

AutoStop Mini Plus

Hand Held Brake Tester



Licence ID number: 10242



DECLARATION OF CONFORMITY

We, AutoTest Products Pty Ltd. declare under our sole responsibility that the product AutoStop Mini Plus is in conformity with the provisions of the following Council Directive: 1999/5/EC.

A copy of the Declaration of Conformity is available from <http://www.autotest.net.au>

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1. UNPACKING AND FIRST TIME USE

Congratulations on your choice of an AutoStop Mini Plus. Please take the time to read this User's Manual before using the AutoStop Mini Plus in the field. Incorrect or inappropriate use of this instrument may void the warranty. Retain the packing materials for future shipping and transport of the unit for periodic calibration.

Please complete the warranty registration card and post it to AutoTest Products Pty Ltd, alternatively visit our website www.autotest.net.au and complete your warranty registration on line. Your warranty registration ensures that you are kept up-to-date on any software or hardware changes to your AutoStop Mini Plus.

The packing box of your AutoStop Mini Plus should contain the following:

1. AutoStop Mini Plus
2. User Manual
3. Warranty Registration Card
4. Calibration Certificate
5. Power Adaptor
6. Datalogger USB added

Optional Accessories:

- MiniPlus Data logger software CD-ROM
- Bluetooth Wireless printer
- Rare Earth magnet motorbike kit

AutoStop Mini Plus determines triaxial deceleration, measuring forward as well as sideways deceleration (lane change). AutoStop Mini Plus has a twelve-button operation via a tactile membrane keypad with LCD display. It is lightweight (500grms) and compact (200x70x40mm) and can be installed anywhere in the vehicle.

1.1 Unit activation

When you receive your new Meter, you must activate it before you can use it. When you turn it on for the first time, you will come to the main menu. The first option on the menu will be "Activate".

Press the ENTER key to begin activation. You are now prompted to enter the 5-digit serial number, one digit at a time. Press ENTER to confirm, DEL to re-enter. Once your meter is activated, it is ready for use, and you will never need to perform the activation again.

1.2 Self Test and Battery Check

The self-test function is activated each time the AutoStop Mini Plus is powered, it checks the clock, the battery level and the calibration due date. The sequence as follows: - after initial power up and start-up splash screen sequence the display will indicate "Test?". If the battery does not have sufficient charge to be used, then it will display "Warning: Battery Low".

2. FOR YOUR SAFETY

Read these simple guidelines. Not following them may be dangerous. Read the complete user guide. Further detailed information is given in this manual.



SWITCH ON SAFELY

Do not switch the device on when wireless device use is prohibited or when it may cause interference or danger.



SWITCH OFF WHEN REFUELING

Do not use the device at a refuelling point. Do not use near fuel or chemicals.



SWITCH OFF NEAR BLASTING

Follow any restrictions. Do not use the device where blasting is in progress.



USE SENSIBLY

Use only in the positions as explained in the product documentation.



QUALIFIED SERVICE

Only qualified personnel may install or repair this product.



ACCESSORIES AND BATTERIES

Use only approved accessories and batteries. Do not connect incompatible products.



WATER-RESISTANCE

Your device is not water-resistant. Keep it dry.



CONNECTING TO OTHER DEVICES

When connecting to any other device, read its user's guide for detailed safety instructions. Do not connect incompatible products.

3. OPERATION

3.1 Test Conditions and Test Area

The vehicle must be stationary (at a complete stop) prior to commencement of the test. Ideal conditions are to test the vehicle at a location where no other or only few vehicles are present. However, if it is necessary to use another area, such as a public road, only commence the test if there is no danger of an accident. The test area should be a sealed, flat bitumen road. The headwind should be less than 15km/h.

Test starts with first movement of the vehicle, and concludes when the vehicle comes to a complete stop. The forward direction of the vehicle is determined when the vehicle first starts to move. For example, if the test is started when the vehicle pulls out from the kerb, then the calculated forward direction will be at an angle to the true forward direction. The first movement of the vehicle must be in the forward direction. Please be sure to follow the brake test procedure detailed in the latest version of the relevant Inspection Manual when carrying out a statutory test.

3.2 Set-Up in Vehicle

Attach the Mini Plus to the dashboard, front passenger seat, foot well or centre console so that the screen is clearly visible and the buttons are accessible. AutoStop Mini Plus is self-aligning by identifying its orientation during acceleration at the beginning of each test - Mini Plus can be installed at any angle facing any orientation, but must be secure for the entire duration of the test as movement can cause wrong deceleration readings.

Note: If Mini Plus is configured for use in heavy vehicles, it should only be mounted flat on a levelled surface, or on the side-window of the vehicle using suction cup mounts. In such cases, if the tilt angle of the device is outside the tolerance level, the device will display "Slope too large". The tilt warning message will disappear automatically once the slope angle of the unit is adjusted to the level plane (in reference to ground).

3.3 Changing the units

The resultant average deceleration and max deceleration can be viewed in different units like g, m/s² or %. The speed, stopping distance and the side shift can be viewed can be in imperial and metric units. To select the units, press ON/OFF button to power up the unit. The display will show "Test?" press —> until it displays "Set Accel. Unit?" to change the units of average and maximum deceleration. There are three options for acceleration units: m/s², g or %. Press —> to select a unit and ENTER to set a unit.

| Acceleration Units |
|------------------------------------|
| m/s ² |
| g |
| % (where 0% = 0.00g, 100% = 1.00g) |

The units of speed, stopping distance and side shift can be changed to imperial or metric. Select Imperial/Metric? option from the main menu. Press ENTER. Select imperial or metric units and press ENTER. The speed, stopping distance and side shift in both units are as follows:

| Unit | Imperial | Metric |
|-------------------|----------------------|----------------------------|
| Speed | Miles per hour (mph) | Kilometer per hour (km/h) |
| Stopping distance | Feet (ft) | Meter (m) |

3.4 Running the Test

Turn on AutoStop Mini Plus by pressing ON/OFF. The Mini Plus will go through a start-up procedure and show the calibration due date. The display will show "Test?" press 'ENTER'. The Mini Plus will initialise the test procedure by prompting the user to enter "Examiner ID", "Customer Name" and "Vehicle Registration No." The Mini Plus will remember the previously stored Examiner ID. To change the Examiner ID, press —> then key-in the new ID.

The Mini Plus will then show "Press any key to commence the test". After pressing any key, the display will show "Ready to go". Drive the vehicle to the desired test speed and apply the brakes. When the vehicle has come to a halt the Mini Plus will finish the calculations and will display the results – you can then simply compare them with the specific brake values according to your local regulations. The results that will be displayed are:

1. Average Deceleration
2. Maximum Deceleration
3. Test Duration

3.5 Test Instructions Summary

| SCREEN DISPLAY | INSTRUCTION | KEYS TO PRESS |
|------------------------------------|--|--|
| Blank Screen | Switch ON | ON / OFF |
| Initial Splash Screen | | Press any key to skip |
| Test ? | Start to run test | ENTER |
| Examiner? | Enter Examiner ID if it is not stored previously | Press ≥ key and key-in ID and press ENTER |
| Customer: | Enter customer name | Key-in customer name and press ENTER |
| Reg No: | Enter the Registration no | Key-in registration no and press ENTER |
| Test with GPS? | Conduct test with GPS | Press ENTER for YES and any other key for NO |
| Press any key to commence the test | Press any key to commence the test | Press any key to commence the test |
| Ready to go... | Accelerate the vehicle | |
| Prelude... | Forward direction detected. Keep accelerating to desired speed, then brake | |

| SCREEN DISPLAY | INSTRUCTION | KEYS TO PRESS |
|----------------|--|---|
| Sampling... | Wait for result | |
| Calculating... | Wait for result | |
| Save? | To save test result | Press ENTER to save or → to go to next item |
| Print? | To print test result on remote Bluetooth printer | Press ENTER to save or → to go to next item |
| Print Another? | To print duplicate test result | Press ENTER if you want to print the test result or press → |
| Repeat Test? | To repeat same test | Press ENTER to repeat the test or → to go to main menu. |

Must:

- Fix Mini Plus securely
- Install in a stationary vehicle
- Must drive in a straight line

Must not:

- Turn car after starting test
- Hold unit in hand or on body
- Move Mini Plus after pressing start
- Skid wheels

“A good stop is like stopping at a traffic light – steady.”

3.6 Other Functions

- **View Results?** : Press ENTER and display will show the test number and the date and time of test. Press → to select the required test number and press ENTER to view each test result. Mini Plus can store up to ninety test results. At the end there is a **“Clear Results?”** option to clear all test results. The Mini Plus will hold ninety tests and will display **“Memory full”** when the memory is full and stored data has to be cleared.
- **Adjust Contrast?** : Press ENTER to adjust the contrast of the display and press → to increase the contrast and DEL to reduce contrast.

