RHOPOINT
NOVO-GLOSS™

FLEX 60

On device display:
Gloss   n°17
▼MENU ▶STAT
60° GU   60° GUh
1.2   11.7
BATCH.001   04/02/16 14:55

Thank you for purchasing this Rhopoint product.
Please read these instructions carefully before operating this product and retain them for future reference.

RHOPOINT
INSTRUMENTS

This instruction manual contains important information about the setup and use of your Rhopoint NG Flex 60. It is essential that the contents be read before powering up and operating the instrument.

If this instrument is passed to other users, you must ensure that the instruction manual is supplied with the instrument. If you have any questions or require additional information about the Rhopoint NG Flex 60 please contact the Rhopoint Authorised Distributor for your region.

The technology and components used in the device are based on state-of-the-art optics and electronics. As part of Rhopoint Instruments' commitment to continually improve the technologies used in their products, they reserve the right to change information included in this document without prior notice.

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Contents

Storage and Handling

- This instrument contains precision optics and electronics. You should avoid knocking or dropping the device as the resulting impact could cause serious damage.

- In some circumstances the optical components in the instrument could become misted as a consequence of temperature change. It is recommended that the instrument is not used until it has stabilised to the ambient temperature.

- Ensure that the instrument is not exposed to moisture, chemicals or any corrosive vapours.

- Do not interfere or place any objects inside the measuring aperture as damage to the measuring system could occur.

- The instrument housing and screen are resistant to a variety of solvents however it is not possible to guarantee resistance to all chemicals, therefore the surfaces of the instrument should only be cleaned using a soft, moist cloth.

- Prevent exposure of the instrument to direct sunlight for prolonged periods and to continuous humidity and condensation.

About the Rhopoint NG Flex 60

The Rhopoint NG Flex 60 is used to quantify the gloss of difficult to access mid-low gloss surfaces. The instrument measures using the 60° geometry specified for measuring mid gloss surfaces 10-70GU.

To improve the measurement performance on low gloss surfaces (0-10 GU) the instrument has a GUh range: gloss unit high resolution. The GUh range gives x10 resolution and improved repeatability and accuracy on low gloss surfaces. Any surface from 0-125 GU can be measured using this device.

The GUh low gloss high resolution range uses an additional high gain amplifier for improved measurement on matt surfaces.

Accessories

The instrument is supplied as a standard package complete with all accessories required to calibrate and recharge the unit including:

- Rhopoint NG Flex 60 Glossmeter.

- Rhopoint NG Flex magnetic measurement adapter.

- Rhopoint NG Flex standard adapter.

- Rhopoint NG Flex 60 measuring head and remote connecting cable.

- BAM traceable high gloss calibration adapter including certificate.

- BAM traceable low (GUh range) gloss calibration adapter including certificate.

- Cleaning cloth for calibration tile.

- BAM traceable instrument certificate.

- USB mains charger with four selectable mains input connectors (UK / Europe / US / Australia).

- USB PC cable.

- Quick start operating instructions.

- Protective instrument carry case.

Functional Overview

Label No	Function
1	Measurement button
2	High resolution graphic display
3	Up/Down/Left/Right buttons
4	Calibration tile
5	Operate / Enter button
6	Remote measurement head
7	Remote measurement button
8	Magnetic measurement adapter

The instrument is controlled by pressing the relevant touch sensitive button. Functionality is dependent on whether the instrument is in menu or operate mode as detailed in the operation sections that follow.

Power

The Rhopoint NG Flex 60 is powered by an integrated high capacity lithium ion cell.

