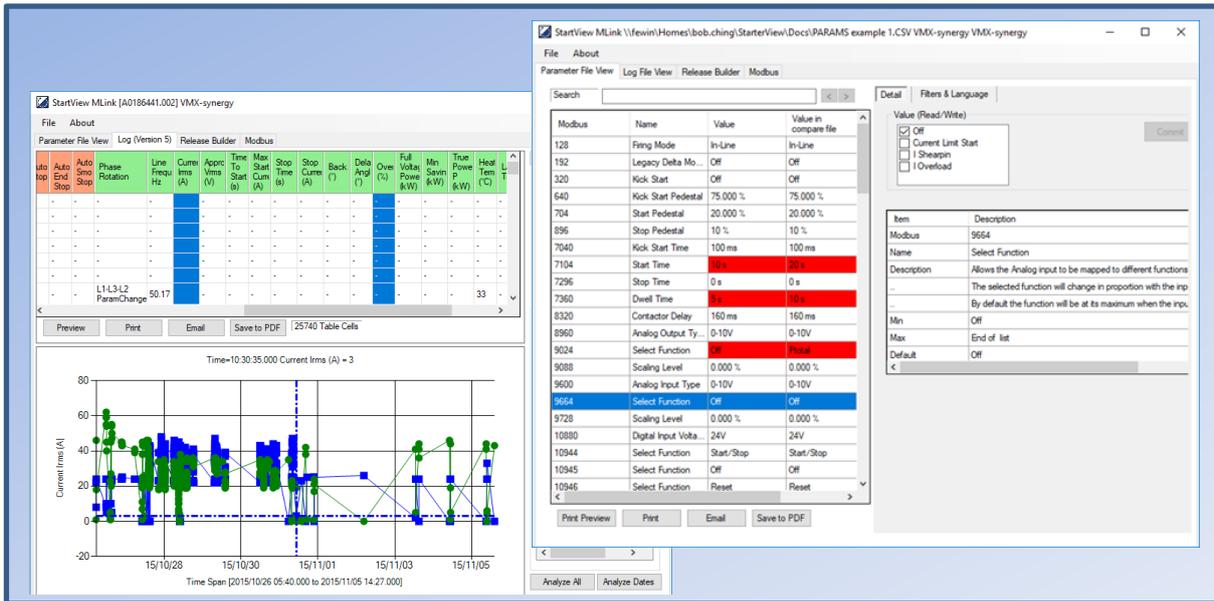


Innovation in soft start technology



The screenshot displays the StartView MLink software interface. On the left, there is a parameter table with columns for various motor and control parameters. Below this table is a graph titled "Time=10:30:35.000 Current I rms (A) = 3". The graph plots current in Amperes (A) on the y-axis (ranging from -20 to 80) against time on the x-axis (ranging from 15/10/26 to 15/11/05). The data points are represented by blue and green markers connected by lines, showing fluctuations in current over time.

On the right side of the interface, there is a "Modbus" parameter list table. The table has columns for Modbus address, Name, Value, and Value in compare file. Below this table is a "Detail" panel with "Filters & Language" and "Value (Read/Write)" options. At the bottom of the interface, there are buttons for "Analyze All" and "Analyze Dates".

Modbus	Name	Value	Value in compare file
128	Firing Mode	In-Line	In-Line
152	Legacy Delta Mo...	Off	Off
320	Kick Start	Off	Off
640	Kick Start Pedestal	75.000 %	75.000 %
704	Start Pedestal	20.000 %	20.000 %
896	Stop Pedestal	10 %	10 %
7040	Kick Start Time	100 ms	100 ms
7104	Start Time	10 s	20 s
7296	Stop Time	0 s	0 s
7360	Dwell Time	0 s	10 s
8320	Contactor Delay	160 ms	160 ms
8960	Analog Output Ty...	0-10V	0-10V
9024	Select Function	Off	Phase
9088	Scaling Level	0.000 %	0.000 %
9600	Analog Input Type	0-10V	0-10V
9664	Select Function	Off	Off
9728	Scaling Level	0.000 %	0.000 %
10880	Digital Input Volta...	24V	24V
10944	Select Function	Start/Stop	Start/Stop
10945	Select Function	Off	Off
10946	Select Function	Reset	Reset

StartView MLink

USER MANUAL

StartView MLink User Manual

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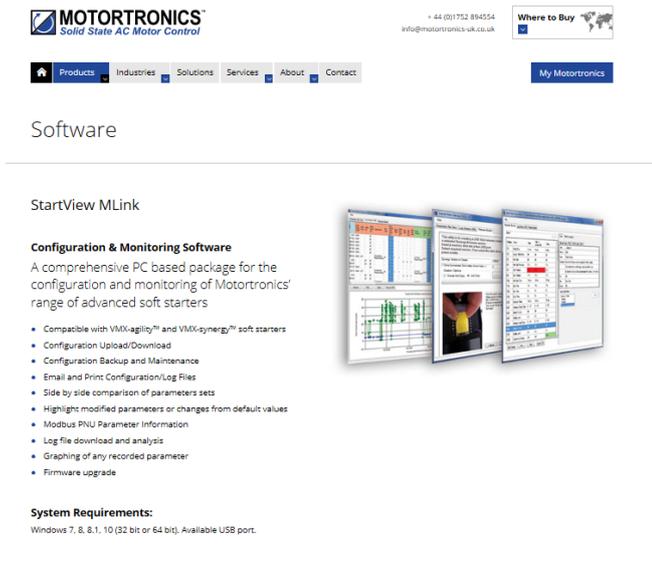
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Installation

 **Remove any existing StartView MLink installations:** Use the Windows® ‘add/remove’ programs feature to remove any existing versions.

