PROBON LS116

Linshang LS116 Optical Transmission VLT Tester User Manual

Model: LS116

1. Introduction

The Linshang LS116 light transmittance tester is a professional instrument designed for accurately measuring the light transmittance of various uniform light-transmitting materials. Its advanced parallel light path design allows for precise measurements, even on materials with significant thickness. This device is engineered to meet stringent metrology standards, ensuring reliable and accurate results for applications involving glass, solar film, laminated glass, PC plastic, and other optical products.

2. What's in the Box

Upon opening the package, please verify that all components are present and in good condition:

- LS116 Meter
- Probe
- User Manual
- Warranty Card
- Holder
- Four AAA batteries

Figure 2.1: Package Contents. This image displays all items included with the Linshang LS116, such as the main meter unit, the connected probe, the user manual, warranty card, the specialized holder for measurements, and four AAA batteries.

3. Setup

Before first use, install the four AAA batteries into the battery compartment located on the back of the LS116 meter. Ensure correct polarity. Once batteries are installed, connect the probe to the main meter unit via the cable. The device is now ready for initial power-on.

Figure 3.1: LS116 Components. This image shows the Linshang LS116 meter, its attached probe, and the included measurement holder, illustrating the complete setup before operation.

4. Operating Instructions

The LS116 offers versatile measurement capabilities for various light-transmitting materials.

4.1 Power On and Warm-up

Press the power button to turn on the device. The meter will display a "WARM-UP" message and a percentage. Allow the device to complete its warm-up cycle until it displays 100.00% or a stable reading, indicating it is ready for measurement.

4.2 Measurement Methods

The LS116 supports two primary measurement methods:

- **Fixed-Point Measurement:** Use the provided holder for stable, precise measurements in a fixed laboratory or factory setting.
- **Field Measurement:** The compact design allows for on-site measurements, such as testing automotive front glass or other installed materials.

Figure 4.1: Field Measurement. This image illustrates the LS116 being used for field measurement, where the probe is held directly against the material without the use of the fixed holder.

4.3 Testing Transmittance

Place the material to be tested between the light source and the receiver of the probe. Ensure the material completely covers the light path. The measurement will be displayed instantly on the meter's screen.

Figure 4.2: Measuring Transmittance. The image shows the LS116 actively measuring the light transmittance of a glass sample, with the material positioned within the holder for stable readings.

4.4 High and Low Transmittance Materials

The LS116 is capable of testing a wide range of materials, from highly transparent to very low transmittance. It can measure high-transmittance samples up to 99.8% and low-transmittance materials with a resolution of 0.001%.

Figure 4.3: High Transparency Measurement. This image highlights the LS116's ability to accurately measure highly transparent materials, showing a reading of 98.90% for a clear glass sample.

Figure 4.4: Low Transmittance Measurement. The image demonstrates the LS116 measuring a low transmittance material, displaying a reading of 3.388%, showcasing its high resolution for opaque samples.

4.5 Large Thickness Materials

Thanks to its parallel light path and receiver spotlight design, the LS116 can effectively measure large thickness materials, up to 100mm thick, without compromising accuracy.

Figure 4.5: Testing Thick Materials. This image shows the LS116 measuring a thick glass panel, demonstrating its capability to handle materials up to 100mm thick due to its specialized optical design.

4.6 Diverse Material Testing

The LS116 is suitable for testing the transmittance of various uniform light-transmitting materials, including but not limited to:

- Transparent glass
- Laminated glass
- Insulated glazing
- Solar film
- Coated materials
- Organic material panels

