

# twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

## Retroreflectómetro para señales de tráfico NT-TBTTSR1

[www.twilight.mx](http://www.twilight.mx)

 / [twilightsadecv](https://www.facebook.com/twilightsadecv)

 / [twilightsadecv](https://twitter.com/twilightsadecv)

 / [twilightsadecv](https://www.youtube.com/twilightsadecv)

## TBTTSR-1 Retroreflectometer For Traffic Signs



## Table of Contents:

<b>I .Introduction.....</b>	<b>3</b>
<b>II .Characteristic.....</b>	<b>3</b>
<b>III. Specification.....</b>	<b>4</b>
<b>IV. Components.....</b>	<b>5</b>
<b>V . Instructions for use.....</b>	<b>6</b>

# **I .Introduction**

TBTTSR-1-type retroreflectometer is a portable, rechargeable battery-powered precision measuring instrument for the determination of night visibility (coefficient of retroreflection  $R_A$  and  $R'$ ) of traffic signs and safety garments.

## **II .Characteristic**

- 1. Advanced optical measurement system.**
- 2. High-bright LCD Display to show the measured data.**
- 3. Parameter, date, time, testing site and other system information can be preset.**
- 4. Reset and adjust measurement standard automatically.**
- 5. Automatic verification zero and calibration measurement standard.**
- 6. Input system: handwriting or using soft keyboard.**
- 7. It can store 5000 piece record each time, and the records can be looked up at any time.**
- 8. Intelligent standby management. Turn off the display system when you stop operate the detector.**
- 9. Upload the record to PC and change the system setting by USB interface that comes with the detector.**
- 10. Support 8G SD card data storage and support data storage in Excel format, and the data can be exported to the computer through U disk;**
- 11. Low illumination and high sensitive photoelectric measuring device.**

- 12 High precision and stability analog data acquisition and A/D converting circuit.
13. Low power consumption and high reliability main control unit and calculate system.
14. Battery is permitted to replace by new ones in short time.
15. Standby Charging is allowed.

### **III. Specification**

1. Testing term: Retro reflectance (cd/lx/m<sup>2</sup>)
2. Testing range: 0—1999
3. Entrance angle: -4° Or 5°
4. Observation angle: 0.2°, 0.33°, 0.5°, Or 1°
5. Illumination: Standard illuminant A
6. Testing spot diameter: 32mm
7. Indication error:  $\leq 2\%$
8. Standby time: >8h
9. Built-in power capacity: 2000mA.h
10. Charge Voltage: DC5V
11. Operating Temperature: -10~60°C
12. Operating Humidity: <95%RH non-condensing
13. Size: 200×230×70MM (L×H×W)
14. Weight: 1.5kg

## IV. Components



1. Main Body

2. Display Screen

3. Switch (starts the inspection and wake up the system while the detector is in stand-by mode).

4. Press Keys

5. Battery Box

6. Power Switch

7. Charging Interface

8. USB Interface

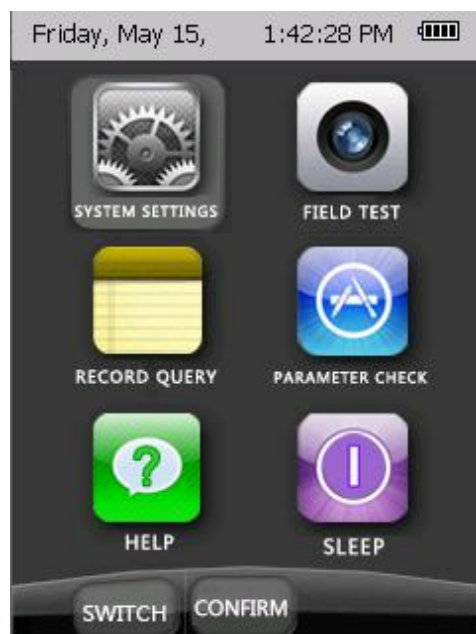
9. Charging Indicator Light

# V . Instructions for use

## 1. System Power Up

Turn “power switch 6” to on side, and its screen will display the UNS-logo on white background at 20 seconds later.

