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MMS7000 Profiler

&

EVOsoft Analysis Software

Instrument and Software

User Guide

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MMS7000 Profiler

1. Warnings & Precautions

Please read and understand this section fully before operating your MMS7000 Instrument. Failure to do so may result in damage to the instrument or personal injury.

- To avoid electrical shock, never mount the sensor in a live motor
- Ensure the sensor cable cannot be entangled with any moving or rotating equipment
- Do not operate the instrument in an explosive environment
- Use only the approved power adapter
- Do not use alcohol or any organic solvent to clean the instrument
- Only use the supplied stylus to avoid damaging the screen
- The Sensor is a precise measuring device and should be treated with care at all times

For information regarding the MMS7000 operating system, please refer to the MEZ1500 User Guide.

2. Charging your MMS7000

Ensure your MMS7000 is fully charged before use. To charge the device, connect the supplied USB communication cable to the bottom connector on the device, then insert the AC power adaptor plug into charging socket in the bottom left. The unit will **not** charge from a USB connection alone.




3. Basic Operation

The MMS7000 app is operated using the touchscreen. To select an option, you can tap firmly on the screen either with your finger or the included stylus. The stylus is made from black plastic and is stored in a slot in the top of the instrument on the right hand side.




NOTE: If using something other than the included stylus, do not use anything with a sharp tip such as a pen or a metal tool! This will damage the screen and is not covered under your warranty.

4. Powering Up

Power on your MMS7000 device  and wait for the Profiler7000 app to start. If the Profiler7000 app does not start automatically, you can start it yourself by double-tapping on the icon that appears on the Windows Desktop.

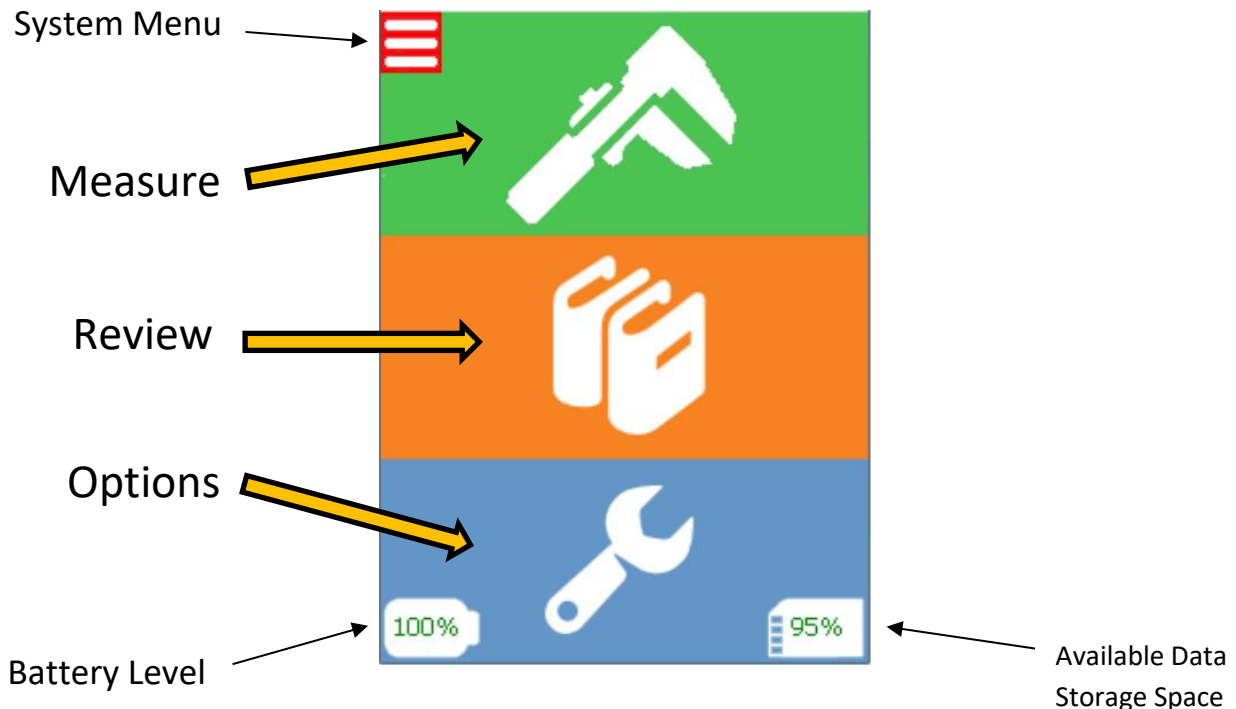


5. Shutting Down




Pressing the  button on the keypad again will put your MMS7000 into a low-power Sleep Mode. Sleep Mode allows you to press this button again later and wake up the MMS7000 instantly, right to where you left off. However Sleep Mode still uses a very small amount of battery power and if the MMS7000 is left in this mode the battery will eventually go flat, typically in 5-7 days. To completely power off the MMS7000 for longer term storage use the System Menu as described later in the section Using the System Menu.

6. The Home Screen

The Home Screen of the Profiler7000 app will now display:



The Home Screen offers 3 main options:

Option	Functions
 Measure	Tap Measure to take recordings with your MMS7000. This is described in the section Measuring
 Review	Tap Review to review the previous Recordings stored on the device. This is described in the section Reviewing Recordings
 Options	Tap Options to view and alter the basic settings on your MMS7000. This is described in the section Setting Up Your MMS7000

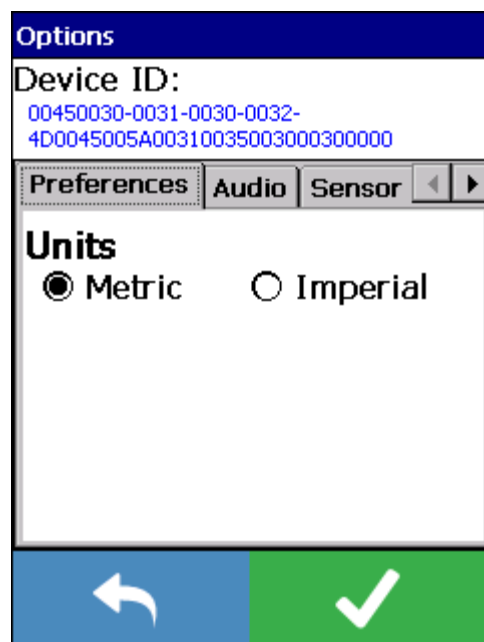
At the bottom of the screen are also 2 icons showing the current battery level of your MMS7000, along with how much data storage space is still available.

7. Setting Up Your MMS7000



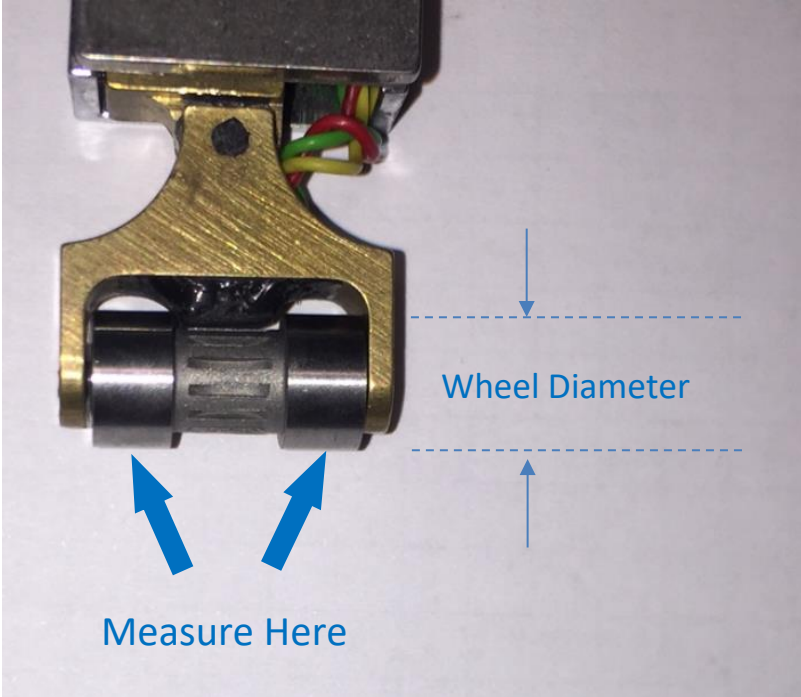
Tap the **Options** icon to display the Options screen to review and change device settings.

NOTE: Due to ongoing product development, the design and capabilities of the sensor electronics hardware inside MMS7000 devices has advanced over time. This means that some features are available only if the Hardware Version of your MMS7000 device (as shown on the Options → System tab) meets the minimum requirements. Contact Profiler Tech Support for more information




At the top of the screen is the unique Device ID number for your MMS7000. This ID cannot be changed but you may need it when contacting Profiler Tech for technical support.

Below that are tabs allowing you to view and change the following settings:

Tab	Description
Preferences	<p>The Units settings allows you to switch the display between metric and imperial measurement units throughout the Profiler7000 app e.g.</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="background-color: #000080; color: white; padding: 2px;">Recorded 6/29/2016 3:43 PM</p> <p>Folder: Unit 22</p> <p>Machine: FRONT</p> <p>Distance: 9.8mm</p> <p>Min: -7µm</p> <p>Max: 2µm</p> <p>TIR: 9µm</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="background-color: #000080; color: white; padding: 2px;">Recorded 6/29/2016 3:43 PM</p> <p>Folder: Unit 22</p> <p>Machine: FRONT</p> <p>Distance: 0.38in</p> <p>Min: -0.27mil</p> <p>Max: 0.09mil</p> <p>TIR: 0.36mil</p> </div> </div>
Audio	<p>Allows you to specify if you want an audible beep every time you tap the screen. Default is On.</p>
Sensor	<p>Allows you to specify details of the Profiler Sensor connected to your MMS7000:</p> <ul style="list-style-type: none"> Wheel Diameter: In order to provide the most accurate recordings, the Profiler7000 app needs to know the precise diameter of the wheel on the sensor you are using. This should be measured using a Micrometer or Vernier Calipers on the part of the wheel that is in contact with the commutator or slipping during measuring: <div style="text-align: center;">  </div> <p>The default Wheel Diameter is 7.85mm/0.309 inches.</p>

(continued)

<p>Sensor (continued)</p>	<ul style="list-style-type: none"> • Sensor Auto Off (seconds) [Hardware Version 2.0 or later only] If the sensor remains idle for longer than the specified period, it will be automatically powered off to save battery (<i>it will be automatically powered back on later whenever it is required</i>). Note that if the sensor is powered on, a red LED will be visible in the small window above the sensor connector: 
<p>System</p>	<p>Displays version and serial numbers of the various components of your MMS7000 for your reference:</p> <ul style="list-style-type: none"> • Module [Hardware Version 2.0 or later only]: the serial number of the black data acquisition module at the top of your MMS7000 where the sensor connects. • Software: The version of the Profiler7000 app currently running on the device • Hardware: The version of the data acquisition module.. • Firmware: The version of the embedded firmware running on the data acquisition module. • Firmware Update Button [Hardware Version 2.0 or later only]: When enabled (green), when you install a new version of Profiler7000 app it will automatically also update the data acquisition module firmware for you if required. <p>However, you can also use this Firmware button to manually update the firmware to a specific version, but this should ONLY be done under the direction of the Profiler Tech Technical Support team.</p>

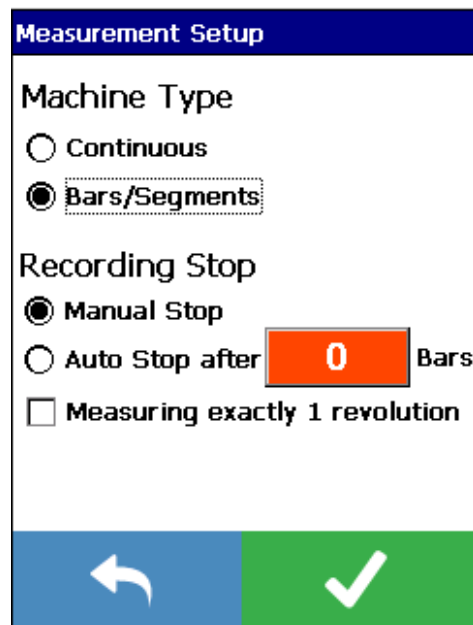
When you have finished setting options, tap  to save your changes and return to the Home Screen.

8. Taking Recordings

Connect the Profiler Sensor to the connector on the top of the MMS7000 device. Ensure the Plug and Socket key aligns before tightening the locking ring.



Tap the **Measure** icon on the main screen, and the **Measurement Setup** screen will be displayed:




The Measurement Screen allows you to change the following settings:

Option	Description
Machine Type	
Continuous	Allows you to specify if the machine you are measuring is one smooth/continuous surface (such as a slip ring).
Bars/Segments	Allows you to specify if the machine you are measuring has discrete bars/segments (such as a Commutator) This setting simply controls whether the MMS7000 device will need to detect Bar-to-Bar displacement or not.
Recording Stop	
Manual Stop	Indicates that the recording will continue until you manually stop it yourself using the Stop Recording button.

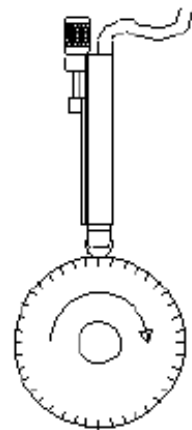
(continued)

Auto Stop after - xx mm	Enter the Rotor circumference measurement and the MMS7000 will automatically stop the recording at this dimension. Note: <i>The maximum measuring distance currently supported by the MMS7000 corresponds to a single revolution of a rotor with a 2m (6.5 feet) diameter, which is ~6.3m (20.4 feet)</i>
xx Bars	Specify how many Commutator bars/segments and the MMS7000 will automatically stop the recording at the specified number of bars.
Measuring exactly 1 revolution	Check this box if you plan to rotate the commutator through exactly one revolution. If this option is checked: <ul style="list-style-type: none"> • If you also specify a value for “Auto Stop after” (above), the MMS7000 will know exactly how far the sensor wheel will need to travel to complete 1 revolution and so you will get the option to display a live Radial plot while you are recording • For Bar recordings, the MMS7000 will presume that the last bar measured is physically adjacent to the first bar, and so will compare their heights when calculating MBTB. <p>Uncheck this option if you intend to measure more (or less) than exactly 1 revolution. The option to view a Radial plot while recording will not be available, and for Bar recordings the MMS7000 will not include the height difference between the first and last bars when calculating MBTB</p>

Tap  to continue to the **Position Sensor** screen.

Position Sensor

Remove the sensor from its protective metal sleeve and position it squarely in a brush holder on the machine to be measured. To ensure greatest accuracy and correct operation, the rotor must be rotated from the clamp side to the rear of the sensor, as shown on the right.



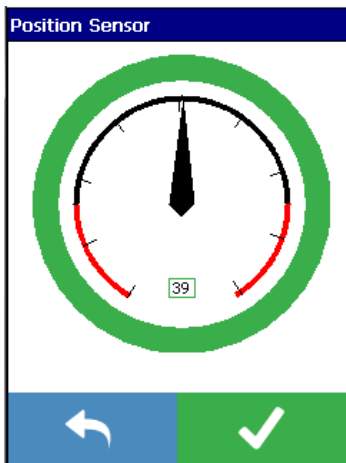
Direction of Rotation



Since the sensor is usually smaller than the brush assembly, you will need to insert packing material at the front and back of the sensor to take up the available space in the brush holder. This can be either the spacer kit supplied in the kits (as shown to the left), scrap plastic or Teflon etc offcuts, or any other suitably hard material you have available.

Once you have taken up all the spare space in the holder, secure the sensor in position by lightly tightening the clamping knob.

DO NOT clamp the sensor with a mechanical clamp: this may cause crush damage to the internal electronics.




NOTE: If measuring a machine with discrete Bars/Segments, it is important that the first few bars are measured correctly as these initial bars help tune the detection algorithm for the rest of the recording. For best accuracy, please ensure that the recording starts with the sensor positioned in the middle of a bar face, and that the starting bars have good surface condition and have no high mica

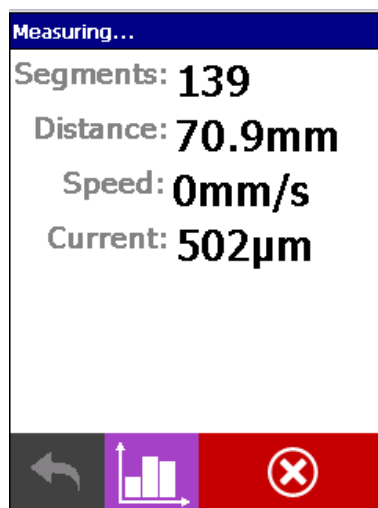
Once the sensor is mounted, use the dial gauge indicator on the **Position Sensor** screen to fine-tune its position so that the indicated Displacement is as close to zero (the sensor's midpoint) as practical, then tighten the clamp.

The displayed value does **not** need to be exactly 0 to give accurate results, and an acceptable position will be indicated by a dial indicator having a green surround, whereas yellow and red indicate poor positioning.

Once the sensor is positioned, tap  to continue to the **Measuring Screen**.


