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# Surface Testing PCE-GM 60

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## OPERATION MANUAL



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## 1. Description of System

The gloss meter PCE-GM 60 can be used to determine the gloss level of paints, coatings, plastics, ceramics and metal surfaces.

## 2. Safety instructions

⚠ If you use the unit properly, there are no hazards to fear.

⚠ Set unit far from the children.

⚠ Do not perform any repairs on the units, neither mechanical nor electrical yourself. The unit must be opened by trained professionals only. Please contact our customer service department in such cases. They will be happy to assist you as quickly as possible.


⚠ Please take out the battery if you do not use the unit for a long time. Avoid the battery flow.

## 3. General information

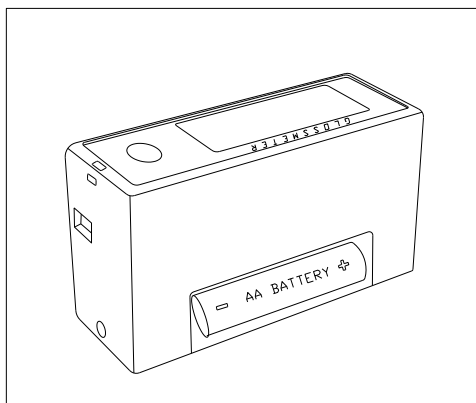
- The measurement unit consists of sensitive optical and electronic precision parts. Prevent it from being dropped or bumped or jostled!
- Do not hold the unit by the measurement aperture. You should not allow any foreign objects to get into this opening.
- Do not expose the unit to direct sunlight for extended periods of time. Do not store it in a hot or dusty environment.
- Avoid prolonged high relative humidity and do not allow water to form from condensation.
- Protect the measuring unit from moisture, chemicals and corrosive vapors.
- The standard board and the unit housing are resistant to many solvents. However, we cannot guarantee resistance to all chemicals. You should therefore use a soft, moist cloth for cleaning. For clean excessive dirt and dust, use ethanol or cleaning alcohol. Do not use any acetone!
- Please note the batteries are special refuse and shall not be disposed of together with household refuse. Pay attention to the producers' instruction or how to dispose of the battery.
- **Please keeps the standard board cleaning. The value is error if any dust, oil, and fingerprint on the standard board.**

## 4. Power supply and changing battery

**Before putting the unit in operating, read the operating instructions and pay attention to operation the safety instructions and general instructions in Section. Unpack the device and check to make certain all pieces have been included with delivery.**

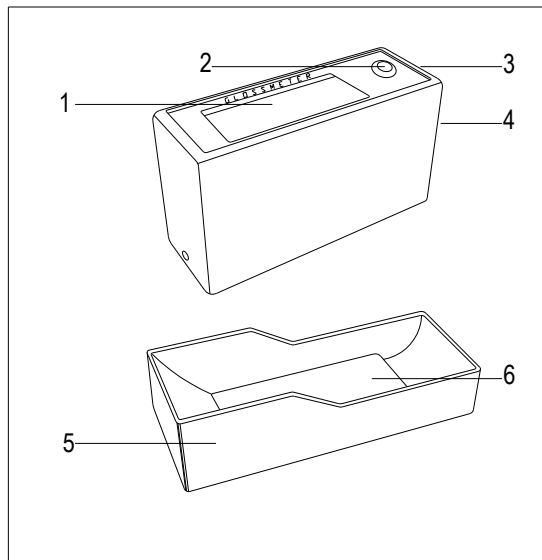
The device runs on one 1.5v AAA(LR03) alkaline battery(LR03). Depending the exact brand, the capacity of each battery is sufficient for about 10,000 measurements. When the battery voltage falls below the required minimum voltage in the course of operation, the following message appears on the display: , To ensure that the unit is always ready for operation, it is recommended to have a spare battery handy, especially when performing measurements in the field.

### Changing the battery

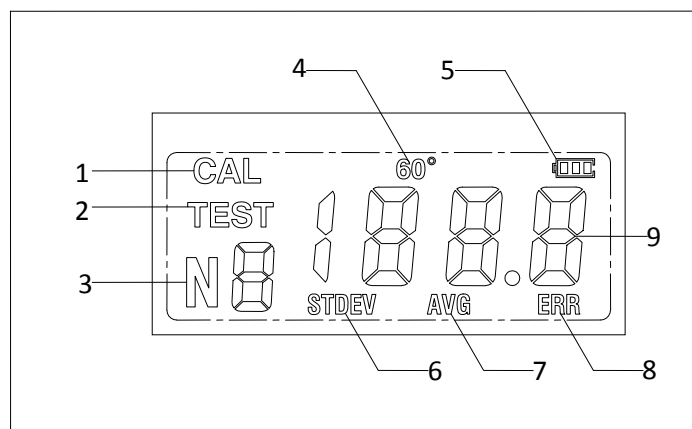


Open the battery cover back of the unit.  
Insert the new battery into the battery box and attention to the positive and pole as this figure.