- **Set acceleration units?** : Press ENTER to select acceleration unit. The acceleration units can be changed to g, percentage or m/s²
- **Imperial/Metric?** : Press ENTER to change to Imperial or Metric units.
- **View Clock?** : This function is for viewing the date and time set on Mini Plus. Press ENTER to view the clock
- **Battery Life?** : Press ENTER to view the battery life of the Mini Plus
- **View Accel?** : This function is to view the X, Y and Z-axes of the accelerometer. Press ENTER to view these values.
- **View Test Count?** : This function is to view the total number of tests carried on the Mini Plus after calibration. Press ENTER to view the test count.
- **Language?** : This function allows users to select a different interface language. Press ENTER to view available languages. Note: results obtained using French language will be based on SRV-P036 standard.

3.7 Printing on Bluetooth printer (optional accessory)

In order to print the test results on Bluetooth printer, switch on the printer and give print command from the Mini Plus. Mini Plus will display "Finding printer" while searching for the Bluetooth printer. Once the Bluetooth printer is found, Mini Plus will automatically issue the printout of the test via the Bluetooth printer.

Note: When Mini Plus is not able to find a Bluetooth printer it will display "No printer found" and "Find printer? Y/N" messages on the LCD screen. Switch OFF the Bluetooth printer and switch it back ON and select "Find printer? Y" from Mini Plus to retry printing.

3.8 Menu Reference

| Display Main Menu | Display Sub Menu | Description | Keys to Press |
|-------------------|---|---|--|
| Activate Unit? | | This to activate the MiniPlus as the unit is locked prior to shipment | Press ENTER or → to view next item on main menu |
| | Please enter the 5-digit Serial Number code of this unit, then press ENTER to confirm, or DEL to re-enter. Press any key to begin | | Press any key to go to next sub-menu |
| Code: ----- | | This is to enter the 5-digit serial number code | Key-in the 5-digit serial number and Press ENTER |

| Display Main Menu | Display Sub Menu | Description | Keys to Press |
|-------------------|---|--|--|
| | Unit Activated | This is an indication that the unit has been activated | Press ENTER |
| Test? | | This does not appear if unit is not activated. This is for carrying out the test | Press ENTER |
| Examiner? | This is for enter the name of the person carrying out the test. | | Press → , when cursor appears key-in the examiner name |
| | Customer: | This is for entering the name of the customer | Key-in the customer name and Press ENTER |
| | Reg No: | This is for entering the registration number of the vehicle under test | Key in the registration number and press ENTER |
| | Test with GPS? | This is to decide whether or not the test require GPS location | Press ENTER for YES and any other key for NO |
| | Press any key to commence test | This is an indication to press any key to commence the test | Press any key |
| | Stabilising... | This is when the unit is checking its stability | |
| | Ready to go... | Accelerate the vehicle to the desired speed | |
| | Prelude... | This indicates forward motion of the test vehicle. | |
| | Sampling... | This indicates that the brakes have been applied and it is sampling data for calculation | |
| | Calculating... | This indicates that the test is complete and the unit is calculating the results | |

| Display Main Menu | Display Sub Menu | Description | Keys to Press |
|-------------------|------------------------------|--|---|
| | Save? | This is for saving the current test result | Press ENTER to save or —> to go to next sub menu |
| | Print? | This is for printing the test result via Bluetooth printer (optional accessory) | Press ENTER to print or —> to go to next sub menu |
| | Print Another? | This option is to print another copy of the same test | Press ENTER to print or —> to go to next sub menu |
| | Repeat Test? | This is for repeating test | Press ENTER |
| View Test? | | This is for viewing the stored data | Press ENTER to print or —> to go to next sub menu |
| | 3/n | This is third (last) result out of <i>n</i> stored results | Press ENTER to view results of the second test or Press —> to go to next sub menu |
| | 2/n | This is second result out of <i>n</i> stored results | Press ENTER to view results of the second test or Press —> to go to next sub menu |
| | 1/n | This is first result out of <i>n</i> stored results | Press ENTER to view results of the second test or Press —> to go to next sub menu |
| | Clear Results? | This is to clear the results stored on Mini Plus | Press ENTER to clear stores data or press —> to go back to the main menu |
| | Are you sure? Y/N | | Use —> to select Yes/No, then press ENTER |
| Set Accel. Unit? | | This is to set the units of average and maximum deceleration | Press ENTER to set the acceleration unit or —> to go to next main menu |
| | Accel unit: m/s ² | This is to set the units of average and maximum deceleration in terms of 'm/s ² ' | Press ENTER to set or —> to select another unit |

| Display Main Menu | Display Sub Menu | Description | Keys to Press |
|-------------------------|-----------------------|---|--|
| | Accel unit: g | This is to set the units of average and maximum deceleration in terms of 'g' | Press ENTER to set or —> to select another unit |
| | Accel unit: % | This is to set the units of average and maximum deceleration in terms of '%' | Press ENTER to set or —> to select another unit |
| Imperial/Metric? | | This is to change the units of speed, stopping distance and side shift | Press ENTER to set the units or —> to go to main menu |
| | I/M: Metric | This is to change the units of speed, stopping distance and side shift to metric | Press ENTER to set the unit to metric or press —> to select another unit |
| | I/M: Imperial | This is to change the units of speed, stopping distance and side shift to imperial | Press ENTER to set the unit to imperial or press —> to select another unit |
| View Clock? | | This is to view the date and time on the Mini Plus | Press ENTER to set the units or —> to go to main menu |
| | Date: dd/mm/yy | This shows the date on the Mini Plus | Wait until display shows time or Press —> to view time or Press ENTER to go to main menu |
| | Time: hh:mm:ss | This shows the time on the Mini Plus. <i>Note: press '1' to toggle daylight saving. When daylight saving is enabled, '*' will be displayed on LCD.</i> | Wait until the display shows date or Press —> to view date or Press ENTER to go to main menu |
| Battery Life? | | This shows the battery life on Mini Plus | Press ENTER to view battery life or press —> to return to main menu |

| Display Main Menu | Display Sub Menu | Description | Keys to Press |
|-------------------|--|---|---|
| View Accel. ? | This is to view X, Y and Z-axes of the accelerometer | | Press ENTER to view acceleration or press —> to return to main menu |
| | Vsum : | This shows the vector sum of all three axes. | Press —> to view another axis or press ENTER to go to main menu |
| | X: | This shows the X-axis of the accelerometer | Press —> to view another axis or press ENTER to go to main menu |
| | Y: | This shows the Y-axis of the accelerometer | Press —> to view another axis or press ENTER to go to main menu |
| | Z: | This shows the Z-axis of the accelerometer | Press —> to view another axis or press ENTER to go to main menu |
| | Tilt: | This shows the tilt angle of the brake meter | Press —> to switch to another screen or press ENTER to go to main menu |
| View Test Count? | | This is to view the total number of tests carried out on the Mini Plus | Press ENTER to view the count or —> to go to main menu |
| Printer Type? | | Allows user to configure printer settings | Press ENTER to open menu |
| | Bluetooth: YES | To enable or disable Bluetooth printer Note: If Bluetooth printer is disabled, the printing will occur via RS232. | Press —> to toggle between "YES" and "NO", press ENTER to save settings and return. |
| Language? | | This allows users to change the unit interface language. | Press ENTER to view available languages |
| | | Changes interface language to English | |
| | French ? | Changes interface language to French. Note: Results obtained using French language will be based on SRV- P036 standard. | Press ENTER to select French language or —> to see the next language |

4 DOWNLOADING

The AutoStop Mini Plus can hold 99 tests numbered one to Ninety - Nine. Test results stored in Mini Plus can be downloaded to a PC using a USB cable, or via Bluetooth interface. To download the tests, a datalogger software needs to be installed on the PC. The datalogger software can be installed from the provided USB or can be downloaded from the Internet.

4.1 Systems Requirements

To use the datalogger software, the PC must meet the following requirements:

- **Operating System** : Windows 2000 or later
- **Disk Space** : 10 MB of free hard disk space

To install the datalogger software from the provided USB, perform the following steps:

1. Select installation file "setup.exe" and run it.
2. Follow Setup prompts. Make sure you run the application with administrator level privileges.

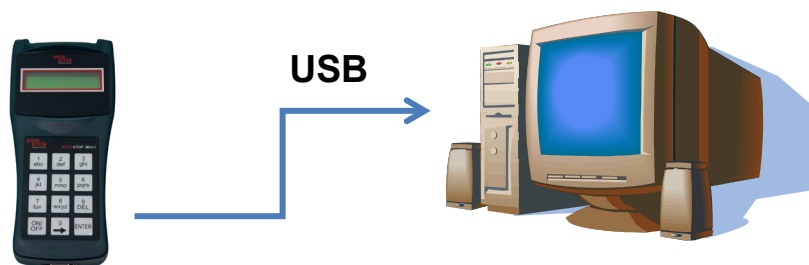
The latest version of the AutoStop Mini Plus datalogger software can be freely obtained from the Internet by opening the following URL: <https://www.autotest.net.au/product/autostop-mini-plus-brake-meter/> . When the above link opens, select "AutoStop MiniPlus Datalogger Software" link under ' Product Downloads'. Then simply download and run the installation file.

