DEKO®

DKLL12PB1
DKLL12PB2
DKLL12PT1

Instructions for Use of Twelve-Line Level Meter

CE

»3D Wall Sticker

1 Safety Regulations

This Level Meter projects a Class 2 laser conforming to IEO60825-1 standard. It will disturb the visual ability of others beside. It cannot make the laser beam directly point at people or animals, and the users cannot look directly at the laser beam.Children cannot use laser measuring instruments without supervision. Do not operate measuring instruments in explosive environment, such as flammable liquid, gas or dust.

△ Warning:

Please read the internal instructions carefully before installing, operating and adjusting the machine.

This product is designed for domestic use. Sorry for no after-sales service provided when it is used for other countries outside of China.

2 Technical Parameters and Specifications

Measuring Range	30m	Laser Grade	2
Leveling Sugar Content	±0.2mm/m	Laser Type	520nm
General Automatic Leveling Range	±3	Tripod Joint	1/4" 5/8"
General Leveling Time	<4s	Built-in Battery	3.7V
Operating Temperature Range	-20°C-+50°C	Service time	240 minutes
Storage Temperature Range	-20°C-+50°C	Maximum Relative Air Humidity	90%

3 Description of Wall Sticking Instrument Components

1.Slant switch

2.Electric Power

3.Horizontal On-Off Key

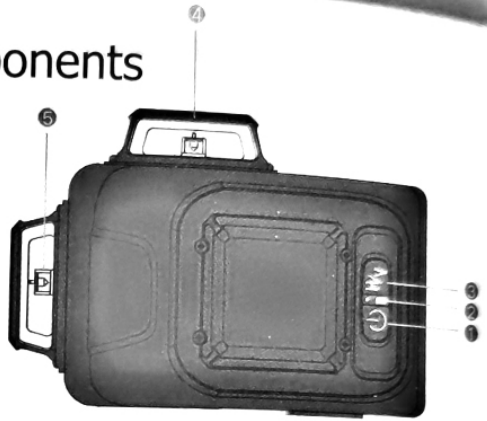
4.Vertical Line Window (1)

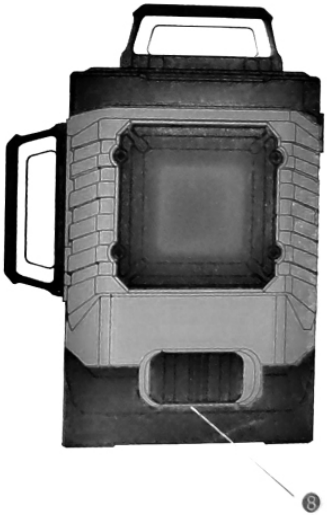
5.Vertical Line Window (2)

6.Battery Pack Bayonet

7.Horizontal Window

8.Power Switch





5 Installation

Instructions for Charger Usage

•This product is LD green light instrument. When using the charger and charging directly, the charger must choose 5V charger or original charger.

•When charging, the LED light of charger will be in yellow and in green after full charge.When full charge, the charger can be unplugged. Charge once time can keep the light of three sides on continually 60-1 50 minutes (lithium battery).

•If the battery is too weak, the machine will give an alert until it goes out. At this time, the battery must be changed or the charger must be used.

6 Formal Operation

6.1 Formal Operation of Instruments

Do not allow moisture to enter the instrument or any contact with direct sunlight to the instrument. The instrument should not be exposed to extreme weather or placed in an environment with considerable temperature difference. The instrument cannot be placed in a car for a long time.

If the instrument is successively exposed to an environment with considerable temperature difference, it must wait for the temperature of the instrument to return to normal before using the instrument.

If the instrument is exposed to extreme weather or an environment with considerable temperature difference, the accuracy of the instrument measurement will be affected.

Avoid strong clash on the measuring instrument, and do not let the instrument fall to the ground. If the measuring instrument has suffered strong external clash, the measuring accuracy of the instrument must be checked before using the instrument (refer to "leveling accuracy")

6. 2 Switch/Off

When using the instrument, first install 2 lithium batteries (model 18650) into the battery box and adjust the instrument leg 9 to center the round bubble. However, turn on the twist switch 1 and it will light up the horizontal line. To turn the horizontal beam off or on, press key 2 into the horizontal mode; To turn the vertical beam off or on, press key 3 into the vertical mode. Press one time to light up the vertical line window (1), press twice to light up the vertical line window (2), and press tripe times to light up all the vertical line window.

When the light switch is turned on to the lock key, the machine is in slash mode. If want to cancel the slash mode, let the switch turned on to the normal use mode directly or turned it off. If you switch to lock key from the normal use state, the alarm will be given, and the slash mode can only be used after power off.

You cannot use the laser point at people or animals, and you cannot look directly at the laser. Even if there is still a distance between you and the laser, you cannot ignore the damaging power of the laser.

When turning off the measuring instrument, directly turn off the power with switch 1.

Please take out the lithium battery from the battery box when it is not used for a long time. To prevent the leakage and corrosion of instruments.

6.3 Measurement with Automatic Leveling Function

•Place the measuring instrument on a flat, firm ground or fix it on a tripod.

