Light Transmittance Meter

Code: 86110

User Manual V9.06

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

I. Product introduction

The instrument is used for the transmittance testing of glass, plated film, window film, insulating glass, filmed glass, etc.

It consists of two parts: PART I(main part) for measuring and displaying functions; PARTII (the auxiliary part) for the light source and laser, the laser is used for two-part alignment.

Standards for the product

JJF 1225-2009 Calibration Specification for Transmittance Meter of Automobile

JJG 178-2007 Ultraviolet,Visible,Near-Infrared Spectrophotometers

GB/T 5137.2-2020 Test methods of safety glazing materials used on road vehicles—Part 2:Optical properties tests

GB/T 21300-2007 Plastics pipes and fittings - Determination of opacity

GB/T 2680-2021 Glass in building—Determination of light transmittance, solar direct transmittance, total solar energy transmittance, ultraviolet transmittance and related glazing factors

II. Parameters

Dimension	130mm × 70mm × 84mm (L×W×H)
Weight	630g
Resolution	0.1% (measured value<10%), 1% (other ranges)
Accuracy	Better than ±2% (Colorless and transparent material)
Test sample size	>40mm×40mm
Visible light wavelength	380nm-760nm, conforming to the CIE photopic luminosity function
Power supply	built-in lithium rechargeable battery
Operating Temperature Range	0℃~50℃, 0~85%RH(no condensation)
Storage Temperature Range	-10℃~60℃, 0~85%RH(no condensation)
Supply Voltage	DC5V
Operating Current	20mA
Operating Power Consumption	100mW

III. Key Operation

1. Power on/off

Short press the “Power” button to power the instrument on/off, main and auxiliary parts are required to perform the operation of power on/off. The meter is shut down automatically for no action within 15 minutes.

2. “HOLD” button of the main part

- Under the measurement mode, short press “HOLD” to hold the data on the LCD, up right corner of the LCD will display the icon “HOLD”.
- Short press “HOLD” again to release the hold mode and the icon “HOLD” disappears.
- Long press “HOLD” for 3 seconds to 3 value display mode. Long press “HOLD” for 3 seconds again to 1 value display mode. In fact, the instrument is composed of three sets of independent transmittance meters. 1 value mode is the mean values of three 3 value modes.

3. “Laser” key of the auxiliary part

Short press the "Laser" key to power the laser on/off.

IV. Instrument operation

1. Self-test

Attracting the main and auxiliary part together, press down “POWER" key to power them respectively and align the upper and lower laser points with the alignment bull’s eyes simultaneously. Wait for the completion of “SELF-TEST” and enter the measurement interface (100% displayed on the LCD). The following reasons for failed “SELF-TEST” (“Please refer to the manual” display on the LCD) :

- Battery power is low, please charge the main and auxiliary part.
- No alignment the main and auxiliary part with laser point with the bull’s eyes.
- Power on the main and auxiliary part with clamped some testing sample.
- Equipment damage, need to send back to the factory repair.

2. Measurement

Clamp the sample with the main part and the auxiliary part and align the laser point with the bull’s eyes. The meter will display the transmittance value of the samples.

V. Features

1. Two-part dual mode of the main and auxiliary part facilitates the transmittance measurement of the automobile front windshield glass and building glass.
2. The built-in lithium rechargeable battery is easy to use without replacing the battery;
3. The laser alignment function guarantees the accurate alignment of the main part with the auxiliary part in the process of measurement and ensures accurate measurement.

VI. Battery charging

This meter has built-in lithium chargeable battery and charger. Three methods can be used for charging the meter.

1) Plug the USB line into the USB port of the computer. Plug in a one-for-two plug to charge the main and auxiliary parts simultaneously.
2) Use the supporting DC 5V Adapter. Plug in a one-for-two plug to charge the main and auxiliary parts simultaneously.
3) Use the mobile power of the smartphone for charging.

VII. Points for attention

1. Since the main and auxiliary part has strong magnetic magnet inside for measurement, avoid pinch hands or damage the glass samples in the use.
2. The laser position and accuracy of each set of meter (main and auxiliary part) has been perfectly matched and calibrated.
3. Charge the meter promptly when the battery indicator flashes.
4. The meter may not power on due to possible low power. In such case, please charge it for a while before starting up.
5. Please use the dedicated supporting charger.
6. In order to ensure the accuracy of the measured value, please do not expose the meter to the direct sunlight during the use.
7. The meter uses standard 14500 lithium chargeable battery. In case of ineffective operation of key after charging, please open the meter with screwdriver, take out the chargeable battery and re-install it. In case of short use after charging, please replace the chargeable battery.
8. This product emits a laser beam from the back side of auxiliary part. DO NOT point the laser at anyone’s eyes.

VIII. Standard Packing List

No.	Description	Quantity	Unit
1	Light Transmittance Meter	1	pcs
2	User Manual	1	pcs
3	Charger	1	pcs

IX. Service

1. The meter has a 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