

---

# INTRODUCTION TO DRIVELINK AND LOGGER CONFIGURATION UTILITIES

**Bardac** '|||'  
**drives** '|||'



# CONTENT

<b>DriveLink</b>	<b>5</b>
Communications Setup	6
Loading a Vysta program	8
Loading System Code (E-Series and RVSx Series)	9
<b>Modbus Logger</b>	<b>11</b>
Setup	11
Operation	12
Reading and Writing System Variable Data	13
Reading and Writing Vysta Variable Data	13
Logging Data to a File	14

---

**REVISION HISTORY**

<b>REVISION HISTORY</b>		
C	19/02/2002	Drivelink updated to Ver 2.7.1 & Vista upgraded to Vysta
B	6/10/2000	Drivelink updated to Ver 2.4.0 & Monitor replaced by Logger
A	26/03/2000	Created

# DriveLink

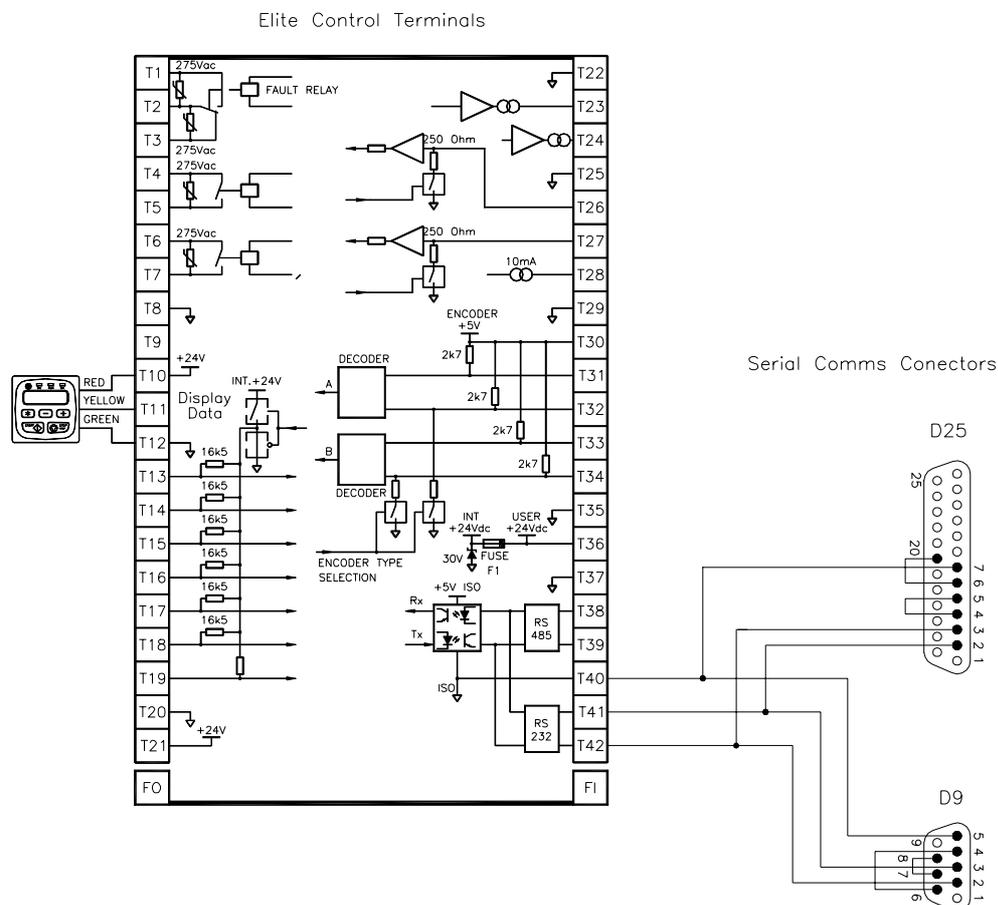
The program DriveLink is used for loading a successfully compiled Vysta program into a Vysta compatible E-Series AC motor controller. The Vysta program is in the form of **filename.vlo**.

DriveLink is also used for upgrading the E-Series AC motor controller's System Code. For the E-Series the System Code is in the form **0410aaXX.hex**. For the RVSx Series, the System Code is in the form **0430aaXX.hex**. **XX** refers to the software release version of the System Code.

To support a Vysta program, the E-Series System Code software release version must be version 3.8 or greater. For the RVSx Series System Code software release version compatibility, please contact Bardac Drives.