When the system finishes booting and enters the main interface , press the toggle key and ok key or use stylus to choose the function menu. If you want to turn it off, please turn the” power switch” to off side.



## 2. System Setting

Press “System settings” on the main interface to enter the system setting menu. This menu allows the user to reset the system time, inspector, testing site and standard value .



The screenshot shows a mobile application interface for system settings. At the top, it says "Please Input Date". Below this, there are three dropdown menus: the first is set to "Friday", the second to "13", and the third to "54" with an "M" for minutes. Below the date fields are three text input fields, each with a "..." button to its right: "Inspected Company" (containing "NanJing T-Bota Sciotech In"), "Inspector's Name" (containing "Mr HU"), and "Detection Site" (containing "No. 81 ZhongShan Rd.,Na"). At the bottom of the screen are three buttons: "SWITCH", "SAVE", and "RETURN".

The system time is changed by the drop-down button of the time frame. The testing personnel and the testing place are changed by clicking the setting button of the corresponding box.



The screenshot shows a mobile application interface for input. At the top, it says "Please Input:". Below this is a large empty rectangular box. Below the box is a large white area with the word "HANDWRITING" in the center. At the bottom of the screen is a keyboard-like interface with a blue header bar containing navigation icons. Below the header bar is a grid of icons, including a red square, a grid, a red robot icon, and the Chinese characters "设置" (Settings) and "筒" (Cylinder). Below the grid are icons for "Del", a left arrow, an up arrow, and a right arrow. At the very bottom are two buttons: "CONFIRM" and "RETURN".



### 3. Parameter Check

Press “Parameter Check” on the main interface to enter the parameter calibration menu. There are six colors in the parameter calibration menu, namely black, white, red, blue and green.

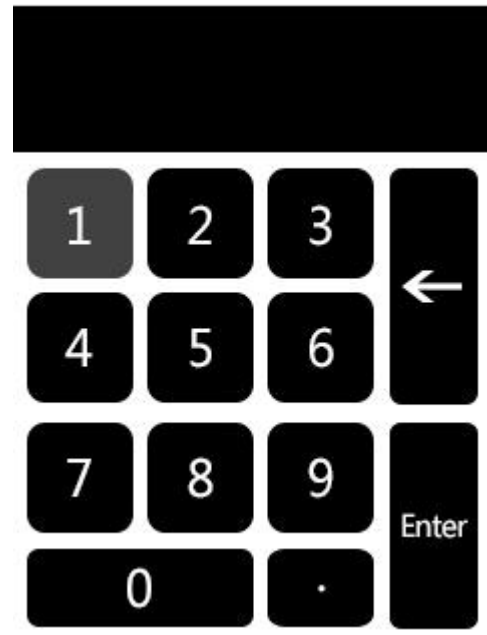
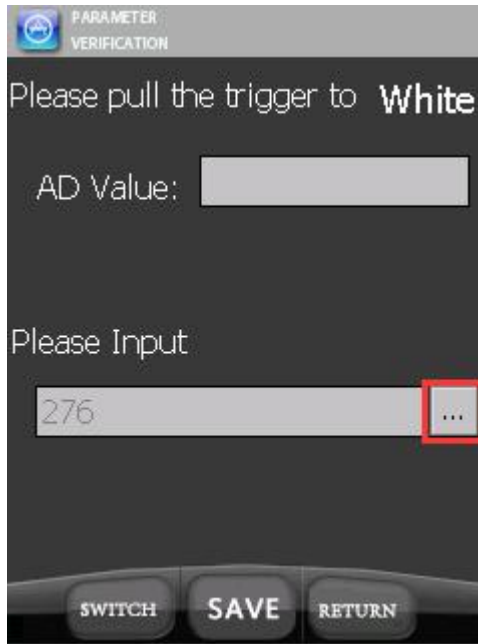


**Note 1:** every time before use the instrument please do the calibration with our calibration board.

**Note 2:** when calibrating the parameters, first calibrate the black and then calibrate it in white, red, blue, yellow and green.

**Note 3:** The calibration board is forbidden to wipe the reflective film surface with finger , and the data should be calibrated regularly.

