axis face to the wall.

(2) Power on and after the instrument is auto-leveled, mark the laser line which is on the wall as sign A, and make a vertical line along sign A

(3) Rotate the instrument by 90 degrees in turn, after the instrument is auto leveling, mark the point of intersection of the laser line and the vertical line as point B, C and D separately.

(4) Measure the maximal distance h between two points which among point A, B, C, D.

(5) If h≤3mm, the accuracy is OK; If 3mm< h≤20mm, the accuracy is beyond tolerance, the user could adjust and calibrate the accuracy; If h>20mm, the accuracy is beyond tolerance, user must contact with seller for service
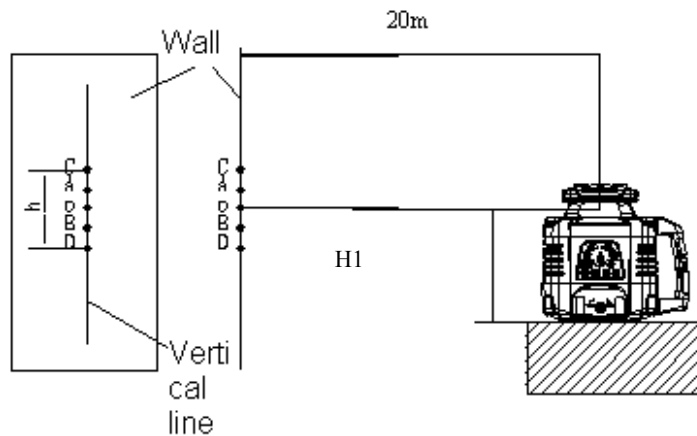
Z axis accuracy check

（1）Follow X, Y accuracy check figure, measure the height H from horizontal laser plane to the platform when placing the instrument horizontally.
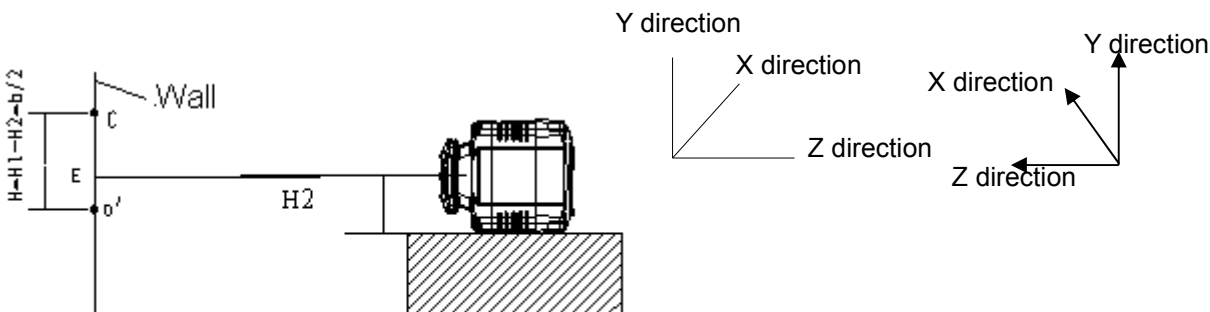
（2）Place the instrument vertically on the platform, and take Z axis face to the wall.

（3）Power on the instrument, make the peak to project on the wall, after the instrument is leveling, mark E.

（4）When placing the instrument transversely, measure H2 from the laser dot to the platform, calculate H value

（H=H1-H2+h/2）,and mark O' the highest dot among A, B, C and D. to measure H value, it is the reference dot of placing the instrument transversely.

（5）Measure h' from E to O', if h' ≤6mm, the instrument accuracy is qualified. If 6mm＜h' ≤30mm, the instrument accuracy is out of tolerance, if h' ＞30mm, the instrument accuracy is out of tolerance, please contact the distributor.

5.2 Accuracy calibration

According to the accuracy check result, mark O at h/2(the distance of highest and lowest dot among A. B , C and D)..

(1) enter into calibration status

a power off the instrument, face X axis to the wall

b. press on/off key and TILT mode key at the same time, and then release on/off key and continue hold TILT mode key, after X.Y LEDS flash three times, release TILT mode key, the instrument will enter calibration status, and continue rotating.

（2）X axis direction

a. Press self-calibration direction on remote control, the X calibration LED flash on the instrument keypad, the instrument will enter X direction calibration.

b. Press the self-calibration adjustment key on remote control, move the laser line up and down, until it coincide with dot O.