Download the Install Package:

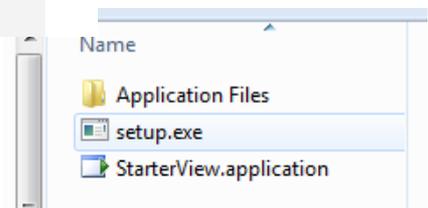
Available from <https://www.motortronics-uk.co.uk/software/>



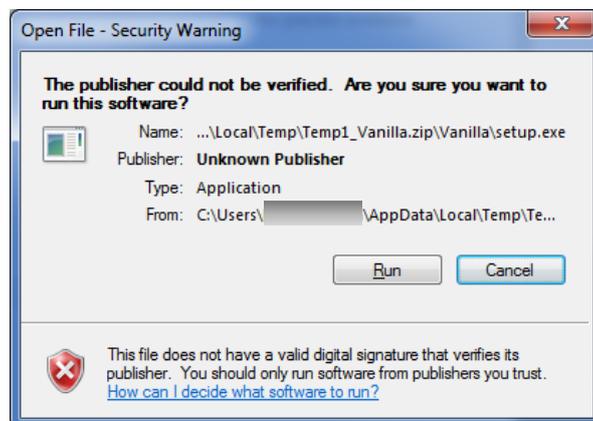
The screenshot shows the Motortronics website's 'Software' section. It features the company logo, contact information, and a navigation menu. The 'StartView MLink' product is highlighted, with a description: 'Configuration & Monitoring Software. A comprehensive PC based package for the configuration and monitoring of Motortronics' range of advanced soft starters'. A list of features includes compatibility with VMX-agility™ and VMX-synergy™ soft starters, configuration upload/download, backup and maintenance, email and print configuration/log files, side-by-side comparison of parameter sets, highlighting modified parameters, Modbus PNU parameter information, log file download and analysis, graphing of recorded parameters, and firmware upgrade. System requirements are listed as Windows 7, 8, 8.1, 10 (32 bit or 64 bit) and an available USB port. A 'Download' button is circled in red, with a note: 'Download here or contact your distributor for a pre-loaded USB flash drive'.

Download the installation file to a location of choice.

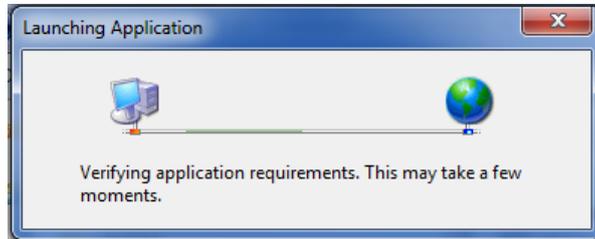
Once the download is complete double-click the ‘zip’ file (StartView MLink_ * _ * _ * _ *). Double click ‘setup.exe’ in the window that follows.



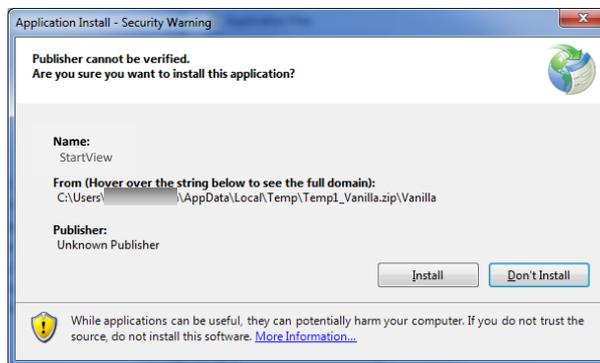
The following dialogue screen is displayed. Click ‘Run’ to continue.



Installation (continued)

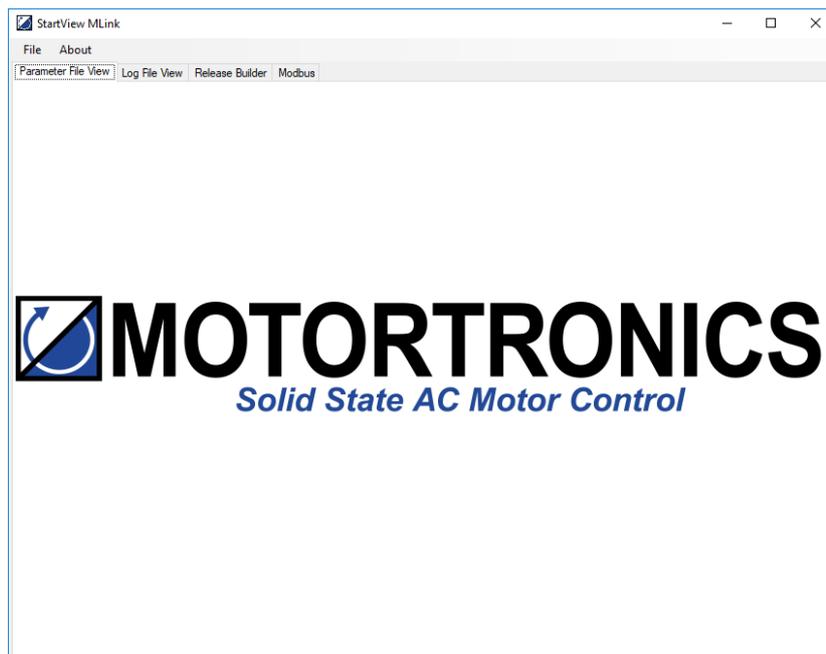


A Security Warning will appear quoting the destination of the package. Ignore this by pressing install.



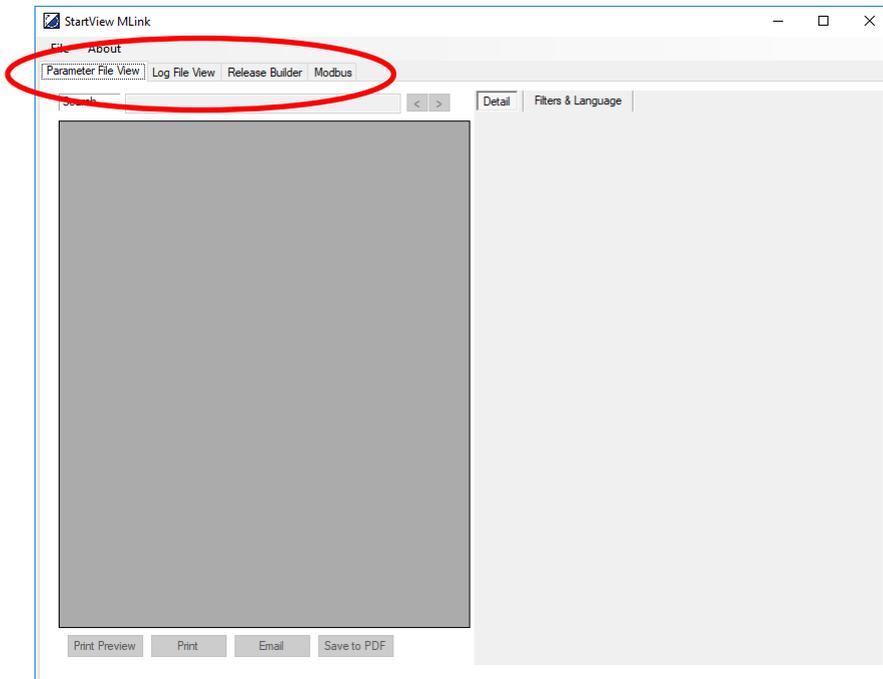
Once the installation is complete, StartView MLink will run automatically for the first time.