Fully charged the instrument will operate continuously for >17 hours or >20,000 readings.
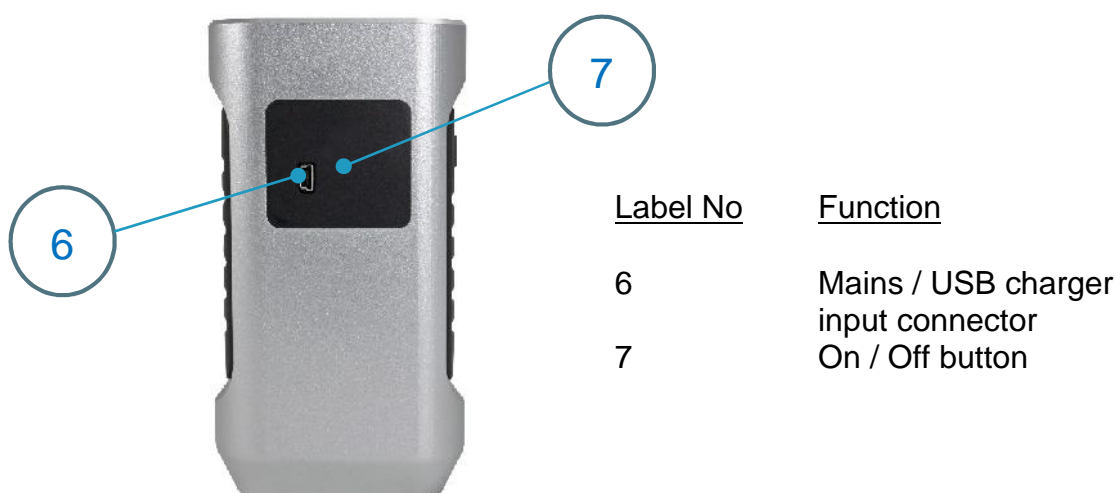
A mains powered USB charger is provided with the instrument. This will fully charge the instrument when connected to the unit's USB input (6) using the USB cable provided in under 4 hours.

The Rhopoint NG Flex 60 can also be powered and charged using the USB cable attached to any compatible USB host (e.g. laptop) however due to the lower current available from these devices the charge time would be a minimum of 6 – 8 hours.

Do not operate the instrument whilst it is charging.

Switching on the unit

To switch on the unit, touch the On/Off button located at the back of the instrument near the USB socket.

Label No	Function
6	Mains / USB charger input connector
7	On / Off button

The instrument will display the Rhopoint NG Flex 60 logo and then enter into the home screen displaying measurement parameters according to the instrument's default settings or those previously configured.

Similarly, the instrument can be powered off (dependent on configuration – see Instrument Setup) by pressing the On/Off button for three seconds.

Operation

The Rhopoint NG Flex 60 has the ability to flip its screens according to its measurement orientation.

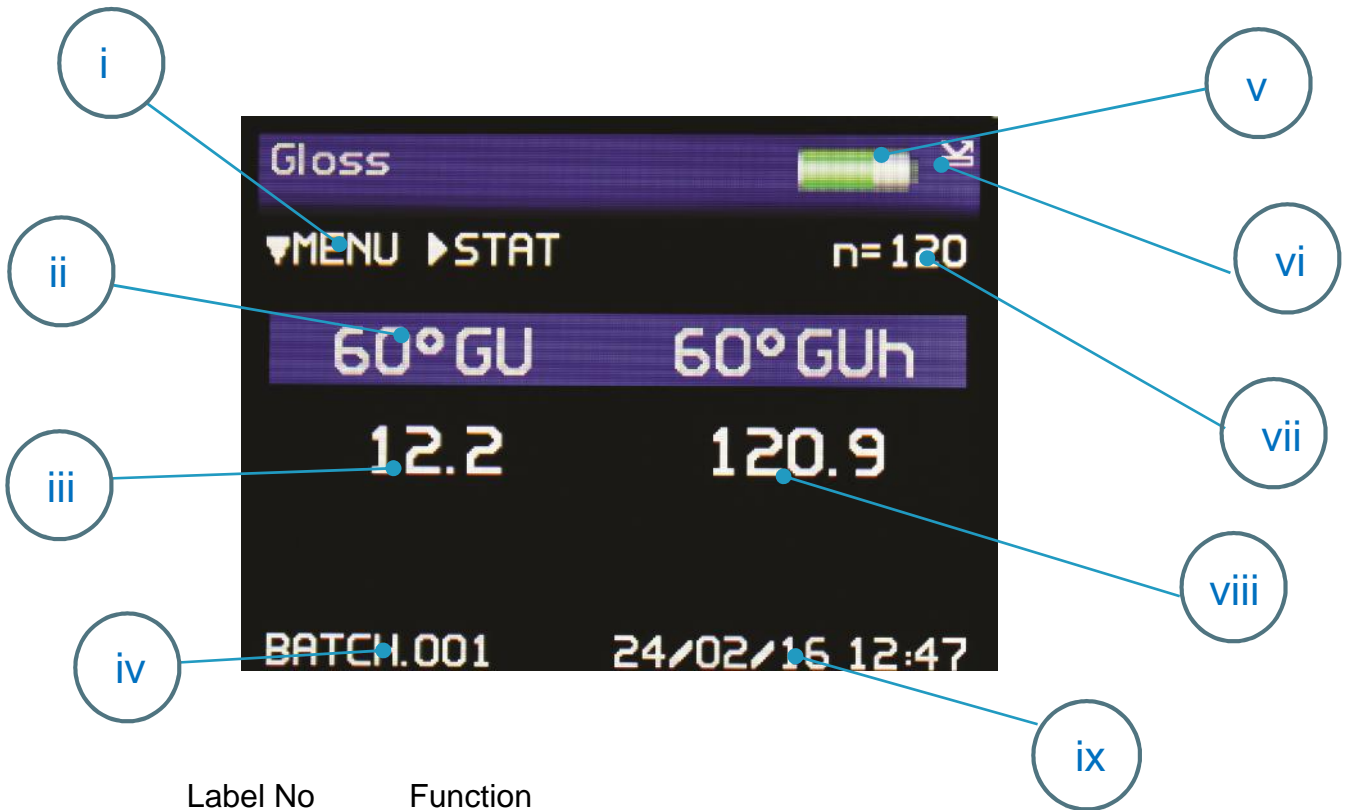It automatically displays measurement data in either portrait mode:

