

# NOVO-GLOSS™

Flex 60°



## Operating Instructions

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

English

This instruction manual contains important information about the setup and use of your [Rhopoint Novo-Gloss™](#) 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 Novo-Gloss™ 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 optic and electronics. As part of Rhopoint Instruments commitment to continually improving the technologies used in their products, they reserve the right to change information included in this document without prior notice.

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## 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 ambient temperature.
- Ensure that the instrument is not exposed to moisture, chemicals or to 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 normally 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.

## **Accessories**

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

Rhopoint Novo-Gloss Flex 60° glossmeter

High and low gloss calibration tiles 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

Mini DVD with instruction manual and Bluetooth data widget software

## Power

The Rhopoint Novo-Gloss Flex 60 is powered by an integrated high capacity lithium ion cell.

Fully charged, the instrument will operate continuously for up to 17 hours or up to 20,000 readings.

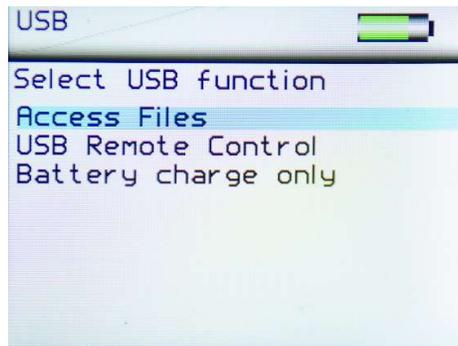
A USB cable is supplied for connecting and charging via a PC USB socket. The unit can be used to take measurements when connected to a PC.

A mains powered USB charger is provided with the unit. This will fully charge the unit when connected to the unit's USB input (6) using the USB cable provided in approximately 3 hours.

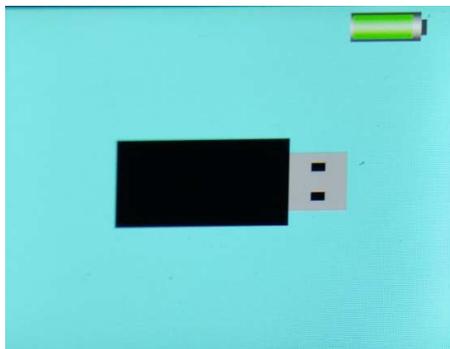
**Do not use the instrument to take measurements whilst connected to the mains powered charger.**

## USB Connectivity

Three functions are available when the Novo-Gloss is connected to a computer using the USB cable supplied –



Access Files – Allows access to measurement and configuration files on the instrument. The instrument appears as a USB drive named NG-METER. When selected the display on the instrument shows a USB memory key as shown below –



USB Remote Control - Allows control of the Novo-Gloss remotely by sending ASCII commands from a computer or PLC. In this mode the instrument displays “REMOTE CONTROL ACTIVE” on the main measurement screen.

Battery Charge Only – Allows USB charging of the instrument – all instrument functions are available however do not operate the instrument whilst it is connected via USB and/or charging.

## Functional Overview

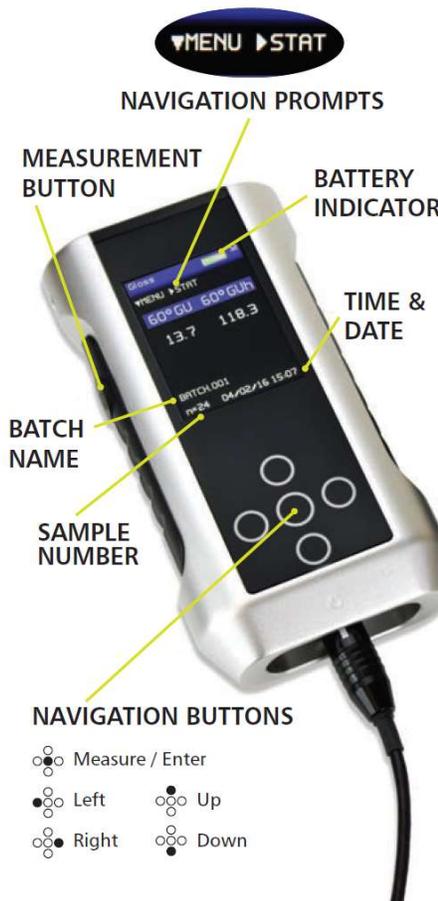
### BACK OF INSTRUMENT

- POWER ON/OFF**
- Press once to power up
  - Press and hold to power off\*
  - \*Power off option must be selected in instrument set up.