StartView MLink opens with the following screen.



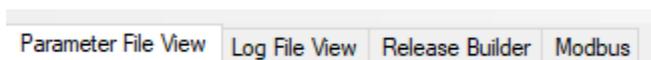
Using StartView MLink

Clicking the image or loading a file will reveal the primary user interface:



The main function blocks; Parameter File Viewer, Log File Viewer, Release Builder and Modbus are selected using the indicated Tabs.

Parameter Viewer and Editor



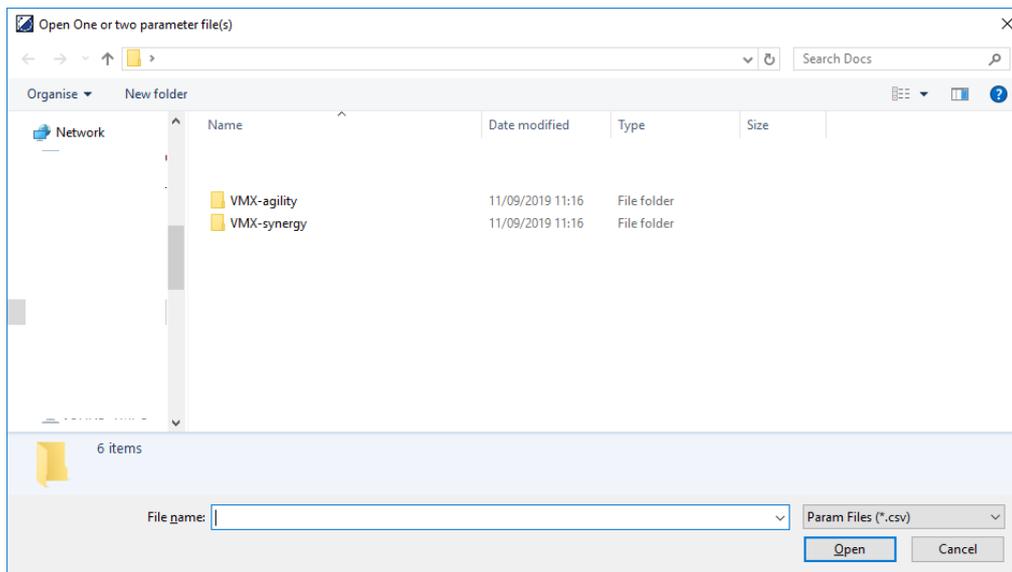
Parameter files are CSV (comma separated value) files that contain all the parameter settings from the soft starter. Both VMX-synergy™ and VMX-agility™ soft starters can create parameter files. See the relevant section from the soft starter User Guide for details on downloading the parameter file to USB flash memory.

Although containing all the parameter data, the CSV file is complex in form and is difficult to decode without significant manipulation and understanding of the data. StartView MLink serves to organise the data into a 'user friendly' tabular form for subsequent review or editing. Edited parameters can be saved to USB flash memory and subsequently uploaded to a soft starter or exported in PDF format.

Using StartView MLink (continued)

Opening Parameter Files

Parameter files can be loaded into the viewer by either using the File/Open/Parameter menu or by 'dragging and dropping' a file into the application window.



On the initial run of StartView MLink, the default path will be installed program folder with example parameter files. Use the open dialog to navigate to any accessible folder or drive (i.e., a USB flash drive) to load stored parameter files.



Note: This dialog can be used to load any file type of CSV file, including those that are not valid parameter files. Loading these may cause the program to crash.

Parameter View Layout

The viewer consists of two resizable panes: **Left-hand pane**



Parameter search

Modbus	Name	Value	compare file	Default
128	Firing Mode	In-Line	In-Line	In-Line
192	Legacy Delta Mo...	Off	Off	Off
320	Kick Start	Off	Off	Off
640	Kick Start Pedestal	75 %	75 %	75 %
704	Start Pedestal	20 %	19 %	20 %
896	Stop Pedestal	0 %	0 %	0 %
7040	Kick Start Time	100 ms	100 ms	100 ms
7104	Start Time	10 s	20 s	10 s
7296	Stop Time	0 s	0 s	0 s
7360	Dwell Time	5 s	10 s	5 s
8320	Contactor Delay	160 ms	160 ms	160 ms
8960	Analogue Output ...	0 - 10V	0 - 10V	0 - 10V
9024	Select Function	Off	Ptotal	Off
9088	Scaling Level	0 %	0 %	0 %
9600	Analogue Input T...	0 - 10V	0 - 10V	0 - 10V
9664	Select Function	Off	Off	Off
9728	Scaling Level	0 %	0 %	0 %

Data output function

Print Preview Print Email Save to PDF

Using StartView MLink (continued)

Right-hand pane – Detail Tab

Parameter detail

Item	Description
Modbus	7040
Name	Kick Start Time
Description	Time that the torque pulse is applied to load
..	Increase to provide more torque if the load fails to break away.
..	Decrease if the motor accelerates too quickly.
Min	10
Max	2000
Default	100

If the parameter value is 'read/write', the value may be edited and saved

Right-hand pane – Filters & Language Tab

Parameter display selection buttons

Language selection

Using StartView MLink (continued)

Working with Parameter View

Table Values

One or two parameter files may be loaded into the viewer at one time. With one file loaded 5 columns are shown:

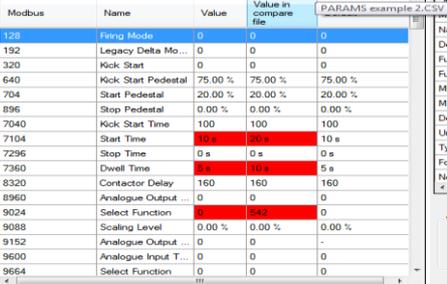
Modbus: displays the Modbus address number for each parameter. With VMX-synergy™ files only, hovering over each of the Modbus cells will show the equivalent Profibus address and sub-index.

Name: displays the name for the parameter. Note that this is supplied using a translation table and allows for other languages selected from the Filters & Language tab.

Value: displays the values assigned to each parameter followed by the fourth column (head Default) containing the default values. If the value differs from the default the default cells background is painted green to highlight the difference.