4.4 Downloading Tests using the Data Logger Software

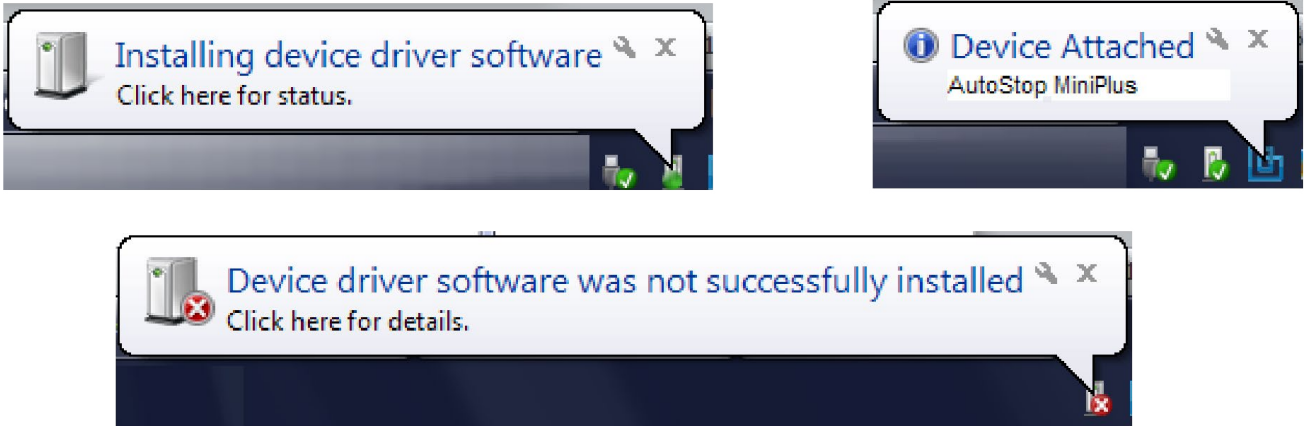
There are a couple of ways of downloading data from Mini Plus. The data can be downloaded via USB or Bluetooth. Once the datalogger software has been installed, run the software and follow the downloading instructions given below.

4.4.1 Downloading via USB

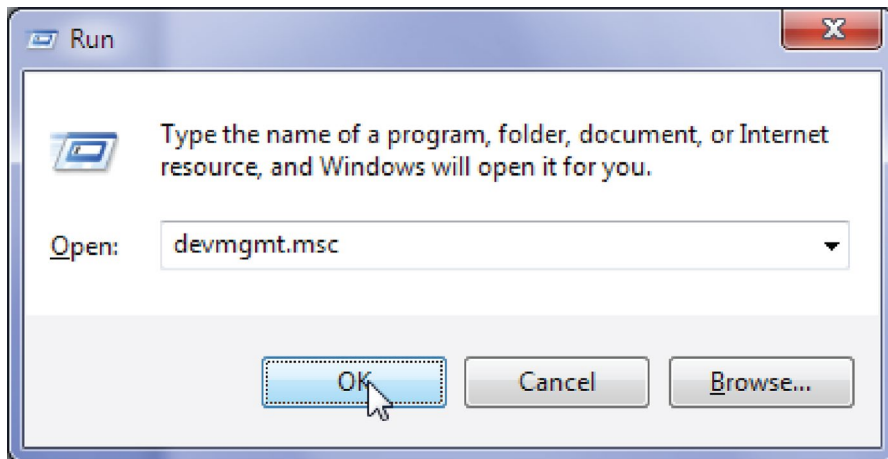
Once the Data Logger software is installed, run the Data Logger software and connect the Brake Meter to the PC via the supplied USB cable.



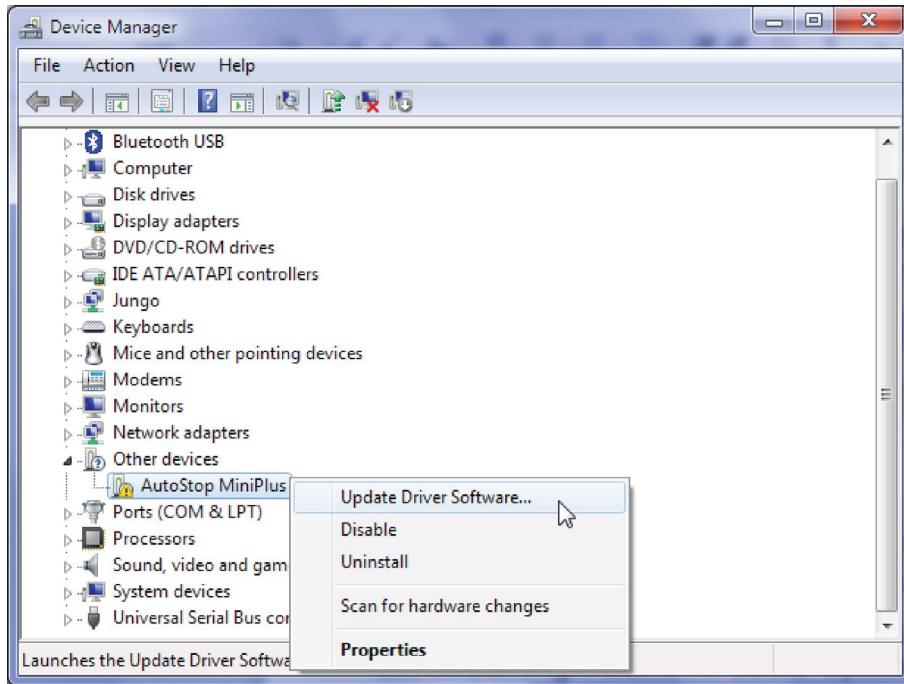
Once the USB cable is connected to the PC, switch ON the Brake Meter by pressing the ON/OFF key. When the Brake Meter is switched ON, the PC will recognise the Brake Meter device and will search for the USB drivers.



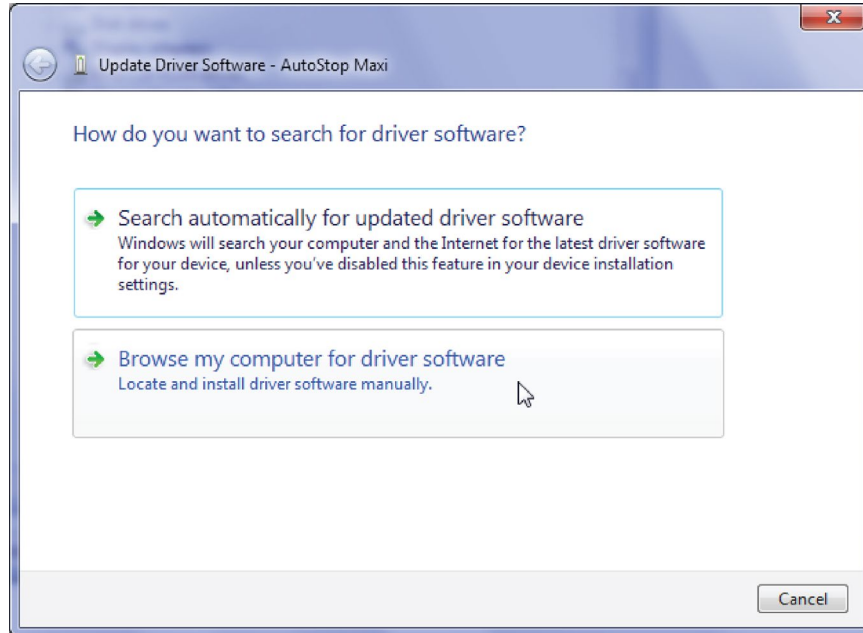
Once the USB cable is connected to the PC, switch ON the Brake Meter by pressing the ON/OFF key. When the Brake Meter is switched ON, the PC will recognise the Brake Meter device and will search for the USB drivers.



