

Instruction sheet: Logbook ML

Logging Performance

- Max. No of data points: 501 x 4 channels; Min. recording interval 125ms; Max. recording length 47.5 days; Max. 8 files; 2 Recording modes: Normal (Auto-time) and Snapshot; Data not lost even if battery is removed.

Sensors

- Built-in temperature sensor. Range 0 to 50°C. Resolution better than 0.2°C.
- Plug-in external temperature sensor. Range -10 to 110°C, Resolution as above.
- Built-in light sensor. Measures from 0 to 100 000 Lux. Resolution better than $\pm 2.5\%$ of reading.
- Built-in sound sensor. Measures from 50 to 110dB.
- 2 inputs for ScienceScope/Philip Harris compatible sensors. No Auto-recognition for Blue Box



Remote Datalogging with the Logbook ML

All remote recording functions on the Logbook are accessed using these three control keys on the top face of the logger:



The **TICK** button is used to turn on the logger (by pressing once) and to select actions to be performed in the various menu screens.



The **CROSS** button is used to turn off the logger (by pressing once) and to select actions to be performed in the various menu screens.



The **SCROLL** button is used to scroll between the five main screens. After turning on the **Logbook**, the ScienceScope splash screen and then the Personalised splash screen are displayed briefly, before the Meter screen appears.

The Menu Screens

1. **Meter** - Displays sensor values currently being read from built-in and external sensors.
2. **Start Log / Snapshot** – Start a recording from this screen.
3. **Alter Log Type** – Change to alternative recording type from this screen.
4. **Memory Status** – Displays number of data files held in internal memory and erase lock status.
5. **Date, Time & Power Status** – Displays current date, time and power status.

Starting a Remote Recording

Logbook ML has two remote recording types: Normal and Snapshot.

- In Normal recording mode, the logger starts recording fast, and then gradually increases the time between points, and stops after 49 days
- In Snapshot recording mode, recordings of sensors are taken when you press the tick button. Up to 250 snapshots can be recorded in a single file.

Do not plug-in or unplug sensors during a recording.

1. Press the **TICK** button to turn on the Logbook and the Meter screen will appear.
2. Press the **SCROLL** button once to display the Start Log or Start Snapshot screen.
3. Press the **TICK** button to start recording. or to take your first snapshot (repeat as needed). The message Snapshot taken 1 of 250, or Logging Started will be displayed briefly. If you wish to view the Meter screen during a recording, press the **SCROLL** button.
4. Press the **CROSS** button if you wish to stop recording.
5. You will then be given the option of saving or discarding the data:
 - a. Either press the **TICK** button to save the data to the Logbook internal memory.
 - b. Or press the **CROSS** button to discard the data or continue logging. You then need to press the **TICK** button to continue logging or the **CROSS** button to discard the data and stop logging.

How to Set the Remote Recording Type

1. Press the **TICK** button to turn on the Logbook ML and the Meter screen will appear.
2. Press the **SCROLL** button until the Alter log type screen is displayed.
3. Press the **TICK** button to change to the alternative recording type.

Power Saving Screen-Shutdown

The meter display goes blank after seventeen minutes if no buttons are pressed. Other screens go blank after two minutes. If the screen goes blank during a recording, simply press the **TICK** button to take you back to the screen being displayed previously. Logging will continue unaffected.

Transferring your Data to the PC

Connect the Logbook ML to a PC with Logbook Graphing Secondary installed. Start the software and select Measure... from the Task menu and then select Retrieve Remote Log. Select the file you wish to transfer by clicking to highlight it and then click the Download button. Recording type (Auto for a normal recording, Snap for a snapshot recording), time of recording and date of recording identify each file.

How to Check the Battery Level

With the Logbook ML turned on (not during a recording) press the **SCROLL** button repeatedly until the Date, Time and Power Status screen is displayed. The number of segments displayed in the battery power symbol, when initially shown, is proportional to the amount of power left. No segments are shown when 0% is left. If there is only one segment displayed, long recordings or recordings that cannot be repeated are not recommended until the battery has been replaced. When power is exhausted, logging will be stopped if it is in progress and only the Date, Time and Power Status screen will be displayed.