Measuring


Once the sensor is in position, tap  to start recording. Slowly rotate the rotor being measured, and the profile data will be displayed on the screen as described below:



Option	Description
Segments	The number of displacement samples the MMS7000 device has taken so far. A sample will be taken for every ~0.5mm of travel around the machine circumference, although this will vary slightly depending on the sensor wheel diameter entered in Section 4: Setup Options .
Distance	The distance the sensor has travelled around the surface of the rotor so far.
Speed	<p>The current speed of the sensor wheel as it travels around the rotor.</p> <p>If the Speed value is displayed in red, this indicates you are rotating the machine so quickly that the sensor is acquiring profile data faster than the MMS7000 can update the display.</p> <p>If this happens, simply slow down the rotation until Speed returns to being displayed in black and then continue with your recording – no profile data will be lost</p>
Current	The current sensor displacement, relative to the 0 point of the start of recording
Bars	<p>[For Bars/Segments recordings only] Total number of bars counted so far</p> <p>NOTE: When recordings Bars/Segments, the adaptive nature of the bar detection system will cause the MMS7000 display (including Bar Count) to lag behind the physical position of the sensor by approximately 2.5mm (1/10th inch). To ensure the recording includes the final bar in the recording, either:</p> <ul style="list-style-type: none"> - Ensure that the sensor wheel has travelled at least 2.5mm (1/10th inch) past the gap after the last bar you want to measure before you stop recording, or - Simply use the “Autostop” feature to have the MMS7000 continue recording until it detects the desired number of bars and then automatically stop.


During recording you can cycle through different ways of displaying the live profile data:


- Tap  to show a Line or Bar graph (depending on whether you are taking a Continuous or Bar recording)

- Then tap  to view the profile as a Radial plot.

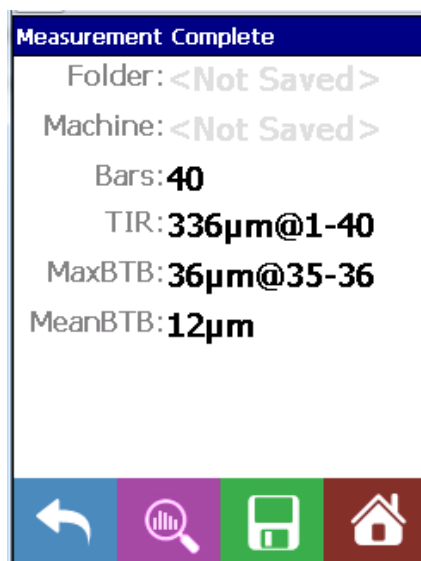
Note:

- *The Radial plot view is only available if you have entered a value for “Auto Stop after” on the Measurement Setup screen prior to starting the recording, as this distance is used to correctly determine how far through the full 360 degrees the recording currently is.*
- *Drawing the Radial plot in real-time is very resource intensive on the MMS7000 handheld and so you may notice some amount of lag updating the display when using it, especially for fast and/or long recordings, but note that no data will be lost.*

- Finally, tap  to return to the original display showing numeric values.

To stop the recording, tap , or if using **Auto Stop**, simply continue measuring: the recording will automatically stop once the pre-set number of Bars or Distance has been recorded.






Measurement Complete



Once the measurement is complete the data is displayed on the screen as described below:

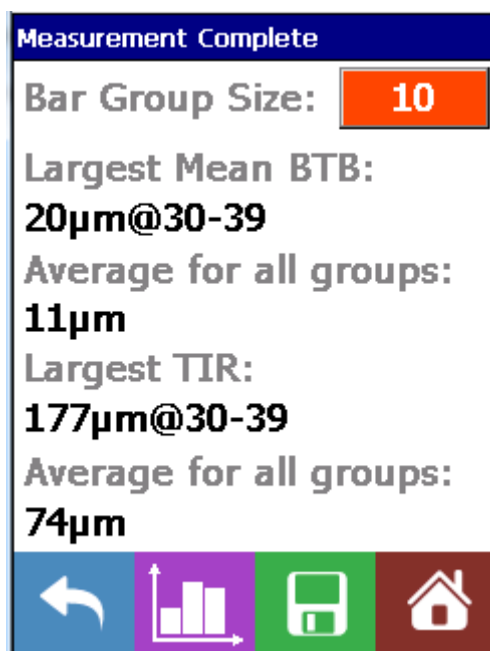
Option	Description
Distance/Bars	<i>For Continuous recordings:</i> the total distance the sensor wheel travelled during the recording <i>For Bar recordings:</i> the total number of bars counted during the recording
TIR	The Total Indicated Runout , the displacement difference between the highest and lowest measured points on the machine surface.
<i>[For Bar recordings only]:</i>	
MaxBTB	The Maximum Bar-To-Bar displacement, which is the largest displacement difference between any two adjacent bars in the recording.
MeanBTB	The Mean Bar-To-Bar displacement, which is the average/mean displacement difference between each pair of adjacent bars.

You can now select one of the following actions:

Option	Description
	Go back to the Position Sensor screen to take the measurement again.
	<i>[Bar recordings only]:</i> View the Bar Group Statistics for the recording (see below)
	View a graph of the recording that was just taken. You can pan and zoom on this recording using the Up, Down, Left, and Right keys on the keypad.
	Save the recording so it can be imported into EVOsoft desktop software for analysis and reporting
	Go back to the Home Screen without saving the recording.

Bar Group Statistics

For Bar recordings, the **Bar Group Statistics** page helps you evaluate the condition of the commutator by looking at groups of consecutive bars in the recording.



To set the bar group size, tap the **Bar Group Size** button and enter the number of consecutive bars you wish to evaluate. In the example shown above, the MMS7000 is analyzing each group of 10 consecutive bars (e.g. bars 1-10, then 2 -11, then 3-12 etc.)


Once Bar Group Size is set:

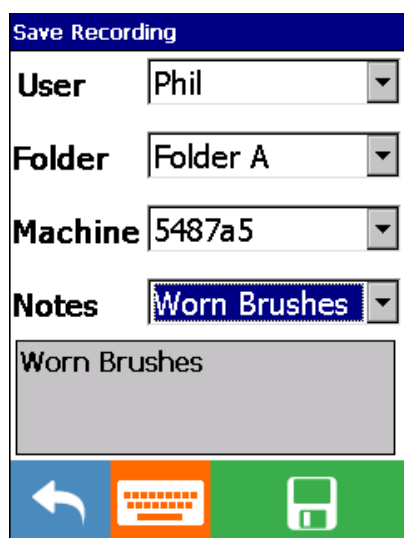
Field	Description
Largest Mean BTB	Identifies the group of consecutive bars with the largest Mean Bar To Bar displacement difference. In this example, the 10 bars from 30 to 39 have the largest Mean BTB at 20µm.
Average for all groups	The average Mean Bar To Bar for all other groups of consecutive bars for comparison. In this example, each group of 10 consecutive has (on average) a Mean BTB of just 11µm, meaning the group from bars 30 to 39 is almost twice the average for this commutator.
Largest TIR	Identifies the bar group with largest Total Indicated Runout i.e. the largest difference between tallest and shortest bar in that group. In this example, this is also bars 30 to 39 with a TIR of 177µm
Average for all groups	The average TIR for all other groups of consecutive bars, which in this example is 74µm. This means that bars 30 to 39 have a runout almost 2.5 times higher than other groups.

Re-Record Profile




To re-measure, tap  to return to the **Position Sensor** screen ready to measure another profile.

Save Recordings


Tap the  **Save** Icon to continue to the **Save Recording Screen**.



The saving options are displayed on the screen as described below.

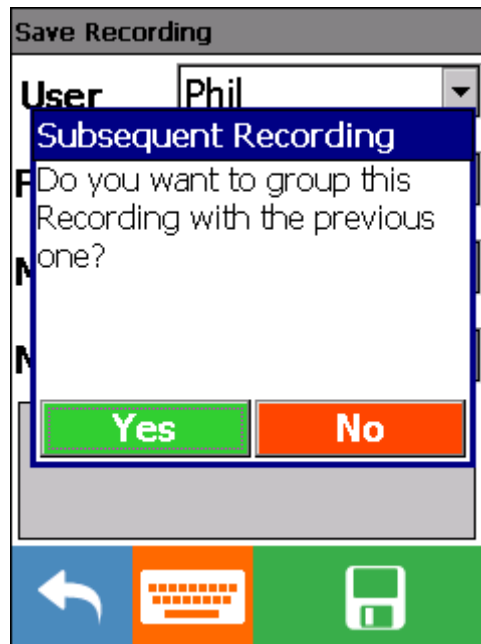
Option	Description
User	Select the name of the User who took the recording from the list.
Folder	Select a Folder from the list, or tap in the Folder field and then tap  to enter a new Folder name
Machine	Select a Machine from the list, or tap in the Machine field and then tap  to enter a new Machine name
Notes	Select an existing Note from the list, or tap in the Notes field and then tap  to enter a new recording Note. If you enter a note and tick the 'Add this note to the List' checkbox, you Note will be added to the list and be available when saving future recordings

The items in the Users, Folders, Machines, and Notes lists are able to be defined and edited in EVOsoft. (See the [User Names](#) and [Recording Notes](#) sections, below)

Once the Folder and Machine details are selected, tap  to **Save** the data.

Creating a Group of Recordings

When saving a recording for the same Folder and Machine as the previous recording, you are offered the option of grouping the 2 recordings together:

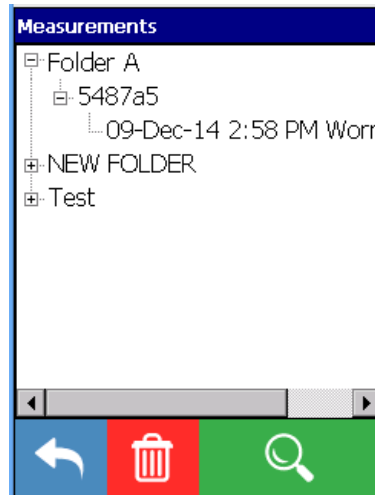


If you select Yes, then the recordings will be grouped together so that whenever you display one of the recordings later in EVOsoft, the other(s) will automatically also be shown on the same plot. This is useful when you are recording multiple tracks on the same rotor.




9. Reviewing Recordings



Tap the **Review** icon on the main screen and the list of Recordings stored on the device will be displayed.



Saved recordings are displayed by Folder, Machine name and Date stamp.

Option	Description
	Go back to the Home Screen
	Tap on a Recording timestamp and then tap this button to delete this recording.
	Tap on a Recording timestamp and then tap this button to view the details of the selected recording

10. Interpreting Profiles

Surface condition and acceptable levels of ovality are usually recommended by the OEM. However the general industry rule of thumb for determining acceptable conditions of commutators is as follows:

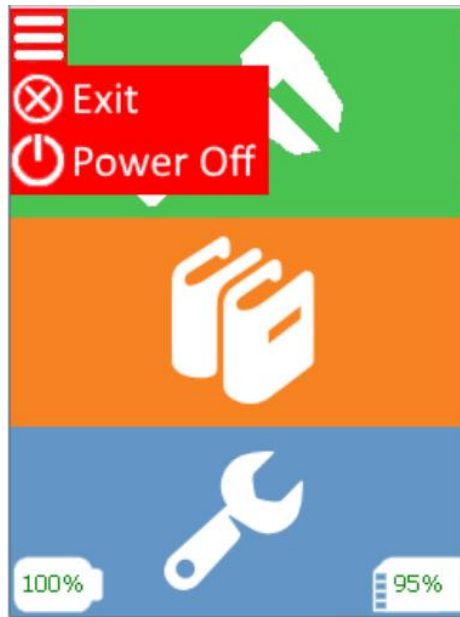
Machine Condition	Total Indicated Runout (TIR)	Maximum Bar-to-Bar (MTB)
New	Less than 40 microns (1.5 mil)	Less than 5 microns (0.2 mil)
In service	Less than 75 microns (3.0 mil)	Less than 10 microns (0.3 mil)

Machines exhibiting greater values are generally deemed to require repair. Note that:





- 'mil' is the US term for one thousandth of an inch i.e. 1 mil = 0.001"
- 'micron' is the term for one thousandth of a millimeter i.e. 1 micron = 0.001mm
- 1 mil = 25.4 microns or 0.0254mm, and conversely 1 micron = 0.039 mils

11. Using the System Menu

Tap on the System Menu icon at the top left of the main screen to bring up the System Menu:



On this menu:

Menu Entry	Functions
	<p>Tap Exit to close the Profiler7000 application and return to the Windows Desktop. You can restart the Profiler7000 app again later by double-tapping on it's icon on the Windows Desktop.</p> 
	<p>Tap Power Off to completely power off the MMS7000, meaning it will use no battery power at all. However, when you press the  button on the keypad to turn it on again later, you will need to wait for the device to completely reboot, which typically takes ~30 seconds.</p>

12. Upgrading the Profiler7000 App

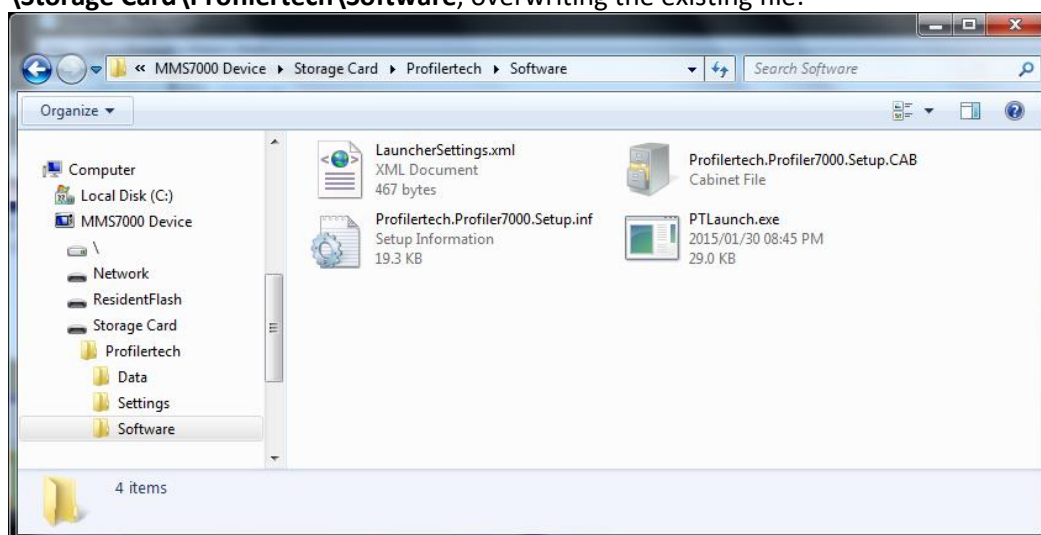
Profiler Tech periodically makes new versions of the Profiler7000 app publicly available at www.profilertech.com, and these new versions can be applied to any MMS7000 device at no charge.

NOTE: While updating the Profiler7000 app should not result in any loss of data, it is **strongly recommended** that you import all recordings stored on the device into EVOsoft **before** updating the app.

The version of the Profiler7000 app you currently have installed is shown on the **Options → System** tab. Installers for new versions of the Profiler7000 app are provided in standard Windows .zip files named **Profilertech.Profiler7000.Setup.vX.X.X.X.zip**, where **X.X.X.X** indicates the version number e.g. **Profilertech.Profiler7000.Setup.v18.7.1.1.zip**

To upgrade your instrument with a new version:

1. Download the .zip file for the required version and save it on your PC e.g. on the Desktop.
2. Extract the single **Profilertech.Profiler7000.Setup.CAB** file contained in the .zip file and save it somewhere on your PC.
3. Connect your MMS7000 to your PC and copy this .CAB file to **\Storage Card\Profilertech\Software**, overwriting the existing file:



4. Once saved in this location, perform a hard reset of the MMS7000 by pressing both the power button and the corresponding button on the other side of the device for 3 seconds until the display turns completely white, then release the buttons and wait for the re-boot to complete.



After the MMS7000 reboots, the new version of the Profiler7000 app will be automatically installed and the device should now be ready for use.

EVOsoft Analysis Software

13. Installing EVOsoft


The installer for EVOsoft is provided on the USB Memory Stick supplied with your MMS7000. Installers are supplied in a standard Microsoft Windows .zip file named **EVOsoft.Setup.vX.X.X.X.zip**, where **X.X.X.X** indicates the version number e.g. **EVOsoft.Setup.v18.6.23.2.zip**.

Each such .zip file contains a single standard Microsoft Windows .msi Installer file with the same version number e.g. EVOsoft.Setup.v18.6.23.2.zip contains EVOsoft.Setup.v18.6.23.2.msi.