Value in compare file:

If two files are loaded together, an extra column is inserted between “Value” and “Default”. Where there are differences between a parameter headed “Value” and “Value in compare file”, the two cells will be painted red to highlight the difference.



Modbus	Name	Value	Value in compare file	PARAMS example 2.CSV
128	Finng Mode	0	0	0
192	Legacy Delta Mo...	0	0	0
320	Kick Start	0	0	0
640	Kick Start Pedestal	75.00 %	75.00 %	75.00 %
704	Start Pedestal	20.00 %	20.00 %	20.00 %
896	Stop Pedestal	0.00 %	0.00 %	0.00 %
7040	Kick Start Time	100	100	100
7104	Start Time	20 s	10 s	10 s
7296	Stop Time	0 s	0 s	0 s
7360	Dwell Time	5 s	5 s	5 s
8320	Contactor Delay	160	160	160
8960	Analogue Output ...	0	0	0
9024	Select Function	0	512	0
9088	Scaling Level	0.00 %	0.00 %	0.00 %
9152	Analogue Output ...	0	0	-
9600	Analogue Input T...	0	0	0
9664	Select Function	0	0	0

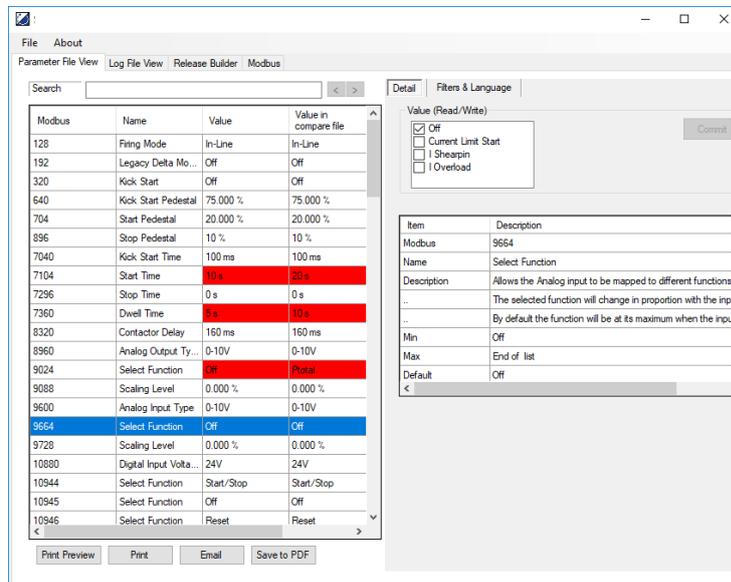
Detail Tab

Selecting a parameter in the table view by clicking any cell in a row will cause the Detail tab, in the right pane, to populate with additional detail for that parameter.

The Value panel, at the top of the Detail tab, shows the current value of the select parameter and indicates it is Read only or Read/Write in nature. If it is Read/Write, then the value can be changed. The way in which the parameter can be edited is dependent of the type of the parameter. If it is a simple number then that can be edited using the keyboard number keys, whereas enumerated values are changed by selecting named values check-box in a drop-down list. Read only parameters cannot be edited.

Pressing commit will copy it to the main table. If it is not committed, the new value will be lost when the parameter selection is changed.

Using StartView MLink (continued)



The detail is derived from a database file which is part of the application. Because the same file is used to generate the parameter section of the soft starter's manual then only the parameters included in the manual will have data shown for them. Within the detail table both the Modbus and Name are the same as shown in the main table. The Description explains the parameter. Min, Max, Default, and Units are all self-explanatory.

The Value panel, at the top of the Detail tab, shows the current value of the selected parameter and indicates Read only or Read/Write attributes. If it is Read/Write, the value may be changed. The way in which the parameter can be edited is dependent on the type of parameter. Numeric can be edited using the keyboard, whereas enumerated values are changed by selecting named values check-box in a drop-down list. Read only parameters cannot be edited.

Pressing commit will copy the value to the main table. If not committed, the new value will be lost when the parameter selection is changed.

Filter and Language Tab

The tab has two functions.

Filter: By using the eight buttons in the 'Group' panel, it is possible to filter the parameter data by the functional menu categories of the soft start. The 'Permission' group filters by parameter attribute. The remaining two check boxes allow the display of parameters that either, do not agree with the default values and/or not match the values of another loaded file (when two parameter files are loaded).

Using StartView MLink (continued)

Language: Allows the name column of the parameter data table view to be displayed in the selected language. Note that only the parameters accessible in the soft starter user interface will have translations, otherwise they will be rendered in English.

Search Function

By typing a search phrase into the search field, any parameter rows that contain a name field, matching (or partially matching) the phrase, will be highlighted in the table.

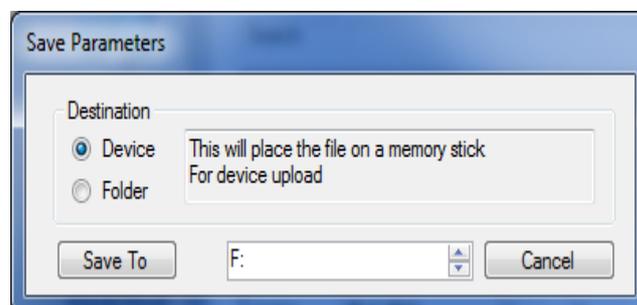
Search < >

Modbus	Name	Value	Value in compare file
320	Kick Start	0	0
321	Kick Start	0	0
640	Kick Start Pedestal	75.00 %	75.00 %
641	Kick Start Pedestal	75.00 %	75.00 %
704	Start Pedestal	20.00 %	20.00 %
705	Start Pedestal	20.00 %	20.00 %
896	Stop Pedestal	0.00 %	0.00 %
897	Stop Pedestal	0.00 %	0.00 %
7040	Kick Start Time	100	100
7041	Kick Start Time	100	100
7104	Start Time	10 s	20 s
7105	Start Time	10 s	10 s

Saving the Parameter File

A parameter file may be saved using the **File > Save Parameters** function.

A dialog appears giving destination options of Device or Folder. If Device is selected, the parameter file is copied to a USB flash memory stick (if attached to the PC). When the “Save To” button is pressed the file will be copied to the USB memory into a hidden folder with the name PARAMS.CSV. This is the folder and file name required by the soft starter for the upload parameter function.



Using StartView MLink (continued)

If the Destination of “Folder” is selected, then “Save” will save over the original loaded file. “Save As” will allow saving to any valid location. This may be used to archive working parameter sets.