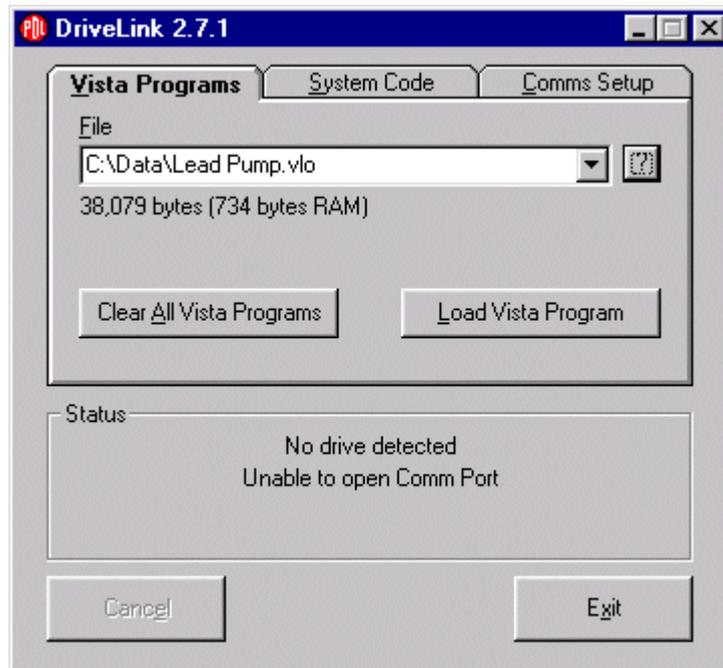
The E-Series AC motor controller is connected to the PC via an RS232 serial communications link. Below is a circuit diagram showing connections between 9 and 25 pin "D" type plugs and the ESeries communications terminals. Refer to the RVSx Series Technical Manual (4201-232) for the RVSx Series terminal arrangement.

RS485 can be used for loading the Vysta program (**filename.vlo**), but it is not suitable for loading the System Code (**0410aaXX.hex** or **0430aaXX.hex**).

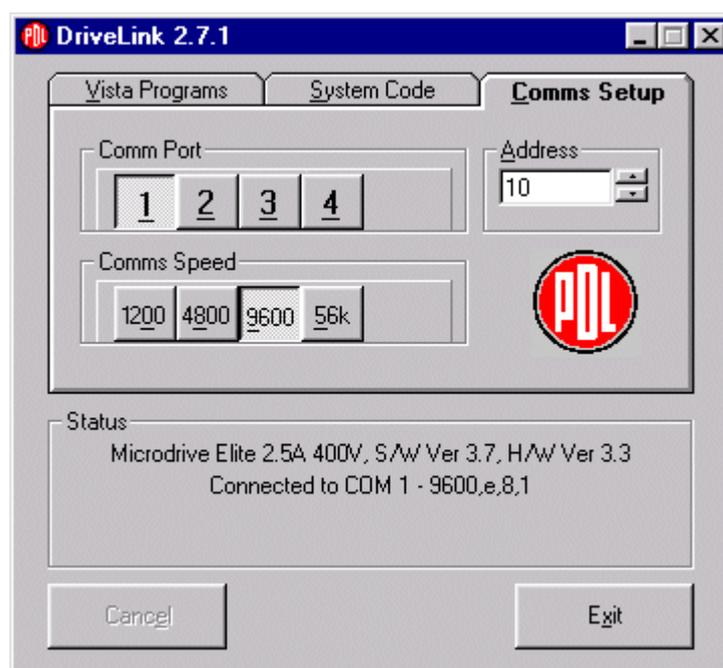


## Communications Setup

Once the E-Series AC motor controller has been connected to the PC and powered up, run DriveLink (DRVLINK.EXE) on the PC. If the status indicates a Comm Port problem, or a Drive detection problem, as shown below, click the **Comms Setup** tab.



