

Visibility & Present Weather Sensors

SENSOR INTERFACE SOFTWARE INSTALLATION - OPERATION



RWS Series SWS Series VPF Series

Contents

1.	Installation	1
2.	Port Settings	2
3.	Terminal Window	3
4.	Data Capture	6
5.	Sensor Settings	7
6.	Options Menu	
7.	Test Option	10
8.	ALS Option	13
9.	RS485 Option	14
10.	Temperature Cal Option	15
11.	Troubleshooting	17



Biral Sensor Interface Software Manual Software SI100242 Version 06A

1. Installation

Upgrading the software

If the Biral Sensor Interface Software is already installed on the PC it must be removed prior to installing the upgrade.

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 shortcut icon will be placed on the desktop.



4. Double click on the icon to run the software. On start-up the Port Settings Tab will be displayed.

2. Port Settings

BIRAL Sensor Int			1.41			
File View Optic	ins Help					
Port Settings Te	erminal Window Data C	apture Sensor Settings				1
Baud Rate		C	om Port		Con	nect
◎ 1200	◎ 2400 ◎ 4800	9600	Port: COM1	•		
© 19К2	© 38K4 © 57K6		Check	For Ports		Connect
Received Data						
						A
						Ŧ
•						4
		Save		Clear		
ettings:	LogTime:		No. Records: 0		Time: 09:14:11	

Before you can communicate with your sensor the correct port settings must be configured:

Baud Rate: Select the Baud rate applicable for your sensor

Com Port: The COM Port box will show the first available port - select the port you require using the drop-down arrow.

Connect: Click on the connect button – the connect dialog box will be displayed while the software attempts to connect to the sensor:

Connect to Sensor
Connecting to Sensor, Please Wait
Timeout in 5 Seconds
Cancel

If successful the dialog will close, the Received Data display will contain the message "Connected to Sensor" and the connect button will turn green once connected.

If the connection fails, the dialog will close and the Received Data display will contain the message "Failed to connect to sensor, check Port and baud rate". In this instance the connect button will stay Red and the sensor will not be connected. For common connection problems see Section 11 - Troubleshooting.

3. Terminal Window

		-	
Quick Commands A? AC ADF BB? BT? DH M? P? PV	W Data Capture Sensor Settings Calibration Comm C DP C C C R P Diagnostics		
SN? T? TM: OP? OS?	30 TM60	gnostic Data Load Parame	ter File
Received Data			
			~

Quick Commands: A selection of the more commonly used commands - click on a button to send the command (see sensor manual for detailed descriptions for each command).

Calibration Commands: Commands used for calibrating the sensor - click on a button to send the command (see sensor manual for detailed descriptions for each command).

Command Line Window: Type any command into the command line window and press the send button.

Received Data: The commands sent to and the data received from the sensor will be displayed in the Received Data window.

Save Button: Save all data in the Received Data window to a text file.

Clear Button: Clear all data in the Received Data window (double clicking in the received data area has the same function).

Diagnostics: Save Diagnostic Data button

In the case of a sensor fault or unusual symptoms we recommend saving the diagnostic data and sending the file to BIRAL. This will assist the service team in diagnosing the fault quickly and efficiently.

Pressing the Save Diagnostic Data button will open a dialog box asking the user to enter a file name to save the data to. Input the desired file name and click okay. The software will send a series of commands to the sensor to request the diagnostic data.

This process takes approximately 10 minutes. During the process a display is shown indicating the progress of the procedure (see below). On completion, the message "Diagnostic Save Finished" is displayed in the received data area.

File View Options Help			
File View Options Help agnostics			
agnostics			
Savir	ng All Diagnostic Data		
	Please Wait		
_		Command Line Window R?	
-		K?	
M? P?	PV? K?	Send	
	M30 TM60 Diagnostics	Parameter Update	
	Save Dia	nostic Data Load Parameter File	
OP? OS?	RST		
Received Data			
00300			
V66? 00001			
V67?			
65535 V68?			
65535 V69?			
65535 V70?			
65535			
V71? 65535			
V72?			
65535 V73?			
65535			
V74? 65535			
V75? 65535			
*			•
	Save	Clear	

Parameter Update: Load Parameter File

Occasionally BIRAL may send files to update the sensor settings, e.g. to set new country definition parameters. The Load Parameter File 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:

COM65 - BIRAL Sensor Interface	
File View Options Help	
arameter Upload	
Starting Parameter Upload	
Please Wait	
Please wait	Command Line Window
	R?
M? P? PV? R?	Send
SN2 T2 TM30 TM60 Diagnostics	Parameter Update
Save D	Load Parameter File
OP? OS? RST	Load Parameter The
ALS-OSIWW5 ALS-OSIWW5 ALS-OSIWW5 ALS-VF1.10 ALS-VF1.10 ALS-VF1.10 ALS-VF1.10	
OS10100000000001 Parameter Upload Falled OK	
Biral Sensor Startup V9?	
Starting Parameter Upload 40961 V97	
40961	
OS10100000000000 OK Biral Sensor Startup	
In the sensor startup	
Save	Clear
ttings: COM65 9600, n, 8, 1 LogTime:	No. Records: 0 Time: 09:42:51

On completion of the upload, the message box will close and the text "Parameter Upload Finished" will be displayed on the received data screen.

If the update fails, the text "Parameter Upload Failed" will be displayed on the received data screen. In the case of an update failure, try repeating the process. If the upload continues to fail please contact Biral.

4. Data Capture

ie view Op	tions Help							
ort Settings	Terminal Window	Data Capture	Sensor Set	tings				
Log Data Start Stop	Auto R?	Timestamp Yes No	Daily Car ● On ◎ Off	FileName: LogFile HH 0 💽	MM 0 ×	A Cmd	Poll Text:	Poll Time (Seconds): 10 •
leceived Data iral Sensor Sta '9? 0961 '9? 0961 VS1010000000 K iral Sensor Sta	eter Upload 0000000							
ILS-OSNVW5 AD CMD ILS-OSNVW5 AD CMD ILS-VF1,1.0 AD CMD ILS-VF1,1.0 AD CMD OS1010000000 arameter Uplo 0K	ad Failed							C
	rtup							
Biral Sensor Sta	artup		III					4

Log Data: The Data Capture screen allows the sensor data to be logged to a text file.

Start - Pressing Start in the Log Data area will ask the user to select a location to store the data and display the log file name. When the file name and location has been saved then the logging will start.

Stop - Pressing the stop button will close the log file and stop logging.

The following options are available:

Auto R?: Interface software sends an R? command to the sensor whenever it receives a data message.

Timestamp: Append the computer date and time to all messages received from the sensor. **Daily Capture**: Enables the generation of daily data files.

On: Data files will be generated with names in the form "Logfile ddmmmyyyy hh.mm.log. **Off:** Data will be logged continuously to a file.

HH/MM: The HH MM boxes are used to define when the data files will be switched (default 00:00 or midnight)

The filename is the file prefix to use (default = Logfile)

A Cmd: these boxes will send the A? to get the accumulated rainfall when the file is to be closed and the AC command to clear the accumulated rainfall when a new file is created.

Poll Text: The software can send a command at regular intervals to the sensor. The poll Text is the command to send and the poll time is the frequency in seconds with which to send the command. Pressing the Start button under the Poll time will start the polling. When pressed, the button text will change to "Stop", pressing again will stop the polling.

During logging the status bar at the bottom of the screen will update with the number of records currently logged and the elapsed log time:

Settings: COM1 9600,n,8,1	LogTime: 00:00:16	No. Records: 5	Time: 14:07:26	

5. Sensor Settings

COM65 - BIRAL Sensor Interfac	ie in the second se				
File View Options Help					
Port Settings Terminal Wind	ow Data Capture Sensor Se	ettings			
Checksum	Hood He	eaters Window Heaters	Date / Time	Message	
🔘 On	Aut	o 💿 On	Add to	Compressed	Automatic
Off	Off		Data Message	Expanded	Polled
RS485		Off	Yes		
🔘 On					
Off		O Auto	No		
Operating State: 101000	00,00000001 Option	ns Word: 00000000,0000	0001	Update	
Received Data					
OS101000000000000					
OK Biral Sensor Startup					
ALS-OSNVW5					
BAD CMD ALS-OSNVW5					
BAD CMD					
ALS-VF1,1.0 BAD CMD					
ALS-VF1,1.0					
BAD CMD					
OS101000000000000000001 Parameter Upload Failed					
OK					
Biral Sensor Startup	001,060,20.00 KM,00.000,XX,	±19.5.C 20.00 KM YOO			
OP?					
00000000,00000001 V9?					
40961					
	001,060,20.00 KM,00.000,XX,	+19.5 C,20.00 KM,XOO			•
•					4
	Save		Clear		
ettings: COM65 9600,n,8,1	LogTime:	No. Records: 0		Time: 09:45:17	ai

This page allows the user to see how the sensor is set up and provides an easy to use interface for changing those settings. Selecting the sensor settings tab will request the current settings from the sensor and display them as shown above.