Save Parameters

Destination

Device
 This will place the file into a selected folder
Not immediately for device upload

Folder
 This will place the file into a selected folder
Not immediately for device upload

Print, Email and PDF

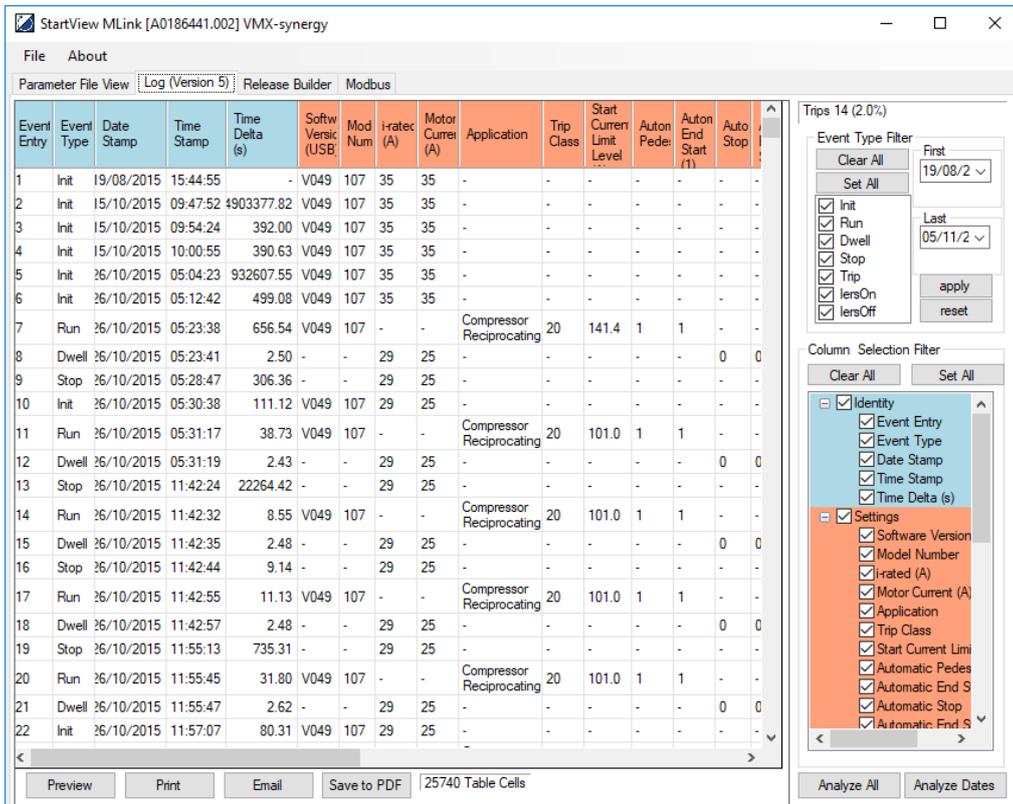
The four buttons under the data table provide various output functions for the current table. Note: If the table is large, this process may take some time to complete.

10944	Select Function	Start/Stop	Start/Stop
10945	Select Function[1]	Off	Off
10946	Select Function[2]	Reset	Reset
11264	High Input = 1 Se...	Off	Off

Using StartView MLink (continued)

Log File Viewer

A Log file contains a list of time tagged events that have occurred during operation of the soft starter. Log files comprise comma delimited values (CSV) that can be examined using a simple text or spreadsheet editor. However, like the parameter files, the CSV file is complex in form and is difficult to decode without significant manipulation and understanding of the data. The Log File Viewer intelligently decodes each event such that the user can filter events (rows) or event values (columns) to simplify interpretation.



Event Entry	Event Type	Date Stamp	Time Stamp	Time Delta (s)	Softw Versic (USB)	Mod Num	i-rate (A)	Motor Curren (A)	Application	Trip Class	Start Curren Limit Level	Auton Pedes	Auton End Start (1)	Auto Stop
1	Init	19/08/2015	15:44:55	-	V049	107	35	35	-	-	-	-	-	-
2	Init	15/10/2015	09:47:52	4903377.82	V049	107	35	35	-	-	-	-	-	-
3	Init	15/10/2015	09:54:24	392.00	V049	107	35	35	-	-	-	-	-	-
4	Init	15/10/2015	10:00:55	390.63	V049	107	35	35	-	-	-	-	-	-
5	Init	26/10/2015	05:04:23	932607.55	V049	107	35	35	-	-	-	-	-	-
6	Init	26/10/2015	05:12:42	499.08	V049	107	35	35	-	-	-	-	-	-
7	Run	26/10/2015	05:23:38	656.54	V049	107	-	-	Compressor Reciprocating	20	141.4	1	1	-
8	Dwell	26/10/2015	05:23:41	2.50	-	-	29	25	-	-	-	-	-	0
9	Stop	26/10/2015	05:28:47	306.36	-	-	29	25	-	-	-	-	-	-
10	Init	26/10/2015	05:30:38	111.12	V049	107	29	25	-	-	-	-	-	-
11	Run	26/10/2015	05:31:17	38.73	V049	107	-	-	Compressor Reciprocating	20	101.0	1	1	-
12	Dwell	26/10/2015	05:31:19	2.43	-	-	29	25	-	-	-	-	-	0
13	Stop	26/10/2015	11:42:24	22264.42	-	-	29	25	-	-	-	-	-	-
14	Run	26/10/2015	11:42:32	8.55	V049	107	-	-	Compressor Reciprocating	20	101.0	1	1	-
15	Dwell	26/10/2015	11:42:35	2.48	-	-	29	25	-	-	-	-	-	0
16	Stop	26/10/2015	11:42:44	9.14	-	-	29	25	-	-	-	-	-	-
17	Run	26/10/2015	11:42:55	11.13	V049	107	-	-	Compressor Reciprocating	20	101.0	1	1	-
18	Dwell	26/10/2015	11:42:57	2.48	-	-	29	25	-	-	-	-	-	0
19	Stop	26/10/2015	11:55:13	735.31	-	-	29	25	-	-	-	-	-	-
20	Run	26/10/2015	11:55:45	31.80	V049	107	-	-	Compressor Reciprocating	20	101.0	1	1	-
21	Dwell	26/10/2015	11:55:47	2.62	-	-	29	25	-	-	-	-	-	0
22	Init	26/10/2015	11:57:07	80.31	V049	107	29	25	-	-	-	-	-	-