- USB SOCKET**
- Software free connection to PC
  - Instrument charging socket

Fig. 1



### MEASUREMENT HEAD



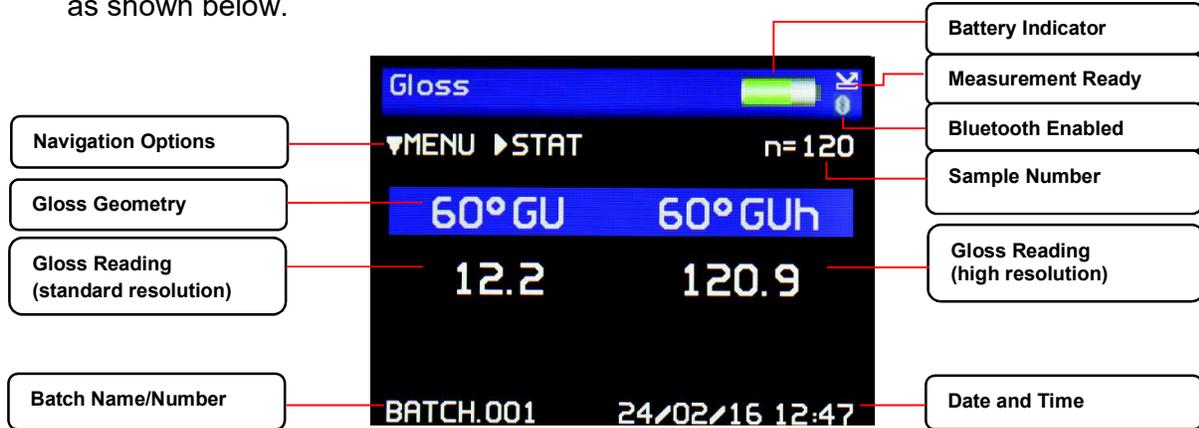
Fig. 2

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.

**PLEASE NOTE THAT THE CABLE CONNECTORS ON BOTH THE HEAD AND THE MAIN INSTRUMENT ARE DESIGNED NOT TO BE REMOVED**

## Operation

With the unit switched on and initialised the instrument will display the home screen as shown below.

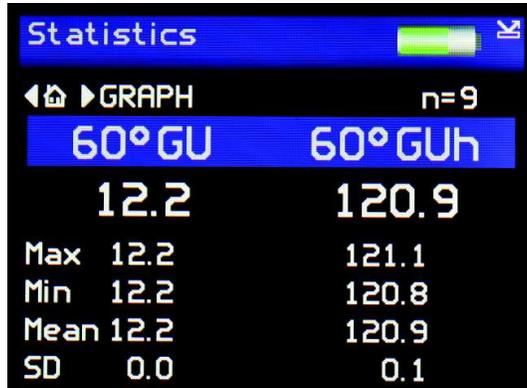


In this mode, measurements can be made by simply pressing any of the measurement buttons.

With the pass/fail feature enabled, the Novo-Gloss Flex 60 will compare each measurement range to user defined tolerances. If the gloss reading is within specification the angle header will be displayed in green; if the reading falls outside the tolerances the header is marked in red.

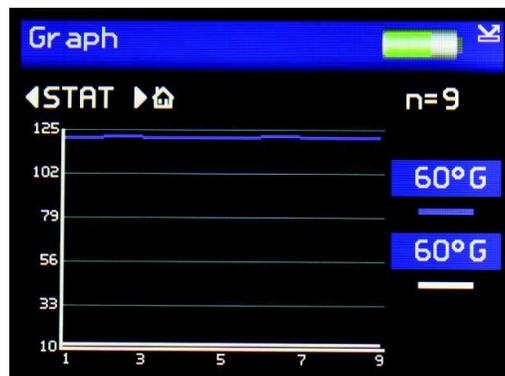


Pressing the Right button in the home screen will access the statistics screen for the current batch. Measurements can be taken whilst in this screen and the statistics will be updated.