Update: Changing the settings is achieved by selecting the required parameters and then pressing the Update button. Pressing the Update button will send the new settings to the sensor and cause the sensor to perform a reset.

Please see next page for details of these settings.

WARNING:

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

More details on how the settings will affect the operation of the sensor may be found in the manual supplied with your sensor. Alternatively, contact Biral.

Checksum on/off: Include a checksum character at the end of the data message (see manual for full details).

RS485 on/off: Set sensor to addressable mode (normally used with RS485 comms - see manual for full details).

Hood Heaters:

Auto: Hood heaters will automatically switch on as the air temperature drops and off as the air temperature rises.

Off: Hood heaters permanently off.

Window Heaters:

On: Window heaters permanently on (recommended).

Off: Window heaters permanently off.

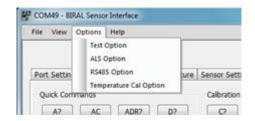
Auto: Window heaters switch on with high window contamination levels

Date/Time Add to data message yes/no: Add a date/timestamp to each data message. **Message:**

Compressed/Expanded: Output expanded or compressed data message (see manual for full details) – This applies to VPF sensors only, for SWS sensors this option will be disabled. **Automatic:** Automatic output of data (frequency of output is dependent on the setting of the time period (TM command).

Polled: Polled mode – sensor will only send data message on request.

6. Options Menu



There are several options available with Biral sensors. To keep the interface as simple as possible, the control windows for these options are hidden by default. The Options Menu allows you to unhide the following options:

- **Test Option**: Displays the Test tab to allow easy configuration of test mode. *This function is new and may not be available on your sensor. If you feel it would be useful for you, please contact Biral to discuss options.*
- **ALS Option**: Displays the ALS tab to allow for interaction with an optional ALS sensor.
- **RS485 Option**: Displays the Sensor address and RS485 Enabled checkbox to enable easy RS485 communications.
- **Temperature Cal Option**: Displays the Temperature Calibration tab to allow the user to calibrate the internal temperature sensor. *This function is only available for SWS and RWS sensors.*

These options are detailed over the next few pages.

7. Test Option

COM65 - BIR	AL Sensor Interfac	ce				
File View	Options Help					
Port Setting	Terminal Wind	low Data Capture	Sensor Setting	Test Protocol		
Tore becong		ow pace capture	Demon Decem	J J		
			Sensor Test Mod	e Procedure		
	Time (minutes)	Visibility (KM) F	ault Condition	Contamination Condition	WMO Weather Code	
	05 👻	4.50 👻	No Fault 🔻	None	00 👻	
		Start Test Mo	de	Stop Test Mode		
Received Dat						
Biral Sensor S						-
ALS-OSNVW BAD CMD	5					
ALS-OSNVW	5					
BAD CMD						
ALS-VF1,1.0						
BAD CMD						
ALS-VF1,1.0 BAD CMD						
OS10100000	00000001					
Parameter U						
OK						
Biral Sensor S						
	:45:55,SWS200,	001,060,20.00 KM,	00.000,XX,+19.	.5 C,20.00 KM,XOO		
OP? 00000000.00	000001					
V9?	1000001					
40961						
	:46:55.SWS200.	001,060,20.00 KM,	00.000.XX.+19.	5 C.20.00 KM.XOO		
20\07\17.09	:47:55,SWS200,	001,060,20.00 KM,	00.000,XX,+19.	0 C,20.00 KM,XOX		
20\07\17,09 20\07\17,09	10.55 CM/C200	001,060,20.00 KM,	00.000,XX,+19.	.0 C,20.00 KM,XOX		
20\07\17,09	40.33,3003200,					
20\07\17,09	.40.33,3113200,		III			•
20\07\17,09 20\07\17,09	.46.33,3113200,					4
20\07\17,09 20\07\17,09	.46.33,3443200,	Sa	ive		Clear	Þ

The test protocol is used to allow the user to set the sensor into a TEST mode whereby a set visibility will be output from the sensor for a fixed time period. This is to allow users to integrate and test the function of other equipment, such as warning lights and relays with the sensor.

