

# REFLECTANCE METER (CRYPTOMETER) RM-206

This Reflectance Meter is small in size, light in weight, easy to carry. Although complex and advanced, it is convenient to use and operate. Its ruggedness will allow many years of use if proper operating techniques are followed. Please read the following instructions carefully and always keep this manual within easy reach.

## 3. STRUCTURE & DISPLAY



Fig. 1 Main Structure

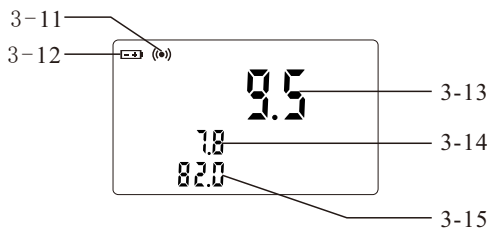


Fig. 2 Display

## 1. INSTRUMENT OVERVIEW

Cryptometer/Reflectance meter is manufactured by our company for implementation of the international coating industry standards. It meets the international standards of ISO3906-1980 (E), ISO3905, ISO2814, and the national standards of GB/T13452.3-92, GB9270-88, GB5211.17-88.

It can not only measure the transparency extent of coating, grease, film, plastic products, organic products; but also the reflectivity of solid surface (such as stereo movie screen).

It is widely used in coatings, pigments, inks, plastics, printing and dyeing, leather, film screenings and other industries, for product quality or standardized inspection and management.

This instrument is composed of main unit, standard board, testing board.

- 3-1 Display
- 3-2 Power Key
- 3-3 Calibration Key
- 3-4 Minus/Zero Key
- 3-5 Measurement Aperture On The Bottom
- 3-6 RB Key
- 3-7 RW Key
- 3-8 Plus Key
- 3-9 USB Interface
- 3-10 Power Adapter Interface
- 3-11 Measurement Indicator
- 3-12 Battery Indicator
- 3-13 Cryptometer Value
- 3-14 RB Value/Reflectance value
- 3-15 RW Value/Reflectance value

## 4. ZEROING & CALIBRATION

4-1 Press the Power Key to power on the meter. It is better to place the meter on the Black Standard Board.

### 4-2 Zeroing

Put the meter on the Black Standard Board, attach the Measurement Aperture closely to the Black Standard Board. Press the Minus/

Zero Key, the Measurement Indicator ' (●) ' comes out in a short while then disappears. Then ' 0 ' is displayed.

## 2. SPECIFICATIONS

- Range: 0~100
- Resolution: 0.1
- Accuracy:  $\pm 1$
- Repeatability: 0.3
- Measurement Area: 7x14mm (Ellipse)
- The display data is in direct proportion to the reflected light.
- The spectral sensitivity of the instrument is approximately equal to the product of  $Sc(\lambda)$  and  $y(\lambda)$ .
- Operation Temperature: 0~40°C
- Operation Humidity: <85%
- Power Supply: 3.7V Lithium Battery
- Size: 141x45x79mm
- Weight: 310g (Including Battery)

4-3 **Adjust The Calibration Value**  
Press and hold the Power Key for about 4 seconds, release the key when '  $\square$  ' comes out on the display. Then, a flashing value comes out, indicating the calibration value.

Press the Plus Key or the Minus/Zero Key to adjust the displayed value to the indicated value on White Standard Board. Press the Power Key to save and quit.

### 4-4 Calibration

Put the meter on the White Standard Board, attach the Measurement Aperture closely to the White Standard Board. Press the Calibration Key, the display shows '  $\square$  ' and Measurement Indicator ' (●) ', then the preset indicated value.

## Standard Accessories:

- Main Unit.....1pc
- Standard Board (Black & White).....1set
- Testing Board (Black & White).....1set
- Power Adapter.....1pc
- Optic Cleaning Cloth.....1pc
- Carrying Case.....1pc
- Operation Manual.....1pc

## Optional Accessories:

- USB Cable & Software
- Bluetooth Adapter & Software

## 5. MEASUREMENT

5-1 Press the Power Key to power on the meter. It is better to place the meter on the Black Standard Board. When measuring the coverage, it is necessary to take the sample with glass plate or transparent plate first.

5-2 Test RB value. Put the meter on the Black Testing Board covered with tested sample. Press the RB Key, the RB value is displayed (Perhaps, operate according to the relevant national standard).

5-3 Test RW value. Put the meter on the White Testing Board covered with tested sample. Press the RW Key, the RW value is displayed (Perhaps, operate according to the relevant national standard). After testing the RB value and the RW value, 2 beeps comes out, then the Cryptometer value will be figured out and displayed.

5-4 After measurement, press and hold the Power Key for about 2 seconds, release the key when 'OFF' is displayed, the meter is powered off.

5-5 When single reflectance is measured, the instrument is placed on the object to be measured, press RB or RW (3-14/3-15) once to display the reflectance of the object to be measured.

#### **6. AUTO Power OFF**

A 10 minutes no key operation auto power off can be set for the meter. Press and hold the Power Key for about 6 seconds, release the key when '10:00' comes out. Then, a digit '0' or '0' comes out, indicating 10 minutes auto power off or no auto power off. Press the Plus Key or the Minus/Zero Key to convert between auto power off and no auto power off, then press the Power Key to confirm and quit.

#### **7. THE INSTALLATION OF CONNECTION SOFTWARE**

A CD for installation of the connection software is optional. Software installation steps are as follows, for details, please refer to the demo video and documentation in the CD.

→ Run the CD, open the compressed folder, double click the 'Test Setup.Cn'.

→ Click 'Next'.

→ Click 'Browse', select the installation position, click 'OK'.

→ Click 'Next'.

→ Click 'Install'.

→ Click 'Finish'.

#### **8. REAL TIME DATA**

##### **TRANSMISSION FUNCTION**

8-1 After the installation of connection software, plug in the USB Data Cable or the Bluetooth Adapter, then install

the device on the computer. For the installation steps of device, please refer to the demo video and documentation in the CD.

8-2 Open the 'TestRS232(En)' on the desktop of the computer. Click 'System Settings', select the correct port, such as 'COM1', 'COM3', 'COM5'. Select 'Reflectance Meter', Click 'Save (A)', then click 'Exit (E)'.

8-3 Click 'Data Collection', then click 'Begin/Continue'. Press the RB Key or the RW Key, the present measurement data will be transmitted into the computer, for further processing.

#### **9. BATTERY CHARGING**

9-1 When the battery voltage is too low, the battery indicator 'B+' comes out.

It is necessary to charge the batteries.

9-2 To charge the battery, connect the

meter and a AC power supply with the Power Adapter. The battery will be full after 4 hour charging.

9-3 After charging, remove the power adapter.

#### **10. NOTES**

10-1 To ensure the accuracy of measurement, the instrument should be calibrated regularly.

10-2 in order to overcome the light fatigue phenomenon of the photocell, the probe should be placed on the black standard board in the gap time of the test.

10-3 The preparation of specimens shall be carried out in strict accordance with relevant national standards and regulations.