To install:

1. Extract the .msi file from the .zip file and save it somewhere on your PC e.g. on the desktop
2. Double-click the .msi file and follow the instructions to complete the installation



To start EVOsoft, double-click on the desktop icon  or manually start the program in:
Start → All Programs → Profiler Tech Ltd → EVOsoft

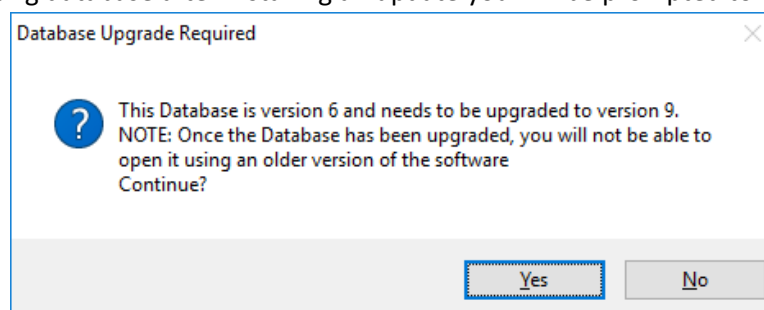
14. Upgrading EVOsoft

Profiler Tech also periodically makes new versions of EVOsoft publicly available at www.profilertech.com, and these new versions can be installed by any user at no charge.

NOTE: While updating EVOsoft should not result in any loss of data, it is **strongly recommended** that you make a backup of your EVOsoft databases prior to installing the update (see the [Database Backup](#) section, below)

To upgrade EVOsoft on your PC, follow the instructions in the [Installing EVOsoft](#) section, above, and your existing EVOsoft installation will be updated to the new version.

Some new versions of EVOsoft include changes to the underlying database and if so, the first time you open an existing database after installing an update you will be prompted to upgrade it e.g.:



Simply click 'Yes' to upgrade the database as required, but note that once this is done, you will **no longer** be able to open that database with older versions of EVOsoft.

15. Installing Device Communication Utilities

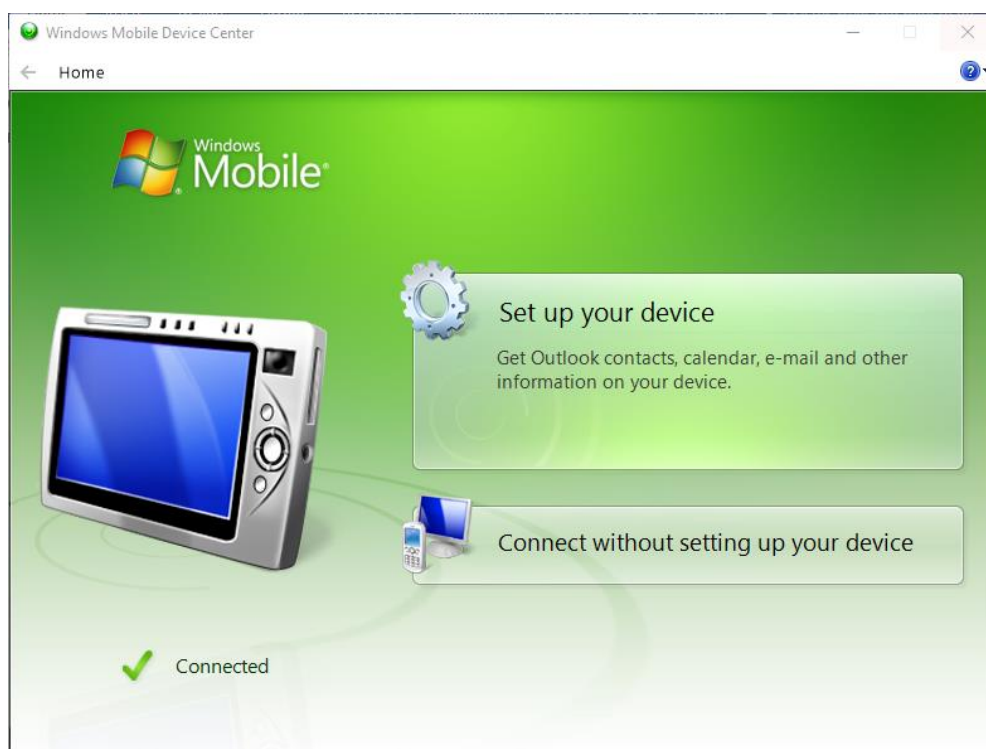
Before EVOsoft can communicate with your MMS7000 device, standard Microsoft device communications utilities must be installed on your PC. The specific utility required will vary depending on which version of Microsoft Windows you are using:

- For Windows XP: Microsoft ActiveSync 4.5
<http://www.microsoft.com/en-nz/download/details.aspx?id=15>
- For Windows Vista, 7, & 8: Microsoft Windows Mobile Device Center 6.1
<https://www.microsoft.com/en-nz/download/details.aspx?id=14>
- For Windows 10: Microsoft Sync Center should be automatically enabled and configured for you when you first connect the MMS7000 via USB cable, although this may take a few minutes and your PC will require an internet connection.

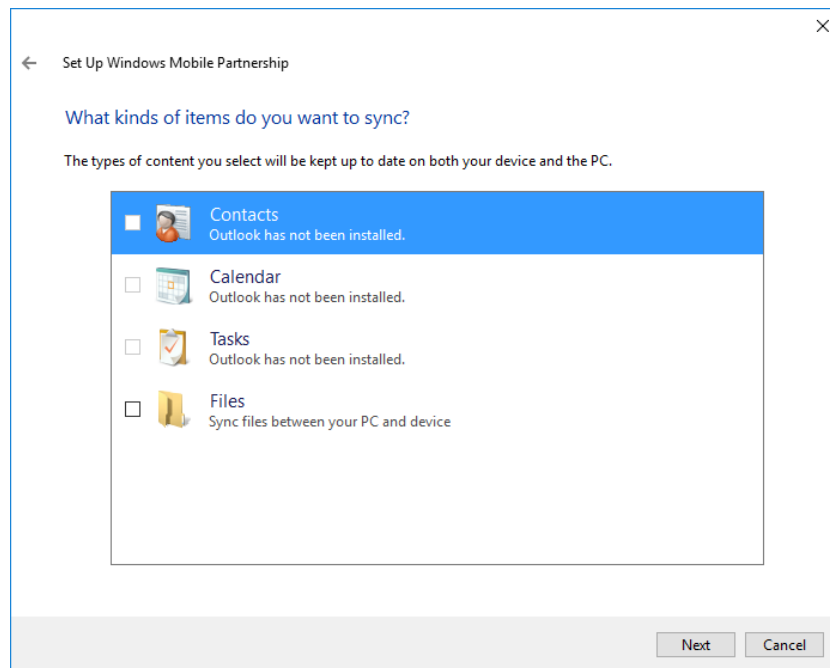
The standard Microsoft installers for these products are included on the USB Memory Stick supplied with your MMS7000. Alternatively, the installers (along with supporting documentation from Microsoft) can be downloaded at the links above.

16. Connecting Your MMS7000 to your PC

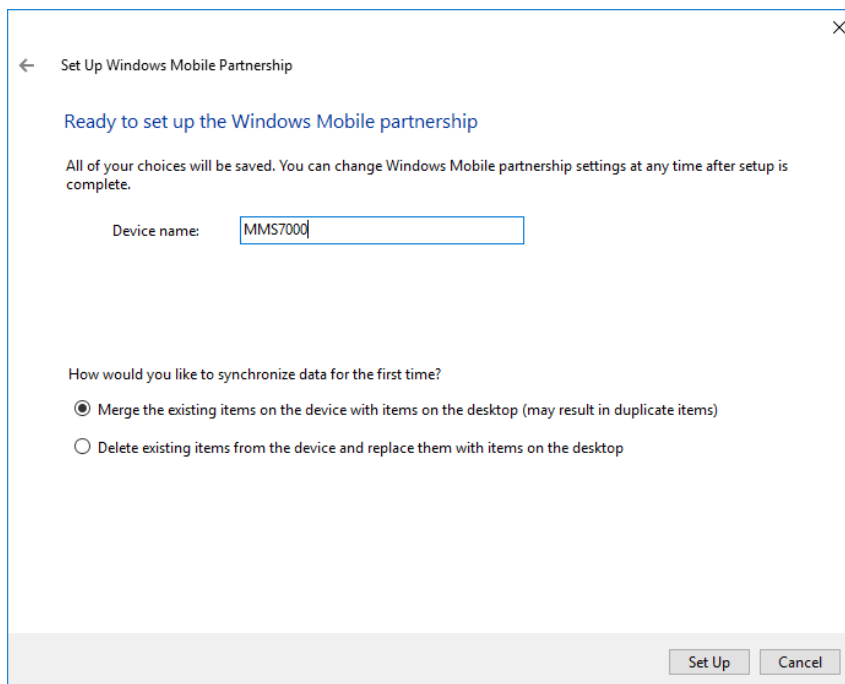
Once you have installed the appropriate Microsoft Device Communication Utility, connect your MMS7000 to a USB port on your PC. After a brief initialisation period, the Windows Mobile Device Center window will appear (*if it does not, refer to the [Troubleshooting](#) section of this document*):



In the screen above, select **Set up your device**. When asked what items you want to sync with this device, ensure all boxes are unchecked:



Click Next to display this window:



Give your device a name (e.g. MMS7000) and then click **Set Up**. Once the setup process is completed, you can safely close the Windows Mobile Device Center window by clicking the X in the top right corner.

17. Activating your EVOsoft License

EVOsoft can be freely installed and used without a licence in limited Trial mode, although a number of key functions will be disabled such as importing data from existing EVOsoft and Commtest Profiler MAS databases, as well as exporting data to other EVOsoft databases. A valid EVOsoft license is required to unlock these functions and this is included with the purchase of all new MMS7000 instruments. Your EVOsoft licence serial number will be emailed to you by Profiler Tech Support, and is in the format of a sequence of letters and numbers, similar to the below:

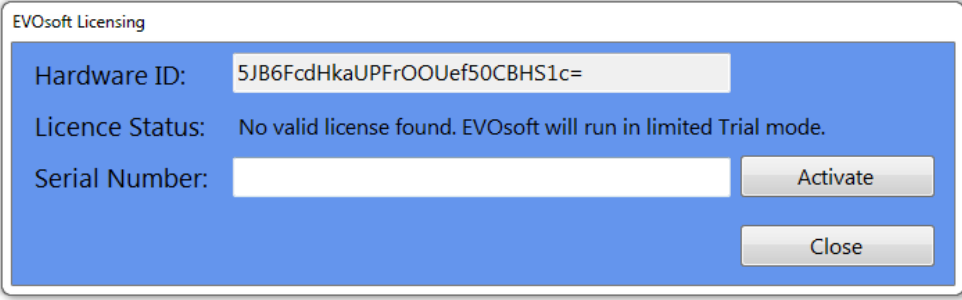
1F25-8C5F-C26D-4246-AA08-9D1C-2837

[Note that the number above is an example of the format only: your specific licence serial number will be supplied with your MMS7000 Kit]

Before you can use your EVOsoft license you need to install and then Activate it on your PC. Your license will come with 3 Activations, meaning you can use it on up to 3 different PCs.

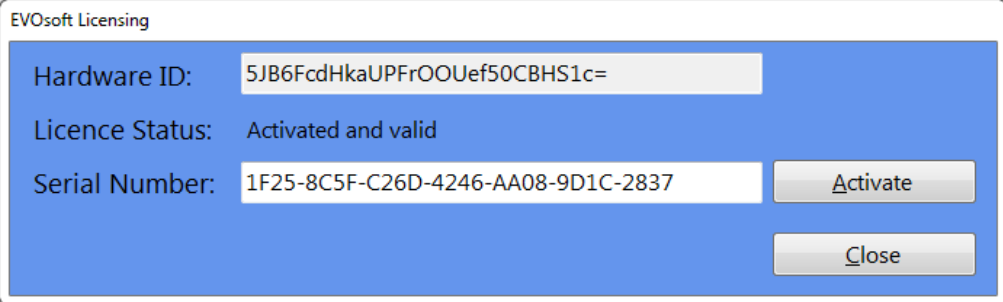
To activate your EVOsoft license on a PC:

1. Ensure your PC is connected to the internet: while EVOsoft does not require an internet connection during normal operation, a connection is required for this initial license activation. Contact [Profiler Tech Support](#) if this is not possible for you.
2. Start EVOsoft and from the menu select **Help → Licensing...** to display the EVOsoft Licensing window, which will initially show that no valid license is installed and EVOsoft is running in Trial mode:



The screenshot shows the 'EVOsoft Licensing' window. It has a blue header and a white body. The 'Hardware ID' field contains '5JB6FcdHkaUPFrOOUef50CBHS1c='. The 'Licence Status' is 'No valid license found. EVOsoft will run in limited Trial mode.' The 'Serial Number' field is empty. There are 'Activate' and 'Close' buttons.

3. Enter your EVOsoft license serial number in the Serial Number field, then click **Activate**.
4. If the license is activated OK, the EVOsoft Licensing window will close and you will be returned to the main page. If you receive any sort of error that you are unable to resolve, contact Profiler Tech Support.
5. To verify your license status at any time, select **Help → Licensing...** to display the EVOsoft Licensing window again, which should appear similar to the following:



The screenshot shows the 'EVOsoft Licensing' window after activation. The 'Hardware ID' field contains '5JB6FcdHkaUPFrOOUef50CBHS1c='. The 'Licence Status' is 'Activated and valid'. The 'Serial Number' field contains '1F25-8C5F-C26D-4246-AA08-9D1C-2837'. There are 'Activate' and 'Close' buttons.

18. Create Database

To commence using EVOsoft, you must first create a database.

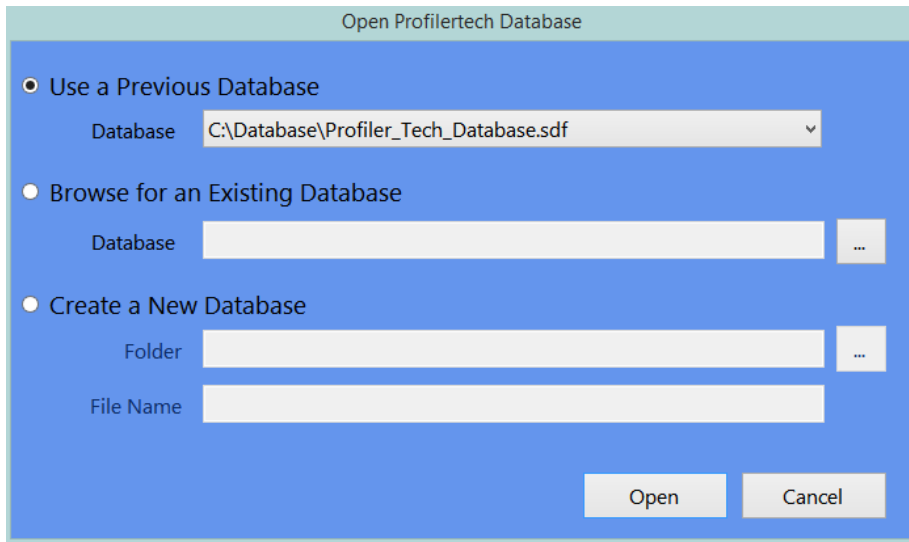
Select **Create a New Database**, browse to the preferred Folder Location and enter the File name of the new database.

Select **Open** to create the database.

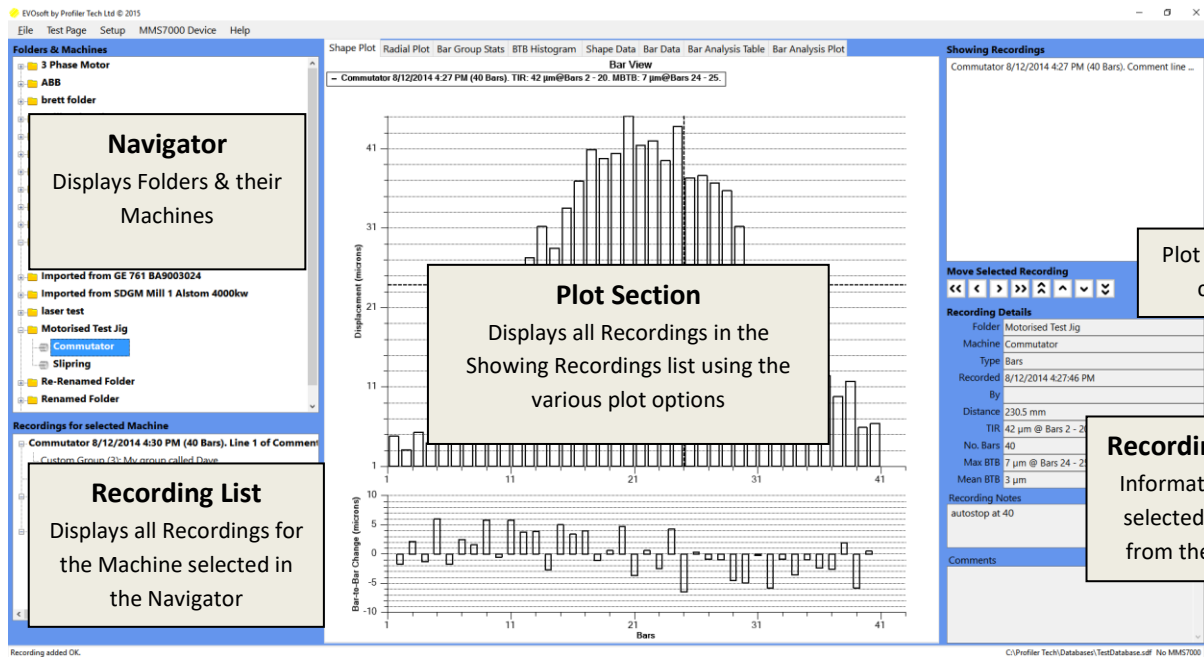
Once a Database has been created, it can be selected from the dropdown option in:

Use a Previous Database or use **Browse for an Existing Database** to select.

