SHAW
MOISTURE METERS

SHAW SDHmini User Tool Instruction Manual

3007 SHAW SDHmini User Tool Instruction Manual - Iss 1

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1 General Introduction

The SHAW SDHmini User Tool software allows the instrument to be connected to a PC, enabling the data logging and real time recording to be downloaded for data collection and analysis. Configuration of the SDHmini settings and functions can also be carried out easily using the SDHmini User Tool.

Use the supplied USB cable, attach between the PC and the instrument, an automatic connection over USB is established.

When using the USB cable you can reprogram, perform firmware updates, check settings, charge the instrument and use data logging.

Alternatively, to connect the instrument using Bluetooth, first ensure that the instrument's Bluetooth is switched on. There is no need to ask the instrument to search for devices as in this mode of communication it is the PC which initiates the pairing. Once connected over Bluetooth the connection status is shown in the bottom left of the view panel.

The view panel allows access to many of the features, settings and information pages within the instrument.

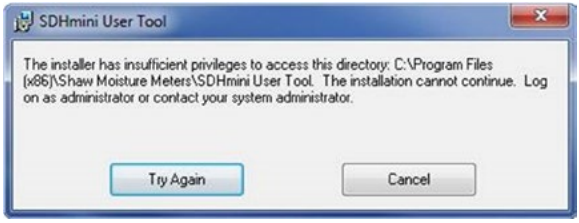
A micro SD card is fitted to the instrument, the contents of which can be explored by clicking on the SD card icon in the bottom left of the view panel. The contents may include user manuals, service notes, calibration data sheets, firmware backups etc..

Note: The USB communication channel and charging power port within the instrument is highly optimized by default for safety. It is particularly well protected electrically so that subsequent safe use in hazardous areas is not compromised by events in the safe areas. Its many safety components may result in not all connections to all USB ports on all PCs or laptops being entirely successful. Many USBs ports even within the same PC or laptop differ from each other in electrical hardware or firmware implementations whilst still broadly complying with the overall USB standards giving rise to a variety of situations which may manifest in a reduced connection experience. It is recommended that if a particular port is not connecting as expected then the user ought to try an alternative port within the PC or laptop or employ a USB Hub device which would effectively isolate the problematic PC or laptop USB port from the instrument.

It is recommended you do not connect/disconnect other devices e.g. mobile phones, portable drives etc. whilst connecting or working with the instrument as this may cause the instrument to lose/break the connection with the PC.

For the best visual appearance it is recommended that the PC display text and icons option is set to default rather than medium or larger.

In order to install the software the user must ensure that they have the permissions to do so from their respective manager or IT systems manager.



Users with limited permissions in the Windows environment also may find that they might not be able to install software until administrative privileges are set.

On installation the software will only work on Windows version XP (SP3), Vista, 7, 8 and 10 and requires *Microsoft .NET 3.5*. Once installed this software is warranted not to need any access to the internet or any other sort of network activities. However there are two links on the Help/About Menu item which if used on a non-connected PC will not function. If you have a more up-to-date version of *Microsoft .NET* you may need to enable v3.5 via the Windows features/control panel.

2 Installing the *SHAW SDHmini User Tool*

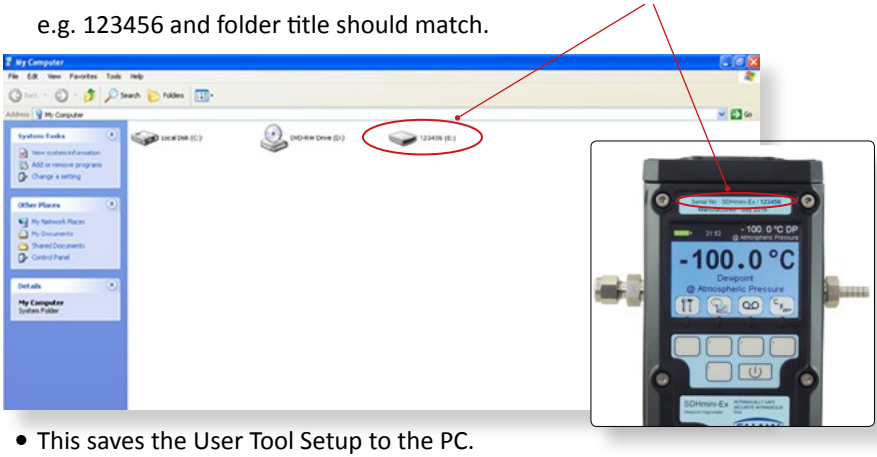
There are two ways to install the *SHAW SDHmini User Tool* software.

- From the supplied USB flash drive (SHAW memory stick)
- From the instrument's memory card

2.1 Extracting the *SHAW SDHmini User Tool* Software from the USB Flash Drive (SHAW Memory Stick)

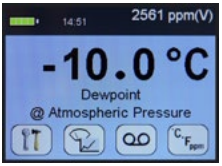
To install

- Insert the USB flash drive in to the PC.
- On your PC open the "my computer" or "computer" folder (the folder title will depend on which Windows Operating System you are running).
- Click on the folder or removable disk. The instrument serial number e.g. 123456 and folder title should match.



