

LS201

Digital Glass Thickness Meter

User Manual V2.14

Please read this manual carefully before using and reserve it for reference.

I. Product introduction

This instrument use optical reflection principle to measure the glass thickness. Just putting the meter on the surface of the glass, it can test thickness of triple glazing, double glazing, laminated glass and other kinds of glass.

Standards for the product

GB/T 11944-2012 Sealed insulating glass unit

JJF1224-2009 Calibration Specification for Reinforced Concrete Covermeter and Floorslab Thickness Tester

II. Parameter

1. Dimension: 130mm * 72mm * 33mm (L * W * H)
2. Measuring range: 70mm of glass thickness, 45mm of air space
3. Measuring accuracy: $\pm (0.1\text{mm} + 1\%H)$ H is the standard value
4. Weight: 330g
5. Power Supply: 4 AA alkaline dry batteries
6. Display: LCD 240*160 Pixels
7. Minimum measurement size: 5mm*50mm
8. Supply Voltage: DC5V
9. Operating Current: 20mA
10. Operating Power Consumption: 100mW

III. Button Operations

1. Powering on/off

In the shutdown state, short press "**Power/↵**" to power on.

If Power on, long press "**Power/↵**" to power off.

If power on, the instrument will automatically power off if there is no operation within 10 minutes.

2. Language settings

In the shutdown state, long press "**Power/↵**" to enter into the language setting mode.

3. Measuring mode settings

In the measuring results interface, short press “**Select/▼**” to enter into the measurement setting mode. Select the measuring modes between “Auto” or “Manual”.

4. Select/▼

In the measuring setting interface, short press “**Select/▼**” to roll down selection or reduce 1 from the number.

In the measuring result interface, if the measuring mode is “Auto”, there may be several kinds of measuring results, short press “**Select/▼**” to view different results.

5. Measure/▲

In the measuring result interface, short press “**Measure/▲**” to get a new measurement.

In the measuring setting interface, short press “**Measure/▲**” to roll up selection or increase 1 from the number.

IV. Instrument Setting

The meter need to set the “Language mode” and the “Measurement mode”.

1. Language mode setting

In the shutdown state, long press “**Power/↵**” to enter into the language setting mode, as shown in the following figure, short press “**Select/▼**” or “**Measure/▲**” to shift between “Chinese” or “English”, short press “**Power/↵**” to save and exit.



2. Measurement mode

The measurement mode has two selection “Auto” and “Manual”.

In the measuring result interface, long press “**Select/▼**” to enter into the measurement mode setting interface, short press “**Measure/▲**” or “**Select/▼**” to shift between “Auto” and “Manual”, short press “**Power/↵**” to confirm.

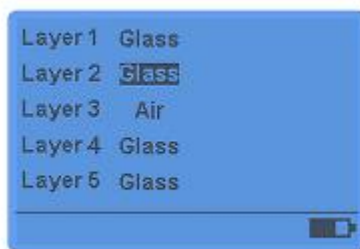


■ Auto mode

In automatic measurement mode, it will display “Auto” in the lower left corner of LCD, there maybe have several kinds of measuring results, short press “**Select/▼**” to view different results until find the corresponding result to fit the testing sample. If the given results are all incorrect, long press “**Select/▼**” to shift to the Manual mode and make a new measurement.

■ Manual mode

- A. If select manual mode, short press “**Power/↵**” will confirm and enter into the material type setting interface, the default setting of first layer is glass, from the second layer, there are three options: glass, air and none. Short press “**Power/↵**” to switch to set next layer. No need to set the laminate inner-layer because the meter can’t measure the thickness of laminate inner-layer of laminated glass. The thickness of laminate inner-layer will be included in the thickness value of adjacent glass.
- B. After setting the material type, if the next layer is “none”, short press “**Power/↵**” will enter into the thickness setting interface. Preset the estimated thickness value for current layer, short press “**Measure/▲**” to increase the number by 1, short press “**Select/▼**” to reduce the number by 1. Short press “**Power/↵**” to switch to next layer.
- C. After setting the thickness, short press “**Power/↵**” will enter into save setting interface. Short press “**Measure/▲**” and “**Select/▼**” to select save, reset or exit, then short press “**Power/↵**” to confirm.



Preset the type



Preset the thickness

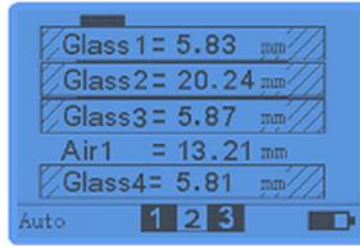


Save setting interface

“Auto” mode is suitable for the measurement of most kinds of glass. Normally, the Meter will show several different measurement result, the first one is the most likely result.



The first result

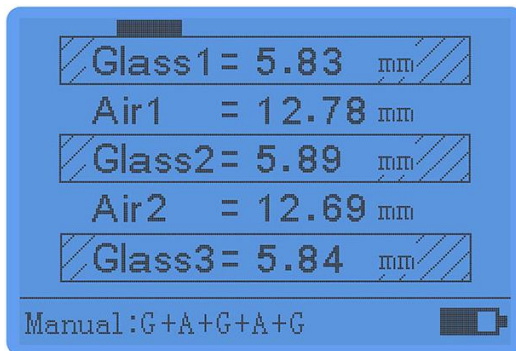


The second result



The third result

For some special glass, in "AUTO" mode can not get the correct result, "Manual" mode can be used. In the "Manual" mode, preset the estimated glass thickness and air layer thickness. There is only one measurement result to get in "Manual" mode.



