LS163/LS163A Transmission Meter

User Manual V2.0

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

Note: IR peak wavelength of LS163 is 940nm, and IR peak wavelength of LS163A is 1400nm.

I. Product introduction

The transmission meter is a portable light transmission measuring instrument, it's able to simultaneously measure the visible light transmittance, IR rejection (transmission) value and UV rejection (transmission) value of solar film, stick-film glass and other materials.

II. Parameters

1. UV Peak wavelength: 365nm
2. IR Peak wavelength: 940nm/ 1400nm
3. Visible light wavelength: 380-760nm, conform to the CIE photopic vision function standard
4. Accuracy: ±2% (Colorless and transparent material)
5. Resolution: 0.1%
6. Test Slot: 6mm *58mm (W*D)
7. Meter Size: 146mm *73mm *24mm (L*W*H)
8. Display: 128*128 Dot matrix LCD
9. Weight: 187g (Include Batteries)
10. Power supply: 4*AAA alkaline battery

III. Operation

1. Power On/Off

Power on self-test: Short press the "HOLD" button to power on the meter. The test sample can't be placed in the test slot before powering on otherwise the self-calibration can't be completed. The serial number, version number will be displayed on the interface and the meter will enter into the measurement interface after 3s. The meter displays the corresponding measurement interface according to the setting parameters.

Manual shutdown: Long press the "HOLD" button for 3s to power off the meter.

Auto shutdown: The meter will automatically power off after 3 minutes without any operation.

2. Parameter Setting

In the off state, long press the "HOLD" button for 3s and enter into the parameter setting mode.

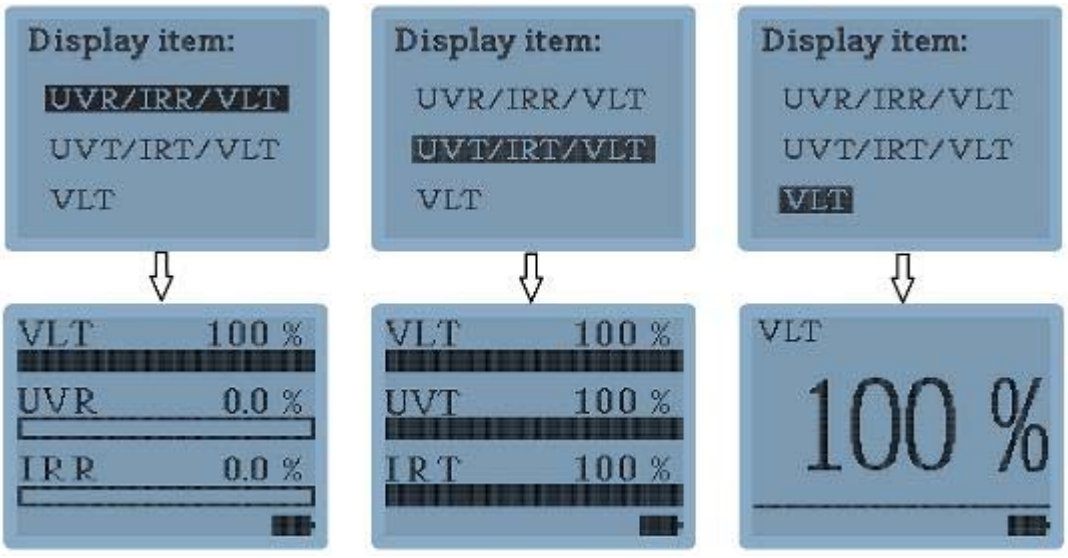
Language

Short press the button to select Chinese or English, long press for 2s to confirm the option and enter the next setting item.

Display Item

Short press the "HOLD" button to select the parameters and long press the "HOLD" button for 2s to confirm the parameters. Now the meter enters into the measurement interface. Optional parameters are as following:

- **UVR/IRR/VLT (default option):** UVR (UV rejection), IRR (IR rejection), VLT (Visible light transmittance) are displayed on the interface.
- **UVT/IRT/VLT:** UVT (UV transmission), IRT (IR transmission), VLT (Visible light transmittance) are displayed on the interface.
- **VLT:** Only VLT (Visible light transmittance) is displayed on the interface.



UVR/IRR/VLT **UVT/IRT/VLT** **VLT**

3. Operation

When we test the sample in the measurement state, short press the "HOLD" button to hold the data, the "HOLD" symbol will be displayed on the lower left corner on the interface. Short press the "HOLD" button again, the meter will return to the measurement state.

In the “HOLD” state, if the backlight is off, short press the “HOLD” button to light up the backlight. If the backlight is on, it will cancel the “HOLD” state and start a new measurement.

4. Display interface autorotation

The meter display interface will rotate adaptively, which is convenient for reading measurement data. The interface shown as below:

5. Backlight auto lit

In the measurement state, if the backlight is off, the backlight will be automatically on when the test sample is placed in the slot and be off again without any operation after 30s.

6. Low power alarm

When the battery power is low, the empty battery symbol will display as " ▭ " on the right bottom of the screen and flash, indicating that the battery needs to be replaced.

IV. Features

1. Test slot is 6mm which can directly test the window glass.
2. Adopt LCD dot matrix with backlight which can be used without lights.
3. The display interface will rotate adaptively which is convenient for reading measurement data.
4. Equipped with real-time dynamic self-calibration function, which is automatically self-calibrated after powering on.
5. Three display interfaces can be selected. (UVR/IRR/VLT, UVT/IRT/VLT and VLT)
6. Ultra-low power consumption, 4 AAA alkaline batteries can maintain continuous measurement for more than 100 hours
7. UV rejection meter, IR rejection meter, light transmittance meter. Three functions in ONE device.
8. Simple operation, putting the testing sample in the test slot, UV rejection, IR rejection, visible light transmittance values of the sample will be displayed simultaneously.

9. Applicable to solar film, stick-film glass and other materials performance exhibition, production, quality inspection and other occasions.

V. Precaution

1. When the meter can't complete power on self-calibration, the interface will prompt "E30". Possible causes:
   - The ambient light is too strong.
   - Test sample is placed in the test slot, just take away the test sample and turn on the meter again.
   - Dust enters the test hole and blown off the dust with a dust blower.
   - The meter has hardware failures and needs to be returned to the factory for maintenance.
2. When the meter is not in use, turn off the power.
3. Avoid to contact with corrosive materials and be away from high temperature and high humidity environment.
4. After using for a long time, due to the luminous efficiency of the LED light source (the temperature of the LED light source increases, the efficiency decreases), the data of UVR, IRR and VLT may not be displayed as "0.0, 0.0, 100" when there is no test sample or VLT, UVT ,IRT may not be displayed as "100, 100, 100" . At this time, turn off the meter and then restart it , the meter will self-test and self-calibrate, the measurement accuracy and normal use of the meter will not be affected.

VI. Packing List

No.	Description	Quantity	Unit
1	Transmission Meter	1	set
2	User Manual	1	pcs
3	AAA Battery	4	pcs
4	Certificate / Warranty Card	1	pcs
5	Drawstring Bag	1	pcs

VII. 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.
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