The variables are:

Time: The length of time to run the test for (in minutes).
Visibility: The MOR in km to output.
Fault Condition: Set a particular fault condition.
Contamination Condition: Mimic window contamination.
WMO Weather Code: Set a specific weather code (present weather sensors only)

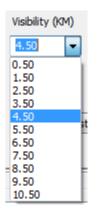
Time drop down box

The Time drop down box is used to set the length of time for the test. The user can select one of the default times or type their own time in the box in the range 0 - 60 minutes. A time of zero will stop the test.

Time (m	Time (minutes)		
05	-		
00			
05			
10			
30	- 1		
60			

Visibility drop down box

The Visibility drop down box is used to set the visibility. The user can select one of the default visibilities or type in their own visibility in the range 0.01km to the maximum MOR range of the sensor.



Fault drop down box

The fault drop down box is used to select the fault condition. This can only be either Fault or No Fault.



Contamination drop down box

The contamination drop down box is used to select the contamination condition. This can only be either None, Warning or Fault.

Contamination Condition
None
None
Warning Fault
Tour

WMO Weather Code Drop down box

For present weather sensors the user can select a WMO code to output in the data string. The user can either select one of the default values or enter their own in the range 0 - 89. The code entered must be in the WMO 4680 code table for it to be of use.

WMO Weat	her Code
00	-
00	_
04	
30	
52	
62	
72	

Start Test Mode: Pressing the Start Test Mode button will transmit the test command to the sensor – if the sensor responds with OK then the test will start.

The sensor will output a data string with the test options in until the test time has elapsed. The Test mode is identified in the data string by a 'T' in the first character of the self-test flags (e.g. **TOO** in the below).

When the test has completed the sensor will reset.

🚰 COM65 - BIRAL Ser	sor Interface					o x
File View Option	is Help					
Port Settings Ter	minal Window Data	Capture Sensor Settin	gs Test Protocol			
		Sensor Test Mod	le Procedure			
Time	(minutes) Visibility (KM) Fault Condition	Contamination Condition	WMO Weather Code		
05	◄ 4.50	▼ No Fault ▼	None 🔻	00 👻		
	C					
	Sta	rt Test Mode	Stop Test Mode			
Received Data						
CO OK	~~					^
TEST,05,4.50,0,0, OK		4 50 1/11 00 000 00 -10				
20\07\17,09:51:5	5,SWS200,001,060,04	4.50 KM,00.000,00,+19 4.50 KM,00.000,00,+19 4.50 KM,00.000,00,+19	.0 C,04.50 KM, TOO			
		4.50 KM,00.000,00,+19 4.50 KM,00.000,00,+19				
OK TEST,05,4.50,0,0,	00					
OK	00,					
						-
•		m				P.
		Save		Clear		
Settings: COM65 9600,	n,8,1 LogTime	:	No. Records: 0	Time: 0	9:52:45	at

Stop Test Mode: Pressing the Stop Test Mode button will stop the test mode and reset the sensor. The sensor will now transmit the standard data message.

8. ALS Option

COM3 - BIRAL Sensor Interface				_ 0 _ X
<u> </u>				
Port Settings Terminal Windo ALS Commands ALS-ADR? ALS-D? ALS-SN? ALS-PV?		or Settings ALS Terminal gnostics Save Diagnostic Data	Command Line Window Send Parameter Update Load Parameter File	
Received Data				
•				-
	Save		Clear	
Settings: COM3 9600, n, 8, 1	LogTime:	No. Records: 0	Time: 09:29:47	

This tab is only for use with a BIRAL ALS-2 sensor which can be either attached to a visibility/present weather sensor or standalone.

ALS Commands: A selection of the more commonly used commands - click on a button to send the command (see sensor manual for detailed descriptions for each command).

Command Line Window: Type any command into the command line window and press the send button.

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.

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

9. RS485 Option

When enabling the RS485 option the following controls are visible at the top of the interface software window:

The software initially assumes that the RS485 has not been enabled and the sensor address is set to zero (default setting).

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, (as 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 is displayed.

