

Instructions for Installing and using the BIRAL Sensor Interface Software

Upgrading the software

If the software already exists on the PC make sure it is removed prior to upgrading.

Removing Existing Versions of the software

1. Go to Control Panel and choose Add or Remove Programs
2. Wait for list of programs to update and then select BIRAL Sensor Interface Software from the list.
3. Choose to uninstall the program – follow the instructions and wait until the program has uninstalled.

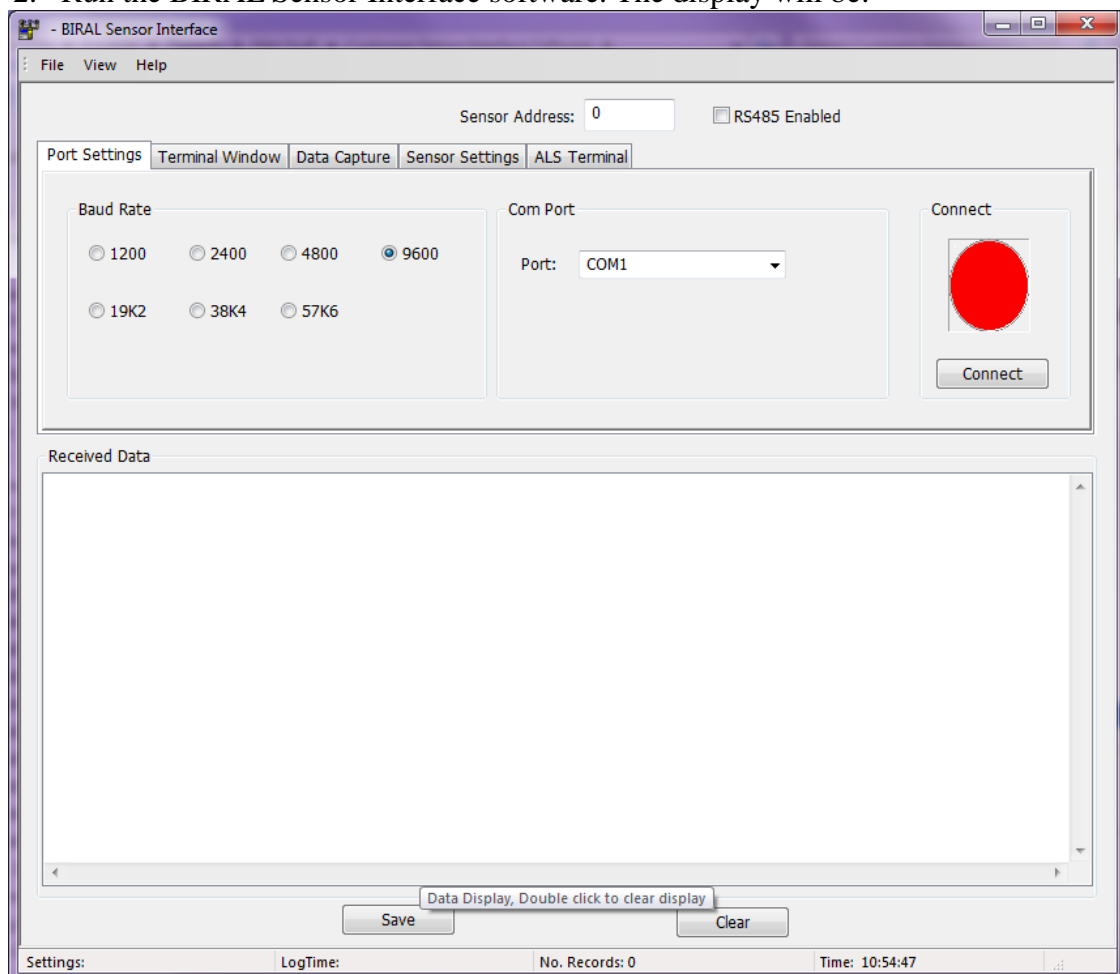
Installing the software

1. Extract the contents of the file Interface Software.zip.
2. Run the program setup.exe, this will install the software onto the PC.
3. After installation, the icon shortcut will be on the desktop.

