Fog Film Gloss Meter

HAG-2000

Instrument is small in size, the quantity of portable to carry, easy to use and operate. To ensure correct use, please read carefully the instructions of information, and shall be carried out in accordance with the instructions provided by the information operation.

GLOSS (GLOSS) - measuring the percentage of the number of reflected light. Reflection fog shadow (HAZE) - due to bad coating pigment dispersion in the microstructure of emulsion appearance, will happen this optical effect known as fog.Phenomenon: fog film is high gloss surface characteristic of the phenomenon. Tiny grain of high gloss surface near the main produce low intensity in the direction of the reflected light scattering light, but much of the incident light in the mirror reflection, makes the surface seems to be high gloss and image quality, but the images have a milky mist. The lower the fog shadow reading, surface quality, the better.

1. The application characteristics

* is suitable for the maintenance of the floor, surface cleaning, such as surface gloss measurement.
* stones, the glossiness of ceramic tile measurement, spray paint and other surface gloss measurement.
* paint, ink, paint coating, such as wax membrane and car body paint surface gloss measurement.* the product design and production in line with international:ASTMD523, ASTMD1455, ASTMC346, ASTMC584, ASTMD2457, IS02813, DIN67530 ENIS07668, JISZ8741, MFT30064, PINPIT480, GB9754, GB/T13891 GB7706 and GB 8807 standard.Technical parameters meet the criteria of JJG 696-2002.
* plastic, paper and other surface gloss measurement.
* other non-metallic materials such as surface gloss measurement.
* can also show 200 Angle, Angle of 600 and 85. Angle measuring glossiness.

2.Technical parameters

Photometric units: GU
Measuring range: 0~2000 GU
Accuracy: ±1.5 (relative to the reference standard of JJG 696-2002)
resolution: 0.1GU, repeatability :±0.5GU, error of indication: less than ±1.2GU
projection Angle: 20°, 60° and85°
Fog shadow units: HU resolution± 0. 1 HU, repeatability ± 0. 2 HU,±1.5 HU reproducibility
The measurement area: 7 x14mm (ellipse)
Numerical memory: 56 groups
environment temperature: 0~40°C
Relative humidity: less than 85%
battery: 2*1.5AAA
size：140 x45x75mm
Quantity: ±310 g(including battery).

2.1 Standard

Standard with secondary	One mainframe
	One optical cleaning cloth
	One box of calibration
	One power adapter.
	One portable case
	One copy of operation manual

Optional accessories	USB online line and software
	Bluetooth adapter and software

3.Panel shows

Overall structure drawing

Display figure

3-1	display	3-2	Power key
3-3	Luster/fog shadow conversion（Gu/Hu）	3-4	Calibrate/subtract keys(CAL/▼)
3-5	Measuring chain（MEAS）	3-6	The delete key（DEL）
3-7	Read/add chain(RD/▲)	3-8	USB line
3-9	The power adapter interface.	3-10	Calibration box
3-11	Calibration box	3-12	the battery symbol
3-13	60°measurements	3-14	20°measurements
3-15	85°measurements/ fog shadow value	3-16	Storage of symbols
3-17	Read the sign	3-18	Storage quantity indicating

4. Power on and off

4-1 Press the power button to power on.

4-2 In the boot state, hold down the power button for about 1 second, release the button when the display appears "OFF", and the instrument shuts down.

4-3 The instrument can be set for 10 minutes without button operation automatic shutdown. Press and hold the power button for about 5 seconds, release the button when the monitor appears “AUTO”, and then the monitor appears "10" or "0", indicating automatic shutdown or no automatic shutdown in 10 minutes. Press read/Add（RD/▲）or Calibrate/Subtract（CAL/▼）to switch off automatically. Press the power button to confirm and exit.

5 . Calibration

5-1 First set the calibration value. Press and hold the power button for about 5 seconds, release the button when the display appears "CAL", and then the digital flashing of 60°measured values on the display, press read/add key (RD/▲) or calibration/subtract key (CAL/) to adjust to the value shown on the calibration box, press the measurement key (MEAS) to confirm; Then the digital flash of the 20° measurement value on the display, also press read/add key (RD/▲) or calibration/reduction collar (CAL/V) to adjust to the value shown on the calibration box, press the measurement key (MEAS) to confirm; Then the digital flash of the 85° measurement value on the monitor, adjust the number to the value shown on the calibration box in the same way, press the measurement key (MEAS)

5-2" Then E is calibrated." Place the instrument in the calibration box and press the (MEAS) button to display the measured reading. Compare the measured reading with the set calibration value. If the two are equal, the instrument has been correctly calibrated; If the readings are measured with. If the set calibration values are not equal, press the calibration/Subtraction key (CAL/▼), the display will appear " ((●)) ", then the set calibration value will be displayed, and the instrument is calibrated