If the pass/fail feature is enabled, the colour of the angle header indicates if the last reading is within the user defined tolerances.

Pressing the Right button in the statistics screen will access the graph screen providing a graphical representation of the statistics data.



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.

# Calibration

The instrument has two ranges of measurement that are calibrated individually.

GU: 0-100GU

GUh: 0-12GU

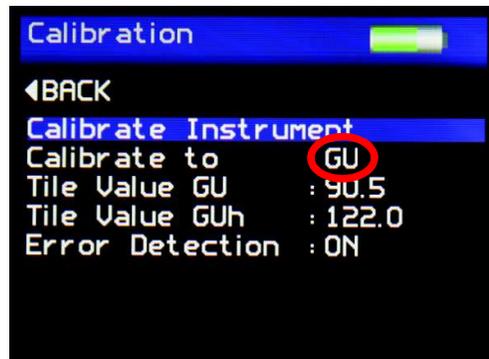
1. Select GU calibration tile



2. Attach tile to measurement head; for best performance place on a flat surface.



3. Navigate to: Menu > Setup > Calibration Menu
4. Ensure 'Calibrate to' is set to GU and select 'Calibrate Instrument'



5. Press the measurement button to calibrate and select 'Confirm' once completed



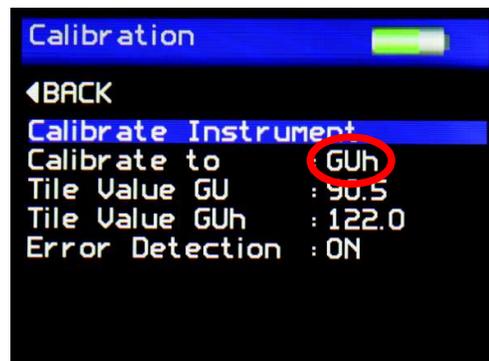
6. Select GUh calibration tile



7. Attach tile to measurement head; for best performance place on a flat surface.



8. Navigate to: Menu > Setup > Calibration Menu
9. Ensure 'Calibrate to' is set to GUh and select 'Calibrate Instrument'



10. Press the measurement button to calibrate and select 'Confirm' once completed



11. The Novo-Gloss Flex 60 has a feature to check if the correct tile is selected for the calibrated range or to detect contamination on the tile, in case of error the following message will be displayed.



- 12. In case of error check the correct tile is selected (step 1. or step 6.)
- 13. If the correct tile is selected check tile for damage or contamination.



14. In case of contamination clean the tile with the supplied lint free cleaning cloth, do not use any solvents or cleaning fluids.

## Menu Screen

The Menu Screen is used for quick access to 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, enables storage and batching of measurement results. The amount of available storage memory is also displayed.

Set to OFF – disables result storage.

With Memory ON:

Delete Last Reading – Delete last measurement, 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 batches and measurements stored.

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 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. Maximum batch size is 250, when this number is reached a new batch will start.

## 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 FLEX 60" can be viewed and accessed via "MY COMPUTER". In this device open the DATA folder; this folder contains subfolders for the data of each individual saved batch.

The BATCH folder contains individual files for each reading in the batch.

Each BATCH folder also contains a STATS file and a SUMMARY file. The STATS file contains the complete batch statistics and the SUMMARY file contains data for each individual reading in a single file.

## 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 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, no numbers, spaces or other characters can 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 customise 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)

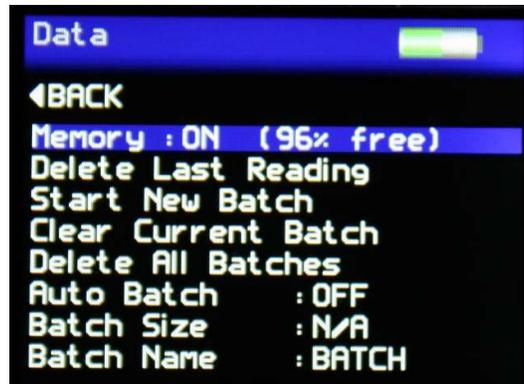
Control Menu - Bluetooth setup (See Control Menu Screen)

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 & Batch 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 - 250 by pressing the Left and Right buttons to select the relevant digit and the Up and Down buttons to increase/decrease 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".