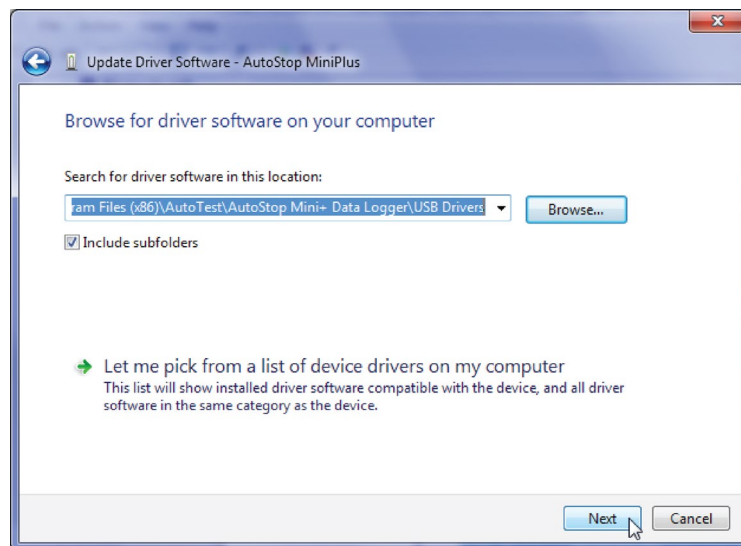
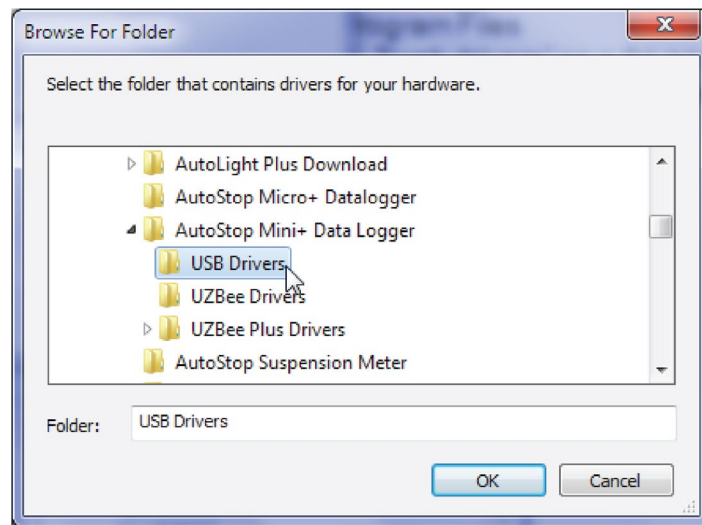
Select 'AutoStop MiniPlus' in the device manager (under Other devices) and right click on it. Select "Update driver/software".



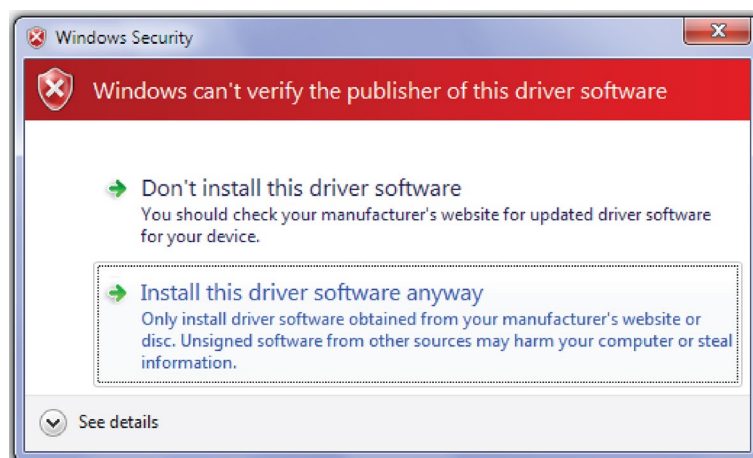
Select "Browse my computer for driver software" to specify the location where the drivers are located.



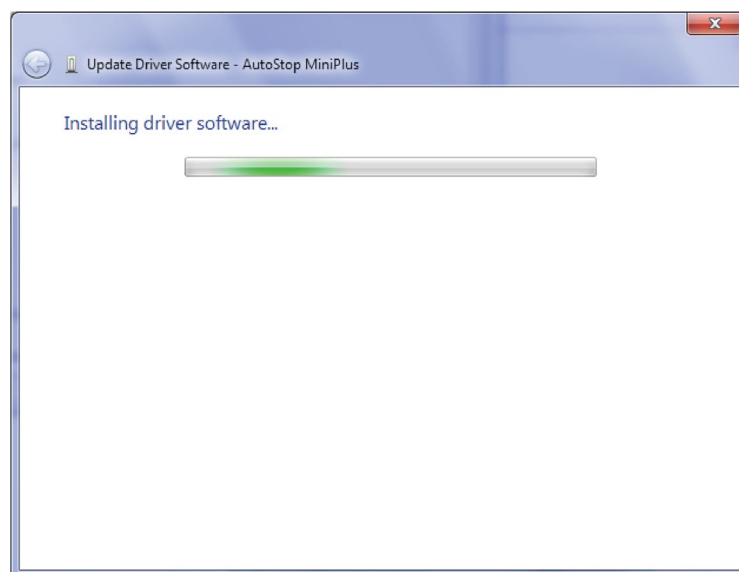
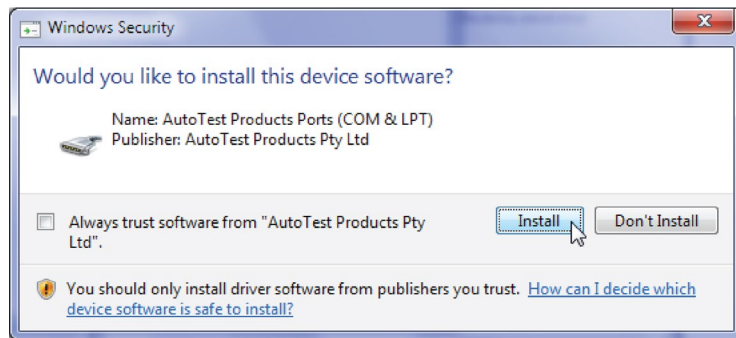
When the browse window is shown, select the USB driver folder located in the directory where the AutoStop Mini+ datalogger software is installed. On a 64-bit operating system, the default location where USB drivers are likely to be found is at "C:\Program Files (x86)\AutoTest\AutoStop Mini+ Data Logger\USB Drivers". On a 32-bit system, the USB driver's folder would be at "C:\Program Files\AutoTest\AutoStop Mini+ Data Logger\USB Drivers".



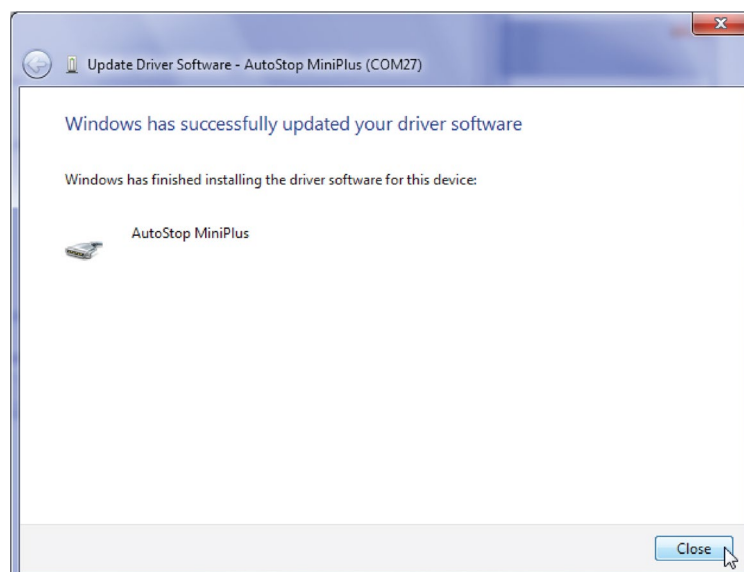
If the Windows displays the following warning message, select "Install this driver software anyway".



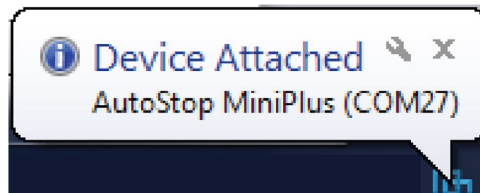
If Windows prompts the following dialogue box, select "Install" to install drivers.



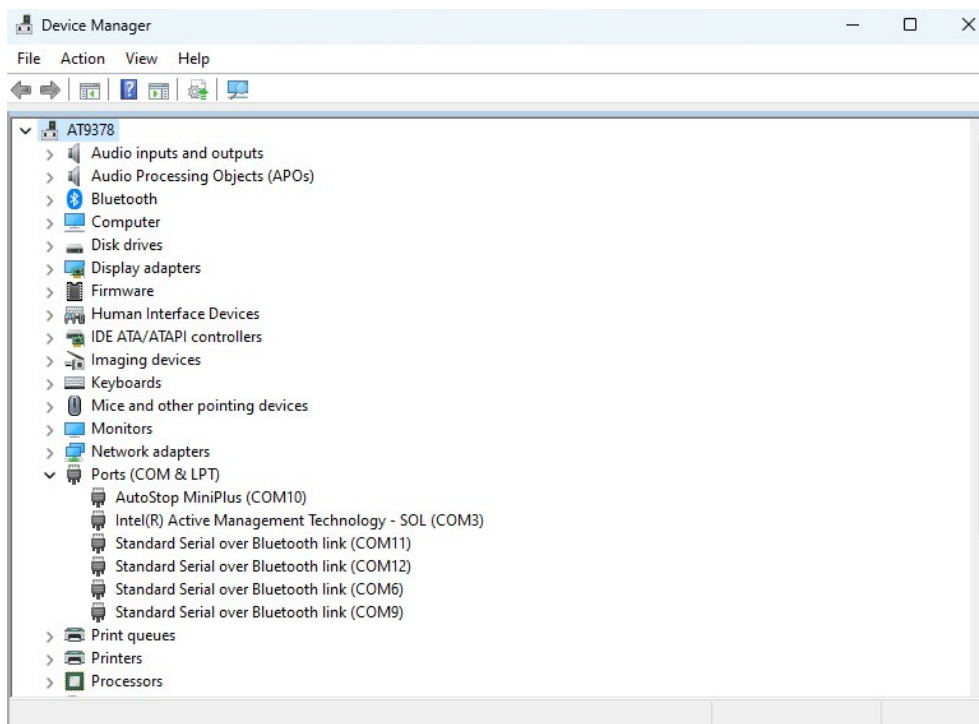
When Windows has completed installing the drivers for the USB interface, the following window will appear. Notice the COM port number displayed on the titlebar. The COM port will be used when downloading data from the meter using the datalogger software.