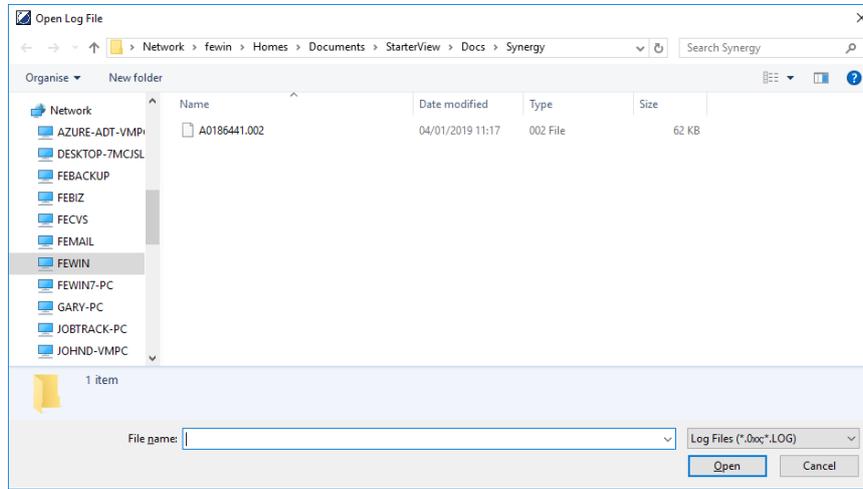
Opening Log Files

Parameter files can be loaded into the viewer by either using the File > Open > Log menu or by dragging and dropping a file onto the application.

On the first run of StartView MLink the default path will be installed program folder with example log files. Use the open dialog to navigate to any accessible folder or drive (i.e., a USB flash drive) to load other stored log files.

Unlike the parameter viewer, only one log file can be loaded at a time.

Using StartView MLink (continued)



Note This dialog can be used to load any file type of CSV file, including those that are not valid log files. Loading these may cause the program to crash.

Log File View Layout

The viewer consists of two resizable panes:

Left pane:

Log file data

Ratec (A)	Motor Curren (A)	Application	Trip Class	Start Curren Limit Level (A)	Auton Pedes	Auton End Start (1)	Auto Stop	Auto End Stop	Auto Smo Stop	Phase Rotation	Line Frequ Hz	Curren I rms (A)	Apprc V rms (V)	Time To Start (s)	Max Start Curren (A)	Stop Time (s)	Stop Curren (A)	Back (°)	Dele Angl (°)	Over (%)	Full Voltae Powe (kW)	Min Savin (kW)	True Powe P (kW)	Heat Tem (°C)	Last Trip
-	-	Compressor Reciprocating	20	101.0	1	1	-	-	-	L1-L3-L2	49.99	23	480	2	62	-	-	-	-	-	-	-	-	40	-
29	25	-	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-
-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	Compressor Reciprocating	20	101.0	1	1	-	-	-	L1-L3-L2	50.19	-	-	-	-	-	-	-	-	-	-	-	-	40	-
29	25	-	-	-	-	-	0	0	0	-	-	24	470	4	82	-	-	-	-	-	-	-	-	40	-
-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	Compressor Reciprocating	20	101.0	1	1	-	-	-	L1-L3-L2	49.99	-	-	-	-	-	-	-	-	-	-	-	-	45	-

Graph of selected data (optional)

Using StartView MLink (continued)

Right-pane:

Event selection filter

Event time selection filter

Column selection filter

Analysis tools

Using StartView MLink (continued)

Working with the Log File Viewer

Table Values

When the log file is loaded, the table populates with the data where each **row** represents an **event** (and the relevant data) and each **column** represents a **value type**.



Not all events share the same value types; therefore, cells may display a “-” indicating a non-valid value for that event.

Event type descriptions:

Init: The soft starter has been power cycled and has carried out an internal initialisation sequence.

Run: The soft starter has received a start command.

Dwell: The start ramp is complete, and the motor is running at full speed.

Stop: The soft starter has received a stop command.

Trip: The soft starter is in an error status (refer to relevant soft starter manual).

IERS On: The soft starter has engaged energy saving mode (VMX-synergy™ only).

IERS Off: The soft starter has dis-engaged energy saving mode (VMX-synergy™ only).

Column type descriptions:

A more detailed description of each column will be shown in a pop-up tool-tip box when the mouse cursor is hovered over the column header.

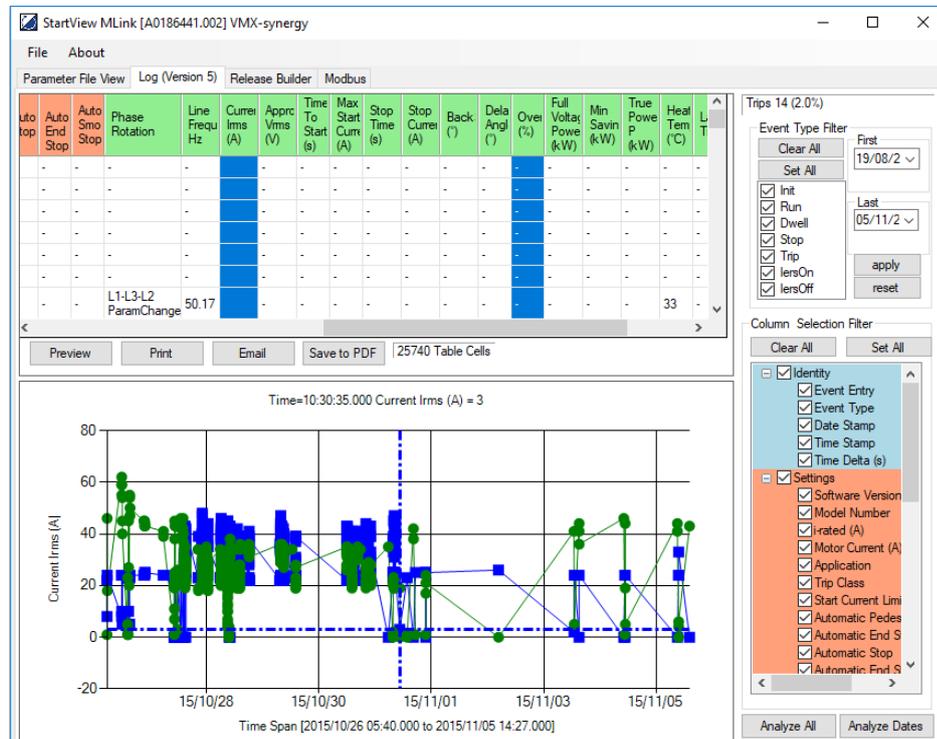
Graph Creation and Use

To create a line graph, select the required columns by clicking the required columns header(s) followed by a right click. From the pop-up click “Graph selected columns”.