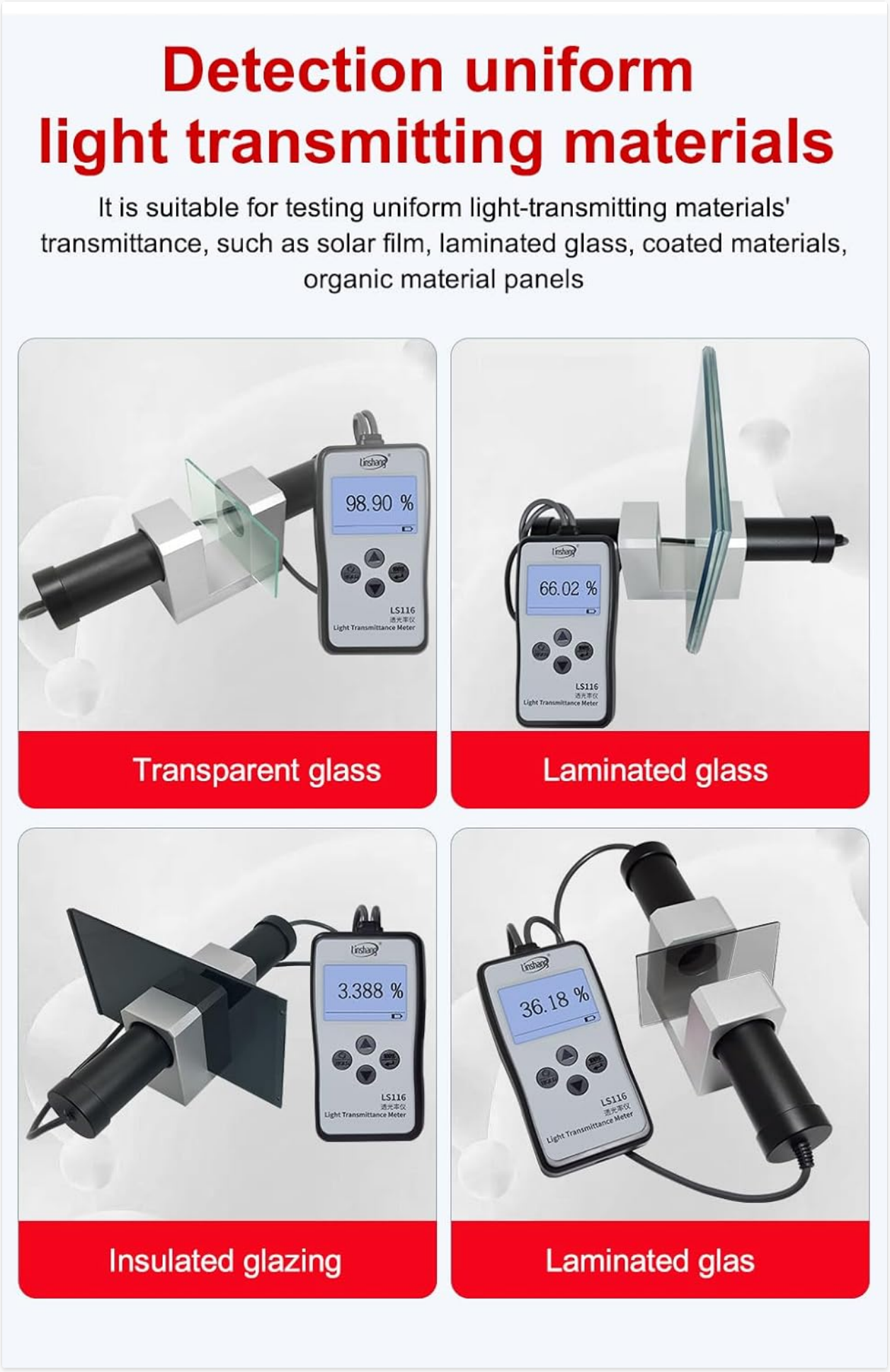

Figure 4.6: Diverse Material Testing. This composite image displays the LS116 measuring different types of light-transmitting materials, including transparent glass, laminated glass, and insulated glazing, showcasing its versatility.

4.7 Accuracy and Certification

The LS116 boasts an accuracy of ±1%, ensuring reliable and precise measurements. This accuracy is verified through testing by metrology institutes, providing confidence in its performance.

Figure 4.7: Accuracy and Range. This image emphasizes the LS116's key specifications: an accuracy of ±1% and a broad measuring range from 0.001% to 99.8%, suitable for uniform light-transmitting materials.

4.8 Instructional Video

For a visual demonstration of the LS116's operation and capabilities, please watch the official product video below:

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Video 4.1: LS116 with CIE 380-760nm VLT VL Transmission for Thick Glass. This video provides a comprehensive overview of the Linshang LS116 Optical Transmission VLT Tester, demonstrating its high precision, ability to test various glass products, solar film, and laminated glass, including high and low transmittance materials, and its parallel light path design for thick materials. It also highlights the device's accuracy and metrology institute testing.

5. Maintenance

To ensure the longevity and accuracy of your LS116 tester, follow these maintenance guidelines:

- Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Avoid exposing the device to extreme temperatures, humidity, or direct sunlight.
- Store the device in its original packaging or a protective case when not in use.
- Remove batteries if the device will not be used for an extended period to prevent leakage.
- Handle the probe and meter with care to prevent physical damage.

6. Troubleshooting

If you encounter issues with your LS116 tester, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on	Dead or incorrectly installed batteries	Replace batteries with new AAA batteries, ensuring correct polarity.
Inaccurate readings	Dirty probe lenses; improper material placement; device not warmed up	Clean probe lenses with a soft, lint-free cloth. Ensure material is flat and fully covers the light path. Allow device to complete warm-up.
"WARM-UP" message persists	Insufficient warm-up time; environmental conditions	Allow more time for warm-up. Ensure device is in a stable temperature environment.

If the problem persists after attempting these solutions, please contact customer support.

7. Specifications

Feature	Detail
Brand	PROBON
Model	LS116
Manufacturer	Linshang
Transmittance Measurement Range	0.001% - 99.8%
Accuracy	±1%
Resolution	0.001% (for low transmittance)
Light Path Design	Parallel light path with receiver spotlight
Max. Material Thickness	Up to 100mm

Feature	Detail
Power Source	Four AAA batteries
ASIN	B0CC2F46HW
UPC	746559888897

8. Warranty and Support

This PROBON product is covered by a standard manufacturer's warranty. Please refer to the included Warranty Card for specific terms and conditions regarding coverage and duration.
For technical support, service, or inquiries about your Linshang LS116 Optical Transmission VLT Tester, please contact the seller, huaming instruments, through the Amazon platform or refer to the contact information provided on your warranty card.