

# ENFORCER II

## Tint Meter



## User Manual



## Getting Started

Congratulations on purchasing your Enforcer II. Read this guide to understand its use.

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

The Enforcer II is a full-featured tint meter for use on roll down car windows. It is used by police and inspection stations to measure Total Visible Light Transmittance (VLT). The meter has an accuracy of +/- 2% points and can measure from 0% (totally black) to 100% (clear.) Use the Enforcer II to verify the legality of after market window tint.

## About your Enforcer II

Your Enforcer II has a slot up the center that is covered by neoprene rubber. This is the entry slot for the glass you wish to test. Above the slot is the Liquid Crystal Display (LCD) which shows the light transmitted by the glass and also the battery condition. Inside is a switch that activates the meter when glass is slid into the meter from the bottom.

## How to use your meter

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

### Step 1

Roll the window down half way and wipe clean of any dirt. Position meter so the bottom of the foam covered slot is over the edge of the window.



### Step 2

Press the meter downward until the window is touching the top of the slot. The meter will display the Visible Light Transmission reading.



## Low battery indicator

The battery is good for about 4000 tests. The display will show "bat" when the battery is too low to operate.



## Battery Replacement

- 1) Remove the four screws at the corners on the back of the meter.
- 2) Place a screwdriver in the slot in the circuit board and slide the coin cell out.
- 3) Replace with any brand 3 volt lithium coin cell, type CR2032, available at most stores.

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

## Verifying accuracy

Reference standards are included with light transmittance values printed on their labels. The values are accurate to plus or minus 1 percentage point of an N.I.S.T. calibrated spectrophotometer at 550 nanometers. To verify the Enforcer 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 percentage points 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 Auto calibration error
- E2 Excess stray light
- E3 Factory calibration error
- E4 Excess RF field
- E5 Temperature extreme

1) Insert glass from bottom only

2) DO NOT slide meter sideways on window

3) Remove meter from window by lifting it vertically



## Understanding results

During power up, the computer in the Enforcer II performs a self test to verify correct operation. This includes a battery check, sensor check, factory calibration check and auto calibration. The Enforcer II is accurate to plus or minus 2 percentage points of true visible light transmittance. For example, a 32% meter reading means the light transmittance could be between 30% and 34%. Please take this measurement tolerance into account when using the meter. The Enforcer 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 Enforcer II is also available. Please contact Laser Labs, Inc for details.

## Theory of operation

The Enforcer II works by shining a beam of light (predominantly green, the center of the human eye response) across the slot when the meter is slid over the window. Before the glass breaks the beam, the meter instantly measures this light level, converts it to a voltage, and saves it in memory. This is the **auto-calibration phase** and it makes the meter immune to temperature variations or dust and dirt. After the glass breaks the beam, called the **testing**

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

Testing Value

----- = % Transmitted  
Calibration Value

### Specifications

Wavelength	550 nanometers
Bandwidth	120 nanometers
Accuracy	+/- 2 percentage points
Repeatability	1 percentage point
Measurement range	0% to 100%
Humidity range	0% to 100% Non-condensing
Sample thickness	0.0 in. to 0.25 in. 0.0 mm 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	Lithium battery, type CR2032 (3 Volt)
Weight	2 oz. (60 grams)
Dimensions	3.75 x 1.75 x 1.0 in 95 mm x 45 mm x 22 mm

## 1 Year Limited Warranty

### North America Only

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For international warranty, see our website.

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