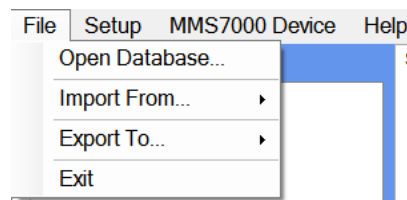
Lists the currently displayed Recording(s)



19. EVOSoft Software layout



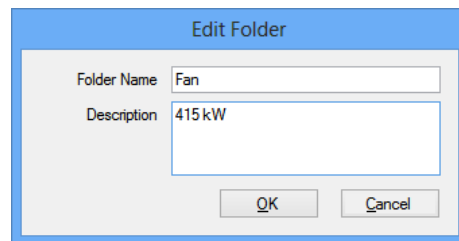
To select another Database, click **File**, select **Open Database** and browse to the file location.



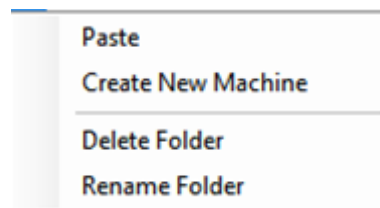
20. Folders & Machines

A database can contain multiple folders, each folder can contain multiple machines, and each machine can have multiple recordings.

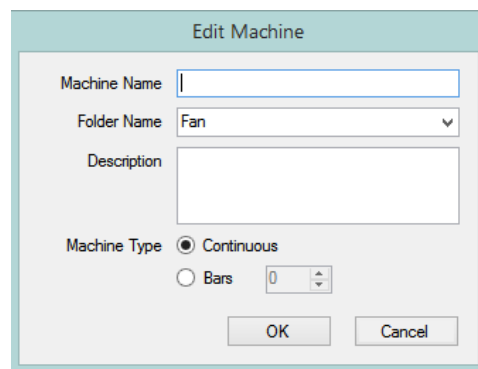
Right click in the Navigator Window to create a new Folder. Enter the Folder details and select OK. Enter a description if required.



To add a new Machine to the Folder, Right Click on the Folder and select **Create New Machine**.



You can enter the Machine name, a description and information on the machine type – Continuous or the number of Bars.

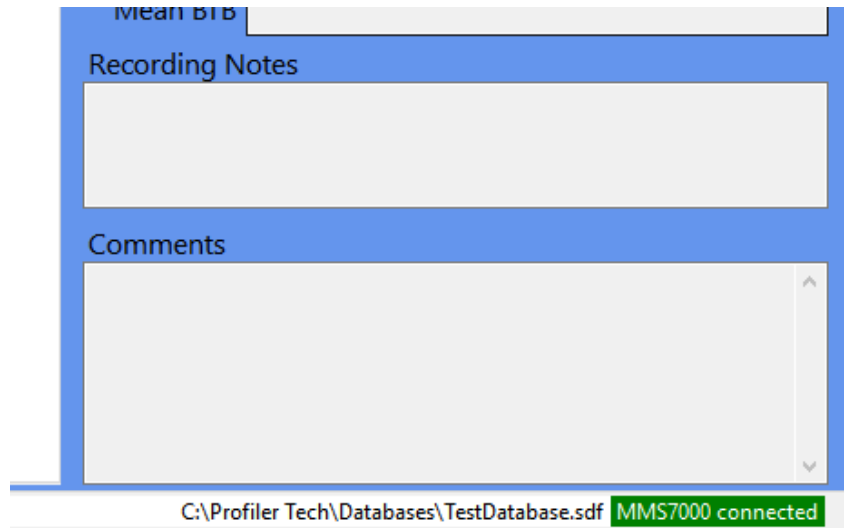


You can also copy an existing Machine to a different Folder:

1. Right click on the Machine you want to copy and select Copy Machine. If this Machine also has some recordings attached to it, you can choose to also copy these as well if desired.
2. Right-click on the Folder you wish to create the copy in, and select Paste Machine.

21. MMS7000 Communications

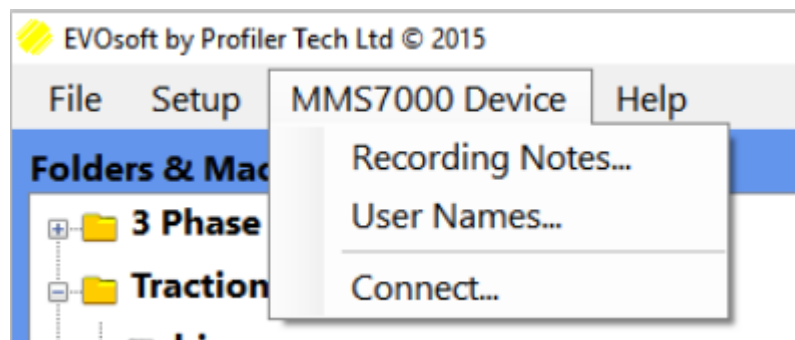
Connect the USB Comms cable between the MMS7000 and USB port of the PC. The MMS7000 will automatically connect to the EVOsoft software, and a green confirmation message will appear in the bottom right hand corner:



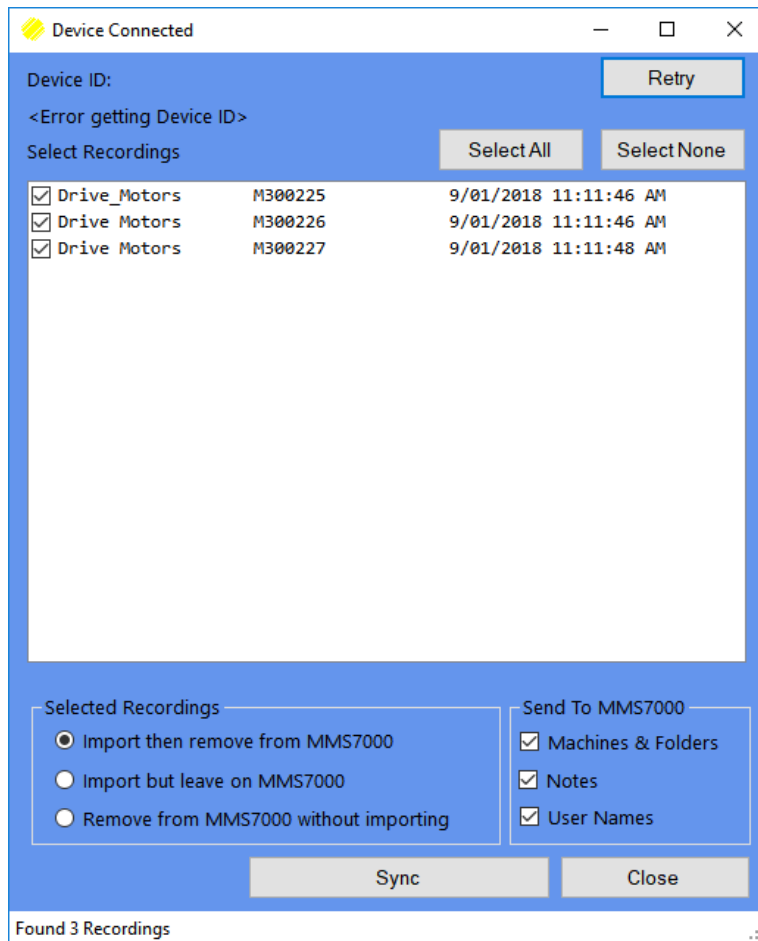
If EVOsoft is unable to detect that your MMS7000 device has been connected to the PC, consult the [Troubleshooting](#) section, below.

22. Transferring Data

Once communication is established, to transfer recorded data to EVOsoft, click **MMS7000 Device** from the Toolbar and select **Connect...**



The **Device Connected** Window will appear listing all recordings available for download e.g.



Choose the desired recordings to be imported by selecting the checkbox. The Device Connected window also allows you to manage the Selected Recordings stored on the MMS7000 device:

Selecting...	Then pressing 'Sync' will...
Import then remove from MMS7000	Import the recordings into EVOsoft and then <u>delete</u> the recordings from the MMS7000 device.
Import but leave on MMS7000	Import the recordings into EVOsoft <u>without</u> deleting them from the MMS7000.
Remove from MMS7000 without importing	Delete them from the MMS7000 device WITHOUT importing them into EVOsoft. Once a recording is deleted like this it cannot be recovered , so take care to ensure that you are deleting the correct recordings.

During the synchronisation operation, you can also send other types of data to the MMS7000:

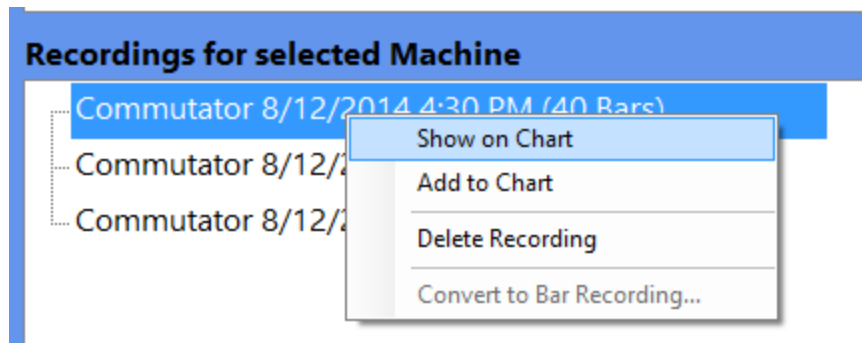
Selecting the option...	Will ...
Machines & Folders	Send the list of Folders and Machines from the EVOsoft database you are currently viewing to the MMS7000 handheld.
Notes	Send the list of Recording Notes from the EVOsoft database you are currently viewing to the MMS7000 handheld. Refer to Section 0 for more details on defining Recording Notes.
User Names	Send the list of defined Users from the EVOsoft database you are currently viewing to the MMS7000 handheld.

All of the options are checked by default and all of the above information is then available to select when saving recordings on the MMS7000, as described in [Section 9](#), above.

The entries in both lists will appear on the MMS7000 in the same sequence they appear in EVOsoft in the two displays above. To change the current sequence, select an entry and then click **Move Up** or **Move Down** as required.

23. Plot a Recording

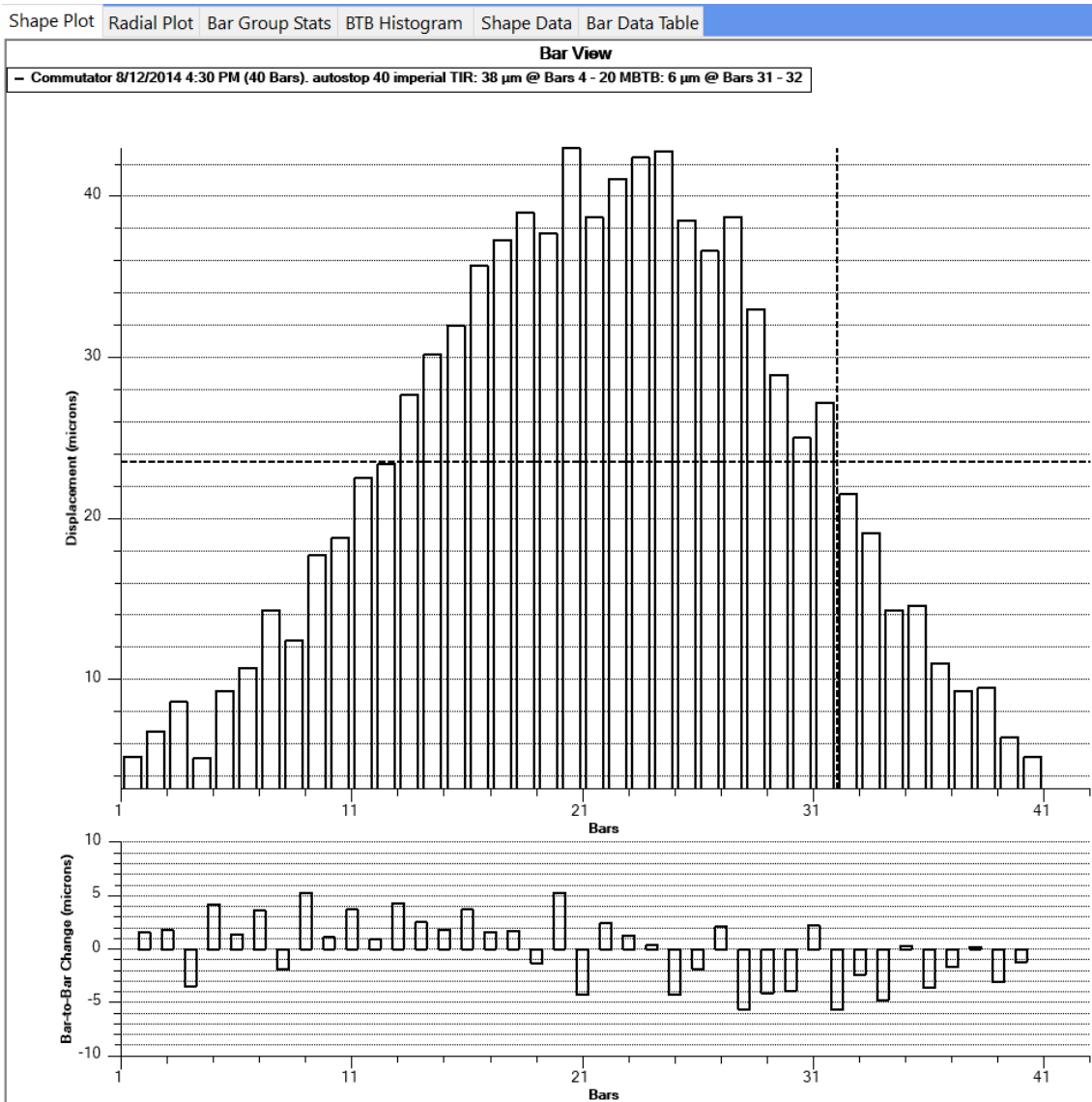
To plot a recording, simply double-click the recording in the Navigator List in the lower left corner, or right-click on the selected recording and then select **Show on Chart**.



There are six Plot types available to display the data, which are selected using the appropriate Chart Tab at the top of Plot Section. Once a profile is plotted, you can toggle through the Tabs to view the recording in each of the different Plot types, as described on the following pages.

Shape Plot

Profiles are displayed in a linear form, showing either the raw shape of the recording (*for Continuous recordings*), or the individual Bars (*for Bar recordings*).



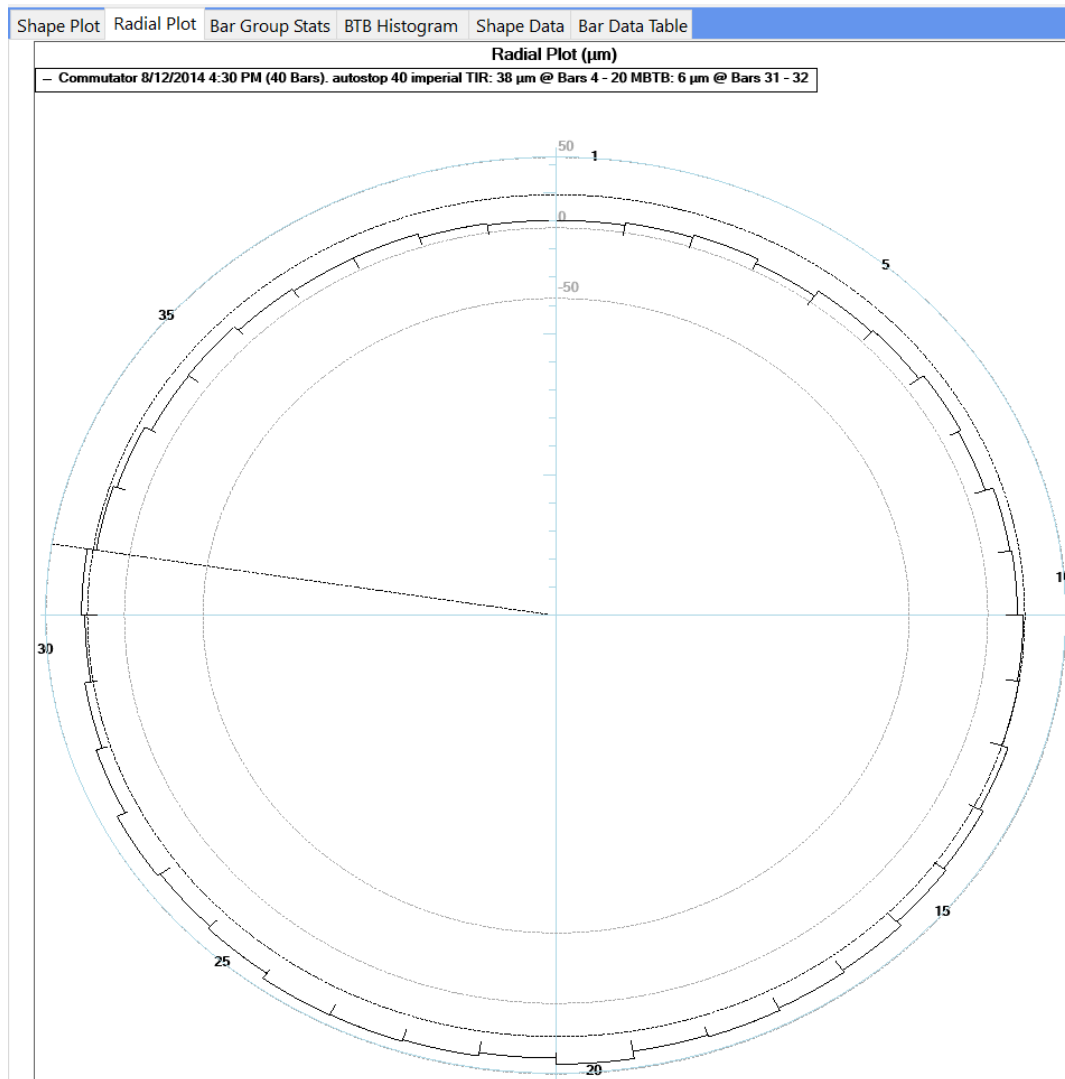
To read values from the displayed data within a Shape plot, left click on bar and hold the mouse button down. The Bar number and amplitude or position (Degrees) and amplitude will be displayed.