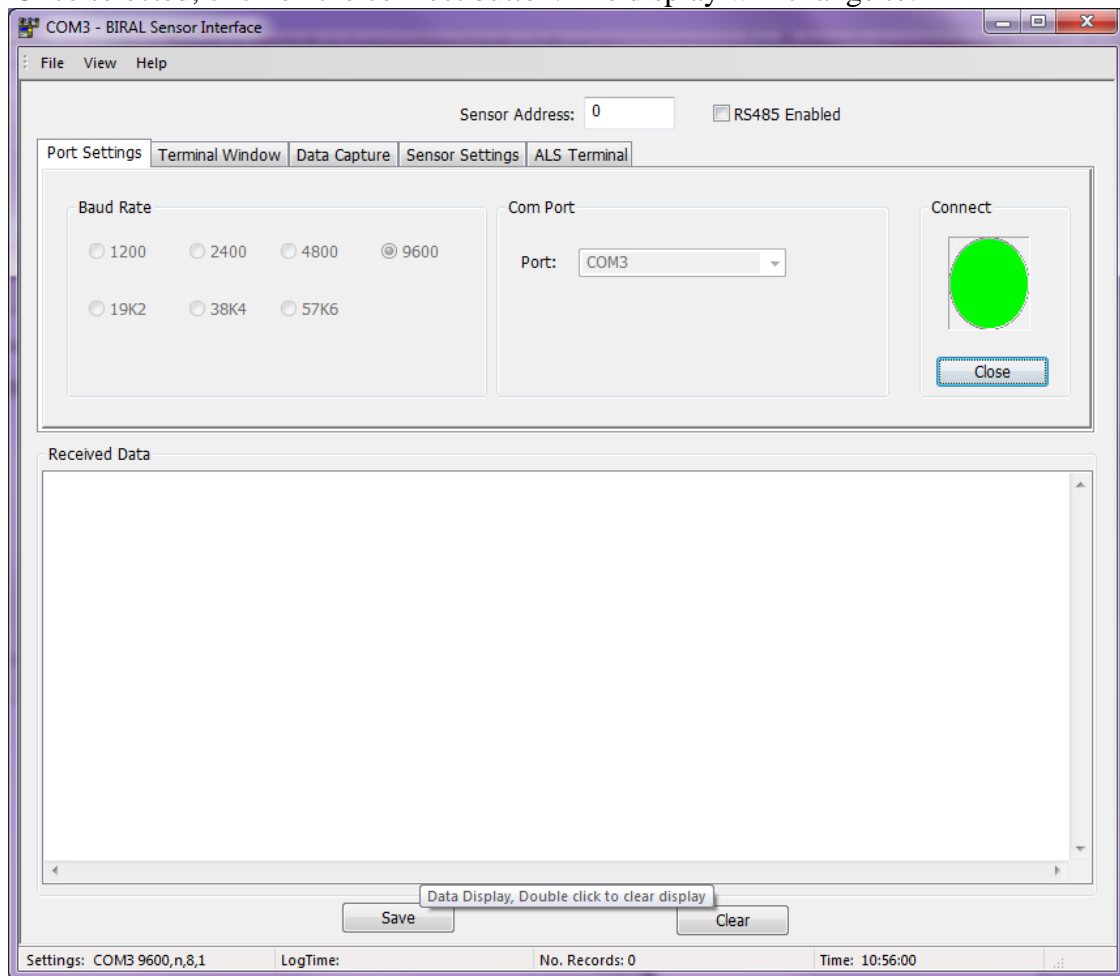


Running the Software

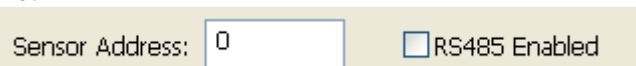
1. Connect the sensor to the PC and switch on.
2. Run the BIRAL Sensor Interface software. The display will be:



3. The COM Port box will show the first available port. Select the port you require using the drop down arrow and select the baud rate.
4. Once selected, click on the connect button. The display will change to:



