Halma Water Management

SonicSens Setup Application, Quick-Start Guide

Product :	SonicSens
Issue :	2
Issue Date :	13-Sep-11
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Document Number :	DOC-115-0001

Revision History

Issue	Author	Details	Date
2	Ian Chalinder	Additions for software version 1.01: Sections 1 & 3.2 updated to show that application is compatible only with SonicSens firmware V1.13 and above. Section 3.3 changed to add explanation for red text in the "Set Sensor Height" button. Section 3.5 added to for description of Metric / Imperial display.	13-Sep-11
1	Ian Chalinder	First issue, for SonicSens Setup Application V1.00	05-Sep-11

Release Authorisation

Issued By :	Ian Chalinder	13-Sep-11	
Checked By :	Andrew Fudge	14-Sep-11	
Approved By :	Simon Fisher	16-Sep-11	

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1. Description of Functionality

The SonicSens Setup Application is intended to simplify the operation of on-site configuration of the SonicSens device during deployment. It allows the user to easily set the height of the SonicSens above the bottom of the water channel and to test that the apparatus is correctly measuring the distance to the water beneath.

The current version of the application has the following limitations:

- It is compatible only with SonicSens firmware Version 1.13 and above.
- The SonicSens firmware upgrade function will work only when the SonicSens is connected directly to a serial port of the PC; upgrade via a pass-through connection is not possible.

2. Connecting to the SonicSens

There are two ways in which the Setup Application can communicate with a SonicSens device; a direct connection to the PC and MultiLog pass-through mode. The sections below explain each of these methods.

2.1. Direct Connection

In this mode, the SonicSens is connected to the PC using a Configuration Box, shown below.

Connector J1 connects to a standard PC serial (Com) port or can connect to a USB-Serial converter if the PC does not have a Com port.

Connector J2 connects to the serial connector of the SonicSens.

2.2. MultiLog Pass-through Mode

The SonicSens can also be configured when connected to a MultiLog LX logger via the IR Reader.

The IR Reader is connected to a PC Com port or USB port depending on the reader type and the MultiLog LX is connected to the SonicSens via its serial cable, shown below.

Note that the MultiLog LX must have the correct firmware installed to allow a serial connection to the SonicSens.

3. Using the Software

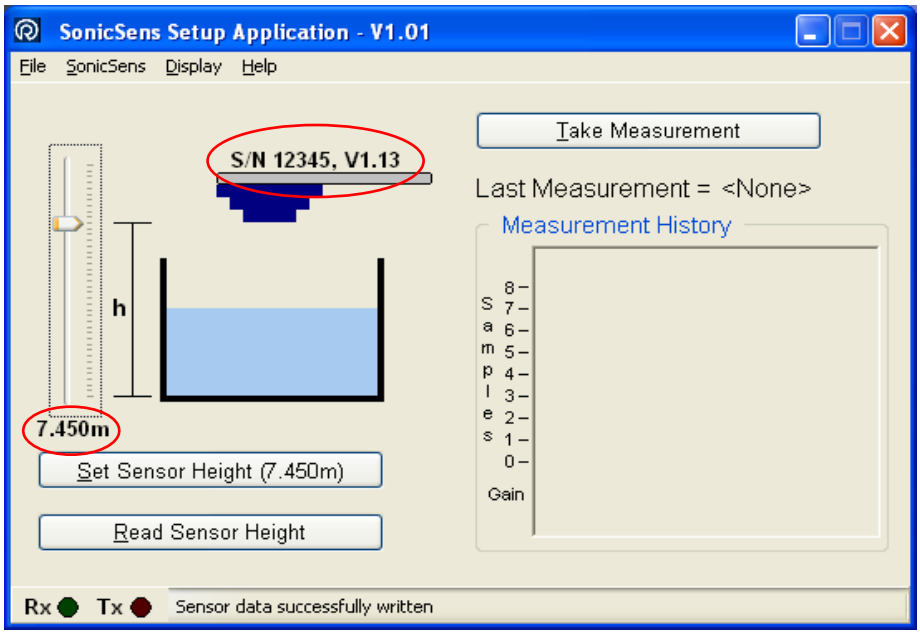
3.1. Launching the Application

When the software is launched, it will immediately start searching for a SonicSens connected to the PC. It will always check for a direct connection first, and then check for a pass-through connection from a MultiLog.

If no SonicSens device can be found, no further functions will be available.

If a SonicSens device is connected after the software has been launched, the auto-detection sequence can be re-started by clicking the “SonicSens / Search for SonicSens” menu item.