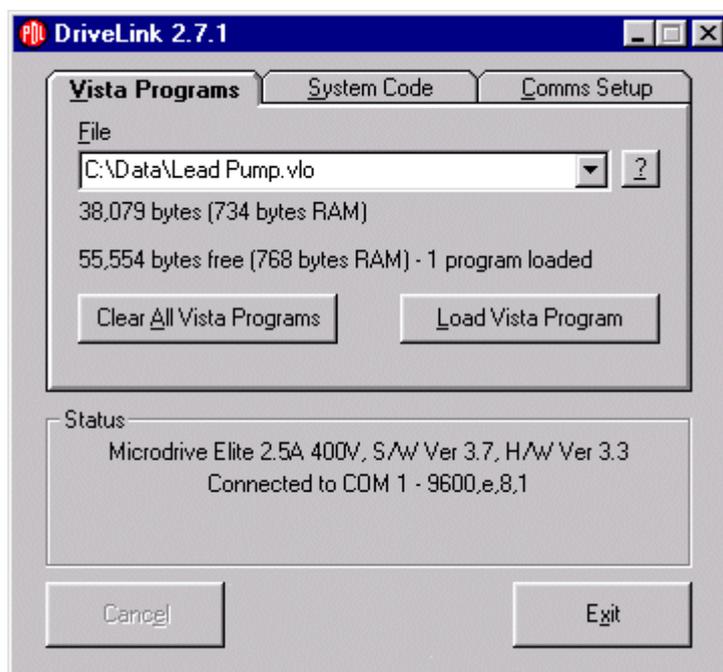
The **Comms Setup** tab allows the user to set the serial communication port used on the PC and the Comms Speed (baud rate). Note, the same baud rate will have to be set in the 'H' screens of the E-Series AC motor controller. (The E-Series and RVSx Series default baud rates are 9600 and Parity is Even).



The **Comms Setup** tab also allows the user to address individual drives if a multi-drop communications interface is being used (i.e. RS485). This address must be the same as the address in the 'H' screens of the motor controller that is being communicated with. The default address in the E-Series AC motor controller is 10. If the motor controller has Screen H3c (Parity) ensure that this is set to Even.

An RS232 serial communications link is recommended if DriveLink is to be used to load the E-Series AC motor controller's System Code.

With the correct **Comm Port** and **Comms Speed** selected, the status should report the motor controller that is connected, the software version, hardware version and the communications configuration. Clicking back on the **Vysta Programs** tab will show the amount of free program memory and the number of Vysta programs already loaded.



If communications has not been established, check the cable configuration and also ensure the E-Series AC motor controller is powered up.

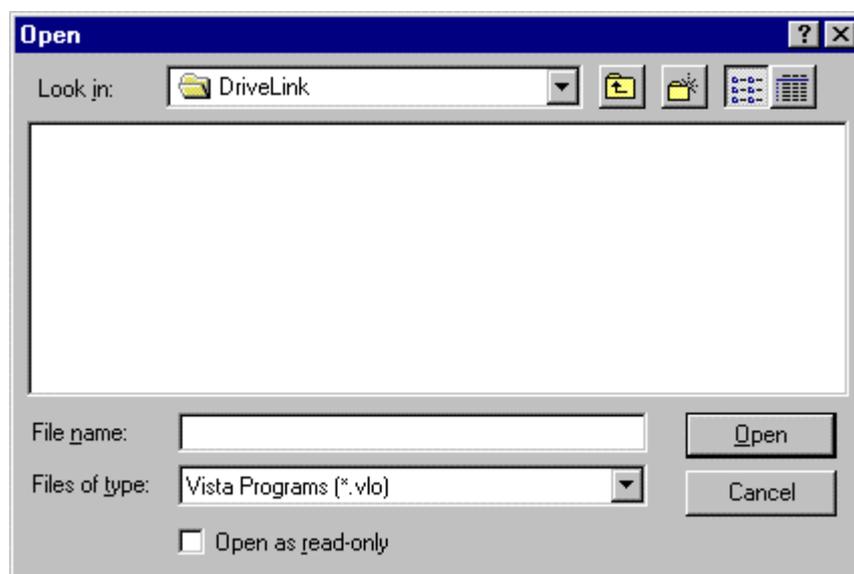
Once the Comms Setup procedure is complete and communications has been established, the motor controller is ready to accept a Vysta program or System Code.

## Loading a Vysta Program

The compiled Vysta program is identified by the file extension **.vlo** (e.g. **filename.vlo** - visual language object file). After the Vysta program is compiled the resultant .vlo file is placed in the same directory as the Vysta program netlist file (**filename.nl**).

To load a Vysta program into a E-Series AC motor controller, click on the **Vysta Programs** tab. The most recently loaded file name will be displayed in the text field under the tab. To load a different Vysta program click the  button.

This will cause the **Open** dialog box to appear.



Select the Vysta .vlo file to be loaded and click **open**.

You will be returned to the **Vysta Programs** tab where the program file name and path will be displayed together with the program size and RAM requirement. To load the Vysta program, click the **Load Vysta Program** button.