Or landscape mode:

Note: The Main Menu, Statistics and Main Measurement screen are available in portrait view. Other menus and graphs can only be accessed when the instrument is held in a landscape orientation. The flip function is disabled when landscape only screens are shown and when an on screen prompt is visible.
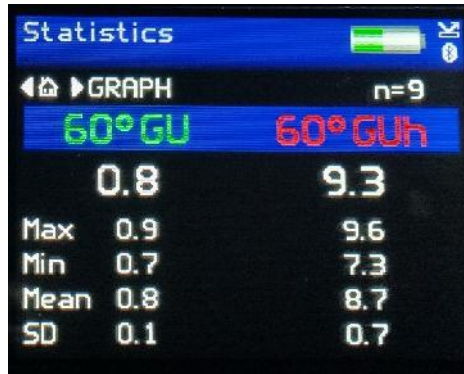
When the instrument is switched on and initialised it will display the home screen as shown below:

Label No	Function
i	Navigation options
ii	Geometry banner
iii	60° gloss measurement
iv	Batch name and number
v	Battery meter
vi	Instrument status and Bluetooth icons
vii	Batch iteration
viii	High resolution 60° gloss measurement (GUh)
ix	Date and time

In this mode, measurements can be made by simply pressing the measurement button (1) on the side of the instrument, remote head button (7) or operate button (4) on the instrument keypad.

Pressing the right button in the home screen the NG statistics screen is shown for the current batch. Memory must be switched on to access the statistics screen.

Pressing the left button returns the display to the home screen.

Pressing the right button in the NG statistics screen will access the NG graph screen providing a graphical representation of the statistics data. The same screen is available for gloss statistics when in the NG statistics screen.

When pressing the up / down buttons NG data can be displayed either all together or individually.

Pressing the up button in the NG graph screen accesses the gloss graph screen. Measurements can be taken whilst in this screen and the graph will be updated after each reading.

Pressing the left button returns the display to the Statistics Screen.

Pressing the right button the instrument returns the display to the Home Screen.

Menu Screen

The Menu screen is used to quickly access often used options. Pressing the up and down buttons navigates through the options. Pressing the enter button selects that option.

Selectable settings in the menu screen are:

Memory: Set to ON: This enables the storage and batching of measurement results. The amount of available storage memory is also displayed.

Set to OFF: This disables the result storage.

With Memory ON:

- Delete last reading – delete the last measurement, the no. of measurements and statistics data updated to previous values.