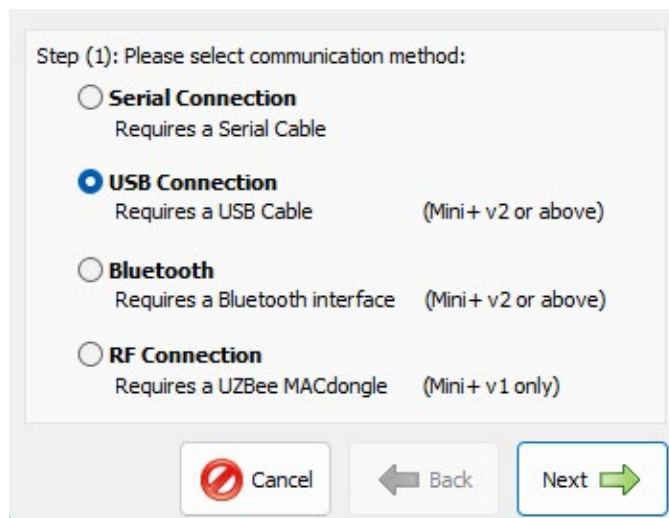
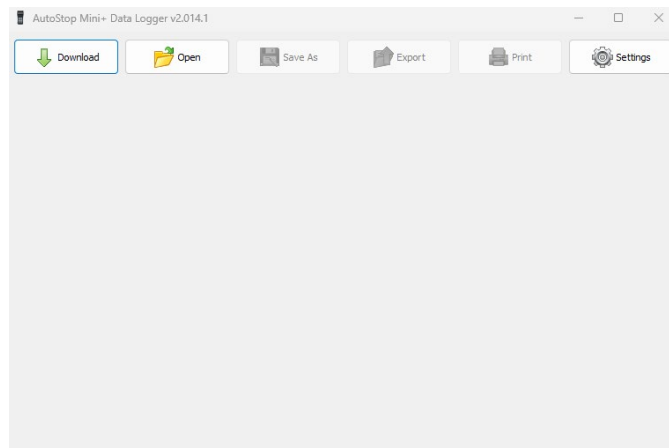
Once the USB drivers have been installed, Windows will display the following pop-up message each time the brake meter is connected to the PC via USB interface.



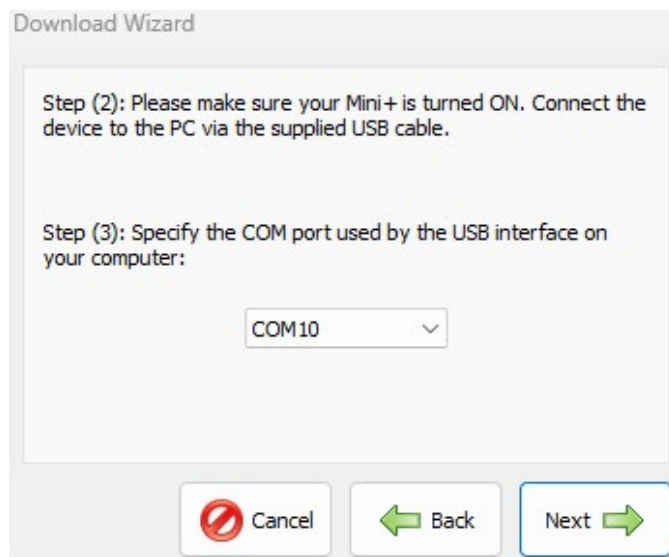
To verify the installation of the USB driver, locate "AutoStop MiniPlus" in the device manager under "Ports (COM & LPT)". If the device drivers are successfully installed, there will be a COM port number written next to the device name. In the following example, the COM port number is "COM27"



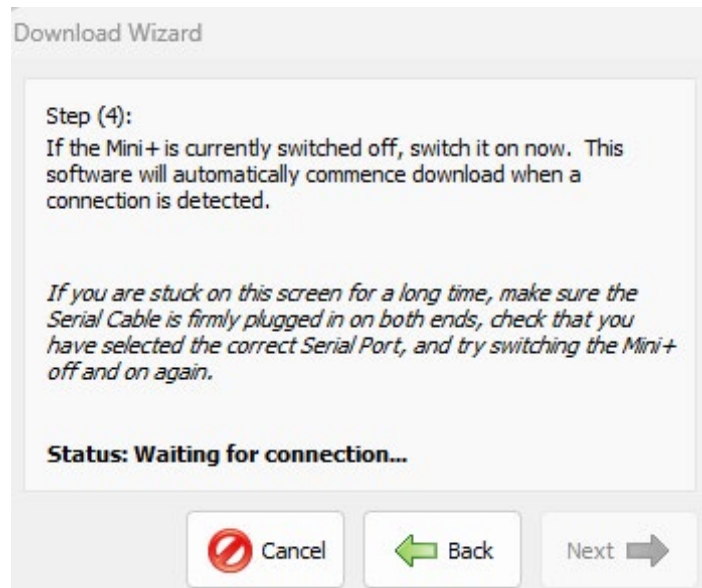
To download the results, open AutoStop Mini Plus datalogger software and click on "Download" button.



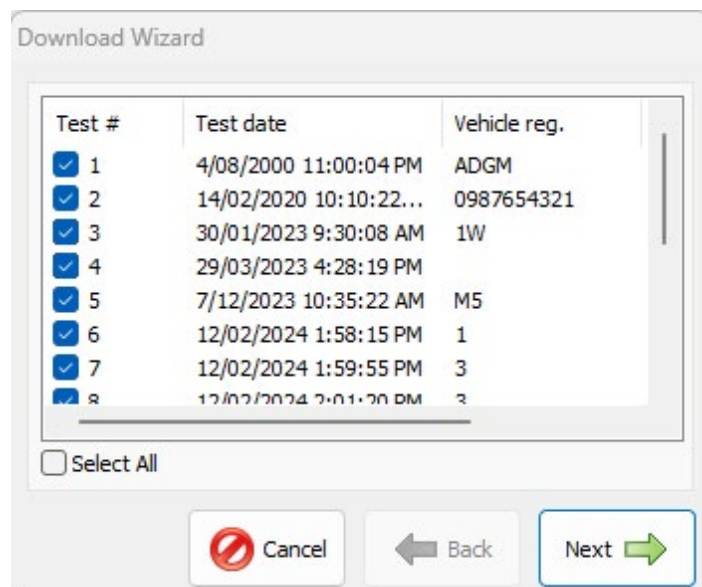
Select *USB connection* and then press Next.



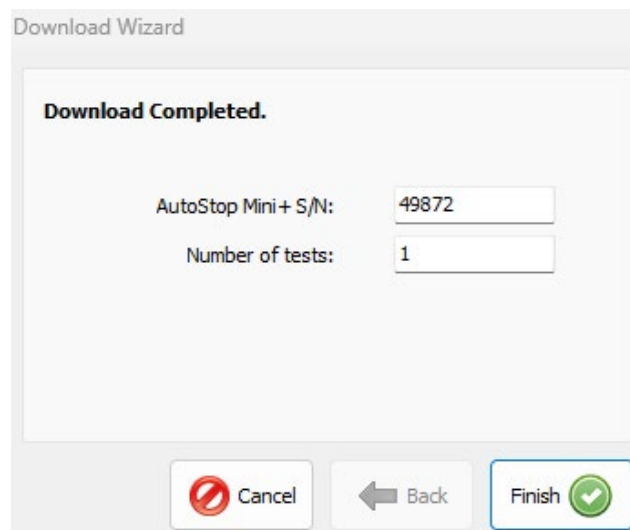
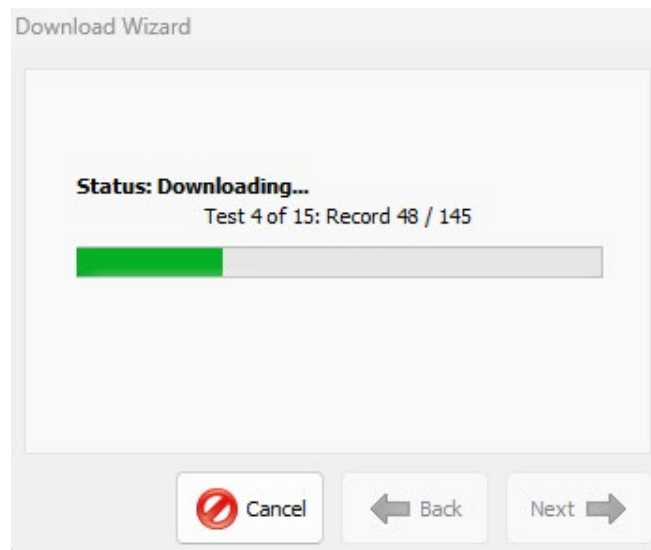
Select the COM port of the USB connection. The COM port is the same port obtained earlier during the USB drivers installation process. Make sure the brake meter switched ON and it is connected to the PC via the USB cable. Press Next to continue.