•When measuring with the automatic leveling function, the power switch must be turned on, and then the level meter and key of vertical line must be turned on.

The automatic leveling function can level small fluctuations, and its leveling range is between (3).

If the light beam does not move any more, it indicates that the measuring instrument has completed the leveling work.

•If the leveling cannot be done automatically, for example, if the horizontal inclination of the measuring instrument is more than 3 degrees, the laser will flash in a fast time. Put the measuring instrument in a horizontal position and make the instrument automatically leveling. As long as the position of the measuring capsule instrument is within the range of the automatic leveling of the instrument (±3), the laser will keep on lighting.

6.4 Factors of Affecting Precision

•The temperature of the operating environment is the biggest influence factor, especially when the temperature gradually changes from the ground to the ceiling, it is very likely to change the projection direction of the laser beam.

•Since the temperature layer near the ground is the largest, so it is better that put the instrument on a tripod when the measuring distance exceeds 20 meters. The other is to place the measuring instrument in the center of the measuring place as far as possible.

•In addition to external influence factors, the condition of the instrument itself (e.g. the instrument fall or was strongly impacted) will also affect the leveling accuracy. Therefore, the accuracy of the instrument must be checked before operating the instrument.

•First check the height accuracy and leveling accuracy of the horizontal laser beam, and then check the horizontal accuracy of the vertical laser beam.

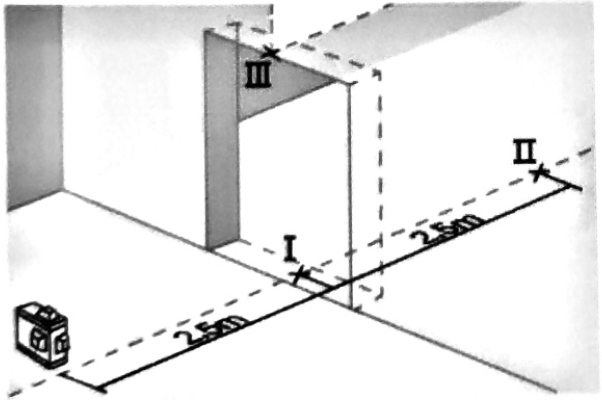
•If it is found that the deviation of the measuring instrument exceeds the maximum limit during inspection. The instrument must be handed over to the instrument selling point, which will arrange for repair.

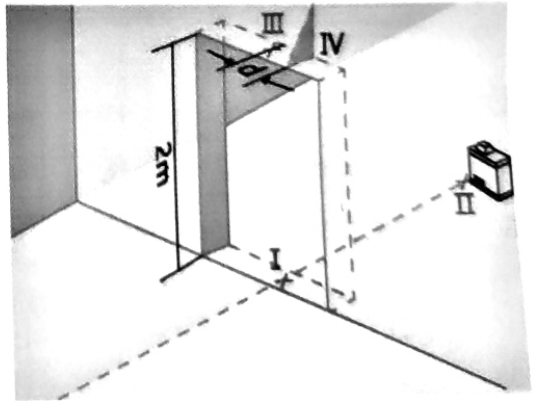
6.5 Check the leveling accuracy of laser line in vertical direction

•For this test, you must look for a place with a door hole and a solid floor. Furthermore, there is at least 2.5 meters of space on the front and rear sides of the door hole.

•Place the measuring instrument on a firm and flat ground 2.5 meters away from the door hole (tripod is not allowed). Start the measuring instrument, select the measuring function and start the automatic leveling function. You must select the operation mode that generate a vertical laser surface in front of the star measuring instrument.

Find out the center point of the vertical laser line projected on the door hole floor, mark point 1 on the center point, make another point 2 the other side of the door about 5 meters away, and make the





mark point 3 on the upper edge of the door hole.

Put you rotate it 180 degree measuring instrument, and put it on the other side of the door opening, and directly on point Ⅱ under, let the leveling instrument, adjust the vertical laser line, let the center of the laser line through the point 1 and point Ⅱ accurately.Mark the center point of the laser segment on the upper edge of the door hole and define it as point IV, and the distance d between the point dish is the actual deviation of the measuring instrument in the vertical direction.

Measure the height of the door hole.

Repeat the above process to detect the second vertical laser surface. At this time, it must choose the operation function that is capable of generating a vertical laser surface on the side of the measuring instrument, and the measuring instrument must be rotated 90 degrees before starting the measurement.

You can calculate the maximum allowable deviation dmax using the following formula:

Dmax= twice the door hole height x 0.2mm/m. For example: if the door hole is 2m high, then the maximum allowable deviation is

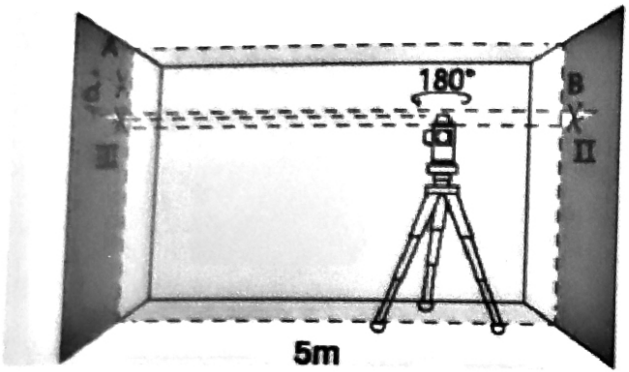
Dmax = 2x2 x 0.2mm/m = 0.8mm. Therefore, the distance between marks cannot exceed 0.8mm.