When a SonicSens has been detected, its current configurations will be retrieved and the Serial Number, Firmware Version and current Sensor Height setting will be displayed on the screen, as shown below:



3.2. Firmware Upgrade Facility

As noted above, the SonicSens Setup Application can only be used with SonicSens firmware Version 1.13 and above (released 09-Sep-11). If the Setup Application detects that the SonicSens firmware is out of date, it will try to upgrade the device wherever possible. Note that the application cannot perform a firmware upgrade when the SonicSens is connected to the PC in MultiLog Pass-through Mode; a direct connection must be made.

3.3. Setting the Sensor Height

When the SonicSens has been installed in its intended position, the height of the sensor above the *bottom* of the water channel must be set correctly in order to obtain correct results from the device.

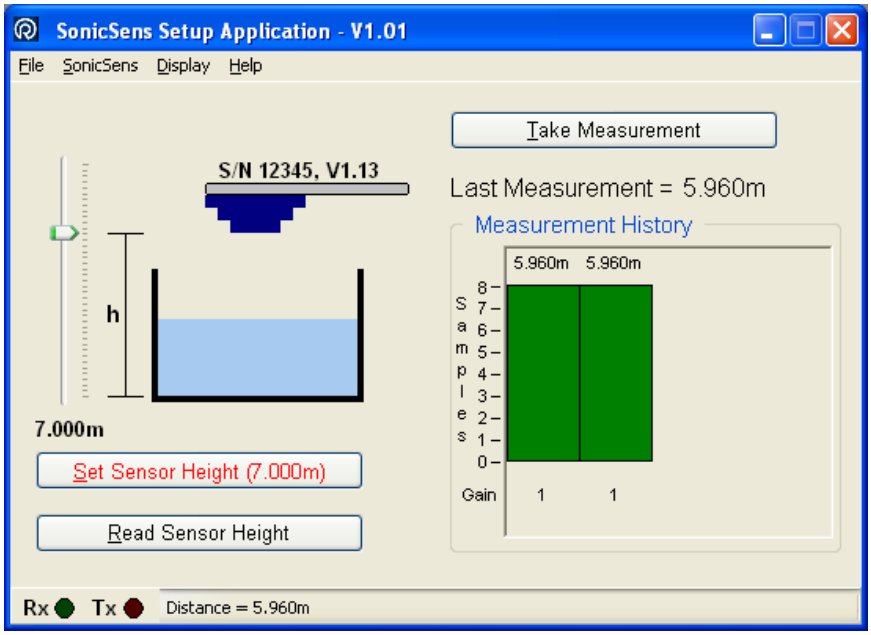
The sensor height can be adjusted on the screen by using the slider control to the left of the screen. If more accuracy is needed than can be achieved using the mouse, the Page Up / Page Down buttons can be used to adjust the height by ±1cm and the Up / Down cursor arrows can be used to adjust the height by ±1mm.

When the sensor height has been set to the correct distance on the screen, you ***must*** click the "Set Sensor Height" button to configure the SonicSens with this value. To aid as a reminder for this, the text in the "Set Sensor Height" button will appear in red if the sensor height has been changed but has not been set in the SonicSens unit (as shown in Section 3.4 below).

The current value of sensor height can be read out of the SonicSens at any time by clicking "Read Sensor Height" button.

3.4. Taking a Water-Height Measurement

After the correct sensor height has been programmed into the SonicSens, the current distance from the sensor to the water can be checked. Clicking the "Take Measurement" button will perform a single measurement and display the results on the screen. Note that a single measurement consists of 8 samples; the number of valid and invalid samples are also shown on the screen, with valid samples being shown in green and invalid samples being shown in red.



Using the height of the sensor above the bottom of the water channel (as programmed above) and the measured distance of the sensor from the top of the water, the SonicSens calculates and returns the actual water depth as the result of its measurement.

For example, if the sensor height has been set at 5.000m above the bottom of the channel, and the water is 1.5000m below the sensor, taking a measurement will return a water depth of 3.5000m.

However, if the sensor height is set at 0.000m, the result returned will be the distance to the top of the water and *not* the water depth as in all other cases.

3.5. Metric & Imperial Display

The Setup Application can be configured to show the sensor height and the water-height measurement results in either metric units (metres) or in imperial units (feet and inches). The display can be switched by using the “Display / Metric” or “Display / Imperial” menu items.

As described in Section 3.3 above, the sensor height setting can be adjusted using the Page Up / Page Down buttons and the Up / Down cursor arrows. When using the metric display, the Page Up / Page Down buttons adjust the sensor height by ±1cm and the cursor arrows adjust the height by ±1mm. When using the imperial display, the Page Up / Page Down buttons adjust the sensor height by ±1 foot and the cursor arrows adjust the height by ±1 inch.