Below the main plot is a smaller chart that shows the Displacement Rate of Change (*for Continuous recordings*) or the Bar-to-Bar Change (*for Bar recordings*). This helps you to identify areas of the rotor where the shape is changing in an abnormal manner e.g. unusually steep upwards or downwards slope, oscillating bar heights etc.

By default, Shape Plots are drawn with a horizontal dotted line that indicates the average displacement for the recording, although this line can be turned on and off by right-clicking on the chart and selecting the **Show Average Line** menu entry. Bar Plots also include a vertical dotted line indicating the position of the MBTB value, which can similarly be turned on and off by right-clicking on the chart and selecting **Show MBTB Line**.

Radial Plot

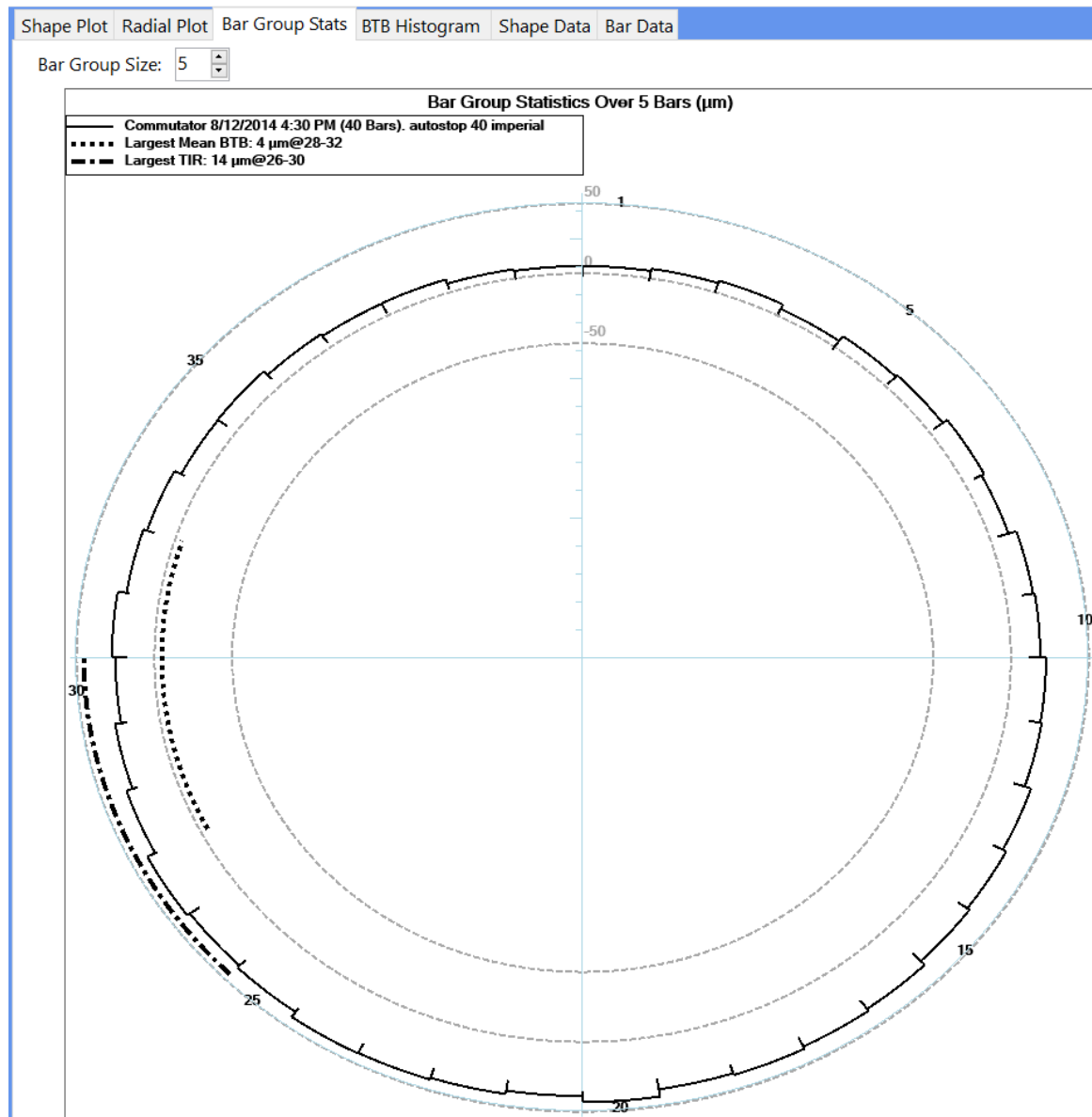
Profiles are displayed in a radial form which displays the true shape of the Commutator or Slip Ring, although with a highly exaggerated displacement to better show the detailed shape.



The upper and lower limits of the chart default to fixed values to give a consistent initial view of all rotors, but these limits can be changed as described in the Y-Axis Scaling section, below. As for the Shape Plot, Radial Plots are drawn with a circular dotted line indicating the average displacement for the recording which can be turned on and off by right-clicking and selecting **Show Average Line**. For Bar recordings, a dotted straight line indicates the position of the MBTB values which can also be turned on and off by right-clicking on the chart and selecting **Show MBTB Line**.

Bar Group Stats

Used for Bar recordings only, the Bar Group Stats plot is like the Radial Plot in that it shows the profile in a radial form, but also allows you to view statistics about each group of consecutive bars in Bar Recordings.



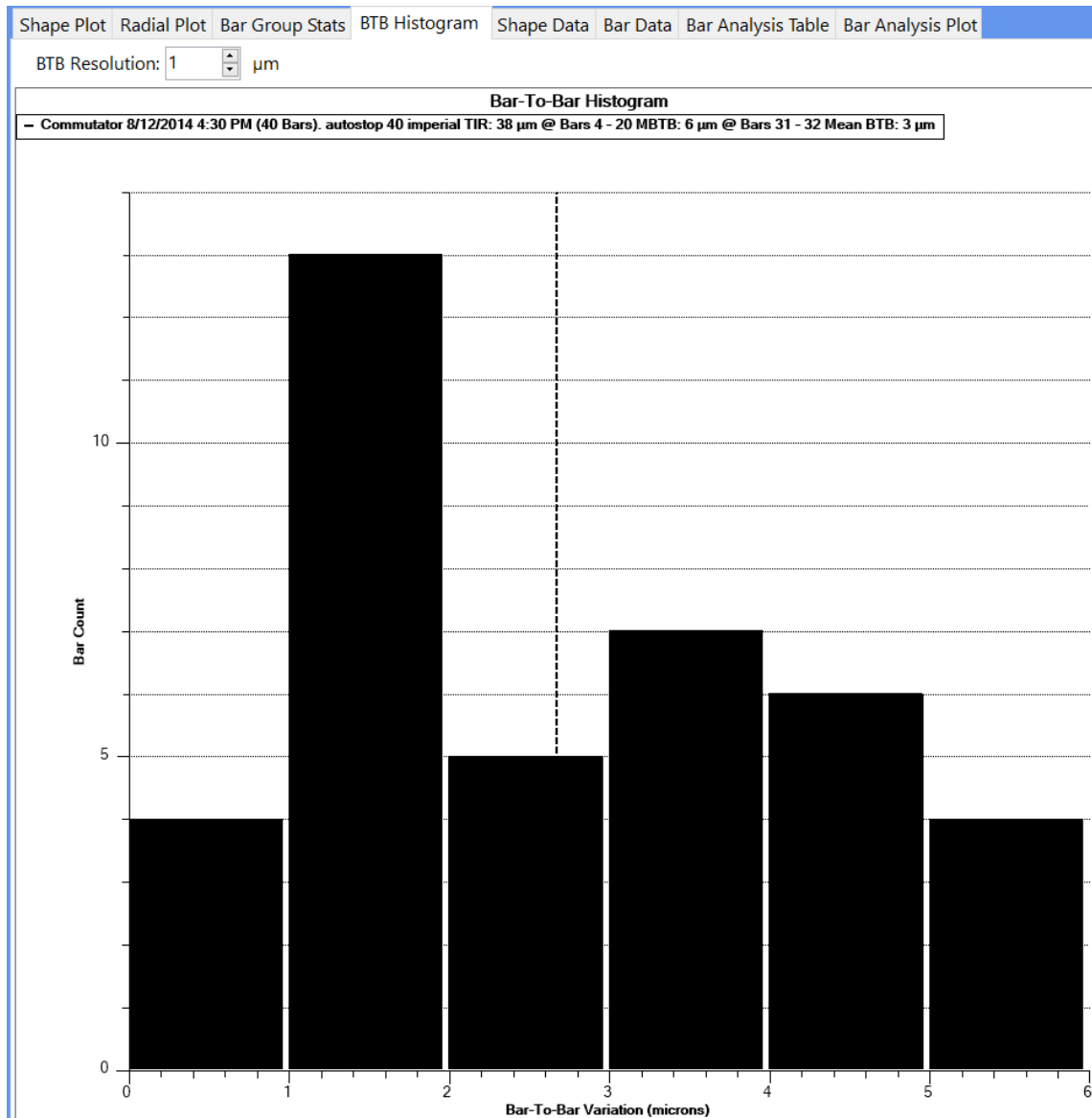
The number of bars in each group can be adjusted using the **Bar Group Size** field and in this example, it is set to 5 so EVOsoft is analysing each group of 5 consecutive bars i.e. bars 1-5, then 2-6, then 3-7 etc.

Once Bar Group Size is set, the plot then identifies which group(s) of consecutive bars has:

- The largest Mean Bar-To-Bar height difference between consecutive bars in the group (identified by the dotted line in the inner part of the plot)
- The largest Total Indicated Runout between the tallest and shortest bar in the group (identified by the dash-dot line in the outer part of the plot)

Bar-to-Bar Histogram

Used for Bar recording only, this plot summarizes the Bar-to-Bar height differences for all bars in a Bar Recording by plotting them in a histogram.



The resolution of the histogram can be adjusted using the 'BTB Resolution' field and the plot will automatically update. In this example the resolution is set to 1 μ m (1 micron) and for this bar recording:

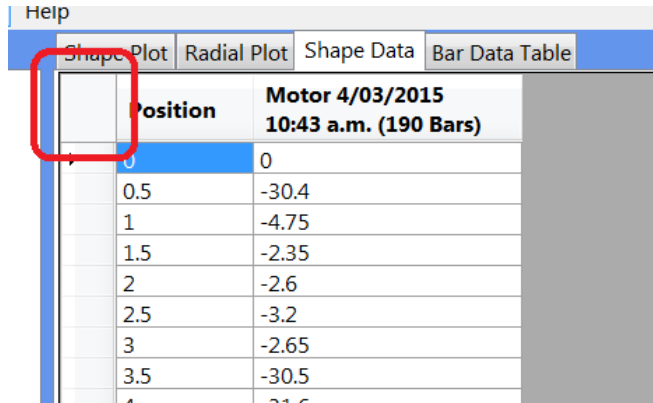
- 4 pairs of bars have a BTB difference between 0 and 1 μ m
- 13 pairs of bars have a BTB difference between 1 and 2 μ m
- 5 pairs of bars have a BTB difference between 2 and 3 μ m, and so on.

A vertical dotted line indicates the exact Mean BTB displacement difference, and this lines can be turned on and off by right-clicking on the chart and selecting the **Show Average Line** menu entry. Note that this line shows the exact Mean BTB displacement, whereas the Mean BTB value shown in the chart legend is rounded.

Shape Data

Displays the actual value recorded in steps of 0.5mm as the sensor travels across the surface of the rotor. This view allows you to copy the recorded data to the Clipboard so that you can paste it into other programs, such as Microsoft Excel. To do this:

1. Select all the rows of data by left-clicking in the empty cell in the very top left corner of the page



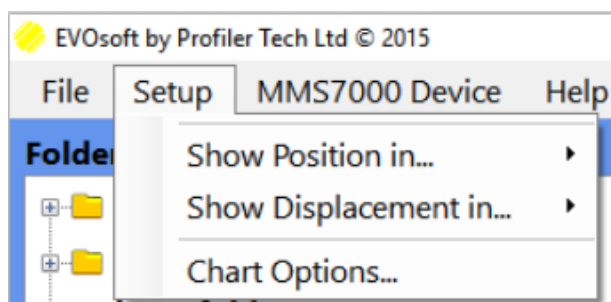
2. Right-click in this same cell and select 'Copy to Clipboard'
3. Switch to the program you want to paste the data into and use the normal Paste functionality to paste in the data

Bar Data

Displays the actual value recorded on each bar or segment. You can copy the data from this view into other programs using the same method described for 'Shape Data', above.

24. Change Default Units & Position

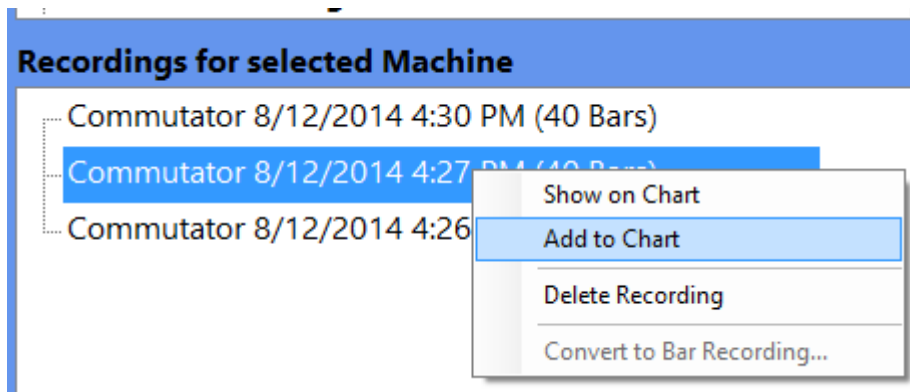
Select the **Setup** Menu to customise how you want certain things displayed:



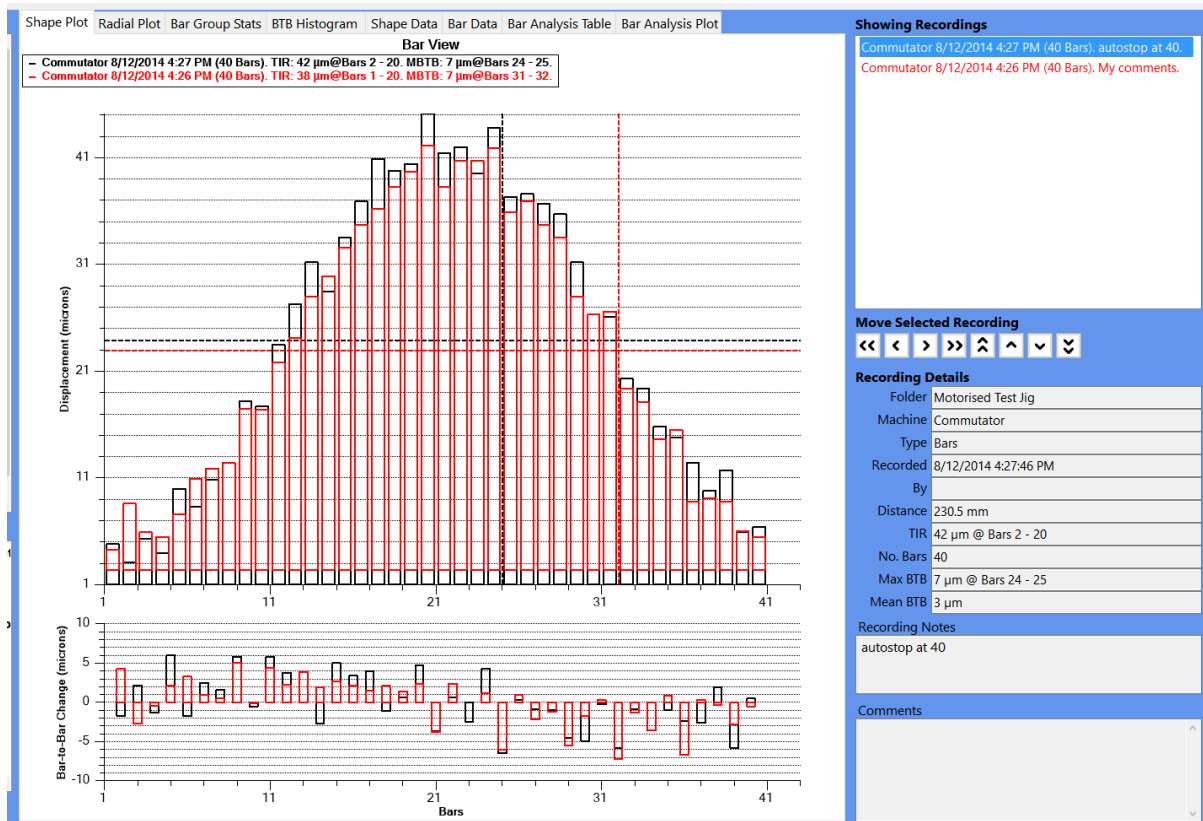
Selecting the option...	Allows you to ...
Show Position In...	Specify whether the X axis on charts and other values related to the position of the sensor on the rotor will be displayed in millimetres, degrees or inches.
Show Displacement In...	Specify whether the Y axis on charts and other values related to the measured displacement (e.g. TIR, MBTB etc) will be displayed in millimetres, microns or mils (1/1000 th of an inch).
Chart Options	Set the default line style and thickness for charts. Note that once a recording has been plotted on a chart, the color and style of it's plot lines can be individually adjusted as described in the following section.