## 5. Overview

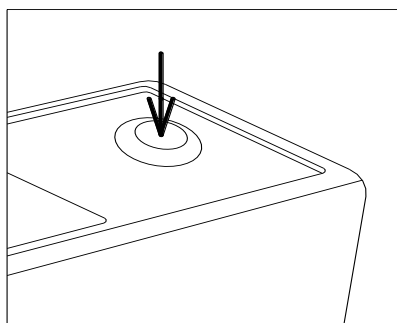


- 1 Display window
- 2 Multifunctional button
- 3 String position
- 4 PC communication interface
- 5 The holder
- 6 Standard board

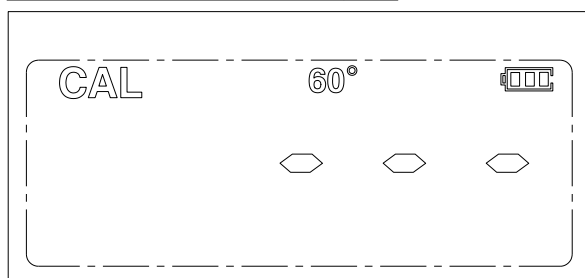


- |               |           |                      |
|---------------|-----------|----------------------|
| 1-Calibration | 2-Test    | 3-Statistic          |
| 4-Geometry    | 5-Battery | 6-Standard deviation |
| 7-Average     | 8-Error   | 9-Measure value      |

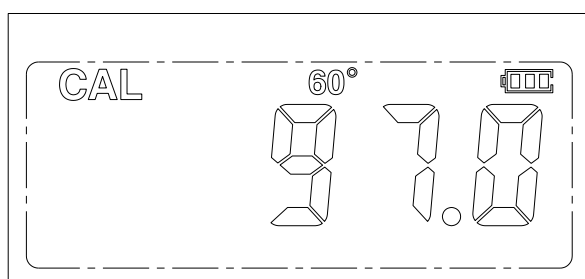
## 6. Getting started from calibration



←Turning on:  
Short press the button.



←Short press the button, the unit will enter the cal. mode if it's in the holder.

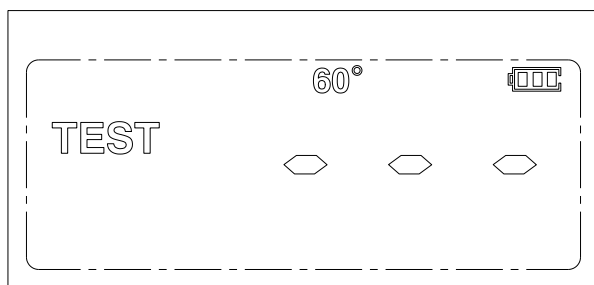


←Press the button, the unit will calibrate to 97.0 Gu (60° ) automatically.

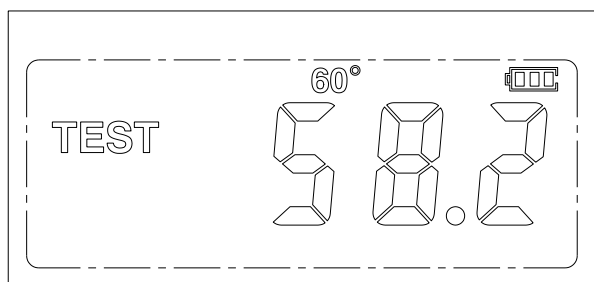
Turning off:

1. The unit will be shut off automatic in 2 minutes.
2. Long press the button, the unit will be shut off immediately if it's in the holder.