- Start new batch – start new batch of readings: batch name is incremented by 1.

- Clear current batch – delete entire batch of measurements for current batch.

- Delete all batches – delete all stored batches and measurements.

- Batch name – default name is BATCH. A maximum of 8 user defined batch names can be used as detailed in the Batching Options section.

- Calibrate instrument – perform a calibration of the instrument as detailed under Operation.

- Switch off – turn off the instrument.

- Pressing the left button returns the display to the home screen.

- Pressing the right button will access the setup screen.

Batching Options

The batching feature allows the user to group measurements together in batches. Each batch has associated statistics; the data for each batch can be accessed by connecting the instrument to a PC.

The current batch name is displayed on the home screen in the bottom left corner, the sample number within that batch is shown in the top right of the screen indicated with n=(sample number).

A new batch is started using the start new batch option in either the menu screen or the data menu, note that the batch name will increment as will the 'n' indicator.

The current batch can be cleared in the either the menu screen or the data menu. The batch name will remain the same but the 'n' indicator will reset to zero.

Auto batch size is user defined using the auto batch option in the data menu. When the number of readings in the current batch reach the number set by the user the instrument will automatically increment the batch name and set the 'n' indicator to zero.

Viewing Batch Data

To access the stored batch information connect the instrument to a PC using the USB data cable supplied.

A new device name NG-METER can be viewed and accessed via MY COMPUTER, in this device open the DATA folder. This folder contains subfolders which contain the data for each individual saved batch. Each reading is saved as an individual comma separated value (.csv) containing the gloss, time and date of reading, the serial number & calibration/servicing information.

Each reading also contains the statistics for the batch up to and including that reading. To access the STATISTICS for the whole batch, the last reading in the batch should be examined.
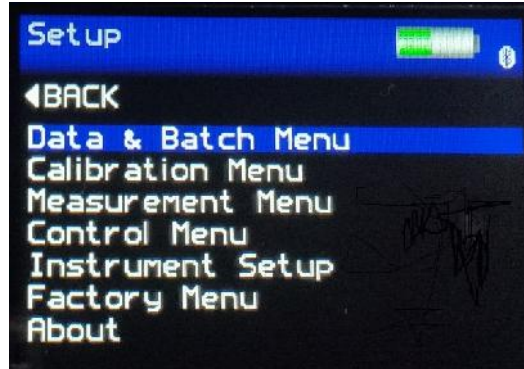
User Defined Batch Names

Batch names are user definable. With the instrument connected to a PC, open the folder named CONFIG. Within this folder there is a document named Batches. This is a .csv file that can be opened in Notepad, Excel or Wordpad.

User defined names should be saved in this document with each name listed on a separate line. Ensure that the final line is terminated with a carriage return.

The format of these names should only contain letters. Numbers, spaces or other characters cannot be used.

Once completed save the file then switch the instrument off and on again to initialize the new batch names.
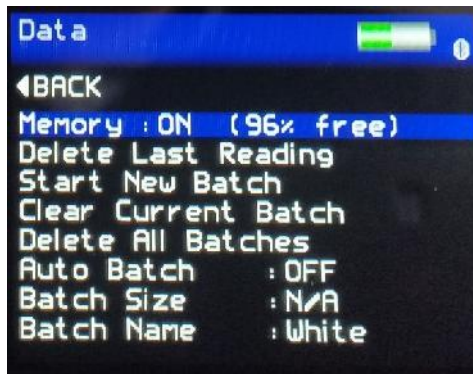
Setup Screen

The setup screen is used to customize the instrument to the user's preference. Pressing the up and down buttons navigates through the options, pressing the Enter button selects that option.

- Data and Batch Menu - Batch / Data options (See Data & Batch Menu Screen).

- Calibration Menu - Calibration options (See Calibration Menu Screen).

- Measurement Menu - Geometry setup (See Measurement Menu Screen).

- Control Menu - Bluetooth setup (See Control Menu Screen).

- Instrument Setup - Language, Date / Time and Power options (Setup Menu Screen).

- Factory Menu - Pin locked menu options for Rhopoint authorised service centres.