**Note 4:** Choose the color icon on the calibration interface,then the calibration interface of current color appear after successful selection, click the button on the right side of the calibration digital box will appear in the digital input dialog box, and then modify the corresponding value according to the calibration value on the calibration board. When the modification is complete, click Enter to confirm.

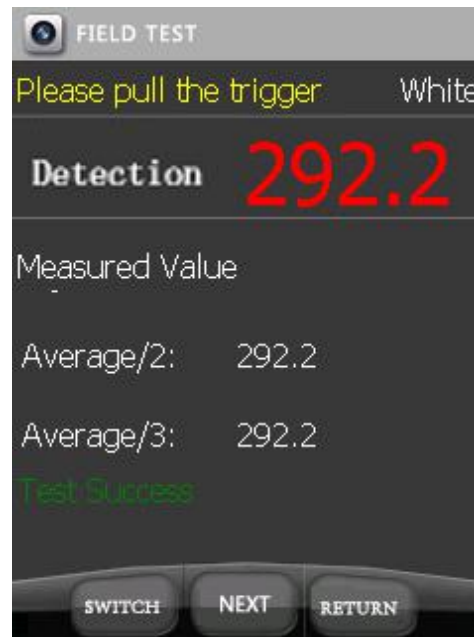


#### 4. Field test

Press “FIELD TEST ” on the main interface to enter the field test menu. Choose the color of the tested reflective material.



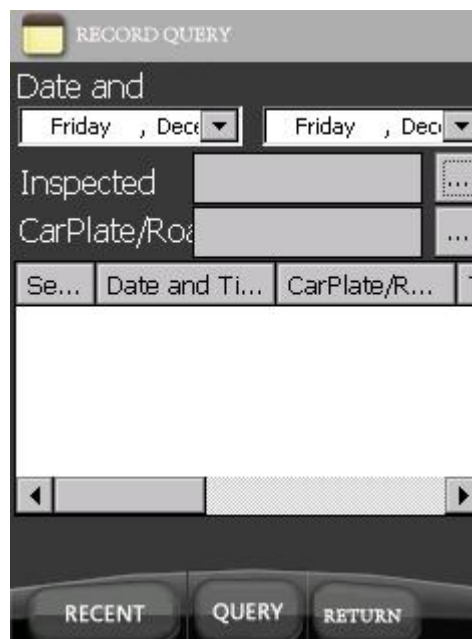
Place the front of the detector against the tested material. Make sure the light could not enter into the tested area. Pull the trigger to start testing, 5 seconds (2 seconds if continuous measurement) later the result will be shown on the screen.



After Test success, click “next” to enter the data storage interface.

## 5. Record query

The Record interface allows the user to view any data that has been previously saved. Input the road name, you will get all the information you need. You can also look up the currently 10 records in the memory by press “Recent” .



## **6. Sleep**

The user can let the detector go dormant, and pull the trigger the system will wake up.

## **7. Data Storage and Export**

- i . More information such as testing date, time can be added when the measurement data is saved.**
- ii . The measurement can be deleted in the measuring process.**
- iii. The user can export the measurement to PC by USB interface.**
- iv. When the data is exported or copied, it can be deleted.**

## **8. Battery Charging**

- i . Inner battery: 3.7V External battery: 5V**

**While charging, the indicator lamp is red, it will go out while charging completed.**

- ii . If you want to change the inner battery, you should turn off the power switch first.**

## **9. Attention:**

- i . Before using the instrument, read the instruction manual.**
- ii. The use of instrument should pay attention to moisture, waterproof, shockproof.**
- iii. The product is the optical instrument, should pay attention to protect the instrument's optical window, to avoid contamination and scratches.**
- iv. When the instrument is not in use, please put it into the instrument box, place in a cool and dry place.**

# twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL



LLÁMANOS

+52(81) 8115-1400 / +52 (81) 8173-4300

LADA Sin Costo:  
01 800 087 43 75

E-mail:  
[ventas@twilight.mx](mailto:ventas@twilight.mx)

[www.twilight.mx](http://www.twilight.mx)