25. Plot Multiple Recordings

You can add multiple recordings to a graph - right click on a recording in the bottom left and click **Add to chart**.

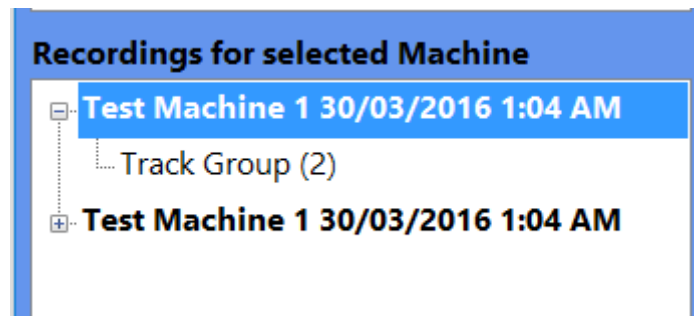


The recording will then be added to the Showing Recordings list in the top right, and the colour of its name in this list will match the colour of the corresponding line in the Plots e.g.



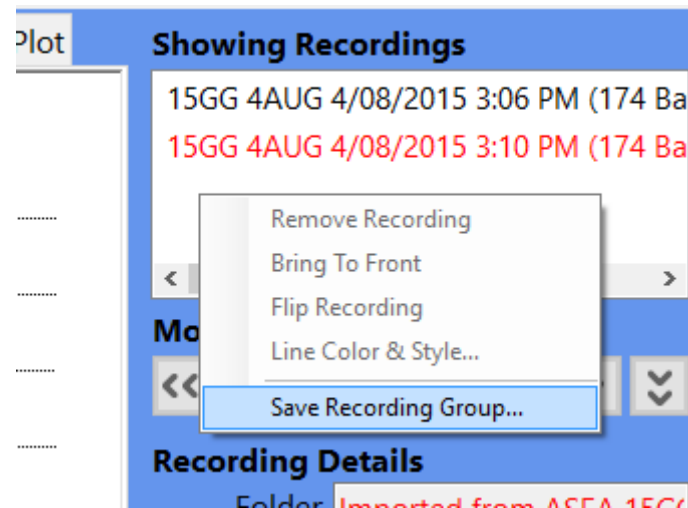
26. Plotting a Recording Group

Section 0 – “Creating a Group Of Recordings” (above) describes how to group related recordings together when using the MMS7000. Once these recordings are imported into EVOsoft, when they are displayed in the recording list in the bottom left, any recording that is in a group is displayed in **bold** text, and you can also expand the recording item in the tree to see the details of the group(s) it is in:



Double-clicking on the recording machine name & timestamp will display just the individual recording by itself as normal, but double-clicking on the Recording Group text (“Track Group (2)” in this example) will display all of the recordings in the group at the same time.

In addition to creating ‘Track Groups’, when recording on the MMS700, you can also manually create a ‘Custom Group’ in EVOsoft by manually adding & positioning recordings on the charts and then right-clicking in the ‘Showing Recordings’ list in the top right and selecting **Save Recording Group...**:



You can use the same method to add or remove recordings from an existing Recording Group of both types, and note that if you remove recordings from a Group such that only 1 recording remains, the Recording Group will be automatically removed.

27. Recording Information

Once a recording has been plotted, its details will be displayed in the bottom right of the display:

Recording Details	
Folder	Motorised Test Jig
Machine	Commutator
Type	Bars
Recorded	8/12/2014 4:27:46 PM
By	
Distance	230.5 mm
TIR	42 µm @ Bars 2 - 20
No. Bars	40
Max BTB	7 µm @ Bars 24 - 25
Mean BTB	3 µm
Recording Notes	
autostop at 40	
Comments	

C:\Profiler Tech\Database\TestDatabase.pdf No. MM467000

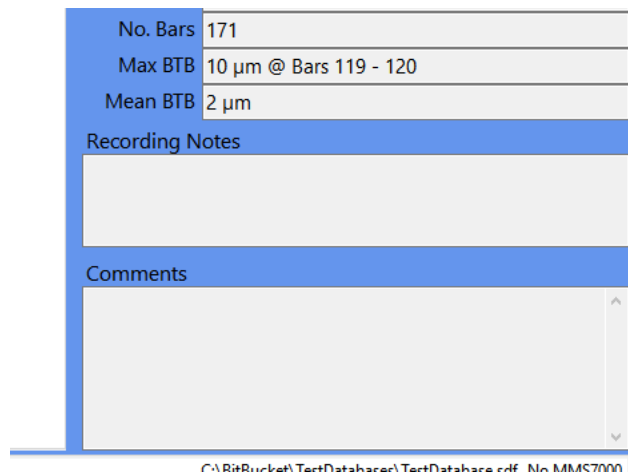
The details displayed are:

Field	Description
Folder	The Folder the recording is from.
Machine	The Machine the recording is for
Type	The Type of recording: either 'Bars' or 'Continuous'
Recorded	The date and time the recording was taken
By	If specified during recording, the name of the person who took the recording.
Min/Max	The minimum and maximum displacement measured during the recording i.e. the highest and lowest points found.
TIR	The Total Indicated Runout ; the difference between the minimum and maximum displacement. For Bar recordings, the numbers of these highest and lowest bars is also shown. Note: If multiple bars share the same minimum (or maximum) displacement, then the lowest numbered bar will be shown.
For Bar recordings only	
No. Bars	The total number of bars detected
Max BTB	The Maximum Bar To Bar displacement; the maximum displacement difference between two consecutive bars, along with the numbers of these two bars Note: If multiple pairs of bars share the same Maximum BTB displacement, then the lowest numbered pair of bars will be shown.
Mean BTB	The Mean Bar To Bar ; the average displacement difference between each pair of consecutive bars for the entire recording

If multiple recordings are being displayed, you can choose one to display details for by selecting it in the **Showing Recordings** list in the top right of the display. To help you keep track of multiple recordings, the field in the **Recording Details** section will use the same colour used for that recording in the **Showing Recordings** list and for lines on Plots.

28. Add Comments

In the bottom right corner of the main EVOsoft display are 2 text fields containing text descriptions related to the currently select Recording:



The screenshot shows a panel with the following fields:

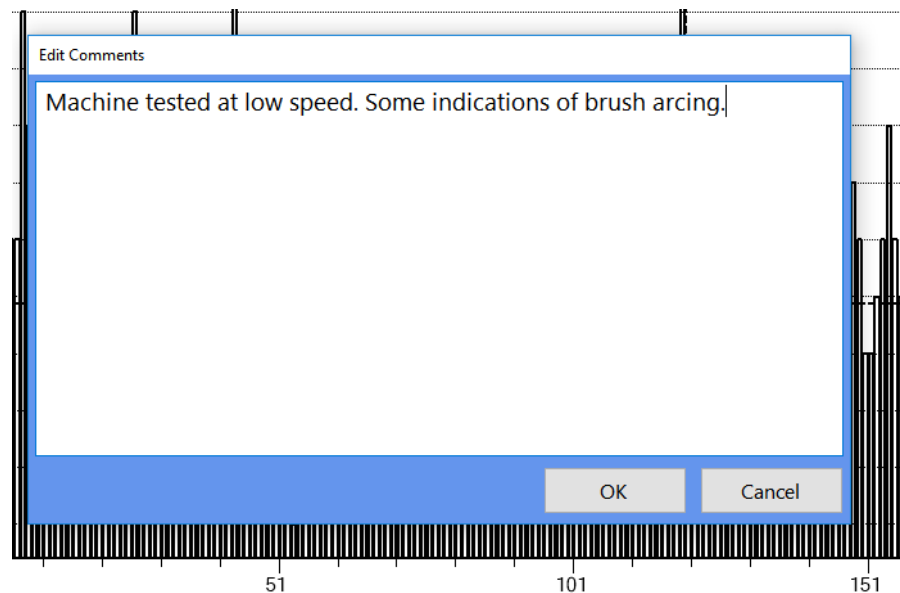
No. Bars	171
Max BTB	10 μm @ Bars 119 - 120
Mean BTB	2 μm

Recording Notes

Comments

At the bottom of the panel, the file path `C:\BitBucket\TestDatabase\TestDatabase.pdf` and the recording name `No. MMS7000` are visible.

- **Recording Notes** is the text entered on the MMS7000 device when the recording was saved, as described above in the section [Save Recordings](#), above. These Recording Notes cannot be changed in EVOsoft
- **Comments** allow the EVOsoft user to enter free-form text that is stored along with the recording. Click in the comments field to open the **Edit Comments** window where you can add or edit recording comments, including pasting text in from other applications:



The 'Edit Comments' dialog box is shown with the following content:

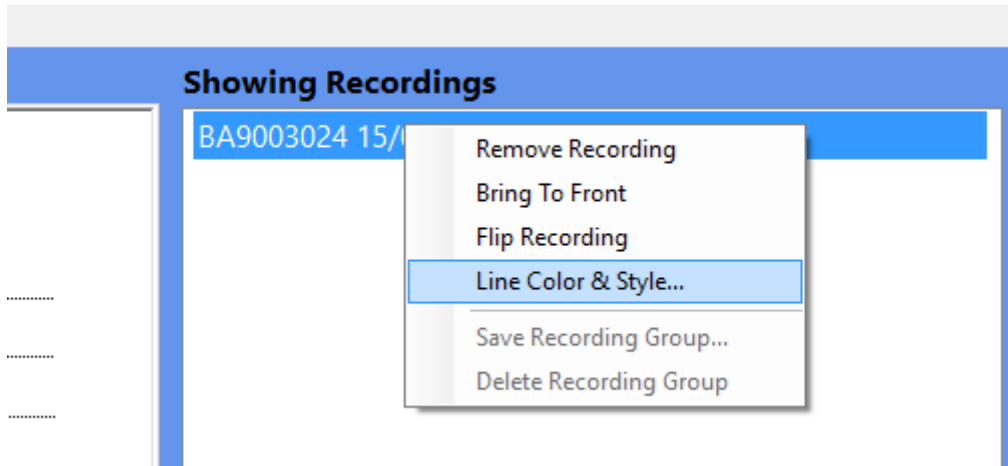
Machine tested at low speed. Some indications of brush arcing.

At the bottom of the dialog are 'OK' and 'Cancel' buttons. The background shows a portion of a surface profile graph with x-axis labels at 51, 101, and 151.

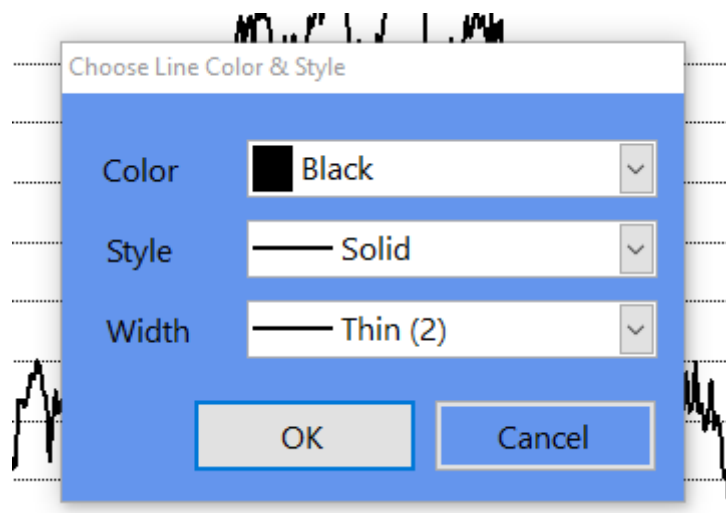
29. Altering How Recordings Are Displayed

Changing Chart Colors and Lines

When a recording is added to a chart, the corresponding plot line will use the default line style and thickness specified in the **Setup** menu (see above) in the next unused color. However, you can then adjust the color and style of this line by right-clicking on the recording in the 'Showing Recordings' list in the top right and selecting 'Line Color & Style..'



This is useful if you wish to print a chart on a monochrome printer as it allows you to set all plot lines to black and instead just assign each recording a different line style.



Moving Recordings

When displaying multiple recordings on a single plot, it is often useful to be able to adjust the position of the recordings up/down or left/right. This is most useful for aligning profiles recorded on the same machine but with different starting positions on the same plot, and is available for both Shape and Radial Plots using the **Move Selected Recording** buttons:



First choose which plot to move by selecting the Recording in the **Showing Recordings** list in the top right, then adjust its position using the 8 buttons as follows:

Button	Moves the Recording...		Keyboard Shortcut	Mouse Shortcut
	Shape Recordings	Bar Recordings		
⏪	Left by 10 samples	Left by 10 bars	Shift + Left Arrow	Ctrl + Shift + Mouse Wheel Up
⏩	Left by 1 sample	Left by 1 bar	Left Arrow	Ctrl + Mouse Wheel Up
⏪	Right by 1 sample	Right by 1 bar	Right Arrow	Ctrl + Mouse Wheel Down
⏩	Right by 10 samples	Right by 10 bars	Shift + Right Arrow	Ctrl + Shift + Mouse Wheel Down
⏶	Up by 10 microns (0.01mm)		Shift + Up Arrow	Shift + Mouse Wheel Up
⏶	Up by 1 micron (0.001mm)		Up Arrow	Mouse Wheel Up
⏷	Down by 1 micron (0.001mm)		Down Arrow	Mouse Wheel Down
⏷	Down by 10 microns (0.01mm)		Shift + Down Arrow	Shift + Mouse Wheel Down

Zoom & Pan

Zooming is only available in Shape plots:

- **Zoom in** - Left mouse click and hold, draw a box over the target area. Release the mouse button to zoom in on the target area. You can zoom in multiple times.
- **Zoom out** – Click down on middle mouse button or click down on your scroll wheel, or right-click on the chart and select the **Zoom Out** menu entry. You can zoom out as many times as you zoomed in.
- **Pan** – The chart display can be dragged in any direction to display areas that are hidden in the current view which is especially useful once you have zoomed in. Pan the display by holding down the right mouse button and dragging the chart.

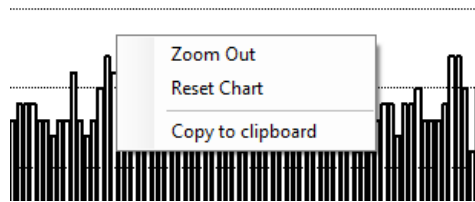
Y-Axis Scaling

In the Shape and Radial Charts you can change the Y-Axis scale by clicking on the chart and rotating the scroll wheel on your mouse. Holding down the Shift key while you scroll changes the scale faster.

Reset Chart Display

To undo all moving, zooming, panning and scaling of a chart and reset it back to its original appearance, right-click on the chart and select the **Reset Chart** menu option.

30. Copying & Printing Charts



To copy a chart to the Windows Clipboard, right-click on the chart and select **Copy to Clipboard**. Once copied you can paste the chart image into reports, documents or emails.

31. Generating Reports

EVOsoft includes the ability to generate a comprehensive recording report in Microsoft Word (*.docx) format. Each report can include any of the 5 different report pages available, as described below.