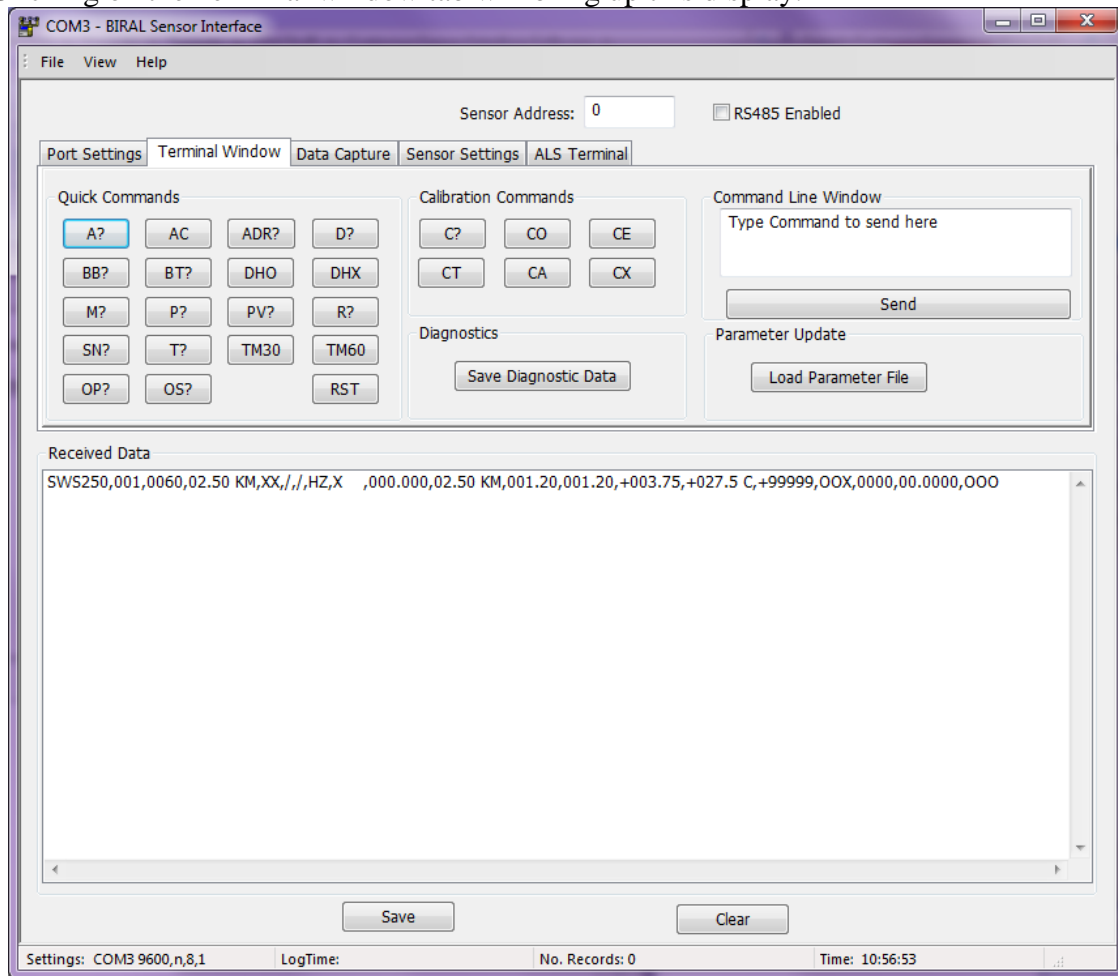
5. The software initially assumes that the RS485 has not been enabled and the sensor address default to zero.



6. There are three tabs that enable the user to interact with the sensor, Terminal Window, Data Capture, Sensor Settings. These are described below

Terminal Window

Clicking on the Terminal window tab will bring up this display:



The user can send commands to the sensor using either the quick commands buttons or by typing the command into the command line window and pressing the send button. The commands sent to and received from the sensor will be displayed in the Received data window.

If the sensor has had the RS485 enabled then the quick commands will elicit no response from the sensor.

To tell the interface software that the sensor has RS485 enabled, click on the RS485 Enabled check box and resend the command.

e.g.

In the example below, the first T? command was ignored by the sensor, after selecting RS485 Enabled, this is shown by a tick in the check box and resending the command, the sensor address and checksum is appended to the message and the response sent by the sensor.

COM3 - BIRAL Sensor Interface

FileViewHelp

Sensor Address: 1

RS485 Enabled

Port SettingsTerminal WindowData CaptureSensor SettingsALS Terminal

Quick Commands

A?ACADR?D?

BB?BT?DHO DHX

M?P?PV?R?

SN?T?TM30TM60

OP?OS?RST

Calibration Commands

C?COCE

CTCACX

Diagnostics

Save Diagnostic Data

Command Line Window

T?