Once the connection has been connected successfully, the downloader will display a list of all tests currently stored on the meter.



Select the tests that need to be downloaded and then press Next. Datalogger software will automatically download all selected tests.

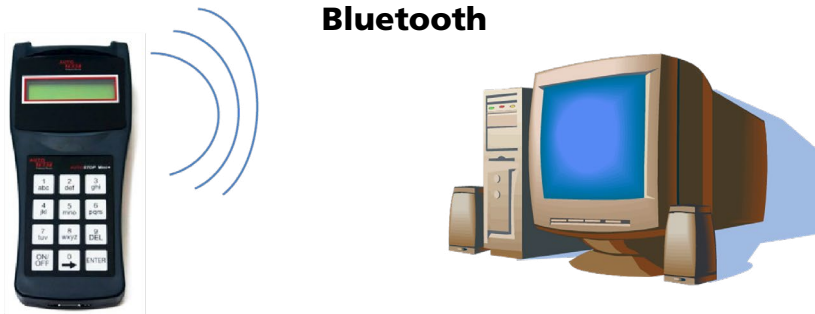


Once the desired tests have been downloaded, press Finish to return to the main window and view test results.

4.4.2 Downloading via Bluetooth

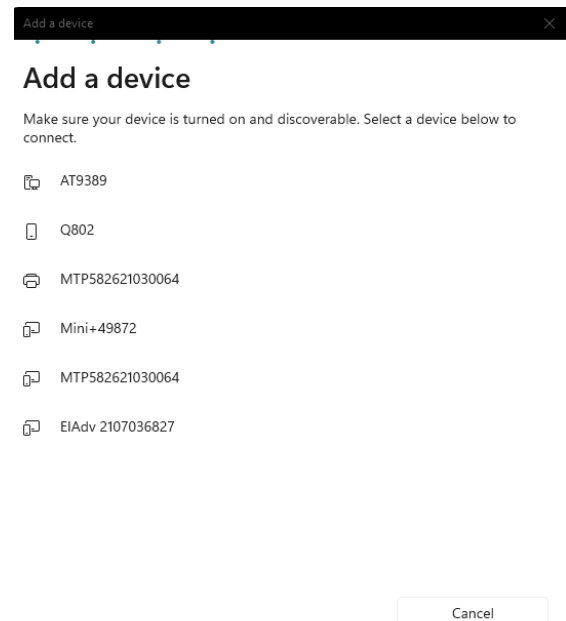
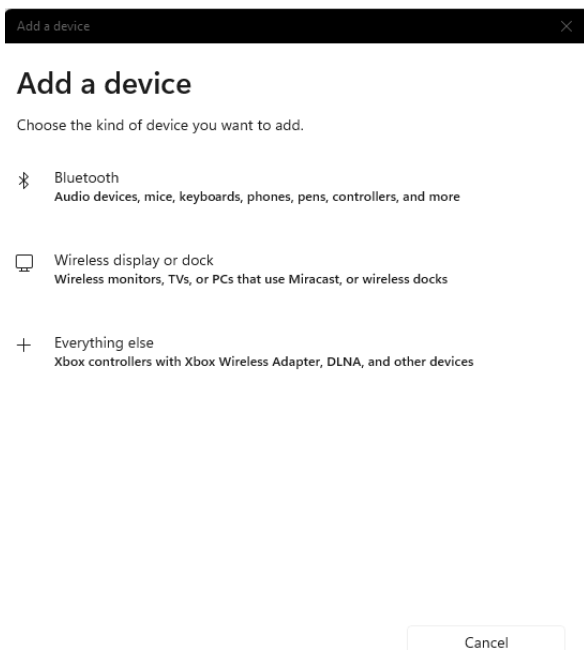
Before connecting the brake meter to the PC using the Bluetooth interface, make sure the PC supports Bluetooth connectivity.

Once the Data Logger software is installed, run the software on the PC and switch ON the brake meter by pressing the ON/OFF key.

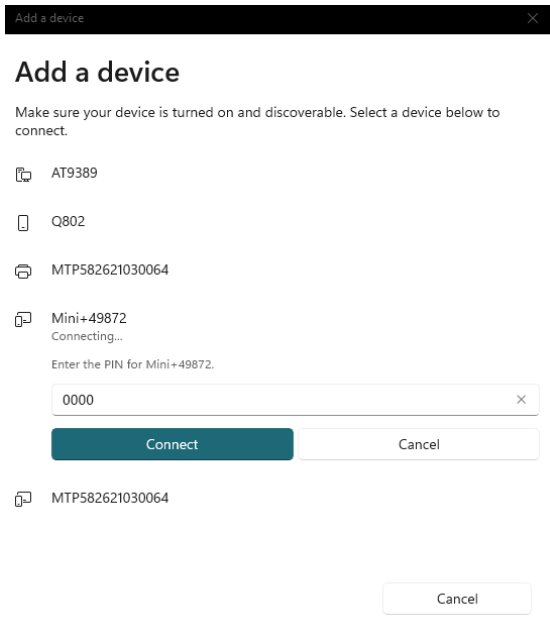


When connecting the Brake Meter for the first time using the Bluetooth interface, user will need to configure the Bluetooth connection. To configure the Bluetooth connection, open your Bluetooth manager program on your PC and search for Mini+##### device, where '#####' is the serial number of the brake meter.

*Note: the screenshots provided below many not be the same on your PC.
For information regarding Bluetooth device pairing on your PC, please refer to the documentation of your Bluetooth Manager.*



Select the device Mini+##### from the list of discovered Bluetooth devices and create pairing. When prompted for the pairing code or pin number , enter "0000" .



Bluetooth & other devices

Audio

Lenovo Q24i-1L

Other devices

AutoStop MiniPlus (COM11)

FT232R USB UART

HP E24 G4 FHD Monitor

Mini+49872
Paired

Remove device

Once the pairing is established, refresh device services and connect using Bluetooth serial port service. To find out which Port is connected to MiniPlus, go to more Bluetooth Options which is in the Related Settings of Bluetooth Settings.

Related settings

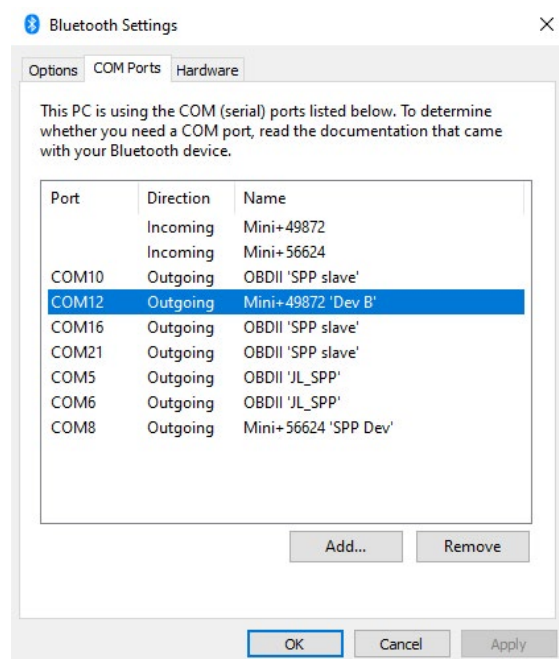
Devices and printers

Sound settings

Display settings

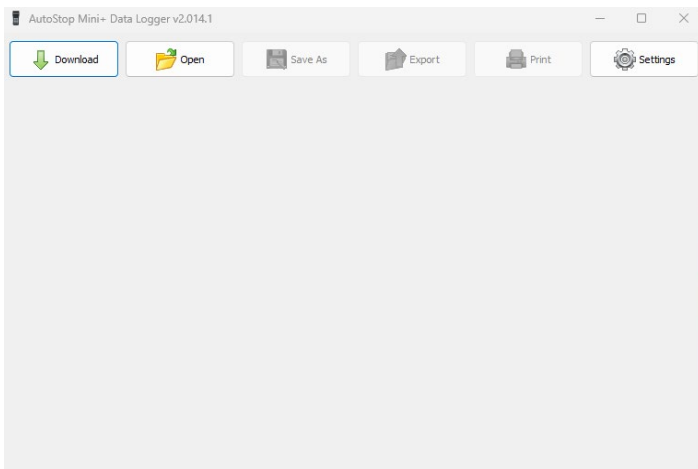
More Bluetooth options

Send or receive files via Bluetooth

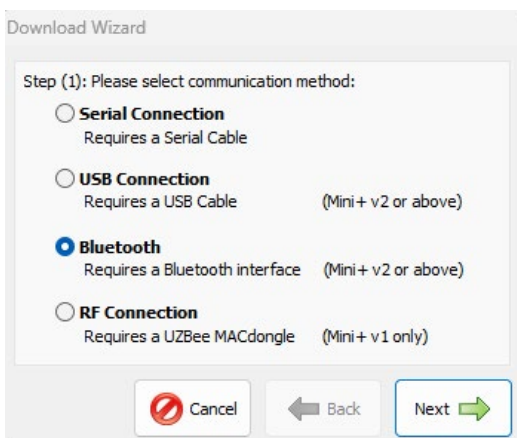


You can find the COM Port for the Bluetooth Connection to the software.