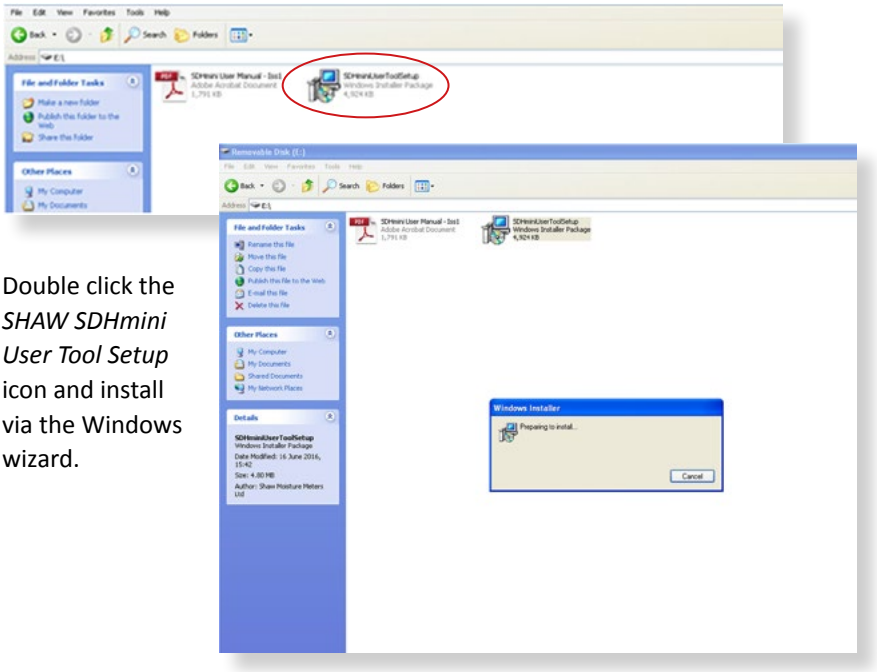
- This saves the User Tool Setup to the PC.
- Open the folder for the *SHAW SDHmini User Tool Setup* software.
- Double click the *SHAW SDHmini User Tool Setup* icon and install via the Windows wizard.
- Select installation folder to save your software download in your chosen folder on the PC.
- Once the installation is complete a dialogue box will appear saying "Installation Complete". A shortcut icon will appear on the desktop. Close the dialogue box.
- Safely remove the USB flash drive from your PC.

2.2 Extracting the *SHAW SDHmini User Tool* Software from the Instrument

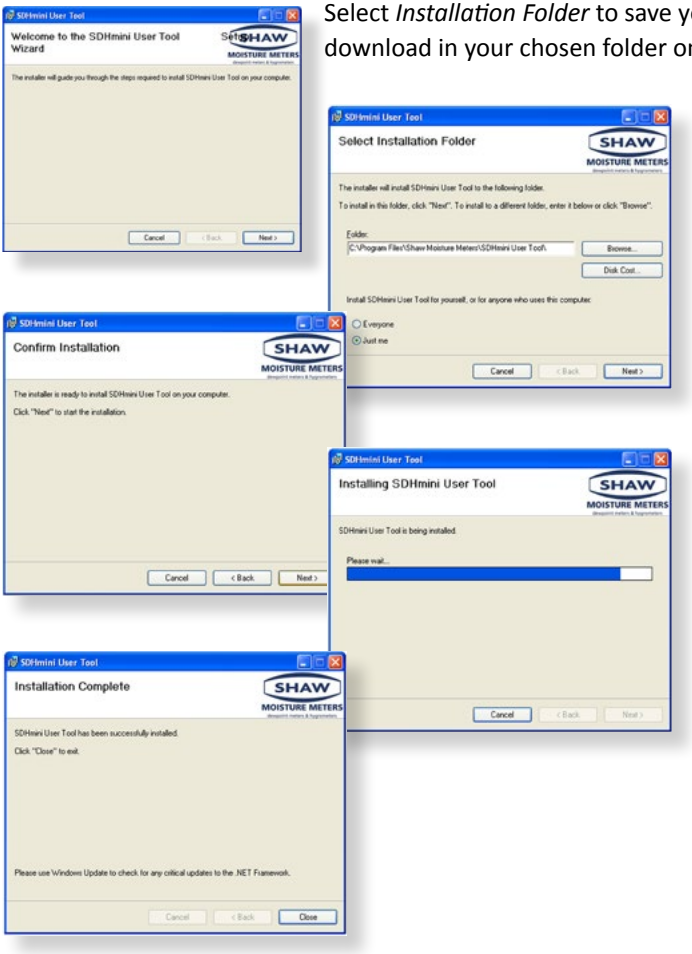


To install

- Connect the USB cable provided to the instrument and PC.
- Switch on the instrument.
- Press key 5 on the instrument to access the hotkeys and you will see the SD card symbol (key 2).
- Press key 2 on the instrument and the SD card symbol screen will appear.
- On your PC open the “my computer” or “computer” folder (the folder title will depend on which Windows Operating System you are running).
- Click on the folder or removable disk. The instrument number e.g. 123456 and folder title should match.
- This saves the *SHAW SDHmini User Tool Setup* to the PC.
- Open the folder for the *SHAW SDHmini User Tool Setup* software.



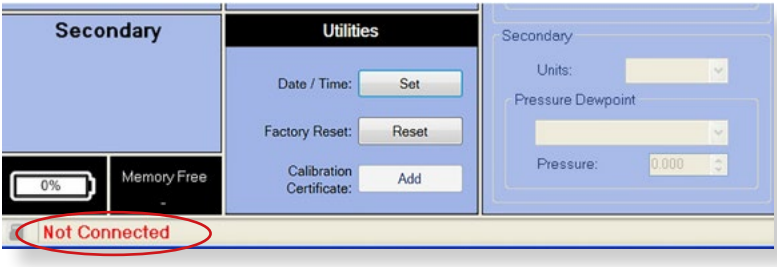
- Double click the *SHAW SDHmini User Tool Setup* icon and install via the Windows wizard.