Send

Parameter Update

Load Parameter File

Received Data

T?
:01T?0C
:010060,0005,00000,0300DD

SaveClear

Settings: COM3 9600,n,8,1

LogTime:

No. Records: 0

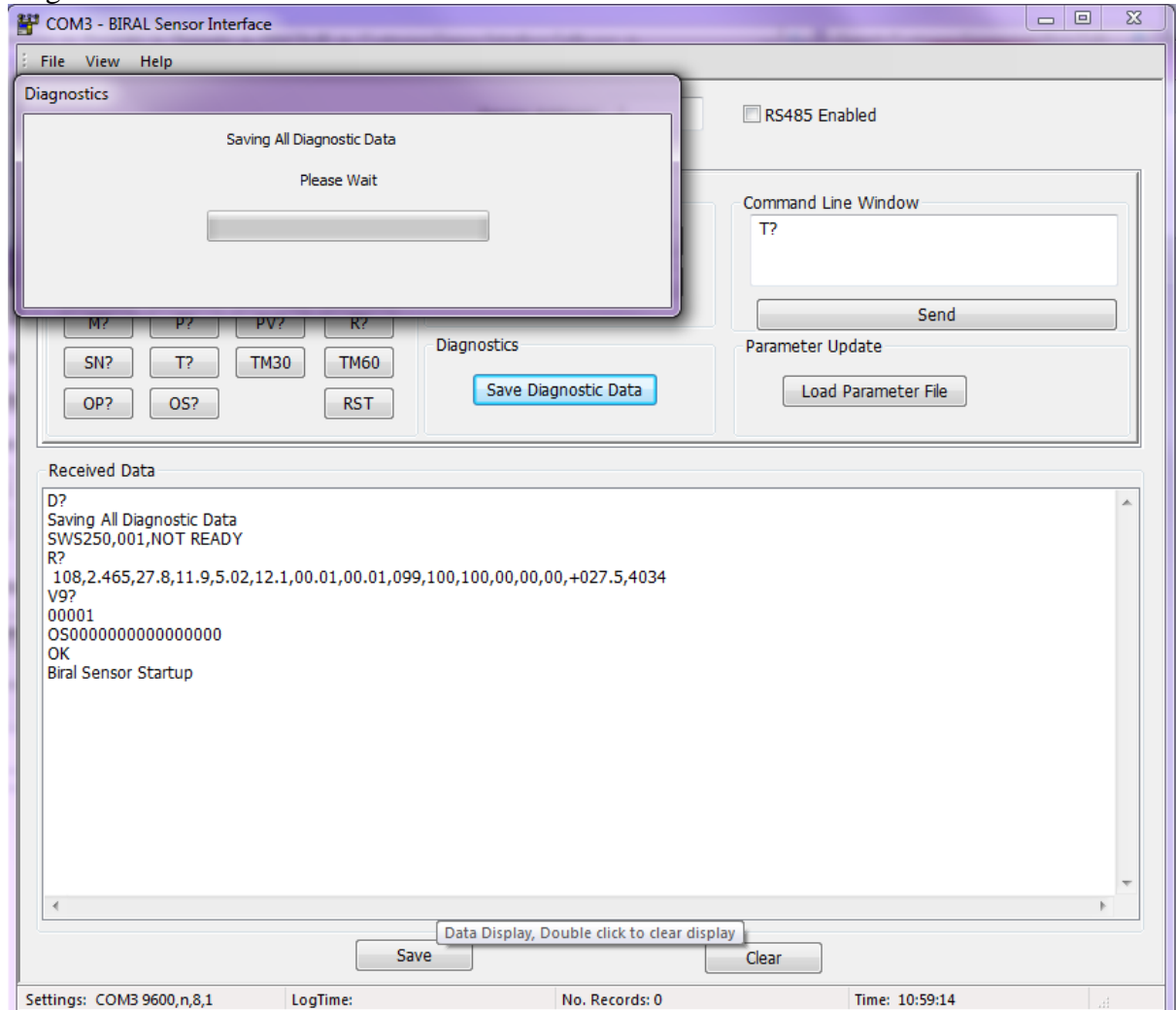
Time: 10:58:13

Save Diagnostic Data button

Pressing this button will send a series of commands to the sensor and save the responses in a text file to help with diagnostics.

NOTE: The diagnostic save procedure takes approximately 10 minutes.

During the saving process a message box will be displayed showing the progress of the diagnostics.