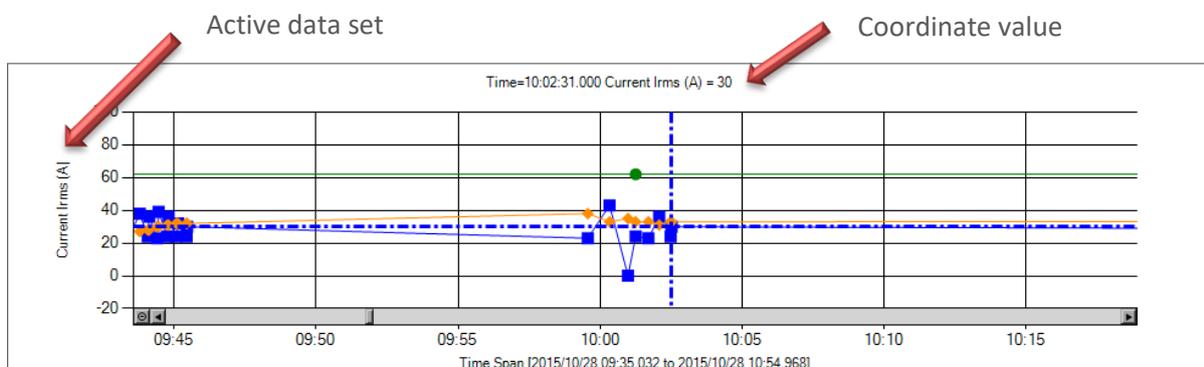
The screenshot shows the StartView MLink software interface. The main window displays a table with columns for various parameters such as Auto Stop, Phase Rotation, Line Freq, Current, Voltage, Time, Stop Time, Back, Delay, Over, Full Volt, Min Savin, True Powe, Heat Tem, and Trip. A context menu is open over the table, showing options like 'Copy to selected Clipboard' and 'Graph selected Columns'. On the right side, there is a 'Trips 14 (2.0%)' panel with an 'Event Type Filter' and a 'Column Selection Filter'.

Using StartView MLink (continued)

A graph will be created in a pane below the table containing a line trace for every selected column(s) and having a date/time X-Axis. Columns selected that do not contain numerical values will not be graphed.



Navigate through the graph data using the cross hairs placed over the currently active data line. To help discriminate data sets, each will have a different colour and the cross hairs will have the same colour as the active set. The name of the active set will appear on the Y-Axis. The current selected data point is indicated by the cross hairs placement and the coordinate value shown at the top. As the mouse cursor is moved over the graph (when the chart control is in focus), the cross hairs will snap onto the closest data coordinate to the mouse cursor, displaying the values of that coordinate.



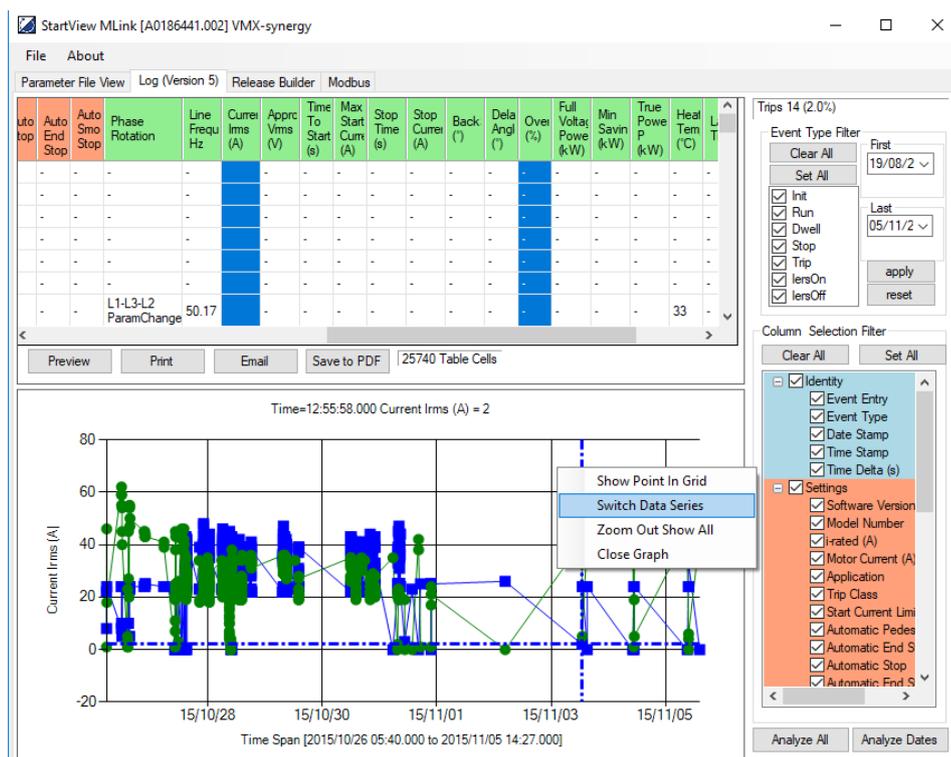
Using StartView (continued)

If there is more than one data set selected the cursor will cycle through each set by right clicking in the graph and selecting “Switch Data Series”.

To zoom in and out of the graph either use the mouse wheel or the keyboard arrow keys. By clicking on a data point, the zoom control will keep that point central. Rotate the mouse wheel upward to zoom in the X-Axis, rotate downward to zoom out. For the Y axis, use the mouse wheel with either the left mouse button pressed, or the control key pressed simultaneously. Alternatively, press and hold the control key and use the up, down, left, and right arrows on the keyboard. Up/Down for the Y-axis and Left/Right for the X-axis.

To position into the same table event row as the current cross hair position, right click and select “Show Point in Grid”.

To close the graph right click and select “Close Graph”.