Select *Installation Folder* to save your software download in your chosen folder on the PC.

- Once the installation is complete a dialogue box will appear saying *Installation Complete*.
  A shortcut icon will appear on the desktop. Close the dialogue box.
- Safely remove the hardware by disconnecting the USB cable from the unit. You will need to disconnect the USB cable from the unit to disable the SD card mode on the unit.

3.0 Connecting the SDHmini and *SHAW SDHmini User Tool*

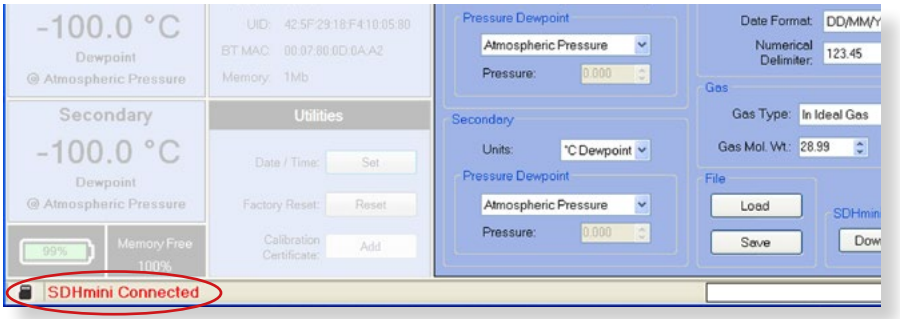


Always ensure the USB cable/Bluetooth is connected to the instrument and PC when working in the *SHAW SDHmini User Tool* software. If you have not connected the unit to the PC and attempt to start using the *SHAW SDHmini User Tool* software it will show a "Not Connected" message.

Please note: Once connected to the *SHAW SDHmini User Tool* software, all keys on the instrument keyboard are unusable, all changes are made through the *User Tool*. Double click the desktop icon to get started.

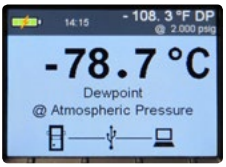
3.1 Via the USB Cable

Switch on the instrument and connect the USB cable from the unit to the PC. A splash screen appears on the instrument.



On your PC open the *SHAW SDHmini User Tool*. The view panel appears on the PC saying "SDHmini Connected".

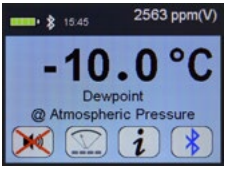
The instrument will display the following screen to show that the instrument is connected to the PC.



3.2 Via Bluetooth

Please check your instrument's Bluetooth functionality by pressing key 5 and the information key. Pairing and communication requires a Bluetooth enabled PC.

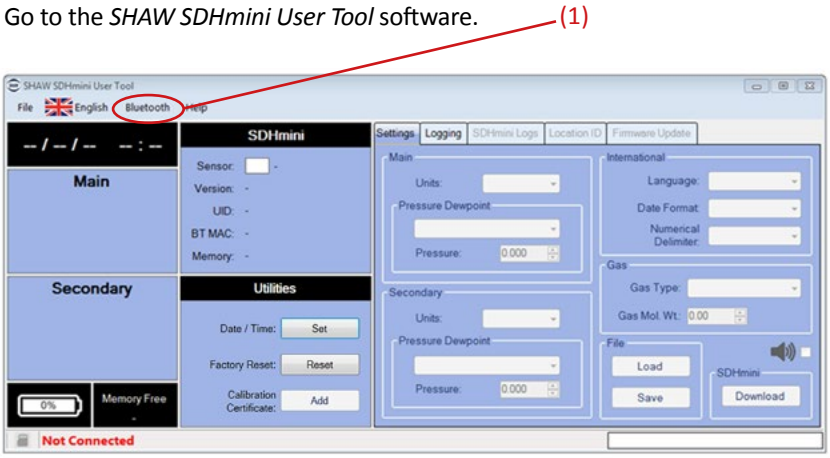
To connect the instrument and PC via Bluetooth press key 5 to access the hotkeys and the Bluetooth hotkey or select Bluetooth from the menu strip of *SHAW SDHmini User Tool* software. To search and pair your instrument to your Bluetooth printer, please follow the instructions in *Bluetooth Printer Setup* of the instrument's instruction manual. **Please note:** Bluetooth will automatically turn off each time the unit is switched off and on again.

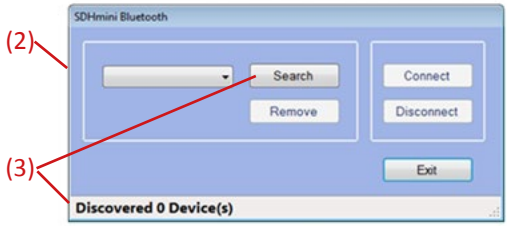


To enable Bluetooth on the instrument and PC.

