

INSPECTOR II

Tint Meter



User Manual



Getting started

You've purchased a top of the line Inspector II! Read this guide to understand its use.

The new Inspector II offers you the simplicity of autocalibration in a small, easy to use package. The Inspector II follows in the line of tint meters that have been in production by Laser Labs, Inc. since 1989.

The Inspector II is a full-featured tint meter for use on all car windows. It is used by police and inspection stations to measure total Visible Light Transmittance (VLT). The meter has an accuracy of $\pm 2\%$ and can measure from 0% (totally black) to 100% (air only). Use the Inspector II to verify the legality of after market window tint.

About your Inspector II

Your Inspector II has a light source in one box and the sensor and computer in the other box. The Liquid Crystal Display (LCD) shows the light transmitted by the glass and also the battery condition. Every time it is turned on using the on/off switches, the meter autocalibrates to 100%. This feature protects the meter against adverse conditions such as dust, temperature fluctuation, bright sunlight, and changes in battery voltage.

How to use your meter

For officer safety, we suggest opening all vehicle doors under test.

Step 1

Wipe the window clean of any dirt. With the 2 units held together, turn on both boxes. The meter will autocalibrate and display "100".



Step 2

Leaving both units turned on, separate the 2 boxes and place the light source box behind the glass to test. Hold it in place by hand or by using the suction cup.



Step 3

Place the display unit on the other side of the glass and allow the magnets to self align the 2 units. On rear windows be sure that defroster lines do not block the light source, as this may lower the reading. The display will show the VLT. Turn both units off when testing is complete.

Verifying accuracy

Reference standards are included with VLT values printed on their labels. The values are accurate to $\pm 1\%$ of an NIST calibrated spectrophotometer at 550 nanometers. To verify the Inspector II is working properly and within specification, take a reading of the reference standards before you begin to use your meter. The meter should display a reading within 2% of the labeled value.

Error codes

The computer generates error codes in case of faulty operation to protect the user from potential false readings.

- E1 Autocalibration error
- E2 Excess stray light
- E3 Factory calibration error
- E4 Excess radio frequency (RF) field
- E5 Temperature extreme

Low battery indicator

The battery is good for about 1000 tests. The display will show “bat” when the battery is too weak to operate.



Battery replacement



1) Remove the four screws at the corners on the back of each meter unit.

2) Using your thumb or a flathead screwdriver, carefully pry each battery from its retaining clip.



3) Replace with quality 3 volt lithium coin cells, type CR2032, available at most stores.

4) **Note battery polarity: the positive side faces up.** Meter will not function if battery is installed in reverse.

Understanding results

During power up, the computer in the Inspector II performs a self test to verify correct operation. This includes a battery check, sensor check, factory calibration check, and autocalibration.

The Inspector II is accurate to $\pm 2\%$ of true VLT. For example, a 32% meter reading means the VLT could be between 30% and 34%. Please take this measurement tolerance into account when using the meter. The Inspector II measures the combination of factory tint and after market tint. A reading of 0% is totally black, a reading of 100% would be no sample present. The highest reading on clear glass is typically 93% because some light is blocked by surface reflections.

Recertification

Replacement reference sample sets are available to meet state recertification requirements. Factory recertification of the Inspector II is also available. Please contact Laser Labs, Inc. for details.

Theory of operation

The Inspector II works by shining a beam of light (predominantly green, the center of the human eye response) from the back box to the display box. The meter measures this light level, converts it to a voltage, and saves it in its memory. This is the **autocalibration phase**, and it makes the meter immune to temperature variations, bright sunlight, dust, and dirt. After placing the boxes around the

test sample, called the **testing phase**, the meter again measures the level of light and converts it to a voltage. The computer inside the Inspector II then divides the testing phase value by the autocalibration phase value and displays this percentage calculation.

$$\frac{\text{Testing Value}}{\text{Calibration Value}} = \% \text{ Transmitted}$$

Specifications

Wavelength	550 nanometers
Bandwidth	50 nanometers
Accuracy	$\pm 2\%$
Repeatability	1%
Measurement range	0% to 100%
Humidity range	0% to 100% non-condensing
Sample thickness	0.0 to 0.25 in. 0.0 to 6.35 mm
Sample size	1 x 3 in. (25 x 75 mm) minimum
Testing time	4 seconds
Effect of stray light	Not affected
Lamp life	10 years
Power source	2 lithium batteries, type CR2032 (3 volt)
Weight	3.2 oz. (90 grams)
Dimensions	3.75 x 1.75 x 1.25 in. 95 x 45 x 30 mm

1 Year Limited Warranty North America Only

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