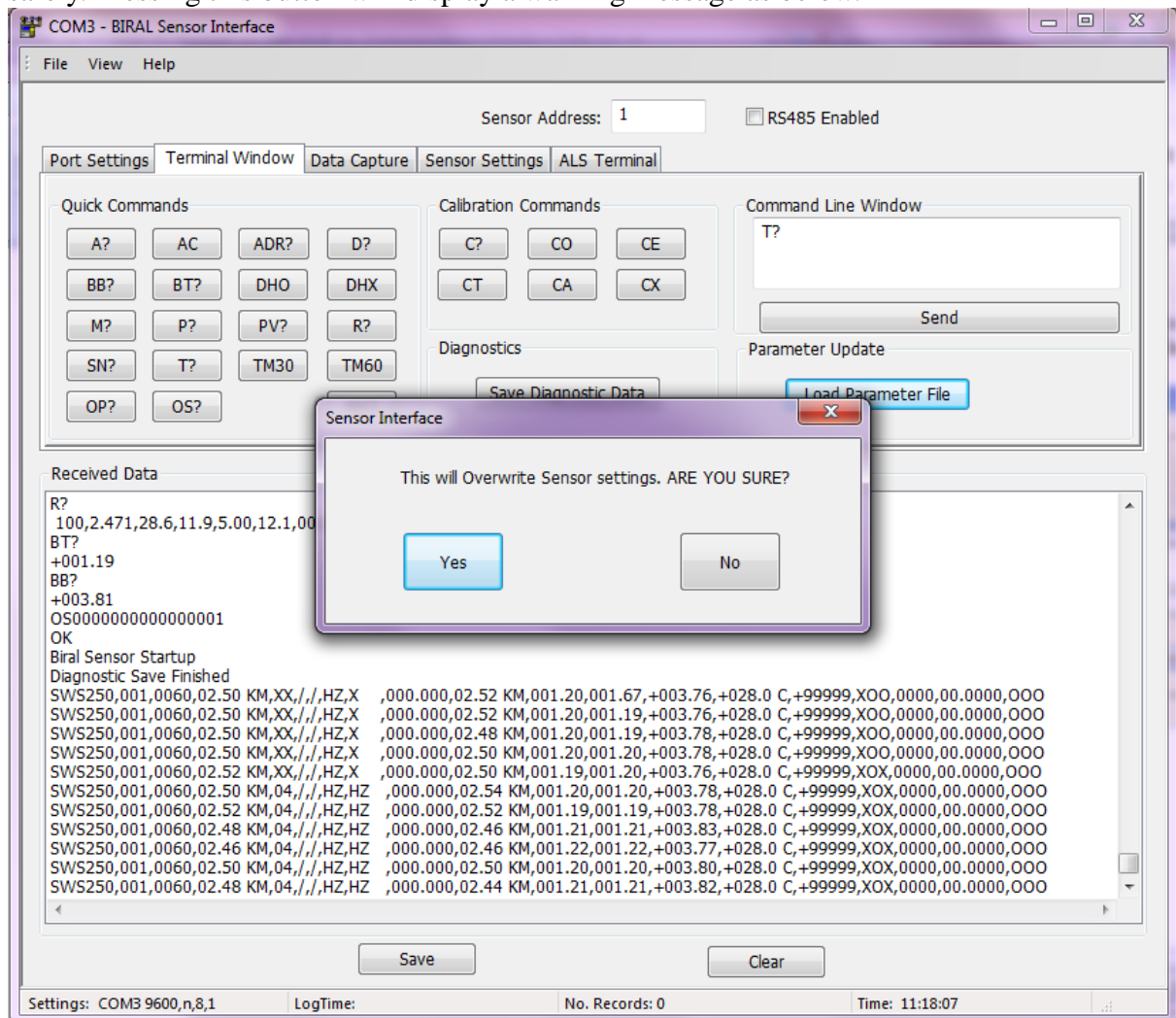


On completion the message box will close and the text “Diagnostic Save Finished” will be displayed on the received data screen.

In the case of a sensor fault or unusual symptoms we would recommend saving the diagnostic data and sending the file to BIRAL to assist the service team.