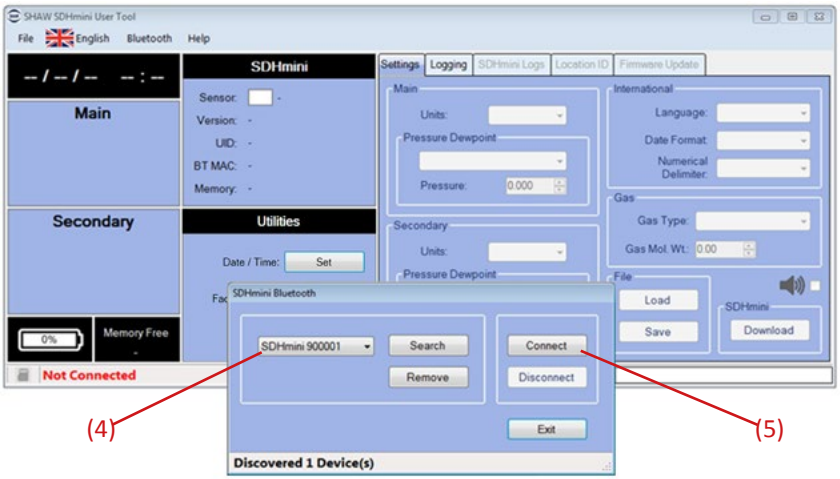
Go to the *Configuration* menu on the instrument, select Bluetooth and ☑. You will see a white Bluetooth symbol in the header bar.

Go to the *SHAW SDHmini User Tool* software.

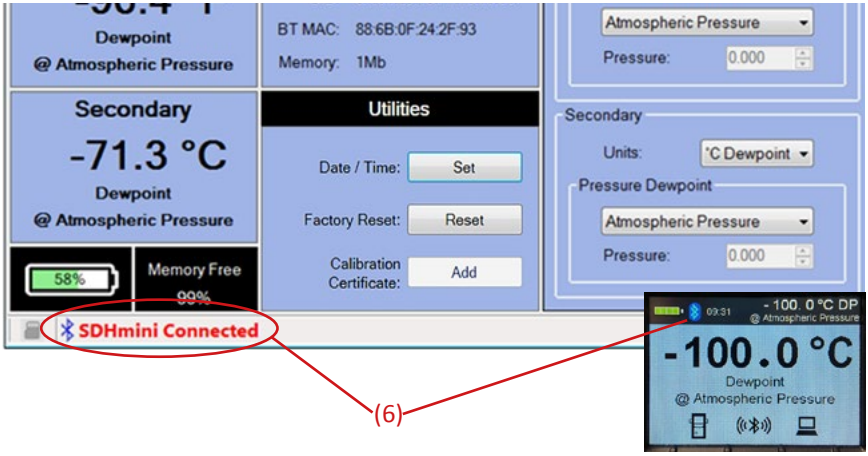




(1) Select Bluetooth from the menu strip.
(2) A dialogue box will appear.
(3) Click search. The message "Discovering Devices - Please Wait!" will appear.



(4) Any devices found will be listed.
(5) To select the device you are connecting to, match the serial number of the instrument and click “Connect”.



(6) When connected/paired, the Bluetooth symbol turns blue on the instrument.

Bluetooth must be disconnected in order to access the settings/features via the instrument keypad.

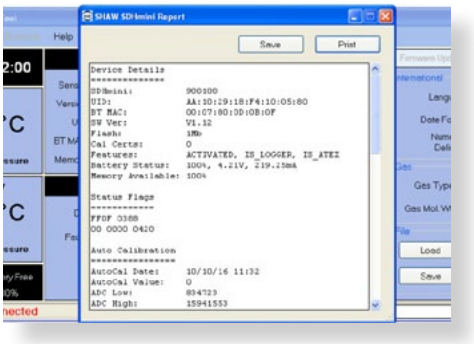
4 Using the *SHAW SDHmini User Tool*

4.1 Menu items

The menu strip contains the following options: *file*, *language*, *Bluetooth* and *help*.

4.1.1 File - SDHmini Report

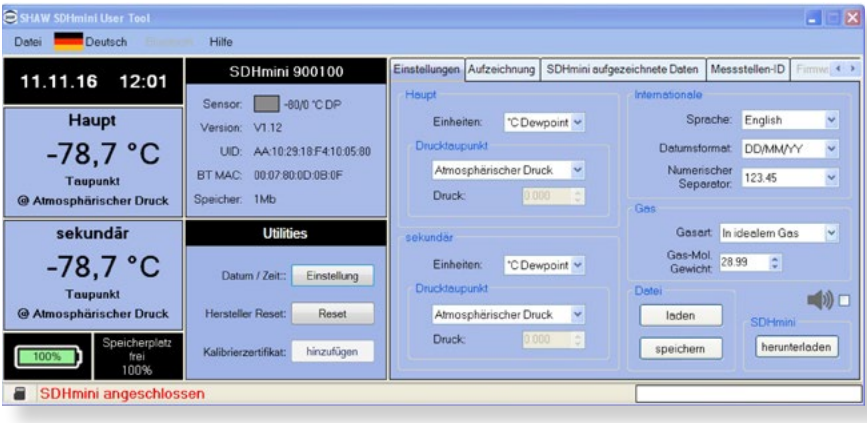
The opportunity for reports to show the current status and error flags. A report at the current time can only be printed or saved but not amended.



If there are any errors, the unit should be returned to the distributor or you may perform a factory reset. Please contact your distributor for advice before proceeding with a factory reset.