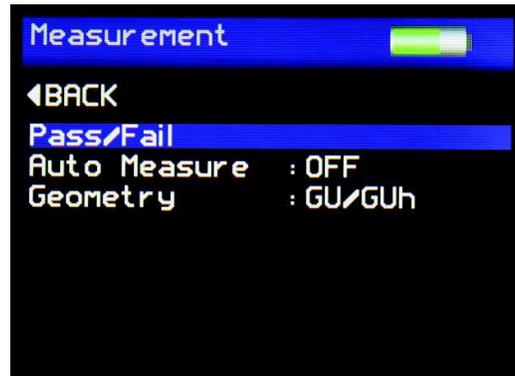
Calibrate to - Set to GU - a traceable gloss tile is used as the calibration standard

Set to GUh - a traceable low gloss tile is used as the calibration standard

Tile Value GU - GU standard calibration value – Do not change

Tile Value GUh - GUh standard calibration value – Do not change

## Measurement Screen



The Measurement Screen is used to configure the instrument's 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- Enters 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 – Displays the measurement range either:

GU High gloss range 0-100 GU

GUh Low gloss range 0-12 GUh

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 measurement criteria.

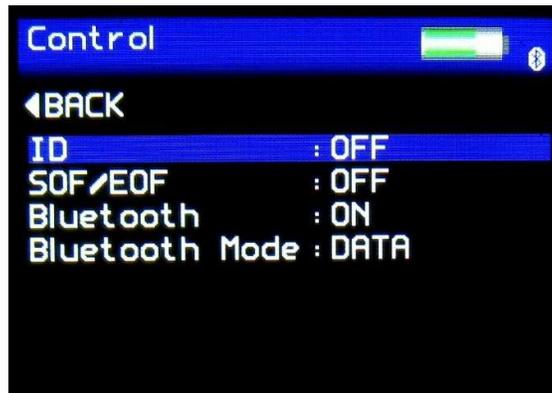
The down key should be used to navigate to the Pass/Fail option and the central button pressed to toggle the feature on and off.

Pressing the right navigation button allows the user to edit 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.

Selecting the Done option will complete this process.

## Control Screen



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

Settings in the Control screen are:

ID – Measurement definition header

SOF/EOF – Start / End of file markers for use in analysis software

Bluetooth – Enables or disables Bluetooth

Bluetooth Mode – Displays mode enabled (not switchable)

## 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

Screen View – Set the orientation of the screen as NORMAL, or AUTO

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

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

Power Switch – Set On/Off button to switch the instrument ON ONLY or to switch it ON & OFF

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 increase/decrease 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 in this menu.

Pressing the Enter button returns the display to the home screen

## **About Screen**

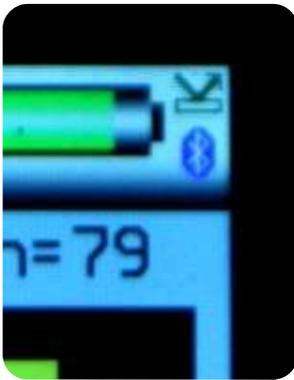
The About screen is for information only. It provides information relating to the instruments software, the instrument serial number and last date of Factory Calibration. It also shows the amount of free memory available and battery power status.

# Bluetooth Communication & Pairing

The Novo-Gloss Flex 60 has a Bluetooth function that allows readings to be instantly transmitted to a compatible PC.

Gloss values and the 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 instrument.
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+

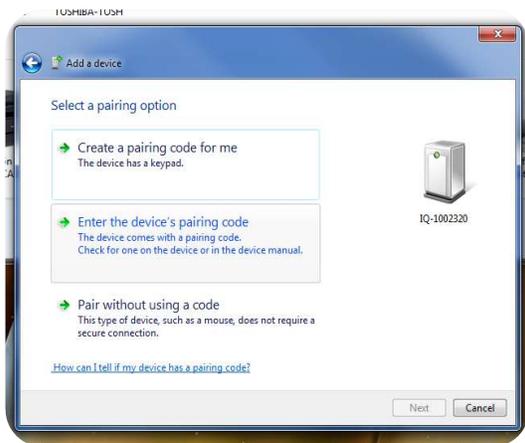


4. In Windows, go to START menu and select "Devices and Printers."

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 instrument.