Once the program has finished loading, select the Vysta program in screen Y3 of the E-Series AC motor controller, typically program 2 of 2. The motor controller will now be operating on the Vysta program.

If there is insufficient free memory in the motor controller, the Vysta programs currently in the motor controller will have to be cleared. To clear all the Vysta programs in the motor controller, click the **Clear All Vysta Programs** button. Once this action is complete, new Vysta programs can be loaded.

DriveLink clears all Vysta programs by reloading System Code. If the DriveLink folder does not contain a copy of the System Code that is presently in the E-Series AC motor controller, it will first extract it from the motor controller. DriveLink will then reload this copy of the System Code to clear the Vysta programs.

DriveLink does not extract Vysta programs from the E-Series AC motor controller and therefore it is essential that a copy of the Vysta program is held external to the motor controller.

### Loading System Code

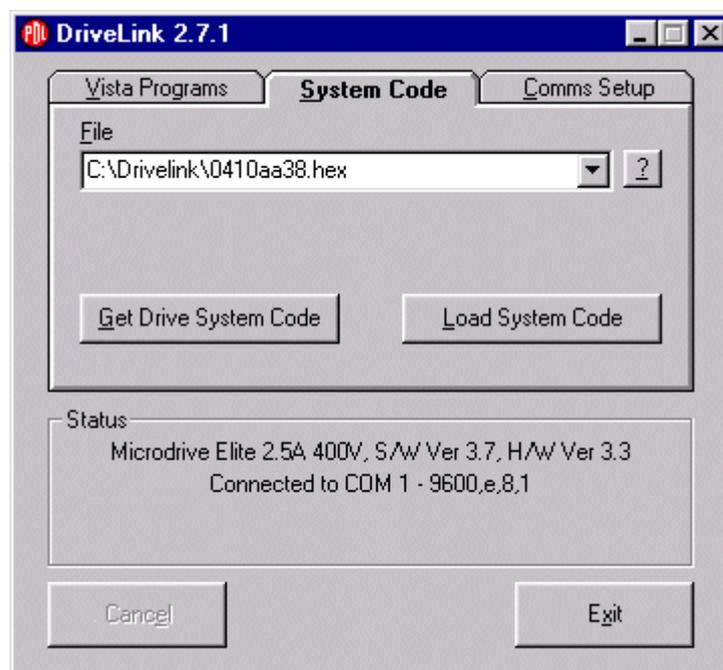
DriveLink can also be used to load Eand RV Series System Code. This provides the ability to up-grade software as newer versions of motor controller's System Code is released.

When up-grading System Code software, care has to be taken to ensure that the E-Series AC motor controller is fitted with compatible hardware as reported in the Software release notes (4226 document series). The software version is reported in screen Z2 of the motor controller.

If DriveLink is to be used to load the System Code an RS232 serial communications link is recommended.

Additionally, the motor controller's address in the 'H' screens **MUST** be set to Address 10 and the DriveLink **Comms Setup** configured to suit.

To load System Code, click on the **System Code** tab.



The most recently loaded System Code will be displayed in the text field under the tab.

To load a different System Code click the  button.

This will cause the **Open** dialogue box to appear.

Select the System Code file to be loaded and click **open**. You will be returned to the **System Code** tab where the System Code file name and path will be displayed.

Ensure you have selected the correct type of System Code for the motor controller type. Do **NOT** attempt to load RVSx Series System Code into and E-Series or vice versa. Damage to the motor controller may result.

To load the System Code, click the **Load System Code** button. The System Code will now be loaded.

If the E-Series AC motor controller contains a version of software that is not backed up in the DriveLink folder, the **Get Drive System Code** button will extract the System Code from the motor controller.

**Note:** The communications must not be interrupted in any fashion during the System Code transfer. Power must **not** be disconnected from the PC or motor controller during System Code transfer. This will result in an incomplete System Code and the motor controller will not operate.

It is recommended an RS232 serial communications link be used for System Code transfer.

# Modbus Logger

The program Modbus Logger is a serial communications program that allows the user to monitor data stored in Vysta variables that have been assigned a Modbus address, or E-Series AC motor controller System Variables.

The Modbus Logger message format is only compatible with Modbus function code 16. This limits data addresses to values within the 4XXXX range (decimal). Refer to the E-Series Serial Communications Manual (4201-206) and the RVSx Series Communications Manual (4201-241) for a list of the System Variable addresses.