4.1.2 Language

The *flag*/*language* menu item shows the ten languages available which can be reset/amended via the *SHAW SDHmini User Tool*. **Note:** This does not change the language on the instrument. To change the language on the instrument please follow the instructions *Changing International Settings* in the instrument's instruction manual.



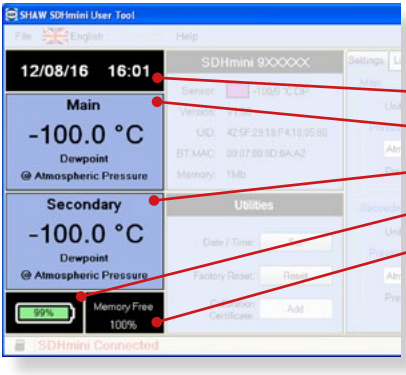
4.1.3 Bluetooth

To activate *Bluetooth* press button 5 to access the hotkeys and the Bluetooth hotkey on the instrument. To search and pair your instrument and PC please follow the instructions in *Section 3 of this manual* or *Bluetooth Printer Setup* of the instrument's instruction manual. **Please note:** Bluetooth will automatically turn off each time the unit is switched off and on again.

4.1.4 Help

The *help* menu item displays the manufacturer's contact details and version number of the software.

4.2 Instrument Live Reading

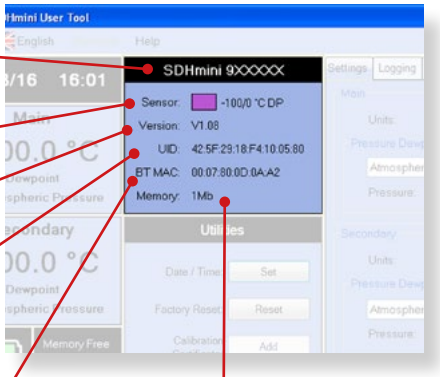


Displays information regarding:

- Date and time
- Live reading in main units
- Live reading in secondary units
- Battery status
- Memory status

4.3 Instrument Static Information

Displays information regarding:



Instrument serial number

Sensor
Sensor range – moisture sensor colour and dewpoint range in °C

Version
Firmware version name or number

UID
Unique instrument number – an electronic serial number unique to each instrument

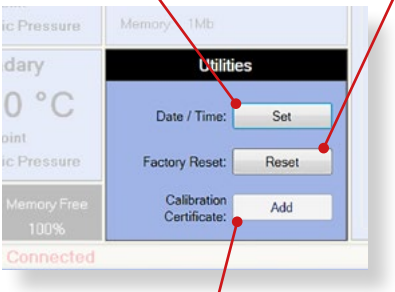
Memory
Amount of memory of the instrument (not the SD card).

BT MAC
A unique ID number for the Bluetooth device (if fitted).

4.4 Utilities

Date/Time – Set

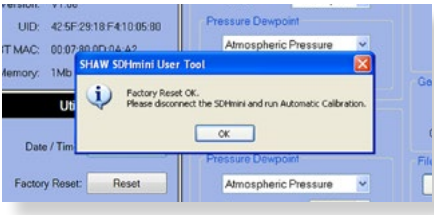
The date and time can be set via the PC.



Factory Reset – Reset

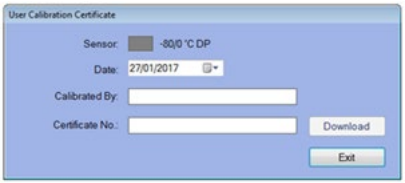
Warning: Performing a factory reset will erase all saved settings and data.

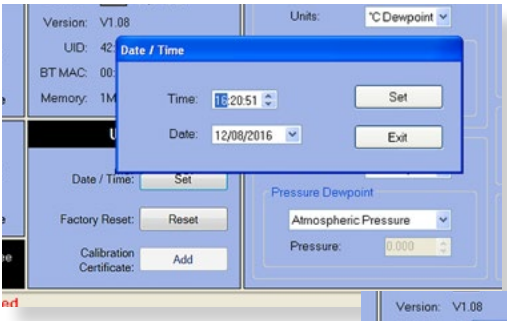
If continuing with the *Factory Reset* option, a dialogue box *Auto Calibration Required* will appear. Please refer to *Section 5.2 Auto Calibration (AutoCal)* of the instrument's instruction manual.



Calibration Certificate – Add

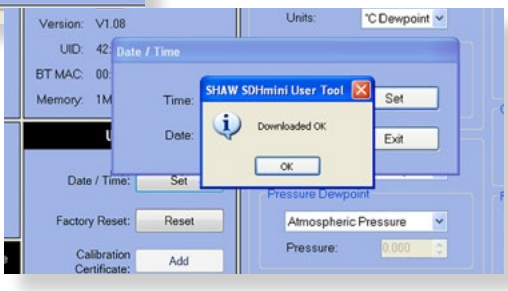
Useful for users to enter the last calibration check date.





Date/Time: Click on Set in the Utilities panel to reset the date and time.
The time and date can be selected manually or automatically synchronised with your PC. To save the new settings, click "Set".

Once you have selected "Set" a dialogue box will appear, "Downloaded OK". Click OK to complete.