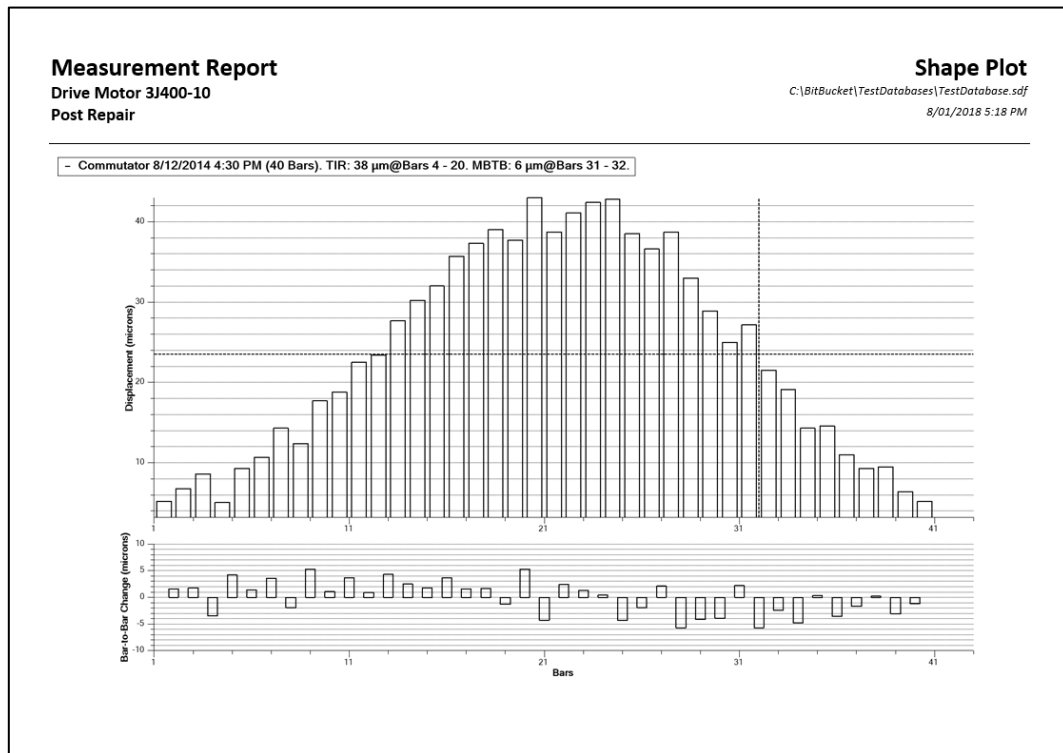
Recording Summary Page

This page contains a table showing the details of the recording(s) as shown in the **Recording Details** section in the lower right of the main page of EVOsoft. This page also includes a blank **Notes** section where further notes can be added to the report from Microsoft Word if required.

Measurement Report		Recording Summary	
Drive Motor 3J400-10		C:\Profiler Tech\Databases\TestDatabase.sdf	
Post Repair		8/01/2018 9:07 PM	
<hr/>			
	LJB29-8 AC674 Peak 14/03/2001 11:17 AM (171 Bars).		
Folder	Imported from AC674 Peak		
Machine	LJB29-8 AC674 Peak		
Type	Bars		
Recorded	14/03/2001 11:17 AM		
By			
Distance	1710.0 mm		
TIR	12 µm @ Bars 53 - 119		
Max BTB	10 µm @ Bars 119 - 120		
Mean BTB	2 µm		
Recording Notes			
Comments	Machine tested at low speed. Some indications of brush arcing.		
Notes:	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>		

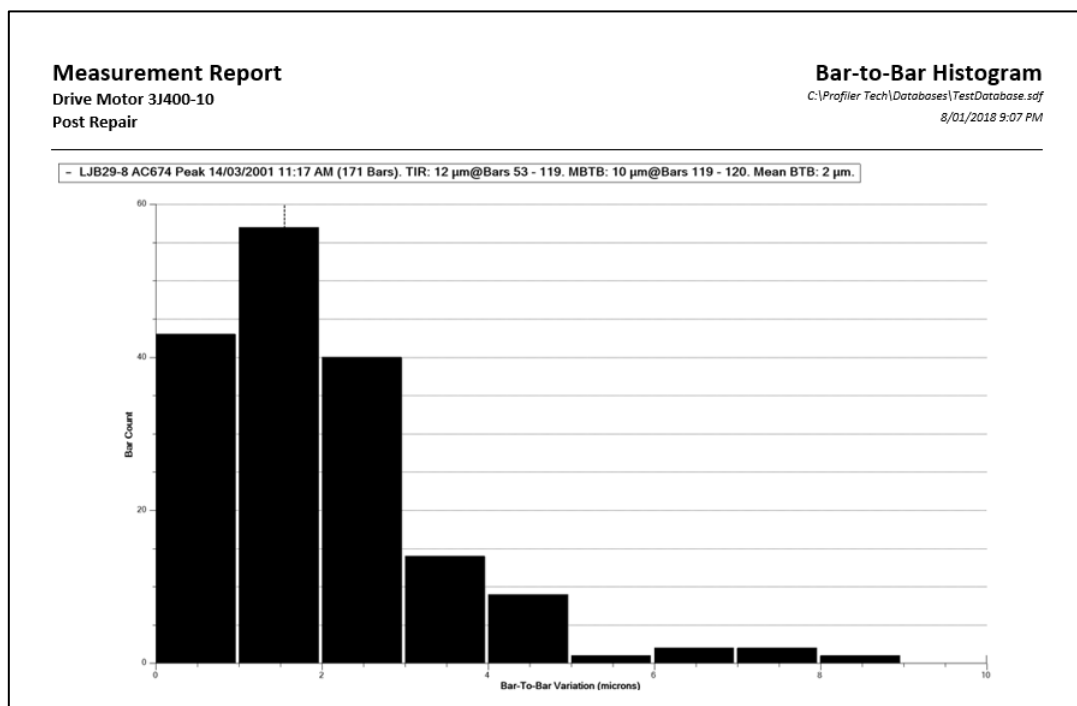
Bar/Shape Plot Page

This page shows the Bar or Shape plot of the selected recording(s), as shown on the **Shape Plot** tab of EVOsoft:



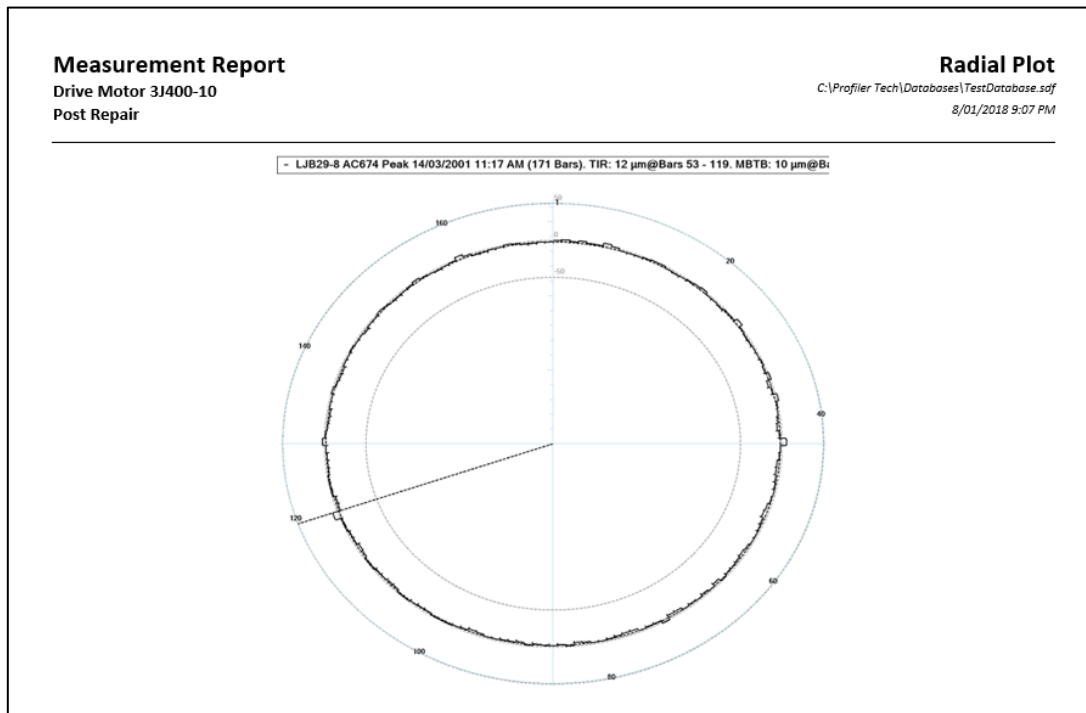
BTB Histogram Page

Available for Bar recordings only, this page shows the Bar-To-Bar Histogram for the selected recording(s), using the same resolution settings as shown on the **BTB Histogram** tab of EVOsoft:



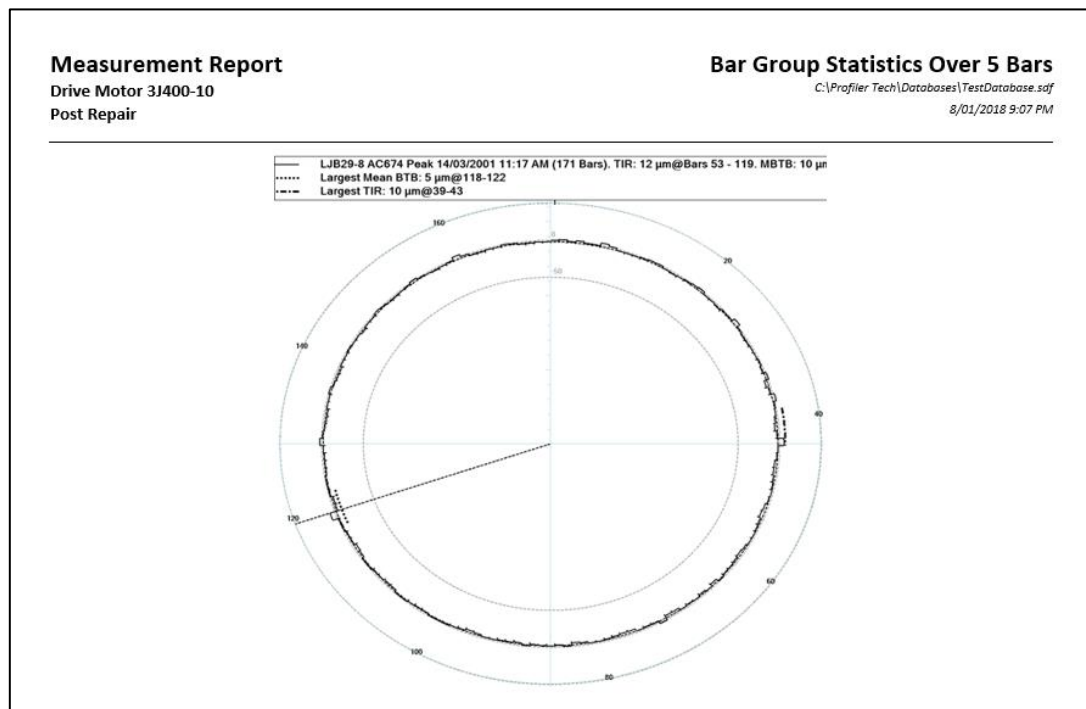
Radial Plot Page

This page shows the Radial Bar or Shape plot of the selected recording(s), as shown on the **Radial Plot** tab of EVOsoft:



Bar Group Stats Page

Available for Bar recordings only, this page shows the Bar Group Statistics for the selected recording(s), using the same Bar Group Size as shown on the **Bar Group Stats** tab of EVOsoft:



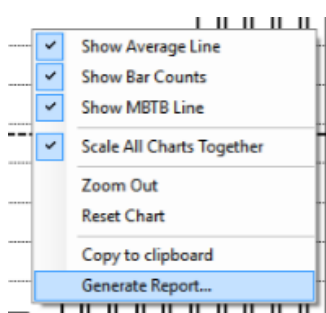
How to Generate a Report

NOTE:

You do not need Microsoft Word installed on your PC to **generate** reports. However, to open them you will need to either:

- Have Microsoft Word 2007 or later either installed on your PC or available via an Office 365 subscription, or
- Have Microsoft Word 2003 or earlier with the “Microsoft Office Compatibility Pack” installed on your PC, or
- Store the reports in OneDrive or Dropbox and then use Word Online to open them in any web browser, or
- Store the reports on Google Drive and then open them using Google Docs, or by using the “Office Editing for Docs, Sheets & Slides” Chrome extension

To generate a report:

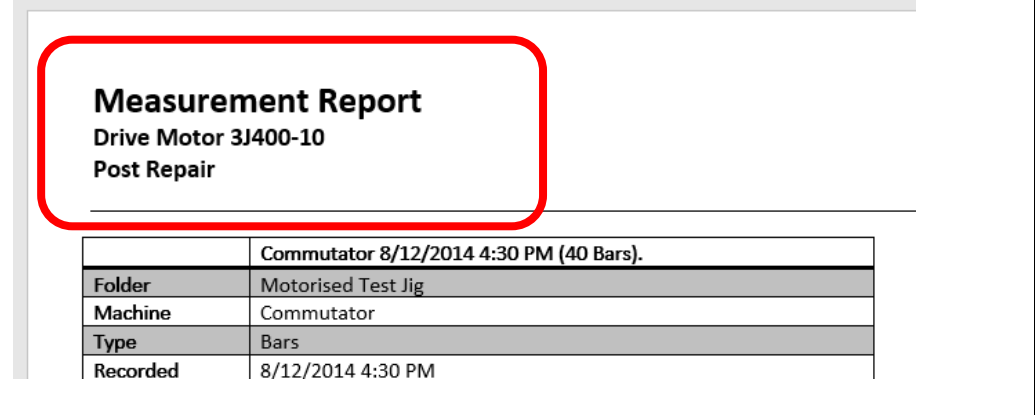


1. Select a recording (or multiple recordings) and display them in EVOsoft as normal.
2. Right-click anywhere on any chart and select **Generate Report...**

3. The **Report Generator Options** window will be displayed:

Set the options as follows:

Field	Description
Template	To generate reports using the default layout, simply leave this field blank. However, if you wish to generate the report using a specific Word Template then select the relevant *.dotx file here. <i>Refer to the Using a Microsoft Word Template for Reports section below for more information.</i>
Output Folder	Specify the folder where generated reports should be saved to.
Report Pages to Include	Use these checkboxes to select which of the 5 different pages you want on the generated report.
Heading	If entered, the values entered in these 3 fields will appear at the top left of each page of the report e.g.
Subheading 1	

Subheading 2	
Include Recording Comments & Notes	If checked, any Recording Notes and Comments for the selected recording(s) will be included on the Recording Summary page of the report. If unchecked, then these fields will be omitted.
Save these settings for next time	If checked then the values entered for Heading, Subheading 1 and Subheading 2 will be saved so they appear again next time this window is displayed.
Open Report	If selected, then once the *.docx report file has been generated, it will be automatically opened in Microsoft Word (<i>select this option only if you have Word installed on your PC</i>)
Show in Folder	If selected, then the folder containing the generated report will be opened in Windows Explorer (<i>select this option if you do not have Word installed on your PC</i>).
Report File	Once the report has been generated, the full name of the resultant *.docx file will be displayed here. To open the file, click the ... button to the right.

When you have finished setting options, click **Generate** to generate the report and then open it in Microsoft Word.

Managing Reports in Microsoft Word

Once you have opened a report in Microsoft Word, you can then:

- Edit the empty **Notes** section on the **Recording Summary** page to add any additional information you would like to appear on the report.
- **Cut-and-paste** the report pages into other documents or applications.
- Use **Print** to print out the report
- Use **Save As...** to save the report in a different file format e.g. to
 - Save it in PDF format, or
 - Save it in the older *.doc format so it can be opened using Word 2003 or earlier, or
- You can also use **Export** to convert the report to PDF or XPS formats so they can be more easily view by others without the need to have Word installed on their PC
- Use **Share** to email the report (via Outlook) to other people using either:
 - A link to the file on OneDrive, or
 - In PDF format, or
 - In Word (*.docx) format

NOTE: The menu options listed above may vary between versions of Microsoft Word.

Using a Microsoft Word Template for Reports

If no Microsoft Word Template (*.dotx) file is specified on the **Report Generator Options** window, then the report pages will be generated with the default layout.

However, you can use a custom Word Template file to alter the appearance of the generated report. For example, you can add standard page headers or footers, change the page margin sizes, or include your company logo on each page etc.

NOTE: Using a Word Template will not change the information shown on each page on the report, only the overall visual appearance of the document. Refer to the Microsoft Word documentation/Help for more information on what is possible using Templates.

Note that if you do use a Template file for report generation, then you may find that it changes the page layout such that the plot images shown on the **Shape Plot, BTB Histogram** etc pages now no longer fit on the same page as their corresponding headings, and instead get moved onto their own empty page. If this does occur, then you can adjust the size of these images as follows:

1. Locate the directory where EVOsoft is installed
The default location is C:\Program Files (x86)\Profiler Tech Ltd\EVOsoft
2. In this directory, open the file *Profilertech.EVOsoft.exe.config* using Notepad
3. Locate this setting:

```
<setting name="ReportChartImageHeight" serializeAs="String">  
    <value>560</value>  
</setting>
```

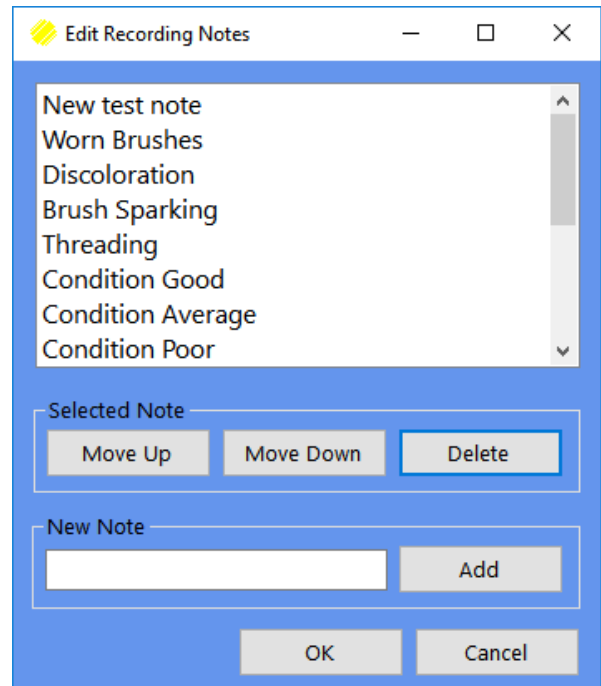
This value defines the vertical size of each plot image and is expressed in 'points' (which are typically 1/72 of an inch).