Modbus Logger can continually monitor the data at the selected addresses by using the **Poll** function. The **Poll Time** option sets the sampling rate (in seconds) of the data. If the **Log** function is used in conjunction with the **Poll** function the data will be logged to a file to allow further analysis. This file can be opened in an Excel spreadsheet and a trend graph can be easily created.

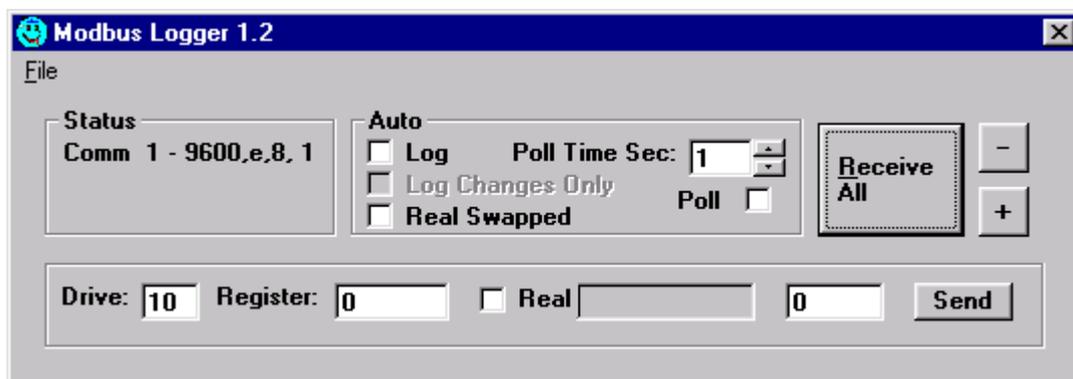
Modbus Logger can also be used to write data to a valid Modbus address. Care must be taken as the variable may be modified from another source (e.g. variable is controlled by a Vysta program).

The two main functions of Modbus Logger is the debugging of Vysta programs and the monitoring of system performance over time. To monitor Vysta variables, valid Modbus addresses must be assigned to the variables during the Vysta program creation.

When operating Modbus Logger ensure that no other serial communications application (e.g. DriveLink) is running at the same time within the computer, as this will cause incorrect program operation.

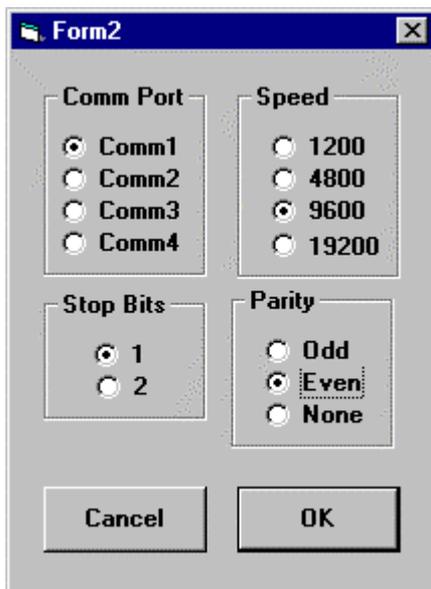
## Setup

When Modbus Logger is run, the following dialog box appears.



Ensure the **Drive** selection box at the bottom left corresponds to the motor controller address, shown in the 'H' screens. The default address is 10.

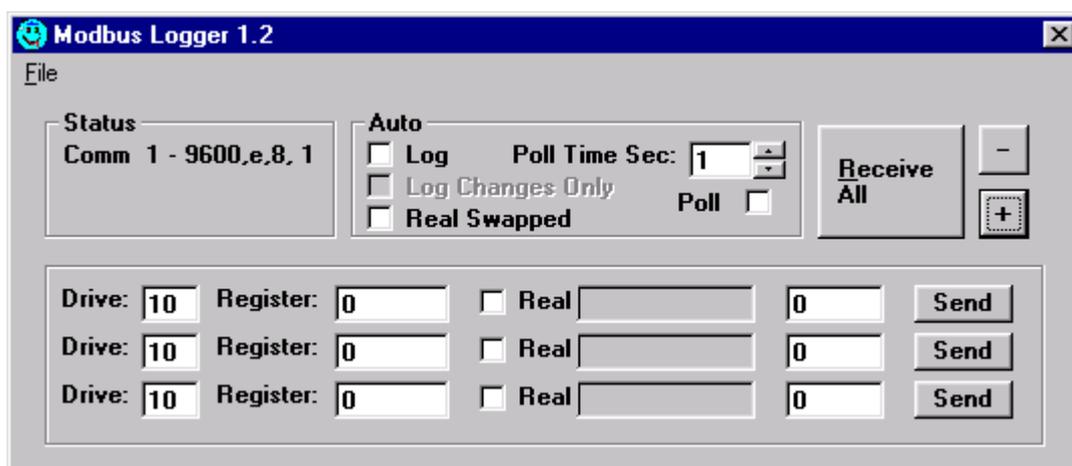
Using the **File** pull down menu select the **Comms Setup** option. The following dialog box will appear.