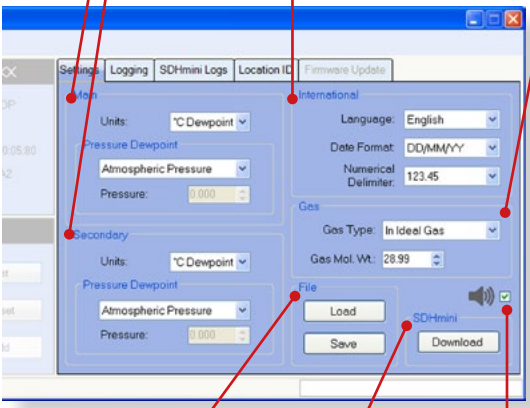
4.5 Settings

The Instrument Settings panel allows changes to the following features, which are explained further in the relevant instruction manual.

International
- Language (on the instrument)
- Date format
- Numerical delimiter – from "." to ","

Main and Secondary Displays
- Engineering units
- Pressure dewpoint
- Pressure

Gas
- Gas type
- Gas molecular weight



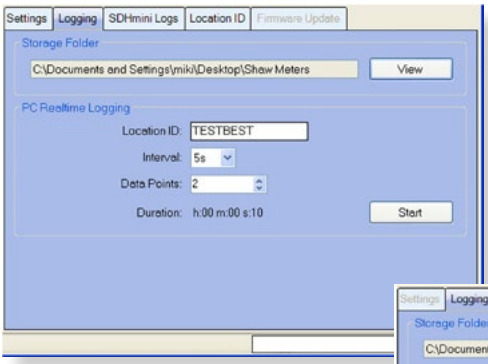
File
- Loads files to the instrument that contain already set parameters and is particularly useful for the multiple setup of instruments
- Save – save settings to a PC file to enable uploading for future use

Sounder/buzzer
Can be selected and deselected for the instrument

SDHmini
Click download to apply all/any changes to the instrument that are made in this screen

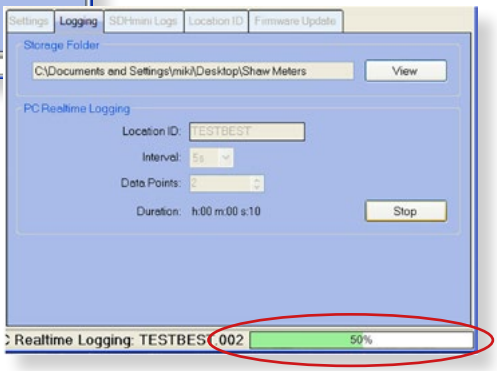
4.6 PC Realtime Logging

Using the PC to gather measurement data from the connected instrument to save to the PC file.



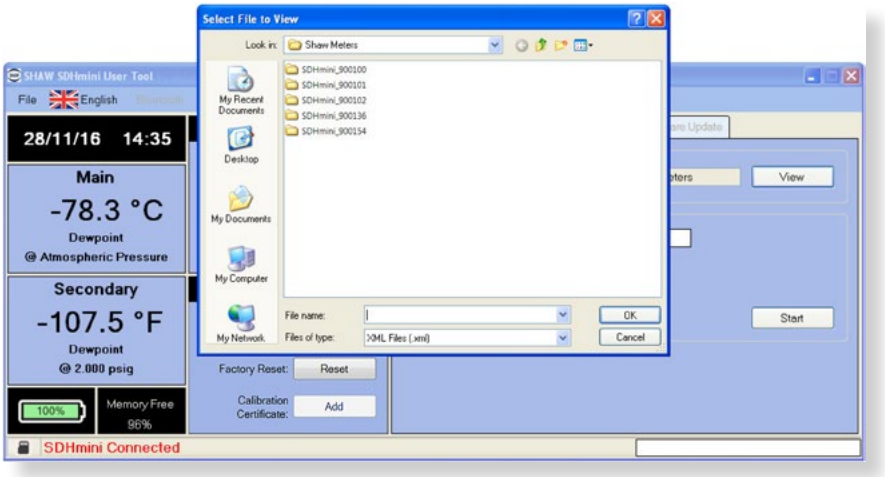
Logging parameters can be set on the *SHAW SDHmini User Tool* PC software.

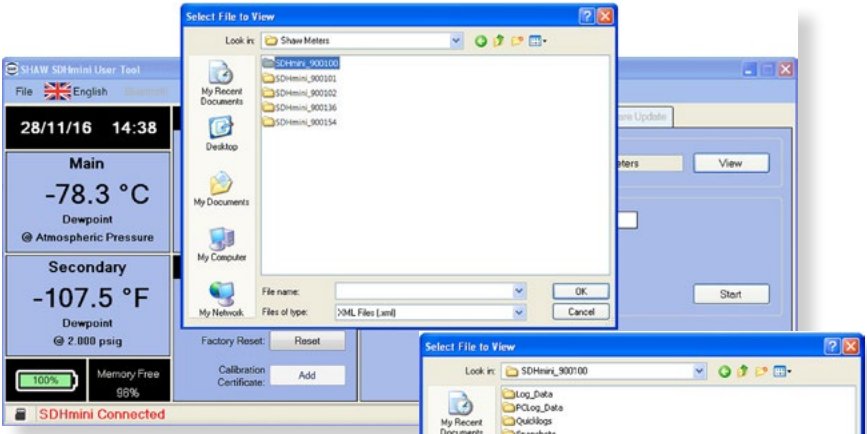
Fill in the parameters for the logging run and click “Start”.