6. Instrument to measure

6-1 Gloss measurement: under the state of boot, press (G/HU) conversion to display 60°, 20°, 85° on the display screen, and then stick the measuring window of the instrument on the measured plane,

press the instrument to make the sensor and the measured object close together. Press the measurement key (MEAS), the measurement indicator "((●))"appears in the upper left corner of the display. "And then disappeared. The display screen then shows the gloss at 60°, 20° and 85° measuring angles

6-2 Fog shadow measurement: In the boot state, press (GU/HU) conversion to display 60° 20° on the display screen, and then stick the measuring window of the instrument on the measured plane, and press the instrument to make the sensor and the measured object close together. Click the measurement key (MEAS), the display upper left corner of the measurement indicator "((●))", then disappear. Then the screen displays 60°, 20° fog shadows.

7. Storage, reading and deletion of data

7-1 The instrument has two modes. One is the storage mode, which has the storage symbol "SV", indicating; The other is read mode, with read symbol "RD" indication.

7-2 Measurement is carried out in storage mode, and the measurement data is automatically saved in the instrument. Every time the measurement indicator " ((●)) ", store a set of data, store the weight indicator increment one, for example "55" becomes "56". Up to 56 sets of data can be stored. When the data store is full, the later data automatically replaces the earlier data.

7-3 To enter the read mode, just press the Read/Add key (RD/▲) in the boot state. The store symbol "SV" disappears and the read symbol "RD" appears: The store quantity indicator changes from "number of stored data" to "current ordinal/number of stored data ", eg. "55" to "56"

7-4 In read mode, press Read/Add (RD/▲) or Calibrate/subtract (CAL/▼) to browse the stored data. You can press the Delete key (DEL) to delete the stored data. To exit the read mode, simply press the Measurement key (MEAS), the read symbol "RD" disappears, and the store symbol "SV" appears, indicating the return to the store mode.

7-5 To delete all stored data, simply hold down the Delete key (DEL) for approximately 3 seconds in the measurement state.

7-6 When the amount of stored data is 0, press read/Add key (RD/▲) to try to enter the read mode, or press Delete key (DEL) to try to delete data, it will not be realized, and "Err" will be displayed on the display.

8.Installation of on-line software

The instrument can be installed with an online software installation CD. The installation steps of the CD software are as follows. For details, please refer to the demo video and documentation in the CD. First, run the random configuration CD. In the folder, open the zip package inside the file and double-click the "testsetup.cn" file.

→ Click "Next (N)";

→Click "Browse ®. . . ", select the installation location of the software, and click" OK ";

→Click "Next (N)" and click "Yes (Y)";

→ Click "Next (N)"; Click "Install (I)";

→ Click "Finish".

9. The data transmission function

To install the device to the computer, please refer to the demo video and documentation in the CD for the

To install the device to the computer, please refer to the demo video and documentation in the CD for the installation steps. Open TestRS232(Cn) on the desktop. Click "System Settings" and select the correct port, usually "com1", "com3 ", "com5"; Select glossometer. Click "Save" and click "Exit". Click "Data collection", click "Start/Continue", press "Read/Add" (RD/▲), all the data stored in the instrument can be transferred to the software. Relevant data processing can be carried out.

10. Synchronous testing capabilities

Press the bag of online software store, describe the random configuration of USB data cable or Bluetooth adapter, install the device to the computer, equipment installation steps can refer to the CD video and documentation. Sweat desktop software: "TestRS232

(Cn)". Click "system set", select the correct port, usually mention "com1", "com3", "com5": select "glossometer" click "sponsor", and then click "exit". Click: "Data collection", click "Start/relay iron" and press the measurement key (MEAS), the current measurement data can be transferred to the software. Relevant data processing can be carried out.

11. Instrument charging

11-1 When the battery voltage is too low, the battery symbol " ▭ " will appear on the display, and the instrument needs to be charged.

11-2 Connect the instrument to the AC power supply with the power adapter. After about 4 hours of charging, the battery is fully charged.

11-3 After charging the battery, remove the power adapter.

12. Equipment maintenance

* The instrument should be placed in a safe and clean place after use to prevent damage or contamination.

* Avoid ambient light from directly touching the measuring hole during measurement. It is necessary to shade the sun with a cloth, especially in strong light. , when the temperature difference between the measurement environment is large, it will seriously affect the measurement value. In this case, wait for some time until the temperature equalizes and then calibrate the meter.

* Recalibrate the instrument if the measurement operation lasts for a long period of time, such as an hour or more. * When the instrument is not in use for a long time, it is recommended to charge it once every 3 months.

* Check the gloss of the calibration sheet and sensor before each calibration; Make sure the surface is clean and free of oil, dust and other