- Pressing the left button returns the display to the home screen.
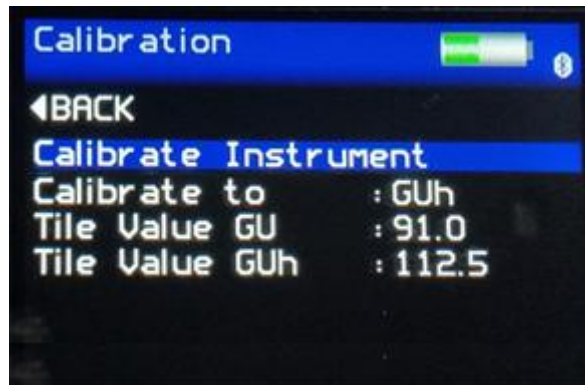
Data & Batch Screen

The Data Screen is similar in functionality to that of the menu screen but also allows the selection and setting of the Auto Batch size.

By selecting Auto Batch to ON the batch size can be selected between 1 - 999 by pressing the Left and Right buttons to select the relevant digit and the Up and Down buttons to increment / decrement the value. Pressing the Enter button saves the batch size.

If Batch names have been user defined, as detailed under Batching Options, selection of the Batch Name required is achieved by repeatedly pressing the Enter button with Batch Name selected.

Pressing the Left button returns the display to the home screen.

Calibration Screen

The Calibration Screen is used to setup the instrument calibration to the user's preference. Pressing the Up and Down buttons navigates through the options, pressing the Enter button selects that option.

Selectable settings in the Calibration screen are: -

Calibrate instrument – Performs an instant calibration of the instrument; a dialogue box being displayed upon completion to either "Cancel" or "Confirm".

Calibrate to -   GU - a traceable high gloss tile is used to calibrate GU ran

GUh - a traceable low gloss tile is used to calibrate GUh range.

Tile Value -   Set the calibration values for either standard being used for calibration. Pressing the Enter button selects the value. Pressing the Left and Right buttons selects the relevant digit and the Up and Down buttons increment / decrement the value. Pressing the Enter button again saves the value.

Calibrating the Novo-Gloss Flex 60

The Rhopoint Novo-Gloss Flex 60 is supplied with 2 calibration standards for the GU & GUh ranges. The standards are magnetically enclosed which protects the glass reference tiles from contamination and damage. The holder can be opened for inspection and cleaning.
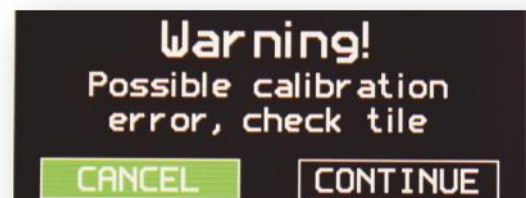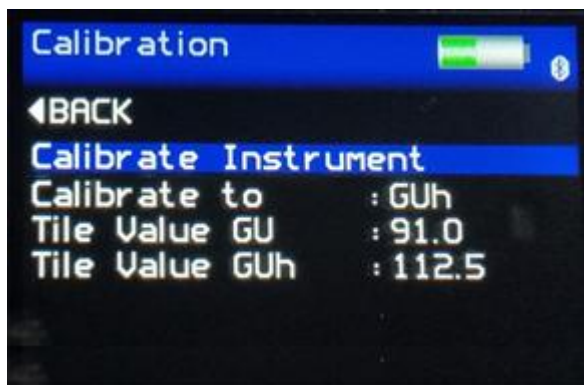

The calibration tiles are enclosed in a magnetically sealed holder.

To calibrate the instrument, remove the measurement adapter and attach the calibration holder. The instrument serial number on the calibration holder and instrument must be matched.
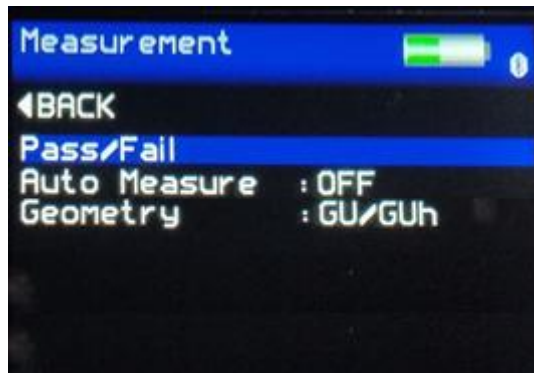

Place the measurement head and calibration holder on a flat surface and initiate calibration.