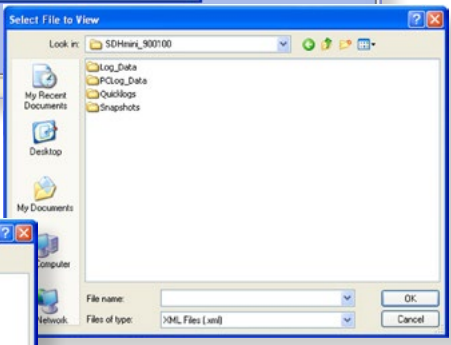
The instrument measurement data is uploaded to the PC file.

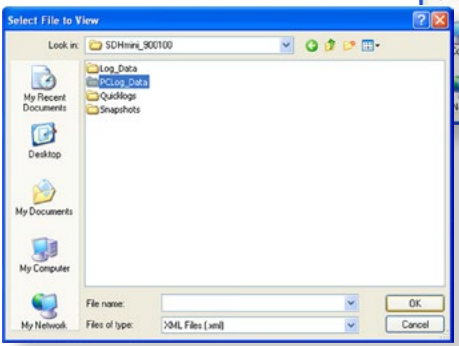
To view a graph, click “View” to open the folder. You will see the instrument file system folder. Select the file you wish to view and click “OK”.





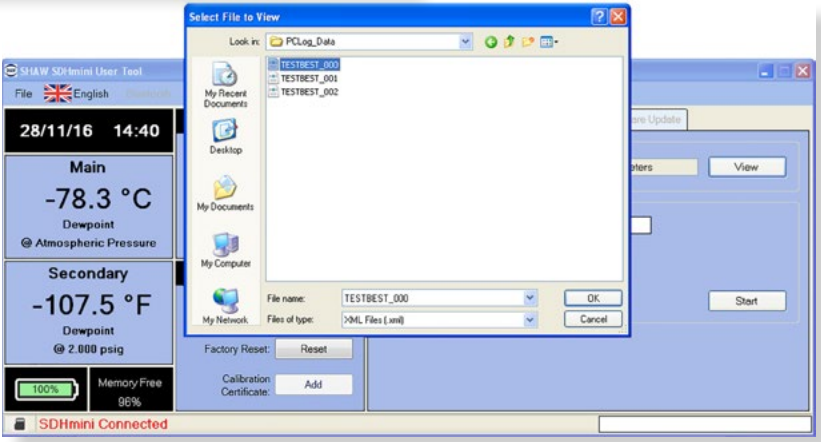
Click on the relevant folder “PCLog_ Data”.



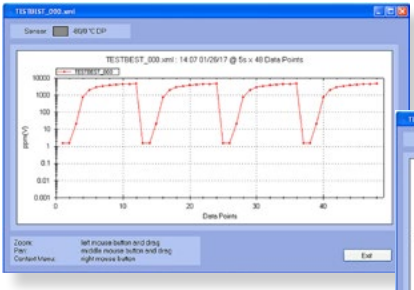


Choose your file. Click OK.

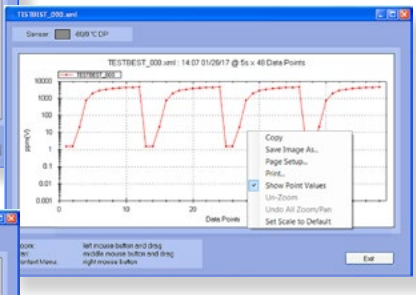
Here you will find your logging data files.

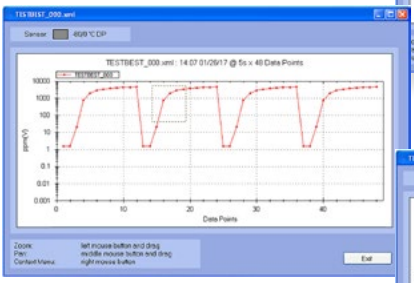


Open the file to display the logging data in a strip chart.

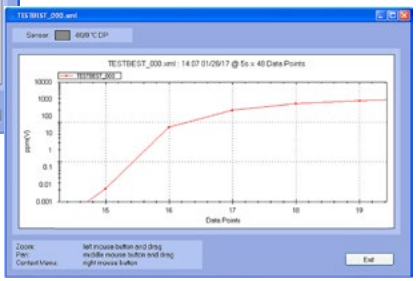


Right click in the window for more options.





Or select an area to zoom into.

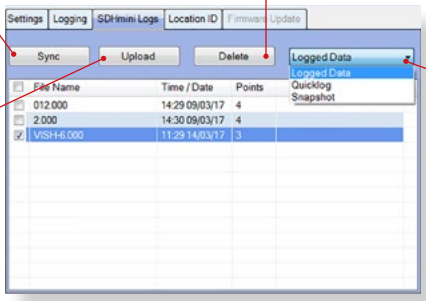


4.7 SDHmini Logs

Click **Sync** to display the files from the instrument

- Logged Data
- Snapshot
- Quicklog

Delete
Deletes selected files of logged data only on the instrument.



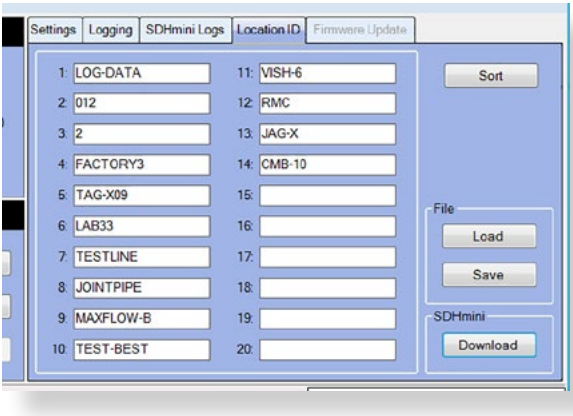
Upload
Selected uploaded files are saved to the PC.