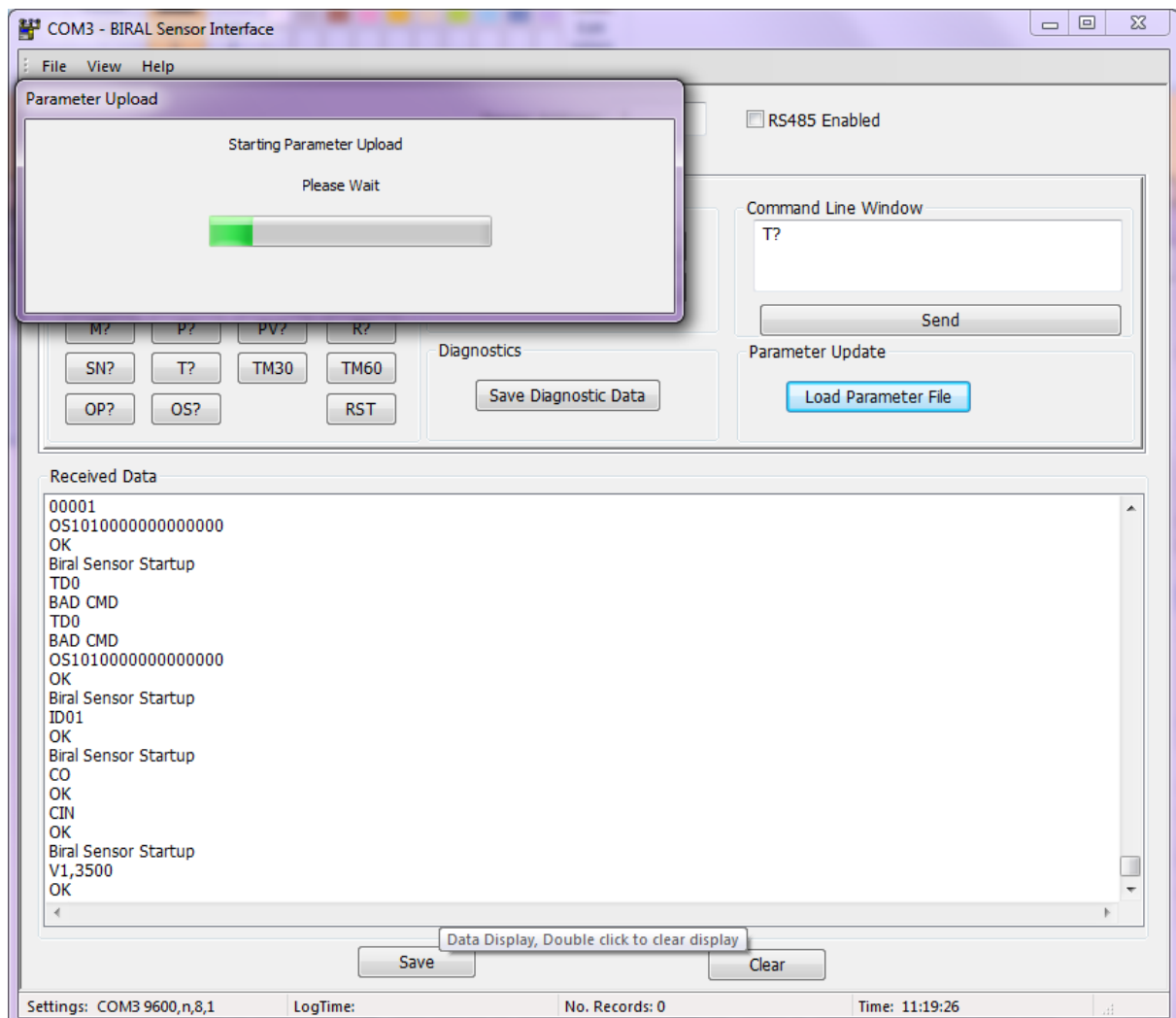
Load Parameter File button

Occasionally BIRAL may send files to update the sensor settings, e.g. to set new country definition parameters. This button will allow the user to upload these files to the sensor safely. Pressing this button will display a warning message as below.



Pressing No will stop the process, pressing Yes will bring up the windows Open File dialog to allow the user to select the parameter file.

When the file is opened the new parameters will be transmitted to the sensor as a series of commands and a message box will be displayed showing the progress of the update.



On completion of the upload, the message box will close and the text “NVRAM Load Finished” will be displayed on the received data screen

Data Capture

The data capture tab allows data to be saved to a file.

The screenshot shows the 'COM3 - BIRAL Sensor Interface' application window. The 'Data Capture' tab is selected, showing options for logging data. The 'Sensor Address' is set to 1, and 'RS485 Enabled' is checked. The 'Log Data' section has 'Start' and 'Stop' buttons. The 'Auto R?' and 'Timestamp' sections have radio buttons for 'Yes' and 'No'. The 'Daily Capture' section has radio buttons for 'On' and 'Off', and a 'FileName' field set to 'LogFile'. The 'A Cmd' section has checkboxes for 'Reset at Start' and 'Capture at End'. The 'Poll Text' field is empty, and the 'Poll Time (Seconds)' is set to 10. The 'Received Data' section shows a list of data received from the sensor, including V95,4095, OK, V96,179, OK, V100,0, OK, V101,1, OK, V102,1, OK, JM710, OK, Biral Sensor Startup ,09472, OS1010000000000001, OK, Biral Sensor Startup ,09472, OS0000000000000001, Parameter Upload Failed, OK, and Biral Sensor Startup ,09472, OK. The 'Save' and 'Clear' buttons are at the bottom. The status bar shows 'Settings: COM3 9600,n,8,1', 'LogTime:', 'No. Records: 0', and 'Time: 11:20:39'.