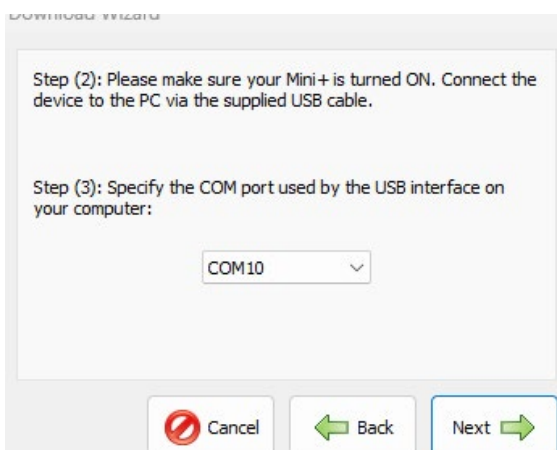
Once the Bluetooth connection is setup, the user can now download test results from Mini Plus using the Bluetooth interface. To download the results, open AutoStop Mini Plus datalogger software and click on “Download” button.



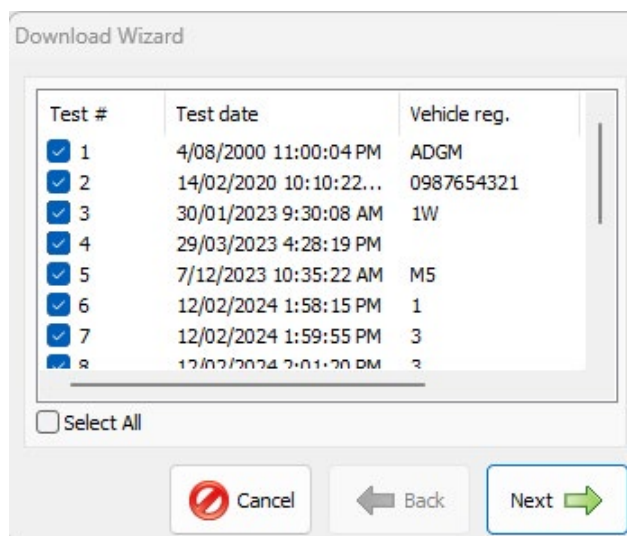
When the following connection window appears, select “Bluetooth” connection and press Next.



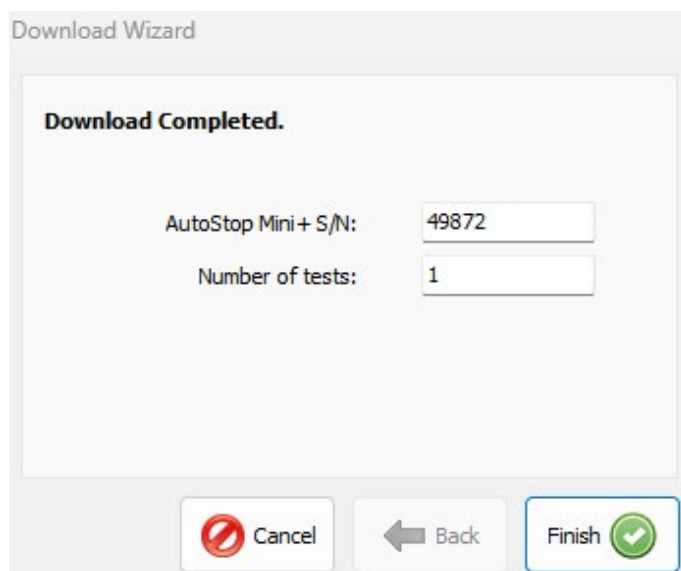
Select the COM port number of the Bluetooth connection connected with the brake meter. The COM port number is the same COM port obtained during the Bluetooth pairing process.



Make sure the brake meter is ON. Press Next to continue. Once the connection is established, the datalogger software will acquire a list of all tests currently stored on the device.



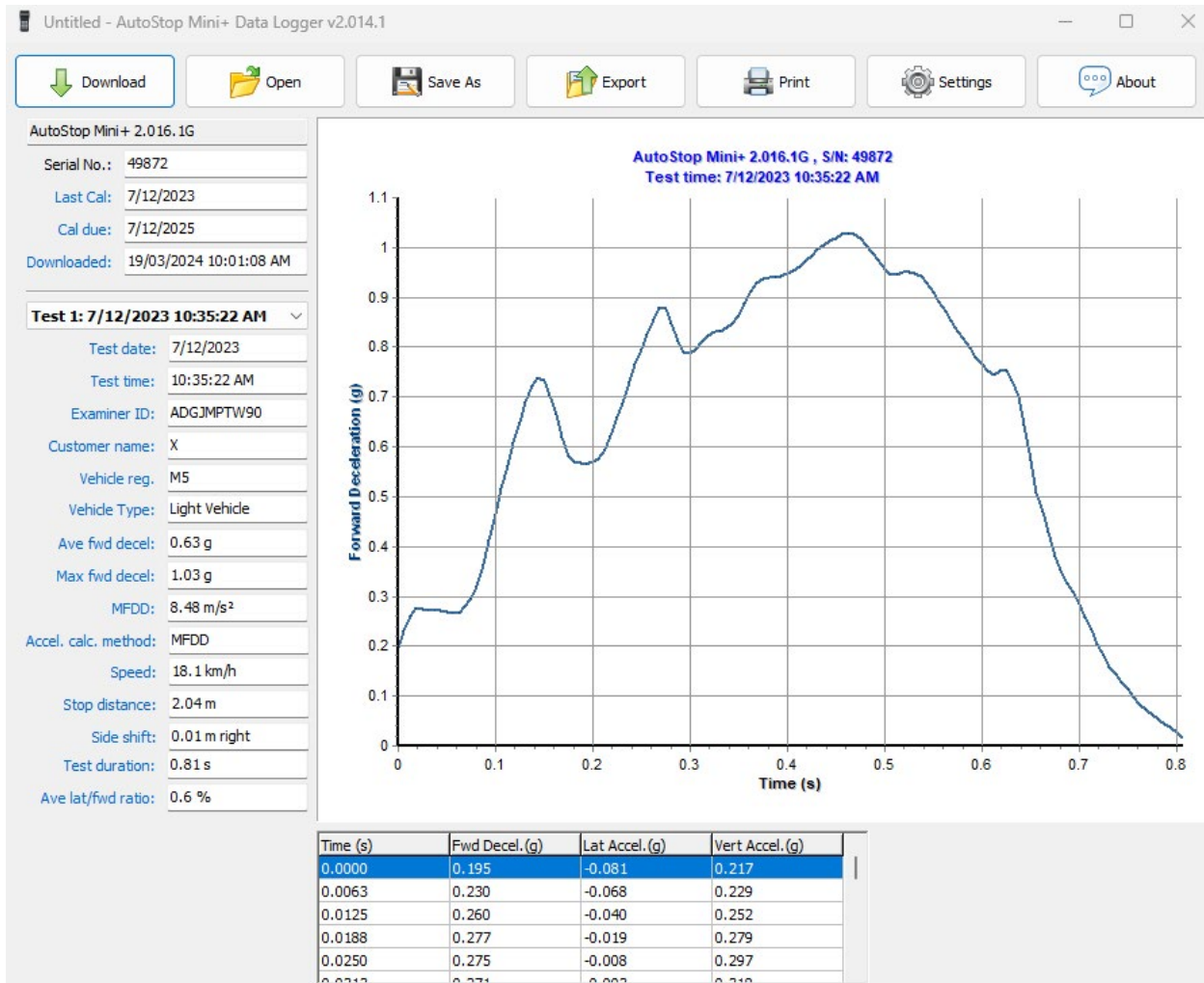
Select the tests that need to be downloaded and press Next. Datalogger software will then download the selected tests. While downloading, the LCD screen of Mini Plus will display "Uploading 00%...."



Once the desired tests have been downloaded, press Finish to return to the main window and view test results.