4. The default size is 560 points and so to reduce the plot image size, change this to a smaller value and save the *Profilertech.EVOsoft.exe.config* file
5. Open EVOsoft, generate a trial report and verify if the images are now small enough to fit on the same page as their heading.
6. If the image size is still not suitable, close EVOsoft and repeat the above 2 steps until you find a suitable size.

32. Recording Notes

When saving a recording on the MMS7000 you can optionally enter a Recording Note, either by entering it manually or by selecting from a predefined list. To modify this predefined list in EVOsoft, click **MMS7000 Device** on the Toolbar and then select **Recording Notes**.

Notes appear on the MMS7000 device in the same sequence as they are displayed in the window above, which you can change by clicking on an entry and using the **Move Up** and **Move Down** buttons. To add a new Recording Note, enter it in the **New Note** field and click **Add**. To delete an existing Recording Note, click on it and then click **Delete**. When you are finished, click **OK**



33. MMS7000 User Names

Click **MMS7000 Device** on the Toolbar and then select **User Names** to maintain the list of MMS7000 user names that are available to select from when saving recordings.

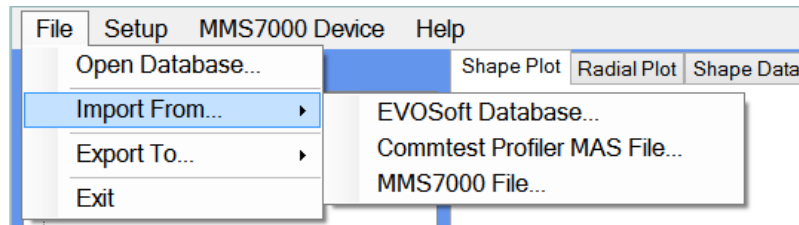
As for Recording Notes above, the sequence the User Names appear in the list on the MMS7000 is the same as they are displayed in the User Names windows in EVOsoft, which can be altered by selected a User Name and then clicking Move Up or Move Down.



34. Import / Export Data / Backup

Importing Data into EVOsoft

To import data into the database, click **File → Import From..**



From this menu you can Import recordings from another EVOsoft Database, an existing Commtest Profiler MAS File or an MMS7000 File. A MMS7000 File means a .prt file copied directly from the StorageCard\Profilertech\Data folder on the MMS7000 device.

Exporting Data out of EVOsoft

To export recordings to another EVOsoft database:

1. Select **File → Export To... → EVOsoft database...**
2. Use the **Export to Database** field to select the database to export to on the **Export Recordings to...** window:
 - a. If you select an existing database, the recordings you select will be copied to that existing database, adding to whatever recordings it already contains. This is useful when you want to copy recordings from one database to another.
 - b. If you **Create a New Database**, the selected recordings will be copied into their own new and otherwise-empty database. This is useful when you want to share only a small group of recordings with another EVOsoft user (see below)
3. Use the Select Recordings section to pick the recordings to export.
4. Finally, click **Export Recordings**. The selected recordings will then be copied to the target database, although note they will not also be deleted from the current database.

Sharing recordings with other EVOsoft user.

The simplest way to share a small group of recordings with another EVOsoft user is to export them to a newly-created database and then just email this new .sdf database file to the other user. Since you are sending them a normal EVOsoft database file, when they receive the file they can then either:

1. Just open it directly in EVOsoft to view the recordings as normal (i.e. no special file conversion or import function is required), and/or
2. If they want to add the recordings to one of their other existing EVOsoft databases, they can use the normal **File → Import From...** functionality, as described previously.

Database Backup

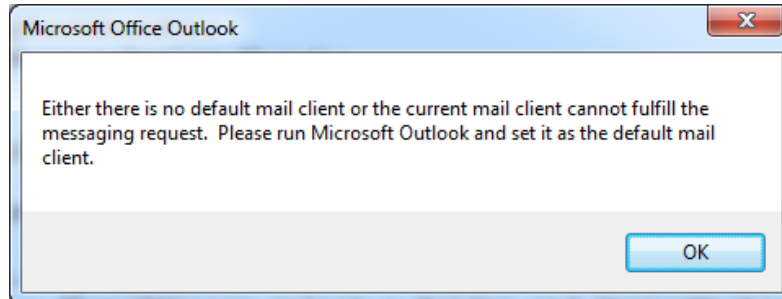
EVOsoft databases are a single .sdf file, and so backups are done using a simple copy-and-paste of the .sdf file in Windows.

NOTE: Always ensure EVOsoft is closed before attempting to copy a .sdf database file.

Troubleshooting

Microsoft Outlook error message appears when the MMS7000 device is connected

Some users may see the following message when connecting the MMS7000 device to their PC:



This message appears because the 64-bit version of Microsoft Office is installed on the PC while the Windows communications utilities for the MMS7000 are expecting to find the 32-bit version. The message can be safely acknowledged and then ignored, and its appearance has no negative impact on the operation of the MMS7000 device and EVOsoft software.

Unable to install Windows Mobile Device Center on Windows 7 & 8.1

When attempting to install Windows Mobile Device Center on Windows 7 K or KN, or Windows 8 N or KN, you may receive the error message *“The update could not be installed because at least one Windows component required by Windows Mobile Device Center is missing”*. This is because Windows Mobile Device Center relies on some components of Windows Media Player, which is not installed by default on the K and KN versions of Windows. To add the missing components, first install the Microsoft Media Feature Pack for your version of Windows, and then try installing Windows Mobile Device Center again:

Windows 7: <https://www.microsoft.com/en-us/download/details.aspx?id=16546>

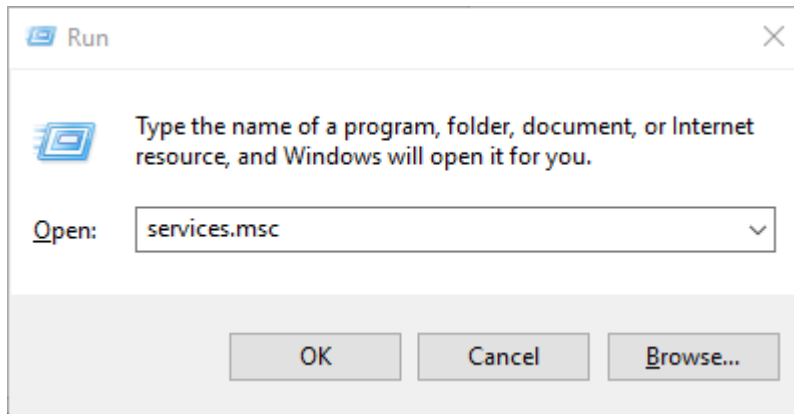
Windows 8.1: <https://www.microsoft.com/en-us/download/details.aspx?id=40744>

Cannot establish Comms between EVOsoft and your MMS7000 Device

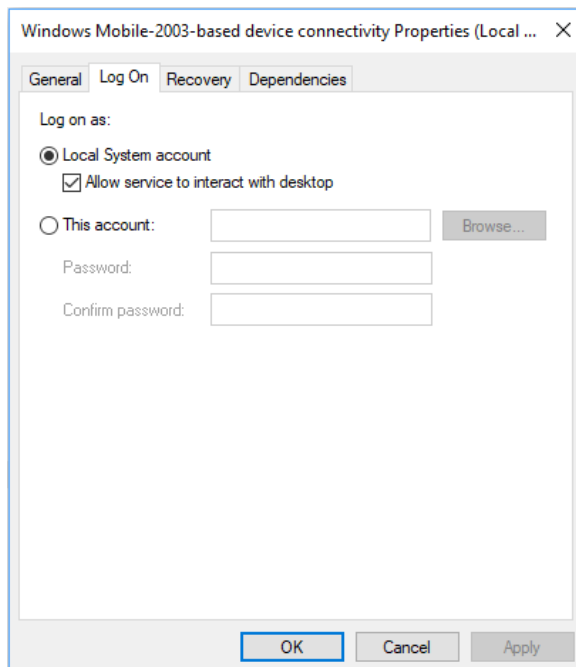
1. Ensure that you have installed the required Microsoft device communication utility as described in Section 13. [Installing Device Communication Utilities](#), above.
2. Reset the MMS7000 by pressing and holding both the power button and the corresponding button on the other side of the keypad (see Figure 1: How to Hard Reset your MMS7000 device, below) for ~3 seconds until the display turns white, then release the buttons and waiting for the reboot process to complete. The Profiler App will automatically restart, and the Profiler should now be ready for use.
3. Ensure that the MMS7000 device is fully initialised before connecting to your PC:
 - a) Unplug the MMS7000 USB cable from your PC
 - b) Press the Power button to put the MMS7000 device into Sleep mode.
 - c) After a few seconds, press the Power button to wake it back up and wait until the Profiler7000 app main screen appears.
 - d) Plug the MMS7000 back into a USB port on your PC

4. Ensure you have tried both connecting your MMS7000 to your PC before starting EVOsoft, and conversely starting EVOsoft and then connecting the device after.
5. **[If using Windows 10]** Changes that are automatically installed as part of the Microsoft Windows 10 “Creators Update” (and most subsequent Windows updates) can cause the connection to stop working. In such cases, your PC will detect that you have connected the MMS7000 to a USB port (by playing the normal ‘USB device connected’ sound), but the device does not appear in Windows File under ‘My Computer’. To resolve:

- a) Start the Windows Services Control Panel applet by pressing Windows+R, entering **services.msc** and pressing enter:

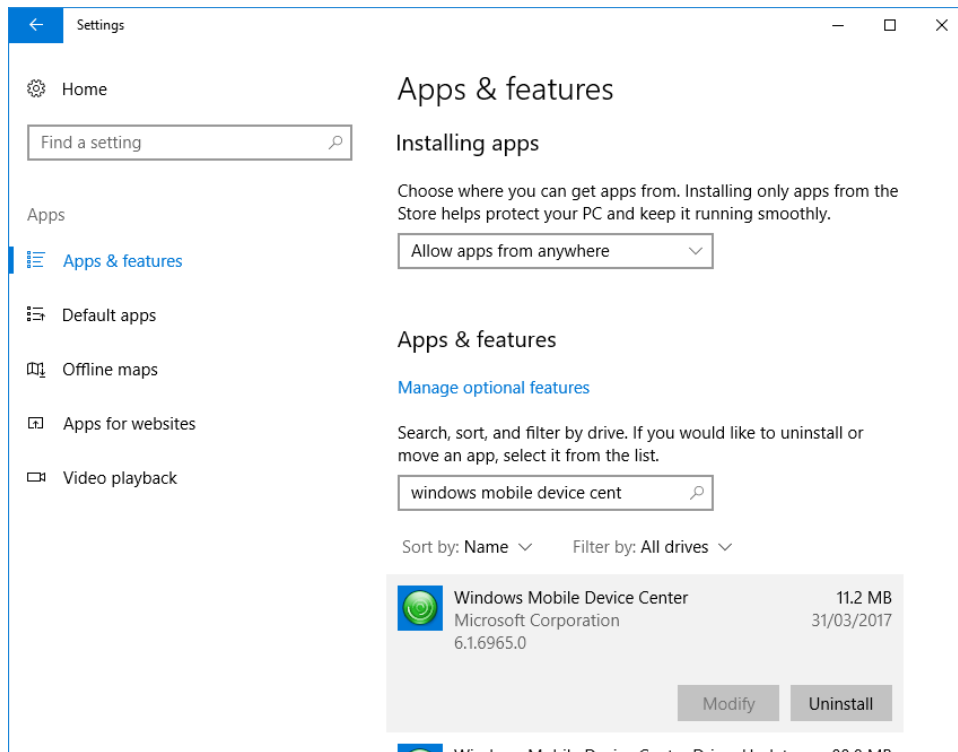


- b) Locate the service “Windows Mobile-2003-based device connectivity”, and double-click on it to view its properties.
- c) On the **Log On** tab, select ‘**Local System account**’ and then also ‘**Allow service to interact with desktop**’, and then click OK:



Your MMS7000 device should now be correctly detected when next connected.

6. **[If using Windows 10]** Ensure the correct version of Windows Mobile Device Center is installed:
 - a) Go to Windows **Start** → **Settings** → **Apps & Features...**
 - b) In the list of Apps, locate **Windows Mobile Device Center**, click on it and selected **Uninstall**:



- c) Once the uninstall process has completed, restart your PC
 - d) Download and install Windows Mobile Device Centre 6.1 (64-bit), available from <https://www.microsoft.com/en-US/download/details.aspx?id=3182>
 - e) Apply the configuration changes to the “Windows Mobile-2003-based device connectivity” Windows Service, described above
7. It is possible that the Windows driver has failed so try the following:
- a. Restart your PC
 - b. With the handheld unplugged from the USB port, delete the device driver, and then plug the device back in.
 - c. Verify that the device has been correctly detected by Windows by opening Windows File Explorer and ensuring that the device appears under ‘My Computer’ as an attached Windows CE Portable device. If the device is detected by Windows but not by EVOsoft it is still possible to import recordings manually:
 - i. Open File Explorer and double-click the icon that represents the MMS7000 device to view the files it contains.
 - ii. Locate the ‘Storage Card’ folder on the device, and browse to the “...\Storage Card\Profilertech\Data” data folder
 - iii. Copy all the .ptr files in this data folder to a location on your PC
 - iv. Finally in EVOsoft, use the File → Import From... → MMS File... function to browse to the location of the .ptr files on your PC and import them into your EVOsoft database.

The PROFILER7000 app icon does not appear on the MMS7000 device

Hard reset the MMS7000 device by pressing the power and the corresponding button on the other side of the device for ~3 seconds until the display turns white and then releasing the buttons and waiting for the reboot process to complete:

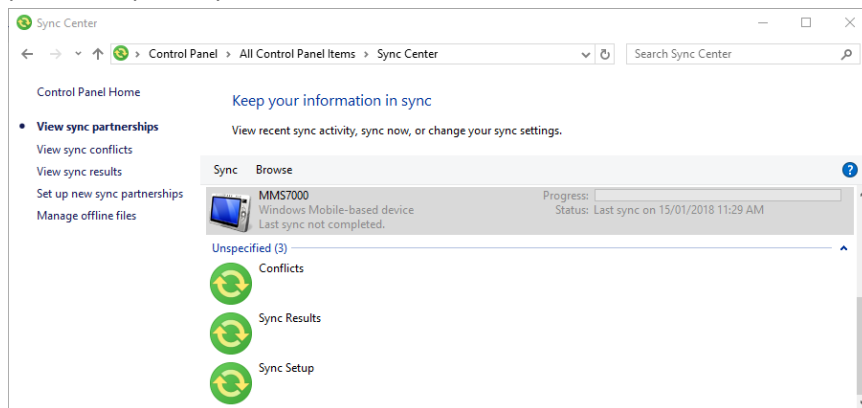


Figure 1: How to Hard Reset your MMS7000 device

Date and Time on the MMS7000 must be constantly updated

As described above in [Connecting Your MMS7000 to your PC](#), when you first connect your MMS7000 device you are given the option of creating a “Sync Partnership” with the device. If you do so, then each time you connect your MMS7000 to your PC its date and time will be automatically updated. If you did not choose to create a Sync Partnership initially then you will need to recreate the connection to the MMS7000 as follows:

1. Disconnect your MMS7000 from your PC
2. Go to **Control Panel** → **All Control Panel Items** → **Sync Center**, and locate the current partnership with your MMS7000:




3. Right-click on the partnership entry and select **Delete**.



Reconnect your MMS7000 and then follow the steps described in [Connecting Your MMS7000 to your PC](#), ensuring that you choose the option of creating a Sync Partnership this time.

MMS7000 battery goes flat even when the device is powered off

The MMS7000 is based on the Microsoft Windows CE operating system, which has a limitation in

that when you press the Power button , it only puts the device into a ‘Sleep Mode’ rather than powering it off entirely. In this mode, the device is still using a very small amount of battery power and if left in this state the battery will eventually go flat (typically in 5-7 days). If you don’t

plan to use your MMS7000 for an extended period, you can completely power it off to conserve the battery as follows:

Step	Display
Tap on the System Menu icon in the top left corner of the Home Screen:	
Tap on the Power Off menu entry	

Technical Support

For technical support please contact

Support@profilertech.com

Or visit us on the web at

www.profilertech.com