COM3 - BIRAL Sensor Interface

File View Help

Sensor Address: 1 ☐ RS485 Enabled

Port Settings Terminal Window **Data Capture** Sensor Settings ALS Terminal

Log Data Auto R? Timestamp Daily Capture

Start Stop

Yes No Yes No

On Off HH MM

0 0

A Cmd

☒ Reset at Start

☒ Capture at End

Poll Text:

Poll Time (Seconds): 10

Start

Received Data

V95,4095
OK
V96,179
OK
V100,0
OK
V101,1
OK
V102,1
OK
JM710
OK
Biral Sensor Startup ,09472,
OS1010000000000001
OK
Biral Sensor Startup ,09472,
OS0000000000000001
Parameter Upload Failed
OK
Biral Sensor Startup ,09472,

Save Clear

Settings: COM3 9600,n,8,1 LogTime: No. Records: 0 Time: 11:20:39

Sensor Settings

Selecting the sensor settings tab will request the current settings from the sensor and display them as follows:

The screenshot shows the 'COM3 - BIRAL Sensor Interface' window with the 'Sensor Settings' tab selected. The interface includes a menu bar (File, View, Help), a toolbar (Port Settings, Terminal Window, Data Capture, Sensor Settings, ALS Terminal), and a main settings area. The 'Sensor Address' is set to 1, and 'RS485 Enabled' is checked. The settings are organized into several groups: EXCO (Adjust for window contamination: Yes/No), Checksum (On/Off), Temp Sensor (Use for PW/Do Not use), Hood Heaters (Auto/Off), Window Heaters (On/Off/Auto), Date / Time (Add to Data Message: Yes/No), and Message (Compressed/Expanded, Send on Calc/Send on D?, Calc Values: On D?/After Measurement Time). Below these are fields for 'Operating State' (00000000,00000001) and 'Options Word' (00000000,00000000), with an 'Update' button. A 'Received Data' window at the bottom displays a log of messages, including 'OK', 'Biral Sensor Startup ,09472, OS101000000000000001', 'Parameter Upload Failed', and a long data string. At the bottom of the window are 'Save' and 'Clear' buttons, and a status bar showing 'Settings: COM3 9600,n,8,1', 'LogTime:', 'No. Records: 0', and 'Time: 11:21:18'.

COM3 - BIRAL Sensor Interface

File View Help

Sensor Address: 1 ☐ RS485 Enabled

Port Settings Terminal Window Data Capture **Sensor Settings** ALS Terminal

EXCO Adjust for window contamination ☒ Yes ☐ No

Checksum ☐ On ☒ Off

Temp Sensor ☒ Use for PW ☐ Do Not use

Hood Heaters ☒ Auto ☐ Off

Window Heaters ☒ On ☐ Off ☐ Auto

Date / Time Add to Data Message ☐ Yes ☒ No

Message ☐ Compressed ☒ Expanded ☒ Send on Calc ☐ Send on D?

Calc Values ☐ On D? ☒ After Measurement Time

Operating State: 00000000,00000001 Options Word: 00000000,00000000

Received Data

OK
V101,1
OK
V102,1
OK
JM710
OK
Biral Sensor Startup ,09472,
OS101000000000000001
OK
Biral Sensor Startup ,09472,
OS000000000000000001
Parameter Upload Failed
OK
Biral Sensor Startup ,09472,
OP?
00000000,00000000
V9?
00001
SW/S100.001,060,02.70 KM,00.000,XX,+26.0 C,02.70 KM,XOO.001.11,+000.00,001.11,,0000,0000,0000000,999,X ,HZ