Select the correct calibration range in the calibration menu - the range is indicated on labels on the top and bottom of each holder. If the incorrect range is selected for the attached tile Calibration Error will be shown on the screen. Cancel the calibration and select the correct range then restart the procedure.

The Calibrate To field indicates which tile must be used for the calibration. If the wrong range or tile is selected an error message is shown. Cancel the calibration, change the tile or range and begin the calibration process again.

Measurement Screen

The Measurement Screen is used to configure the instruments measurement parameters to the user's preference. Pressing the Up and Down buttons navigates through the options, pressing the Enter button selects that option.

Selectable settings in the Measurement screen are:

Pass/Fail - Displays the Pass/Fail set up screen.

Auto Measure - Enables or disables automatic measurement mode, used for monitoring surfaces for changes over a period of time. Pressing the Enter button selects the required measurement frequency of either 2, 5 or 10 seconds. When auto measure mode is activated a dialogue box is displayed after the Enter button is pressed and before the beginning of the measurement sequence indicating that it is activated. To stop auto measure simply press the Enter button once again at any time during the sequence.

Geometry - The following measurements are selected to be displayed on measurement screen:

- GU/GUh- Both ranges are displayed on the measurement screen.

- GU – The standard gloss scale only is displayed.

- GUh – The high resolution gloss scale only is displayed.

Pressing the Left button returns the display to the home screen.

Pass/Fail Setup Screen

The Pass/Fail setup screen is used to enable/disable on-screen pass/fail indication and set min / max tolerances.

The down key should be used to navigate to the Pass/Fail option and the center button pressed to toggle the feature on and off.

Pressing the right navigation button allows the user to edit the pass & fail criteria.

Once the Pass/Fail feature is enabled, any measurement which falls between the max and min values will be considered a pass and its header text will be coloured green. Readings above the max value or below min value will be deemed a fail and header text will be coloured red. Saved data and data transmitted by Bluetooth will also contain a pass/fail field.

Select the done option to complete this process.

Control Screen

The Control Screen is used to configure the instruments Bluetooth parameters to the user's preference. Pressing the Up and Down buttons navigates through the options, pressing the Enter button selects that option.

Enable Remote Control is not presently user configurable.

- ID- Data is transmitted via Bluetooth with a field identification name*.

- SOF/EOF- Bluetooth data is transmitted with a start and end of field identification*.

- Bluetooth – Enables or disables Bluetooth

- Bluetooth Mode – Selects Bluetooth data mode:

> RC – Not currently used (for future use)
>
> Data – Basic data transfer mode (transmits On-Screen Parameters)
>
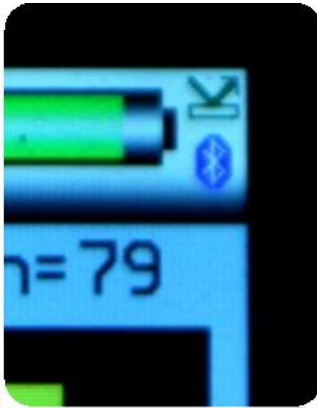> Pressing the Left button returns the display to the home screen.

*ID & SOF/EOF should be set to "OFF" for use with the Rhopoint Data Widget.
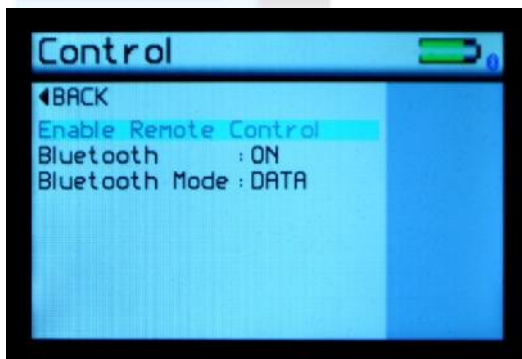
Bluetooth Communication and Pairing

The Rhopoint NG Flex 60 has a Bluetooth function that allows readings to be instantly transmitted to a compatible PC.
60° Gloss values, instrument serial number and service/calibration data can be instantly accessed by many PC applications including Excel, Word, Wordpad, OpenOffice or SPC packages.