## 7. Testing

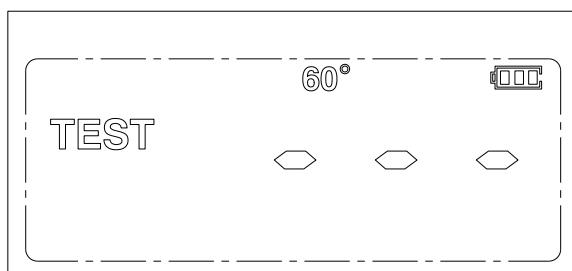
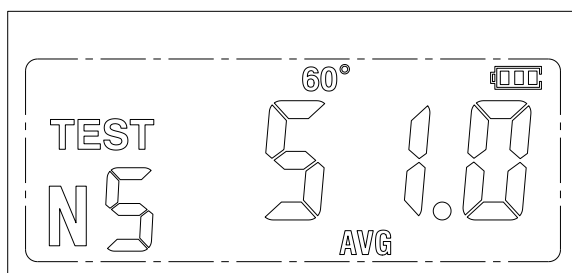
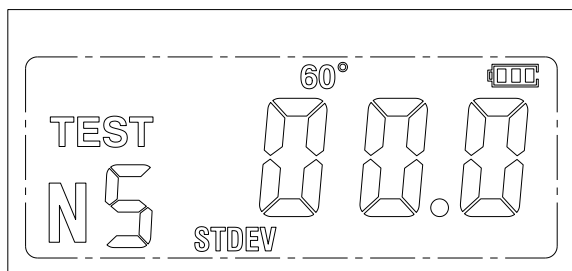
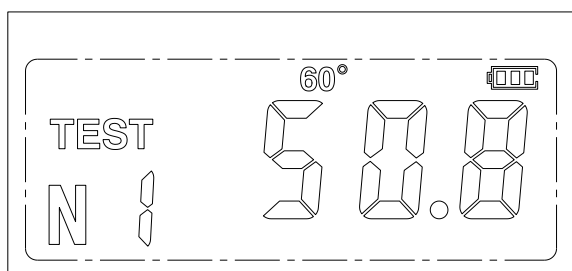
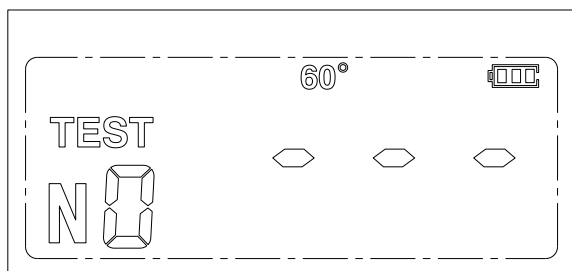


← Short press the button, the unit will enter the test mode if it's not in the holder.



← Press the button, it shows the test value.

## 8. Statistic



Long press button (over 2 second), the unit will enter stat. mode (Display "N0"): The number of measurements is 10 maximum(from N1-N0). You can decide how much times you want to calculate. For instance, you want to calculate 5 points statistical. Test your sample for 5 times at the different position. Its display "N5" and wait for 2 seconds, the deviation and average value will be calculated automatically. It'll display alternately.

Long press the button(over 2 second), the unit will quit stat. mode and enter the test mode.



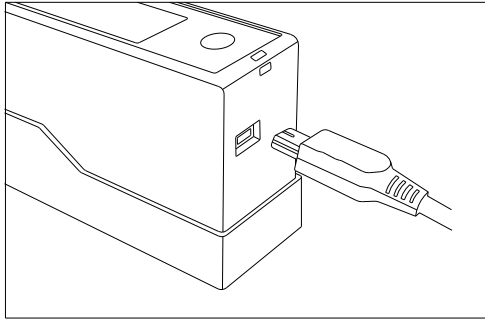
## 9. Standards

ISO2813	Paints and varnishes -- Determination of secular gloss of non-metallic paint films at 20 degrees, 60 degrees and 85 degrees.
ASTM D 523	Standard Test Method for Secular Gloss.
DIN 67530	The reflect meter as an aid in evaluating gloss on level paint and plastic surfaces.
ISO7668	Anodized aluminum and aluminum alloys-Measurement of secular reflectance and secular gloss at angles of 20°, 60°and 85°.

## 10. Parameter

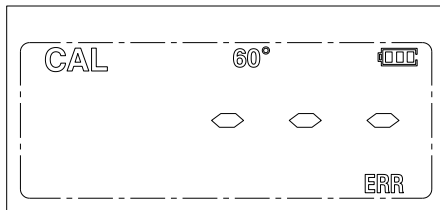
Geometry	60°
Size of measurement spot	10×20mm (ellipse)
Measurement spot	9×18mm
Light source	D65
statistic	Most 10 data
Interface	RS232 or USB
Software	My Gloss
Power	1.5vAAA(LR03)
Battery operation	About 10,000 measurements
Dimensions	83×46×30mm
Weight	100g (no battery)
Temperature	-10℃~~60℃
Rel. Humidity	85% (non-condensing)
Measurement range	0~99.9 100~1999Gu
Repeatability	0.2Gu (0~99.9Gu) 0.2% (100~1999Gu)
Reproducibility	0.5Gu (0~99.9Gu) 0.5% (100~1999Gu)

## 11. Interface

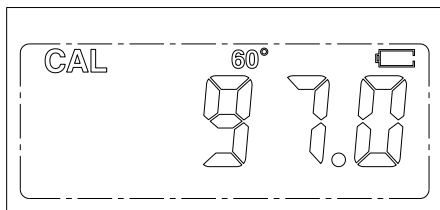


This unit can communicate with PC by RS232. You can also connect PC USB port by USB Adapter. After connected, you can transfer data and generate report by “My Gloss”. Please refer the software manual in disc for detail information.

## 12. Errors and warning messages



Calibrate error: For clean excessive dirt and dust, use ethanol or cleaning alcohol. And you try to calibrate again. Please contract the vendor if calibration will not going.



Low battery and the unit will have beep in 20 second. Please change the battery immediately.