Dropdown menu
Choose *Logged Data*, *Snapshot*, *Quicklog* from the drop down menu.

All synchronised and uploaded files are automatically saved to a folder with the instrument serial number.

Note: All files will be deleted if a *factory reset* is performed.

4.8 Location ID



Measurement locations within a facility are often called tag points, measurement points or location IDs.

*Location ID*s are also like folders which can be associated with log files. They are alphanumeric and a maximum of 20 can be stored in the instrument. The *Location ID* list can be saved for later use. Download and sync the location IDs to the instrument, ready to start data logging. For more information on the instrument logging process, see *Data Logging* in the instrument instruction manual.

4.9 Data Logging Storage

Data File Type	Number of Sample Data Points (n) per Data File	Maximum Number of Data Files	Total Sample Data Points Storage
Logged Data	1 < n < 125,000	1,000 per Location ID = 20,000	286,000
Quicklog Data	1 < n < 240	100	24,000
Snapshot Data	120 < n < 240	50	12,000
			322,000

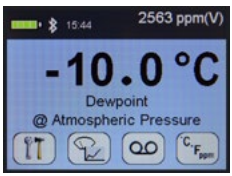
4.10 Firmware Update

From time to time in the life cycle of the instrument, a number of product improvements or updates in the firmware will be made available. The facility exists for the user to update their instrument without having to return to the manufacturer.

The firmware update file will be sent via email. Please save the firmware update file (*.hex) from the email in a location on your PC.

- Please ensure the instrument is switched on.
- Press the power button and key 4 for 2-3 seconds. The Program Loader will time out after 30 seconds if not used.
- Plug in the USB cable. **Please Note:** On first time use, Windows will load a driver for this *Program Loader* facility.

- Note: the *Firmware Update* tab is now accessible and there is a "Program Loader Connected" message in the bottom strip.
- Click *Browse* for the previously saved firmware update (*.hex) file.
- Click *Program*. **Do not unplug the USB cable throughout this process.** The progress bar will show the following messages:
    - *Erasing Memory*
    - *Programming Memory*
    - *CRC OK*
- Click *Reset* to return to the instrument main screen and you will see the message *Program Loader Reset* in the progress bar.
- Reset the time and date - see *section 4.4 Utilities*

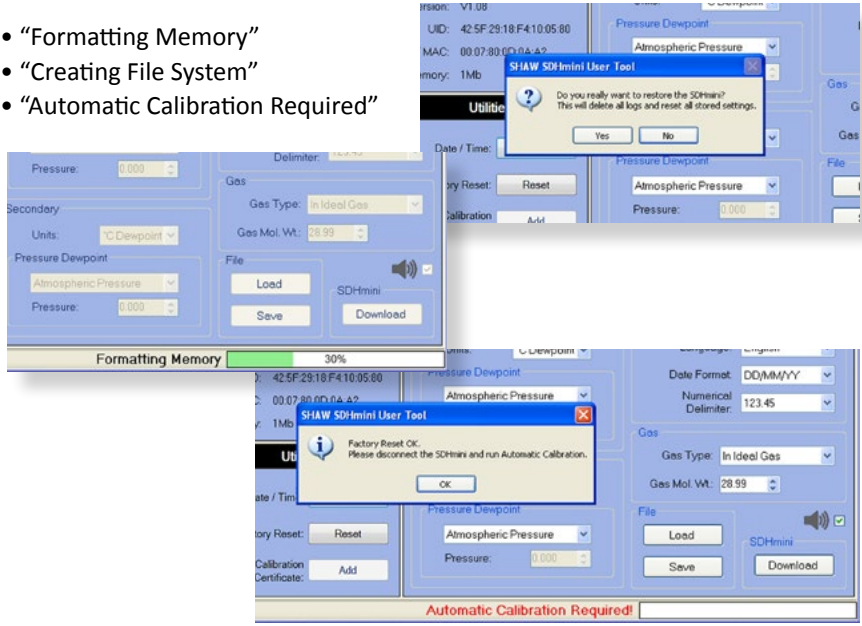


4.11 Factory Reset

A factory reset can be performed using the *Reset* button within the *Utilities* panel in the *SHAW SDHmini User Tool* software if you suspect file corruption in logging or you have errors when attempting to open files.

Click *Reset* and you will see the following messages.

- "Formatting Memory"
- "Creating File System"
- "Automatic Calibration Required"



Warning: Performing a *factory reset* will erase all saved settings and data and default the following to factory settings: date format, language, main display units, secondary display, gas weight, gas type, AutoCal value, location ID, numerical delimiter.

It is advisable to synchronise and upload your data log files from your instrument.

Please contact your distributor for advice before proceeding with a *factory reset*. If continuing with the factory reset option, a dialogue box "Automatic Calibration Required" will appear. Please refer to *Auto Calibration (AutoCal)* of the instrument's instruction manual.

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Shaw Moisture Meters (UK) Ltd. | Len Shaw Building | Bolton Lane | Bradford | BD2 1AF | England
t. +44 (0)1274 733582 | **f.** +44 (0)1274 370151 | **e.** mail@shawmeters.com | **www.shawmeters.com**