Save Clear

Settings: COM3 9600,n,8,1 LogTime: No. Records: 0 Time: 11:21:18

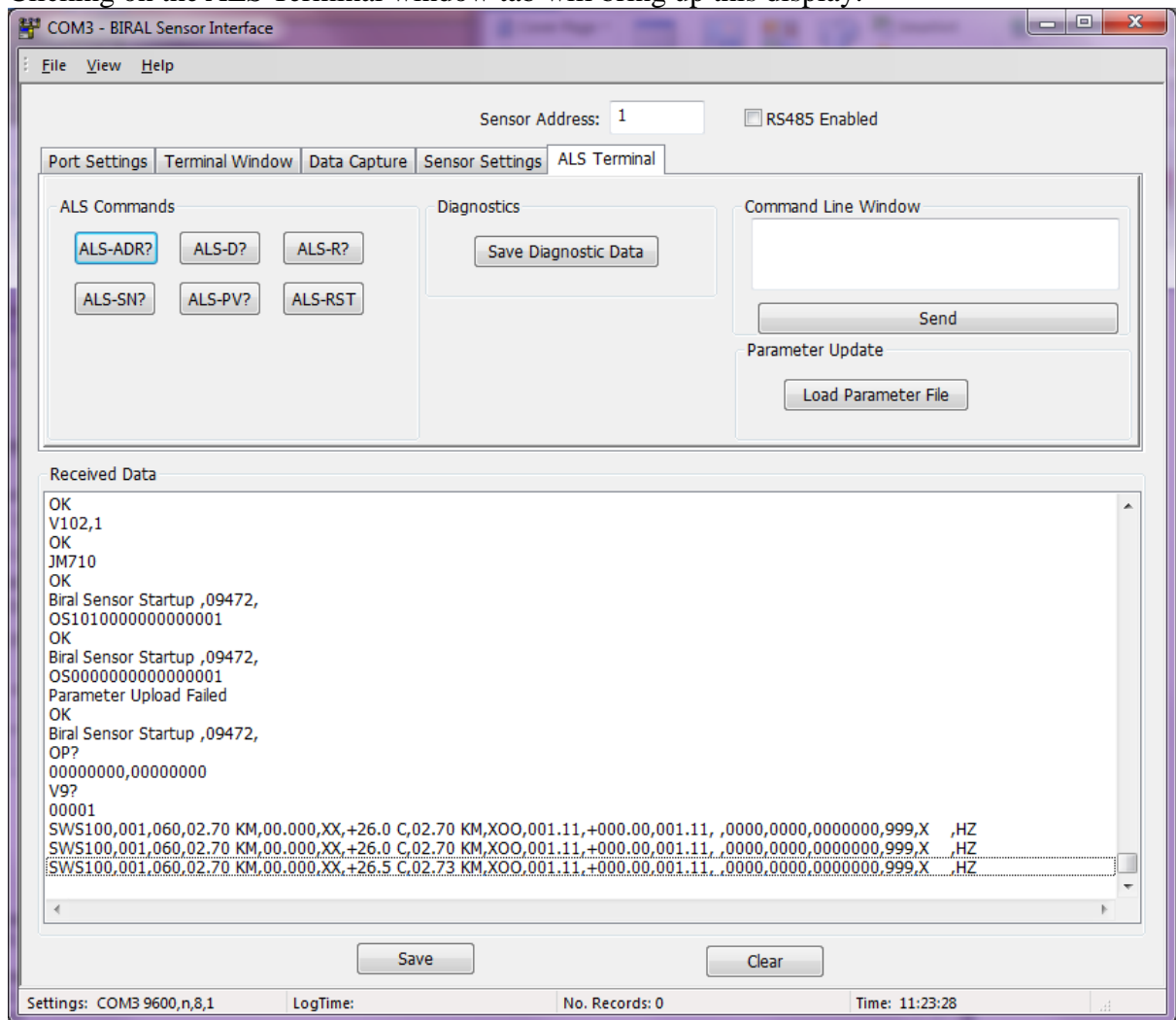
This page allows the user to see how the sensor is set up and is an easy interface to changing those settings.

Pressing the update button will send the new settings to the sensor and cause the sensor to reset.

WARNING: Changing the sensor settings will affect how the sensor operates. Please use with care.

ALS Terminal

Clicking on the ALS Terminal window tab will bring up this display:



This tab is only for use with a BIRAL ALS-2 sensors - either attached to the Present weather sensor or standalone.

The user can send commands to the ALS-2 using either the quick commands buttons or by typing the command into the command line window and pressing the send button. The commands sent to and received from the sensor will be displayed in the Received data window.

The Save Diagnostic Data and Load Parameter File buttons work in the same way as those in the Terminal Window.