SURFACE PROFILE GAUGE

AR-131A

This Surface Profile Gaige is small in size, light in weight, easy to carry, it is convenient to use and operate. It`s 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.

1. Features

* This Digital Surface Profile Gauge is a handheld gauge for fast and accurate measurement of the peak-to-valley height of the surface profile of blast cleaned surfaces.
* It meets the standards of ASTMD-4417-B, IMOMSC.215(82), SANS5772, US Navy NSI 009-32, US Navy PPI-63101-000. Suitable for the laboratory and for use in harsh field conditions.
Accurate, immediate and repeatable results.
* The tungsten carbide tip will last for up to 20,000 readings and can then be easily replaced by the user in the field. Cost per test is significantly lower than other test methods.
* Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement.
* Can communicate with PC for recording, printing and analyzing by

the optional software and cable for RS-232C interface. USB adaptor and Bluetooth interface can also be used. Automatic power off to conserve power.
* Widely used in field of blast cleaned surface measurement. If the profile is too large the amount of coating required to ensure adequate coverage increases, otherwise there is a danger that the peaks remain uncoated-allowing rust spots to occur. If the profile is too small, there may be an insufficient key to produce adequate adhesion, leading to premature coating failure. Ensuring the correct surface preparation optimises the performance of the coating and material usage.

2. Specifications

Display: LCD Display
Resolution: 1 μm (0.1 mils)
Relative humidity: no more than 85%
Range: 0 μm to 750μm
(0mils to 29.5mils)

Measurement speed: >30
(readings per minute)
Accuracy: ±5% or ±5 μm
(whichever is the greater)
Operating temperature: 0°C~ 50°C
(32°F~120°F)
Operating Humidity: ＜80%RH
Power supply: 2x1.5vAAA
(UM-4)Battery
Size: 170×63×24mm
Weight:310g (Not included Batteries)

Standard Accessories

* Host
* Carrying case
* Manual Book

Optional Accessories

* USB data output
* RS-232 data output
* Bluetooth data output

3. Front Panel Descriptions

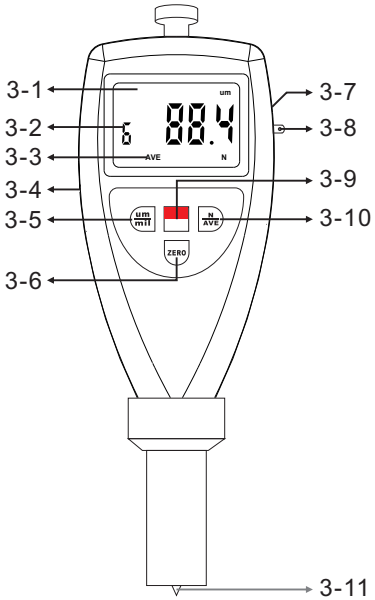

Fig-1

Fig-1 Information Form

3-1	Display
3-2	Number of measurements in the state of average value
3-3	Indicator of Average value
3-4	RS232C Interface
3-5	Um/Mil conversion key
3-6	Zero Key
3-7	Battery Cover
3-8	Wrist Ring
3-9	Power Key
3-10	N/Average Lkey
3-11	Sensor

4. Measuring Procedure

4.1 Switch on the gauge by pressing the power key.
4.2 Hold the gauge with the probe pressed firmly against the surface you are measuring such that the tip of the probe reaches into the bottom of the profile valley.
4.3 Read the depth shown on the display. The display also shows the measurement units (μm, mil).
4.4 The measurement unit can be easily switched by pressing the um/mil key.

5. Zeroing Your Gauge

5.1 Before taking measurements, always zero your gauge on a hard flat surface ; use the glass plate supplied with your gauge or a similar flat surface such as window glass.
5.2 Place the foot on the glass slide provided, to ensure the tip is in the same plane as the base of the foot.

5.3 Always pressing the Zero key to make the display show 0 (zero) and is immediately ready to use.

6. How To Take Average Value

6.1 To take the average value of many times of measurements, just depress and release the " N/AVE " key to make the symbol " N " showing on the display , followed by a digit between 1-9 with the prefix " No. ". Here the digit is the times of measurements used to calculate the average value. Every time depress and release the " N/AVE " key , the digit will increase 1. And the digit will become " 1 " while depressing the " N/AVE " key at " 9 " .

6.2 Adjust the digit to the number needed and depress " um/mil " key or " ZERO " key to return to the measurement state or wait for several seconds till '0' on the display.

6.3 Take measurements as per steps from 4.2 to 4.4. Every time take a

measurement, the reading and the times of measurements show on the display. When the times of measurements is equal to the number set, the gauge first displays the reading of the last , and then display the average value of last " N " measurements, followed by 2 beeps, with a symbol 'AVE' indicating on the display.

6.4 To take the next average value, just repeat 6.3.

6.5 To release from average measurement, just depress the " N/AVE " till " N " disappears.

7. Battery Replacement

7.1 When the battery symbol appears on the display, it is time to replace the batteries.

7.2 Slide the Battery Cover away from the tester and remove the batteries.

7.3 Install batteries paying careful attention to polarity.

8. Communicating with the PC

Install the batteries correctly into the case. Can communicate with PC for statistics and printing by the optional cable and software for RS-232 & USB and Bluetoot. Follow the instructions of transferring readings to a computer.