（3）Y axis direction calibration

a. Under calibration status, turn the instrument by 90 degree, make Y axis face to the wall.

b. Press self-calibration direction select key on remote control, Y calibration LED on instrument keypad flash, the instrument will enter into Y direction calibration.

c. Press self-calibration adjustment on remote control, the laser line move up and down, until it coincides with dot O.

（4）Calibration confirmation

When X direction and Y direction confirmation are finished, press self-calibration confirmation key, calibration LED is off, calibration value is saved, the instrument exit calibration status.

（5）Z axis direction calibration

a. Place the instrument vertically

b. Press ON/OFF key and TILT mode key simultaneously, and then release ON/OFF key and continue holding TILT mode key, until X,Y two LEDs flash three times, and then release TILT mode key, the instrument enter Z axis calibration status, rotate continuously, Y direction LED flash.

c. Press self-calibration adjustment key on remote control, the laser dot move up and down, until it coincide with dot O' .

（6） Calibration confirmation

When Z direction calibration is finished, press self-calibration confirmation key, calibration LED is off, the calibration value is saved, the instrument exit calibration status.

Note: after calibration is finished, it is necessary to power off instrument, after power on it again, the calibration is valid finally.

X axis is calibrated, it is necessary to make Y axis accuracy check, after Y axis id calibrated, it is necessary to make X axis accuracy test, until X and Y accuracy conform to requirement, then the instrument calibration is finished.

6. Instrument application
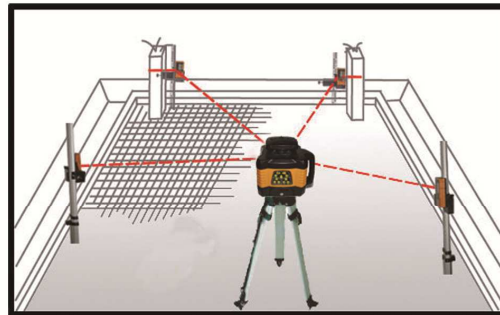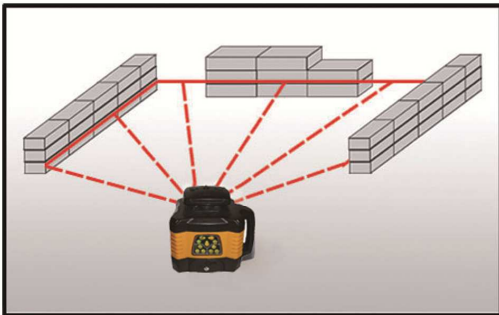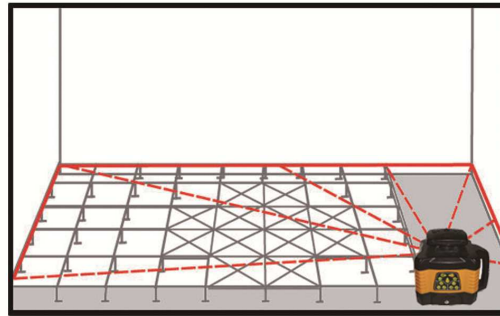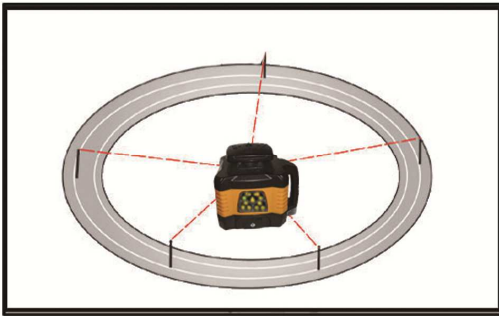
7. Technical specification

Item	Parameter
Laser wavelength	LS526: 635nm LSG526: 532nm
Laser class	ClassⅡ/Ⅲ
Output range	LS526: 600m LSG526: 400m
Rotating speed	600 rpm
Area scanning angle	Big area scanning/small area scanning/dot
Accuracy	±0.75mm/10m
Leveling range	±5°
Working temperature	-10℃～+45℃

Power	3*C alkaline battery or NI-MH battery box or Li battery box
Low battery indication	Power LED flash
Size	212mm×168mm×208mm
Weight	2.1Kg

8. Maintenance

※ The instrument should be carefully operated and properly preserved, and any violent shock or falling will possibly result in the damage of instrument.

※ Do not attempt to disassemble the instrument, and the unprofessional disassembly will result in the damage of instrument.

※ Keep the cleanness of instrument, especially the laser output window, and remove dust by the gentle operation of soft clean cloth.

※ Take the batteries out when the instrument is not in use for a long time, and keep the instrument in the carrying case when it is unused.

※ Although the instrument has the design of waterproof, please try best to avoid using in rainy day or wet environment.