Pairing Procedure

1. Switch on the Rhopoint NG Flex 60.
2. The Bluetooth icon must be visible to allow pairing.

3. If the Bluetooth icon is not visible, enable it as detailed in Control Screen.
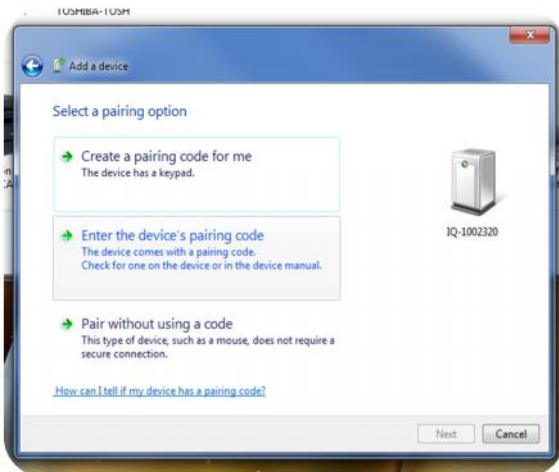Ensure that Bluetooth mode is set to either Data or Data+.

4. In Windows, go to START menu and select "Devices and Printers."

5. In Devices and Printers screen Click: Add a Device.

6. Windows will now search for available Bluetooth devices, double click on the icon that corresponds to the NG instrument.
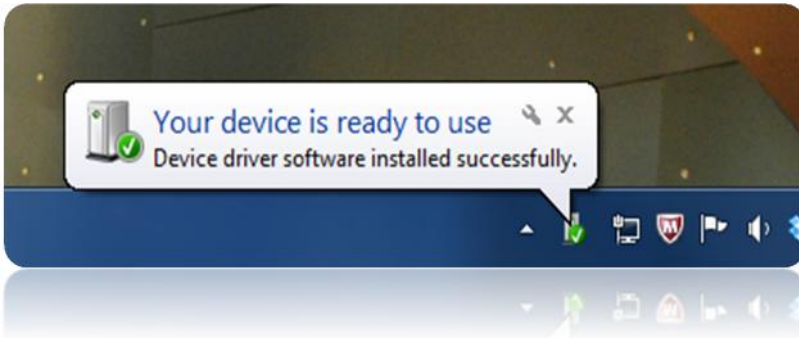

7: Click: Enter the devices pairing code in the Add a Device screen.

8: Enter the pairing code "0000".

Make sure the NG remains switched on throughout this process, to disable or extend auto power off refer to instructions detailed in Instrument Setup Screen that follow.
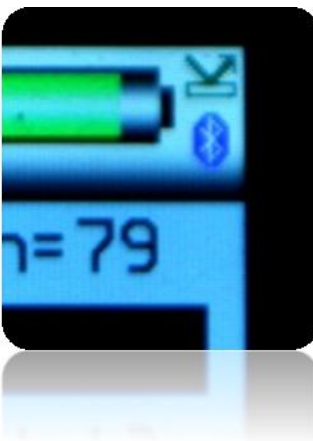
9. The NG is now installed on your PC and ready for connection to the Bluetooth Data Widget.

It is important to wait until Windows displays the 'Your device is ready to use' message before starting the data widget.

Bluetooth Data Widget Installation Instructions

The Bluetooth (BT) Data Widget software supplied with the instrument is a mini program that converts transmitted measurement data into keystrokes that are automatically input into any open PC program.

1. Install the BT Data Widget software (BTdatawidget.exe) found on the cd supplied with the instrument.

2. Check Bluetooth is switched on and that the instrument has been paired correctly.

3. On the desktop click on the "Data Widget" icon to start.

4. Click on the blue "refresh "arrow to search for paired NG(s).

5. The buttons are greyed out while the DATA widget searches for SWITCHED ON NG(s) that have been PAIRED to the PC.

6. Look in the data widget drop down box to see discovered instruments.
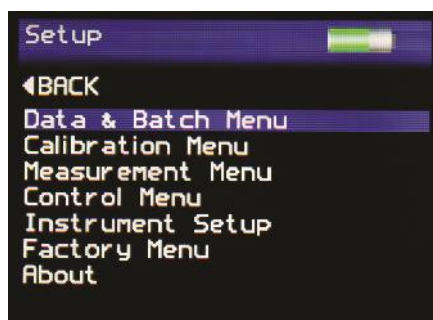
7. Select the instrument required.