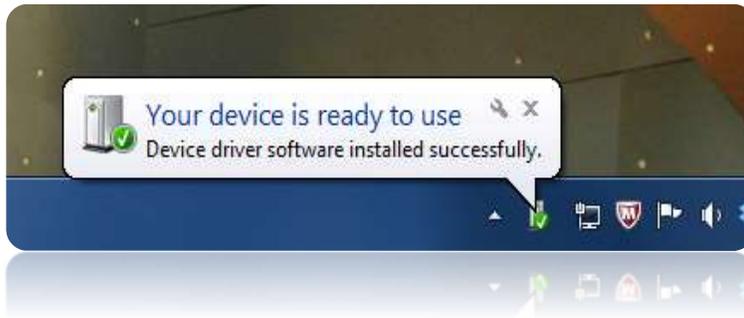


7: Click "Enter the device's pairing code" in the "Add a device" screen.



8: Enter the pairing code "0000".

Make sure the instrument remains switched on throughout this process. To disable or extend auto power off, refer to instructions detailed in the "Instrument Setup Screen" section.



9. The Novo-Gloss Flex 60 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 DVD 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 Novo-Gloss & IQ instruments.





5. The buttons are greyed out while the data widget searches for switched on instruments that have been paired to the PC.

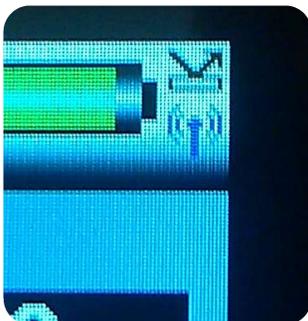


6. Look in the data widget drop down box to see discovered instruments.



7. Select the instrument required.

8. Click the green tick to connect the instrument.



The transmitter icon now appears on the Novo-Gloss Flex 60.

All readings will now automatically be transferred to any open Windows package.

Download example EXCEL spreadsheets from Rhopoint's website or locate them on the DVD.

# Technical Specification

## GLOSS MEASUREMENT SPECIFICATION

60° geometry

	<b>GU</b>	<b>GUh</b>
Measurement range:	0-125 GU	0-125 GUh
Resolution:	0.1 GU	0.1 GUh (0.01 GU)
Repeatability:	+/-0.2 GU	+/- 0.5 GUh (0.05 GU)
Reproducibility:	+/-0.5 GU	+/- 2.0 GU (0.2 GU)
Standards:	ISO 2813, ISO 7668, ASTM D523, ASTM D2457 DIN 67530, JIS 8741, JIS K 5600-4-7	

# Instrument Specification

## Operation

- Full colour easy to read screen
- Adjustable brightness
- 6 button touch sensitive interface with measurement buttons on the head unit

## Construction

- Integrated calibration holder for error free calibration

## Measurement

- Fast measurement
- Results batching with user definable names

## Statistical Analysis

- Max, min, mean, SD

## Graphical Analysis

- On board trend analysis

## Power

- Rechargeable lithium ion
- Up to 17 hours operation
- Up to 20,000 readings per charge

## Memory

- 8MB= >2,000 readings
- User definable alphanumeric batching

## Data Transfer

- Bluetooth
- PC compatible
- USB connection, no software installation required

## Measurement Area

- 60°: 6mm x 12mm

## Environmental Conditions

- Operating temperatures: 15 – 40° C (60 – 104° F)
- Humidity: Up to 85%, non-condensing

## Dimensions and Weight

- Instrument: 80 x 150 x 35mm (H x W x D), 329g
- Measurement head: 60 x 110 x 28mm (H x W x D), 109g
- Packed weight: 1.6kg
- Packed dimensions: 110 x 280 x 220mm (H x W x D)