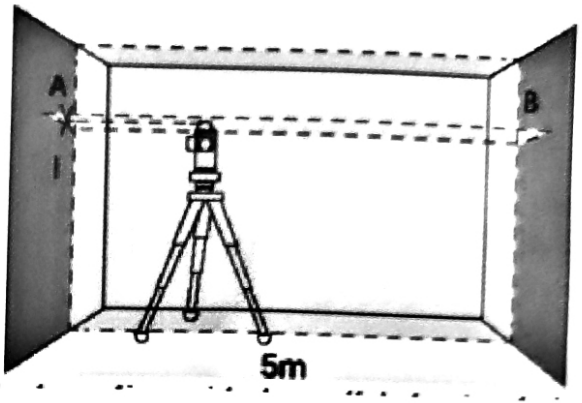
Advice on operation: remember to hit the center of the laser line. the width of the laser line changes with the distance.

6.6 Check the height accuracy of horizontal laser beam

For this check, you must find a 5-meter long segment without obstruction, and the measuring segment must be between the two walls A and B.

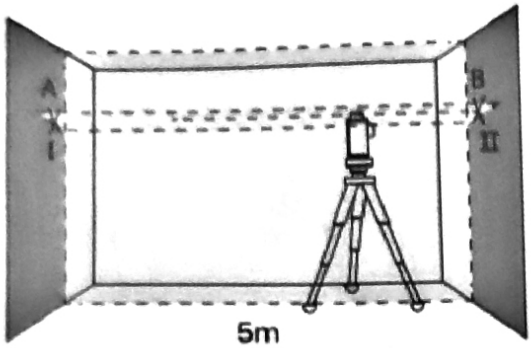
Install the measuring instrument on a tripod, and place the tripod close to wall a, or place the instrume on a solid and flat ground against the wall, turn on the measuring instrument, and select the measuri function to start the automatic leveling function. Select the operation mode that will generate a horiz laser surface and a vertical laser surface directly in front of the measuring instrument.

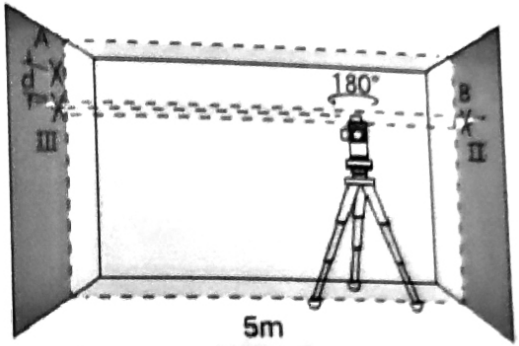




Align the laser line with the wall A that is relatively close, level the measuring instrument, rotate the measuring instrument 180 degrees, and level the instrument, find out the X-Crossing point of the laser line on the wall A, mark the center of the X-Crossing point on the wall B, and mark point I on the center of the X-Crossing point.

Rotate the measuring instrument 180 degrees, make the instrument level, find the intersection of laser lines on wall B, and put I in the center of the point.





Move the measuring meter to wall B (no rotation of the meter), turn on the meter, and let the meter level. Adjust the height of the measuring meter (with the aid of a tripod and pad if necessary) so that the X-Crossing point of the laser lines is accurately projected on the point II of wall B.

To rotate the measuring instrument to 180 degree, but you can't change the height of the measuring instrument, align measuring instrument and let the vertical direction of laser line through point 1 on wall A, level measurement instrument, and mark a point III on the line of X-Crossing point. The

difference d between point I and point III on wall A is the actual height deviation of the measuring instrument.

You can use the following formula to calculate the maximum allowable deviation, dmax,

dmax= twice the wall spacing x0.2 mm/m

For example: if the wall spacing is 5 m, then the maximum allowable deviation dmax=2x5 m x0.2 mm/m =2 mm. Therefore, the distance between the marks can't be more than 2 millimeters.

7 Maintenance and Cleaning

•Ensure to place them in protective covers or boxes when storing and handling measuring instruments.

•Measuring instruments must always be kept clean.

•Do not put the instrument into water or other liquids.

•To wipe off the dirt with damp, soft cloth on the instrument. Do not use detergent to clean the instru--ment.

•Be sure to clean the laser outlet regularly and do not leave fluff at the outlet during cleaning.

•Before leaving the factory, this instrument has undergone strict quality inspection. If it is still out of order, please hand it over to the selling position and do not open the measuring instrument without authorization.

•It must be put into the sensitive protective box before sent the instrument for inspection.

Dispose of Waste Properly

Damaged instruments, accessories and packaging materials must be recycled to use conforming to the requirements of environmental protection