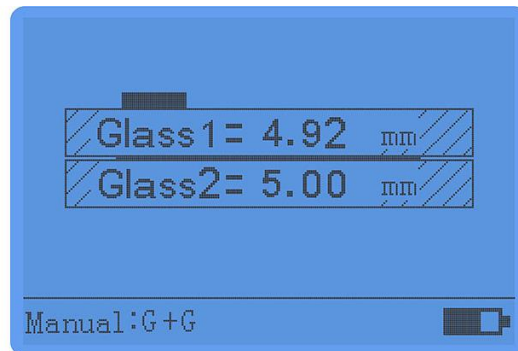
Triple glazing



Double glazing



Laminated glass with one layer air



Laminated glass

V. Measuring Operations

Attach the back of the instrument closely to the tested glass surface, short press "**Measure/▲**" to enter into the measuring state, Maybe there are several kinds of results, short press "**Select/▼**" to view different results.

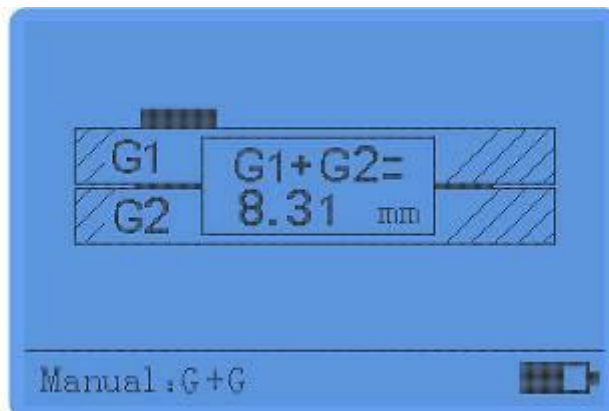
- In "Auto" mode, the measuring result of Triple glazing as shown below:
 - "Glass1" is the thickness of the first layer of glass, the measured value is 5.88mm;
 - "Air1" is the thickness of the first layer of air space, the measured value is 12.75mm;
 - "Glass2" is the thickness of the second layer of glass, the measured value is 5.91mm;

"Air2" is the thickness of the second layer of air space, the measured value is 12.64mm;

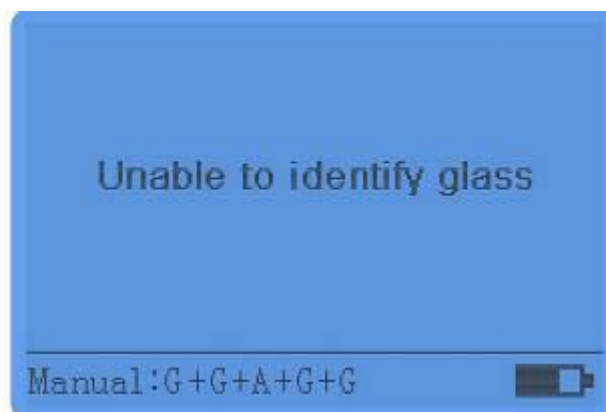
"Glass3" is the thickness of the third layer of glass, the measured value is 5.9mm.



- In the "Manual" mode, the measuring result of laminated glass as shown below: "G1" means the first layer of glass, "G2" means the second layer of glass, and "G1+G2" means the total thickness value of two layers of glass, the measured value is 8.31mm. This result(G1+G2)means it's unable to identify the position of the laminate inner-layer.



- If the meter display the following image, that means it's unable to identify glass, The possible causes are listed below:



- a) The back of instrument doesn't attach closely to the tested glass surface;

- b) The reflectivity of LOW-E layer is too high(More than 70%), please try to measure another surface of glass;
- c) The sunlight is too strong, try to prevent the back of the meter from directly facing the sunlight;
- d) The surface of glass is too dirty or it is scratched.

VI. Precautions

1. Keep the glass surface clean.
2. Try to avoid overlapping of several glass when measuring, which may lead to wrong measuring results.
3. Keep the detector on the back of the instrument clean.
4. In order to improve the measurement accuracy, try to prevent the back of the meter from directly facing the sunlight.
5. This product emits a laser beam from the back side. Do not point the laser at anyone's eyes.
6. Avoid contact with corrosive substances and keep from high temperature and high humidity environment.
7. While the battery symbol is displayed as empty and flashing, please replace the batteries.

VII. Features

1. Laser reflects on CCD to measure glass thickness and air thickness from one side.
2. Quick measurement, the accuracy is up to 0.1mm.
3. It can test thickness of triple glazing, double glazing, laminated glass and other kinds of glass.

VIII. Standard Packing List

| No. | Description | Quantity | Unit |
|-----|-------------------------------|----------|------|
| 1 | Digital Glass Thickness Meter | 1 | pcs |
| 2 | User Manual | 1 | pcs |
| 3 | Certificate / warranty card | 1 | pcs |
| 4 | Plastic case | 1 | pcs |
| 5 | Calibration Report | 1 | pcs |

IX. Service

1. The meter has one-year warranty. If the meter works abnormally, please send the whole meter to the company for maintenance.
2. Provide users with spare parts and lifelong maintenance services.
3. Provide the users with the meter inspection service for free.
4. Free technical support for long term.

Manufacturer: Shenzhen Linshang Technology Co.,Ltd.

Website: www.linshangtech.com

Service hotline: 086-755-86263411

Email: sales21@linshangtech.com