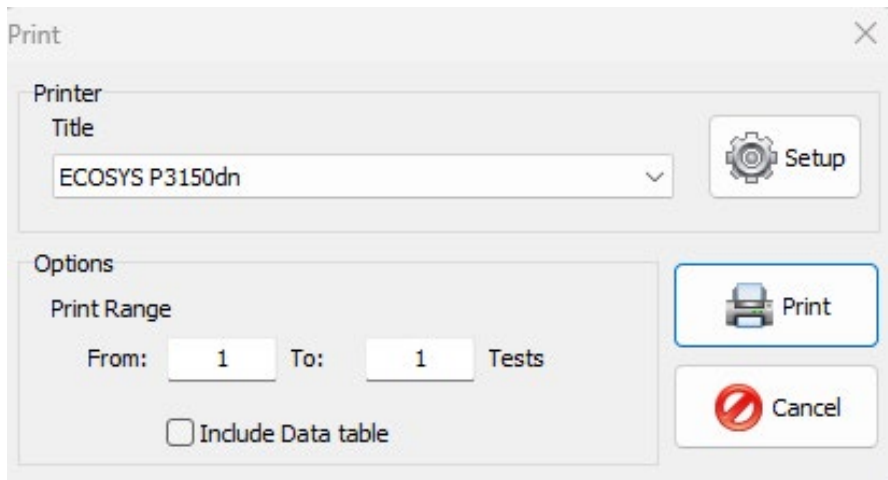
4.5 Using the Data Logger software

The Data logger will display all the saved tests and you can view the results of the particular test and view corresponding graph for each test.

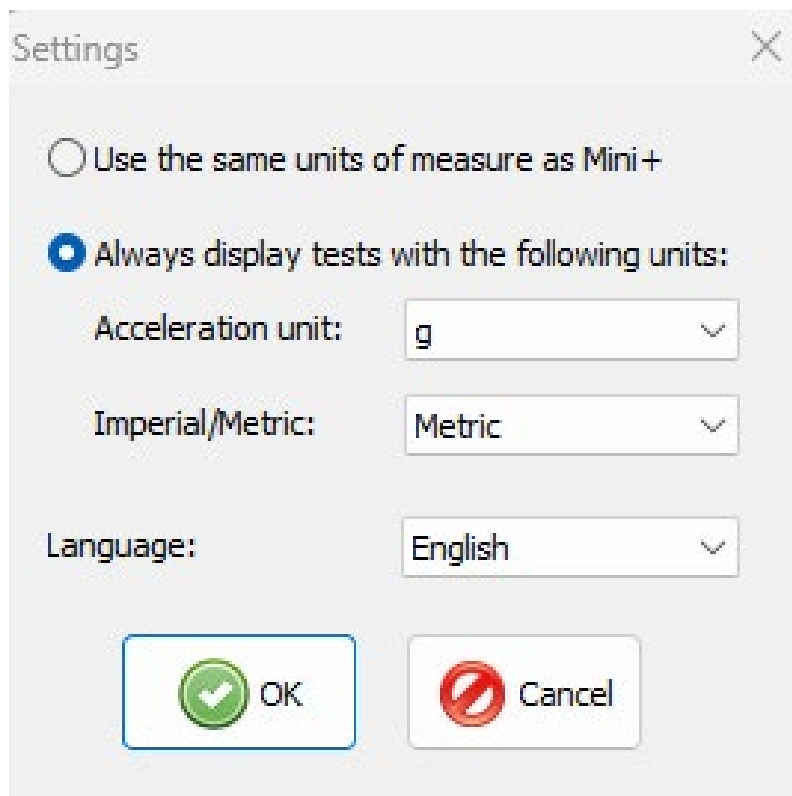


The menu buttons displayed on the top bar can be used to perform the following operations:

1. **Open:** Allows opening a previously saved test file on the computer
2. **Save:** Allows the currently downloaded tests to be saved onto a file on the computer
3. **Export:** This option can be used to view and save the test result in Microsoft Excel compatible format.
4. **Print:** this option can be used to print the test result. When printing the tests, the following box will appear. User can select the printer from which the tests should be printed. In order print only a single or a few tests, enter the range of the tests to be printed out. Click on Print button to print.



5. **Setting:** this option can be used to view the test results in the units set by the Mini Plus or select a different unit to view the test results.



6. **About:** to view information about Data logger.

5. SPECIFICATION

5.1 Hardware Specifications

Measurement Range: -2.0 to +2.0g with accuracy 2.5%

Temperature Range: -10 to +400C

5.2 Features

- Determines tri-axial deceleration, forward as well as sideways deceleration (lane change)
- Calculates and displays SRV36
- Simple 12 button operation via a tactile membrane pad
- Can be installed any where in the vehicle
- Self-aligning by identifying its orientation at the beginning of each test
- Lightweight (< 500grms) and compact (90 x 200 x 35mm)
- LCD display
- Adjustable display control
- Automatic start function
- Automatic shut-off after 15 minutes to preserve battery life (over 24 hours running time)
- Built-in integrity check
- Built-in real time clock
- Calibration is internationally traceable through NATA
- Calibration interval 12 months
- 12 months warranty
- Internet support hotline for diagnostics
- Comprehensive after-sales service and assistance
- EIA RS-232c
- Bluetooth interface
- USB interface
- Memory storage: Ninety Nine Tests (99 Tests)
- PC down load capability and graph
- 16 x 1 character LCD display

6. CALIBRATION PROCEDURE

The Mini Plus must be re-calibrated every one year. The reason for this is to maintain creditability in tests and acceptance of data according to international standards. Each time the unit is turned on; the LCD will show the date that the re-calibration is due. At the time the unit is due for re-calibration, the LCD screen will show: "Calibration Due! Please contact your vendor for re-calibration", and further testing will be disabled. There are two ways of calibrating the Brake Meter - either return the AutoStop Mini Plus to your local distributor or by returning the Brake Meter to Auto Test Products (See Section 6.1).

6.1 Return of AutoStop Mini Plus for Calibration

6.1.1 Packaging

Please remember that you are shipping an electronic instrument. Bubble pack or foam should surround the Mini Plus and should be inserted into a sturdy cardboard box.

6.1.2 Shipping

Labelling - A label noting "Electronic Device - Fragile" should be placed on the box.

Freight Carrier - Container should be sent "Freight Prepaid". Auto Test Products has no preference on freight carriers. However, we prefer that companies such as TNT, IPEC, UPS, or Federal Express forward units, if a prompt delivery is required.

Ship to: The Service Department, AutoTest Products Pty Ltd, 69 Parsons St Kensington, VIC, 3031, Australia. Phone: (+61 3) 8840 3016 or to your nearest service distributor.

6.1.3 Documentation

A copy of the purchase order for re-calibration and a packing slip must be included with the shipment. It should note the Purchase Order Number, Date, Serial Number and the address where the unit should be returned.

7. TROUBLESHOOTING

| Problem | Potential Cause and Action Necessary |
|---------------------------------------|---|
| Mini Plus will not turn on | Internal electronics have failed - return unit for servicing. |
| Mini Plus not recording keypad input | Keypad damaged- return unit for servicing. |
| Mini Plus turns itself off during use | Battery flat-battery needs to be recharged. |
| Mini Plus won't run tests | Calibration due - return unit for calibration. |
| Mini Plus displays Clock failed | The in-built clock has failed. It might be an electronic fault, or the unit needs to be recalibrated. |
| Mini Plus displays Error | The test was not carried out correctly; repeat the test. |

8. WARRANTY

When you purchase an AutoTest Product you are required to complete warranty registration form, and return to AutoTest Products Pty Ltd within 10 days of purchase of the product. AutoTest Products or any Authorised AutoTest Service Centre warrants this product against defects in material and workmanship for a period of 12 months from the original date of purchase. This warranty applies only to products and components supplied by AutoTest Products which can be identified by the trade name or logo affixed to them or by other documents. AutoTest Products does not warrant any products not supplied by AutoTest Products.

Note : The use of proper paper is very important to the operation of the printer. Use of non-standard paper will jam the printer and/ or wear the print head. Use of non- standard paper will void the warranty. Paper and printer ribbon cartridge are available from Autotest Products. During the warranty period, AutoTest Products or any Authorised Service Centre will repair (or at its option replace), any defective component(s) without charge for parts or labour, provided the product is freight prepaid, to an authorised AutoTest Service Centre. Transit insurance and return freight will be at the owner's expense.

AutoTest Products or any Authorised AutoTest Service Centre reserves the right to refuse warranty repair if accident, abuse, misuse or misapplication has damaged the product. In transit or as a result of service or modifications by other than an Authorised Service Centre, nor are any other warranties expressed or implied, including any regarding merchantability or fitness for any other particular purpose.

AutoTest Products or an Authorised Service Centre is not responsible for incidental or consequential damages resulting from the breach of any express or implied warranty, including damage to property and, to the extent permitted by law, damages for personal injury.

(Express exclusions from warranty) Unless otherwise specified, this warranty **does not** cover:

1. Modified, abused, neglected, accidentally damaged or excessively worn products, or products that have become damaged or defective as a result of improper use.
2. Repairs attempted or made by other than our regional repair centre or authorised warranty service centre.
3. Conditions or malfunctions caused by the reasonable effects of fair wear and tear or the malfunction of normally wearing parts, which include but are not limited to: Batteries, plugs and leads.
4. Consumable items, such as batteries (beyond 3 months from date of purchase).
5. AutoTest products that are not distributed through AutoTest's authorised distributors and resellers.

(Warranty non-transferrable) This warranty is not transferrable beyond the original purchaser. Warranty is subject to AutoTest Products Standard Terms & Condition Published widely.

9. NOTES

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