Configure the settings for the correct communications port on the PC and the correct Speed (Baud rate). The Stop Bits and Parity options should be set as above and not need adjustment. (The E and RVSx Series default baud rates are 9600 and default Parity is Even).

## Operation

More than one data address can be read from or sent to by clicking the + button within Modbus Logger. Further additions to the dialogue box appear as shown below. Redundant address fields can be removed by clicking the - button.



More than one motor controller may be monitored if RS485 is used and the appropriate **Drive** addresses entered.

---

## Reading and Writing System Variable Data

All System Variables are of a discrete data type, as opposed to a real number. To view a System Variable, enter the address and ensure the **Real** tick box is **not** checked. Refer to the relevant Serial Communications Manual for a list of the System Variable addresses.

If **Poll** is activated the data contained at that address will be displayed in the centre box and automatically updated. The update rate is determined by the **Poll Time** setting (seconds). If **Poll** is not activated, clicking the **Receive All** button will initiate a one-shot read of the data.

Flags are displayed as either 00 or 01 and all other System Variables are displayed in hexadecimal.

## Reading and Writing Vysta Variable Data

Vysta variables are defined as either Real or Flag data type. To accommodate the 32 bit real data type, valid Vysta Modbus addresses within the Vysta program must be a minimum of 2 significant bits apart. E.g. 42000, 42002, 42004 etc.

To view a Vysta Real variable, enter the Modbus address and click the **Real** tick box. Flags are viewed by entering the correct address and not checking the **Real** tick box.

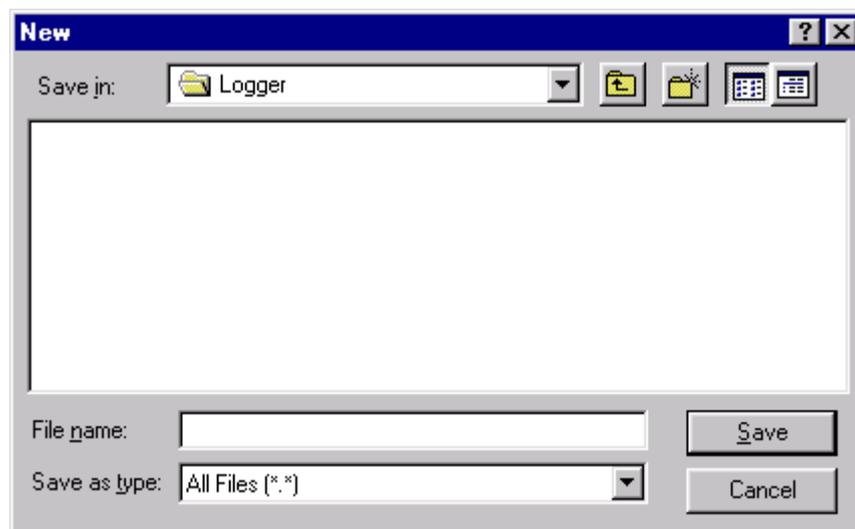
For an E-Series System Code version 3.0, then the **Real Swapped** tick box must be checked.

Due to a 16 bit limitation of the **Send** input box of Modbus Logger it is not possible to write new values into real Vysta variables, however it is possible to write to a Vysta flag variable.

## Logging data to a file

If the **Poll** function is used in conjunction with the **Log** function the data will be logged in a Delimited file.

Before selecting the **Log** function, a (new) file must be created to store the data. To create a new file, click the **File** pull down menu and select **New**. The New dialogue box will appear.



In the **File name** field enter a name for the file. An extension is not necessary. Then click the **Save** button.

Click **Poll** and click **Log** to begin logging the data to the file. Alternatively **Log Changes Only** can be checked also, and this limits the size of the data file. Once monitoring is complete de-select the **Log** function. The data file can now be opened in an Excel spreadsheet for further analysis or graphing.

If logging is initiated before a file has been opened, Modbus Logger will prompt for a new file to be opened. If logging is subsequently stopped and started again, the last file used will be added to, unless a new file is created.

This page intentionally left blank

This page intentionally left blank