COM65 - BIRAL Sensor Interface			
File View Options Help			
Port Settings Terminal Window	Sensor Address: Data Capture Sensor Settings	0 RS485 Enabled	
Quick Commands A? AC ADR? BB? BT? DHO M? P? PV? SN? T? TM30 OP? OS? OS?	Calibration Commands D? C? CO DHX CA DHX CA Diagnostics RST Save Diagnostic	CE CX CX CX CX CX CX CX CX CX CX CX CX CX	
Received Data :00T?0D :000060,0005,00000,0300DE			*
۲	11		*
	Save	Clear	
Settings: COM65 9600,n,8,1	LogTime: No. Re	ecords: 0 Time: 09:55:08	h

10. Temperature Cal Option

Note: This feature is only available for the SWS and RWS series of sensors.

Selecting the Temperature Cal Option menu item will display the Temperature Calibration tab and allow the user to calibrate the internal temperature sensor of the sensor. Clicking on the Temperature Calibration tab will request temperature settings from the sensor and bring up this display:

r		
COM65 - BIRAL Sensor Interface		
Eile View Options Help		
The field options field		
Port Settings Terminal Window Data Capture Sensor S	Settings SWS Temperature Calibration	
SWS Temperati	ure Calibration Procedure	
Sensor Temperature (°C):	19.5 Calibrate	
School remperature (c).	Calibrate	
Reference Temperature (°C):		
Enter Reference Te	emperature and Press the Calibrate button	
Temperature stability delay:		
remperature stability deby:		
Received Data		
V63?		*
00100		
R? 100,2.499,23.8,12.2,5.00,12.1,00.00,00.00,101,000,000	0.00.00.00,+019.5.0000	

		~
۰ (m		P.
Save	Clear	
Settings: COM65 9600,n,8,1 LogTime:	No. Records: 0 Time: 09:56:29	h

To calibrate the sensor temperature reading:

- 1. Enter the reference temperature (°C) from an external temperature sensor in the display
- 2. Press the Calibrate button the program will calibrate the temperature and update the Biral sensor to reflect the new settings.
- 3. After updating the sensor the display will change to inform the user that the system needs to wait for 25 seconds to allow the temperature sensor to settle after recalibrating.

COM65 - BIRAL Sensor Interface		X
File View Options Help		
Port Settings Terminal Window Data Capture Sensor Settings SWS Temperature Calibration		_
SWS Temperature Calibration Procedure		
Sensor Temperature (°C): 20.2 Calibrate		
Reference Temperature (°C): 20.1		
Calibration Values updated, please wait 25 seconds for temperature to settle before reading		
Temperature stability delay:		
Received Data		
00093		^
R? 108,2.500,23.9,12.2,4.99,12.1,00.00,00.00,101,000,000,00,00,00,+020.2,0000		
OSNVW5 Starting Param Load		
OK Biral Sensor Startup		
V63,93		
OK OSNVW0		
OK Biral Sensor Startup		
Param Load Finished		
4		-
	,	
Save		
Settings: COM65 9600,n,8,1 LogTime: No. Records: 0 Time: 10:03:23		

4. Once the 25 seconds has elapsed the software will request the new temperature values and update the display as follows:

File View Options Help Port Settings Terminal Window Data Capture Sensor Settings SWS Temperature Calibration SWS Temperature Calibration Procedure Calibrate Sensor Temperature 20.2 Calibrate Reference Temperature 20.2 Calibrate Temperature Calibration Freiderature V637 00100 R7 100.2.499,23.8,12.2,5.00,12.1,00.00,000,00,00,00,00,00,00,+019.5,0000 OSNWV5 Starting Parem Load K Real Sensor Startup V633 V637 OSNWV0 Startup Parem Load K SWE Clear Time; COM65 9600,n,5,1 LogTime; No. Records: 0 Time: 09:58:44 d	File View Options Heli			
SWS Temperature Calibration Procedure Sensor Temperature (*C): 20.2 Reference Temperature (*C): 20.2 Temperature Calibration Finished Temperature stability delay:		p		
SWS Temperature Calibration Procedure Sensor Temperature (*C): 20.2 Reference Temperature (*C): 20.2 Temperature Calibration Finished Temperature stability delay:				
SWS Temperature Calibration Procedure Sensor Temperature (*C): 20.2 Reference Temperature (*C): 20.2 Temperature Calibration Finished Temperature stability delay:				
Sensor Temperature (*C): 20.2 Reference Temperature (*C): 20.2 Temperature Calibration Finished Temperature stability delay: 0100 870 0100 871 100,2409,23.8,12.2,5.00,12.1,00.00,00.00,00,00,00,00,00,00,00,00,00,	Port Settings Terminal W	indow Data Capture Sensor Set	tings SWS Temperature Calibration	
Reference Temperature (%): 20.2 Temperature Calibration Finished Temperature stability delay: Received Data V637 00100 R? 100.2499.23.8,12.2,5.00,12.1,00.00,00.00,00,00,00,00,+019.5,0000 OSHWU5 Startup Param Load OK 00100 Bral Sensor Startup V63,33 OSNWU0 OK Bral Sensor Startup V637 108,2.505,23.9,12.2,5.00,12.1,00.00,00.00,00,00,00,00,+020.2,0000 Image: Calibration Finished Image: Calibration Finished		SWS Temperature	Calibration Procedure	
Control (c), potent (c), Temperature Calibration Finished Temperature stability delay: Received Data V637 00100 R? 100,2499,23.8,12.2,5.00,12.1,00.00,00.00,00,00,00,00,+019.5,0000 OSNWUS Starting Param Load OK Brail Sensor Startup V63.93 OK OSNWUS OSNUS		Sensor Temperature (°C):	20.2 Calibrate	
Control (c), potent (c), Temperature Calibration Finished Temperature stability delay: Received Data V637 00100 R? 100,2499,23.8,12.2,5.00,12.1,00.00,00.00,00,00,00,00,+019.5,0000 OSNWUS Starting Param Load OK Brail Sensor Startup V63.93 OK OSNWUS OSNUS				
Temperature stability delay: Raceived Data VG37 00100 R? T00,2.49,23.8,12.2,5.00,12.1,00.00,000,00,00,00,00,+019.5,0000 OSNWU5 Starting Param Load OK W W Bral Sensor Startup VG37 OK VG3 VG VG3 VG NWW0 W W Bral Sensor Startup VG37 OK VG3 VG VG3 VG Save Clear		Reference Temperature (°C):	20.2	
Received Data V637 00100 1100, 2,499,23,8,12.2,5.00,12.1,00.00,000,00,00,00,00,00,00,00,00,00,00		Tempera	ature Calibration Finished	
VG37 00100 R2 100,2+9,23,81,22,5.00,12.1,00.00,00.00,101,000,000,00,00,+019.5,0000 OSNWU5 Startup Param Load OK Bral Sensor Startup VG339 OK WV0 OK Bral Sensor Startup Param Load Faled VG39 INS,2505,23.3,12.2,5.00,12.1,00.00,00.00,101,000,000,00,+020.2,0000 K R7 108,2505,23.3,12.2,5.00,12.1,00.00,00.00,101,000,000,00,+020.2,0000		Temperature stability delay:		
VG37 00100 R2 100,2+9,23,81,22,5.00,12.1,00.00,000,00,00,00,00,00,00,+019.5,0000 OSNWU5 Startup Param Load OK Bral Sensor Startup VG339 OK WV0 KBral Sensor Startup Param Load Faled VG39 INS,2505,23.3,12.2,5.00,12.1,00.00,00.00,101,000,000,00,00,+020.2,0000 K R7 108,2505,23.3,12.2,5.00,12.1,00.00,00.00,101,000,000,00,00,+020.2,0000				
VG37 00100 R2 100,2.49,23.8,12.2,5.00,12.1,00.00,00.00,101,000,000,00,00,+019.5,0000 OSNWU5 Startup Param Load OK Bral Sensor Startup VG39 OK WV0 K Bral Sensor Startup Param Load Faled VG39 CSUV0 K Bral Sensor Startup Param Load Faled VG39 CSUV0 K Bral Sensor Startup Param Load Faled VG39 CSUV0 K Bral Sensor Startup Param Load Faled VG39 CSUV0 CS	Resolved Data			
00100 R? 100,249,23,8,12.2,5.00,12.1,00.00,00,00,00,00,00,00,00,00,00,00,00,				
100,249,23.8,12.2,5.00,12.1,00.00,00,01,00,00,00,00,00,00,00,00,00,00,0	00100			
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11. Troubleshooting

Connection Problems

When the software attempts to connect to the sensor a command is transmitted and the software waits for the expected reply. If the sensor is set up in RS485 addressable mode then this initial attempt will fail.

In order to connect to a sensor set up in RS485 addressable mode, perform the following steps **before** trying to connect:

- Select the RS485 Option from the Options Menu
- Enter the Sensor Address of the sensor
- Click on the RS485 enabled check box (see below)



Now Press the Connect button.