8. Click the tick to connect the instrument.

9. The transmitter icon now appears on the NG.
All readings will now be automatically transferred to any open windows package.
Download example EXCEL spreadsheets from Rhopoint's website.

Instrument Setup Screen

The Instrument Setup screen is used to configure the instrument's basic operating environment to the user's preference. Pressing the Up and Down buttons navigates through the options, pressing the Enter button selects that option.

Selectable settings in the Instrument Setup screen are:-

Language – Set instrument language to English (default), Spanish, Italian, French, German, Chinese.

Backlight – Set screen intensity to either 20%, 40%, 60%, 80% or 100% brightness.

Power Off – Set instrument to automatically power off after either 30sec, 60sec, 90 sec or 120 sec or inactivity or DISABLE this feature.

Power Switch – Set On/Off button to switch the instrument ON ONLY, switch the instrument ON & OFF, or set it to ON (Fn) to operate as a Function Select button.

Selecting the Power Switch to Function Select mode provides easy access to two regularly used features, Rotate Screen and New Batch.

In the home screen, press and hold the On/Off button.

Pressing either the Up button will rotate the screen. Only one rotation is possible each time the On/Off button is pressed.

Pressing the Down button allows a New Batch to be started, this action is either Confirmed or Cancelled by selecting the required box when prompted using the Left and Right buttons and pressing the Enter button.

Sound – Enable or disable button press sound

USB Charge – Set the USB charge current to either 500mA or 100/500mA.

Set Date & Time – Set the date and time on the instrument. Press the Down button to set time. Pressing the Left and Right buttons selects the date or time and the Up and Down buttons increment / decrement the value. Pressing the Enter button again saves the value.
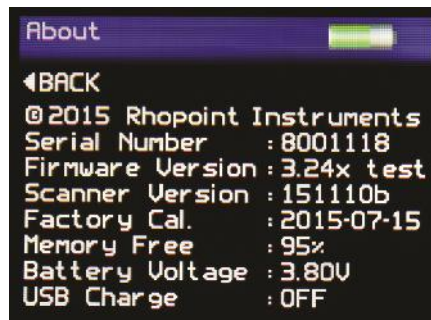
Pressing the Left button returns the display to the home screen

Maintenance Screen

The Maintenance screen is used by Rhopoint Approved Service Centres.
It is PIN locked to prevented unauthorised access.
There are no user configurable settings available.

Pressing the Enter button returns the display to the home screen.

About Screen

The About screen is for information only.
It provides information relating to the instruments software, the instrument serial number and last date of Factory Calibration.
It also shows the amount of free memory available and battery power status.

Notes

Technical Specification

GLOSS MEASUREMENT SPECIFICATION

Geometry: 60°

Resolution: 0.1 GU

               0.1 GUh (0.01 GU)

STANDARDS: ISO 2813, ASTM D523, DIN 67530, JIS 8741, ISO 7668

GLOSS CALIBRATION STANDARD

NMI traceable

Instrument Specification

Colour Screen

• Adjustable brightness 6 button touch sensitive interface.

Construction

• All aluminium construction – enclosure, optics, standard holder.

• Integrated calibration holder with in position detector.

Statistical Analysis

• Max, Min, Mean, S.D.

• All measured parameters.

Graphical Analysis

• On board trend analysis.

• Gloss and NG values.

Power

• Rechargeable lithium ion.

• >17 hours operation.

• >20,000 readings/charge.

Operate from

• Internal battery/USB/USB mains charger.

Recharge Time

• USB mains charger 4.5 hrs.

Memory

• 8 MB–>999 Readings.

• User definable batching.

Data Transfer

• Bluetooth.

• PC compatible.

• USB connection.

• No software install required.