Log File Analysis

Log File Analysis

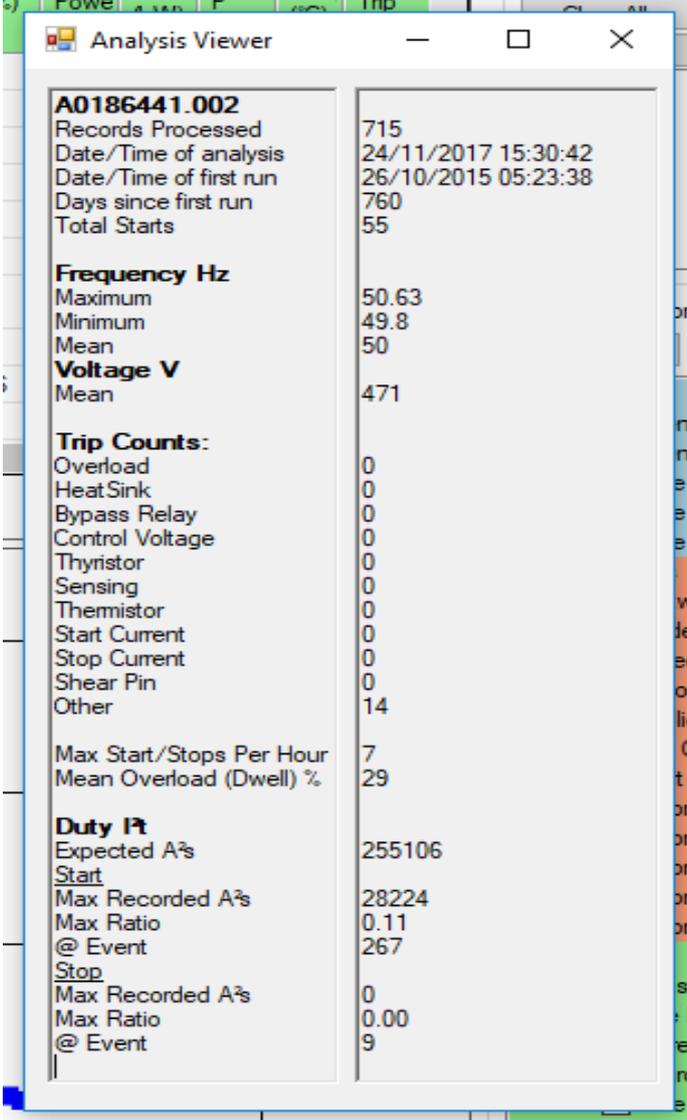
Beneath the “Column Selection Filter” panel are two analysis buttons – Analyse All and Analyse Dates.

Analyse All:

All event records of the log file will be analysed and displayed.

Analyse Dates:

Event records falling between the dates entered in the Event Type Filter panel, will be analysed and displayed.

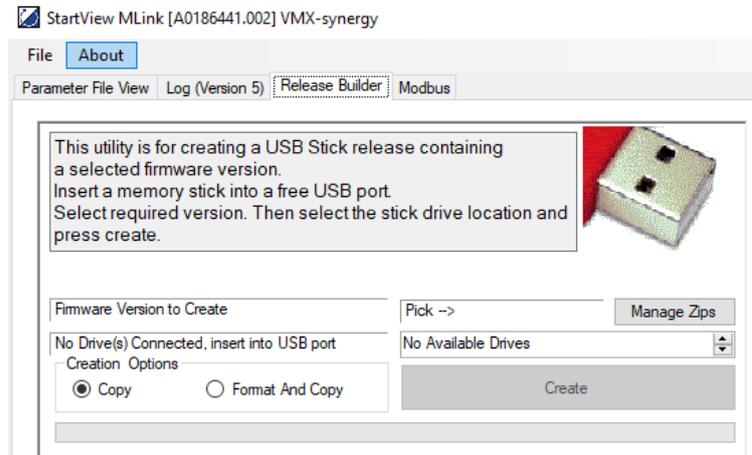


A0186441.002	
Records Processed	715
Date/Time of analysis	24/11/2017 15:30:42
Date/Time of first run	26/10/2015 05:23:38
Days since first run	760
Total Starts	55
Frequency Hz	
Maximum	50.63
Minimum	49.8
Mean	50
Voltage V	
Mean	471
Trip Counts:	
Overload	0
HeatSink	0
Bypass Relay	0
Control Voltage	0
Thyristor	0
Sensing	0
Thermistor	0
Start Current	0
Stop Current	0
Shear Pin	0
Other	14
Max Start/Stops Per Hour	7
Mean Overload (Dwell) %	29
Duty Pt	
Expected A ² s	255106
<u>Start</u>	
Max Recorded A ² s	28224
Max Ratio	0.11
@ Event	267
<u>Stop</u>	
Max Recorded A ² s	0
Max Ratio	0.00
@ Event	9

Updating Firmware

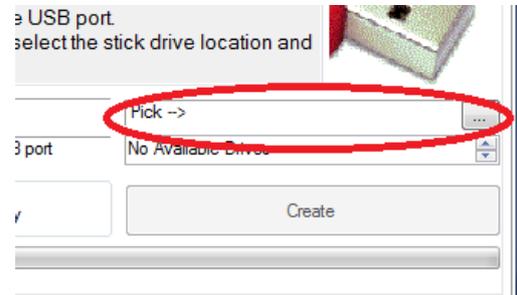
Release Builder

Release Builder is a firmware upgrade utility that assists in the preparation of an upgrade file stored on a USB flash drive ('USB stick'). Once the memory stick is prepared, a graphical guide can be used to ensure that the upgrade operation is performed correctly.



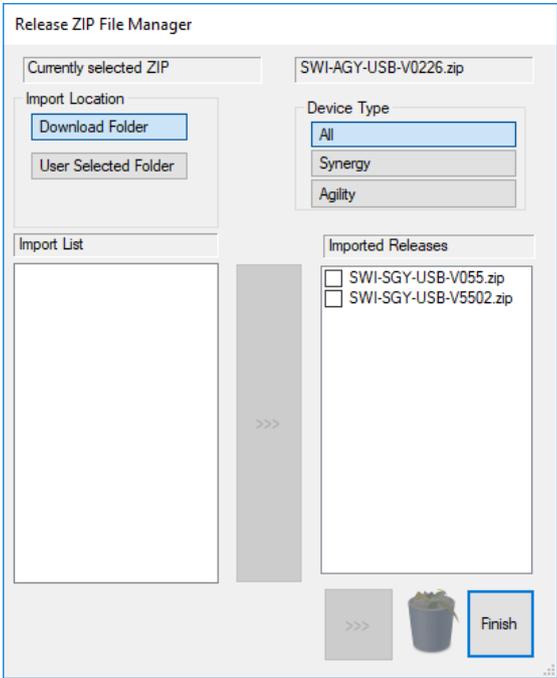
When StartView MLink is first installed there will be no ZIP file selected. This is indicated by this window.

Click the  button to proceed to the Release ZIP file manager dialogue.



The Release ZIP Manager allows the importation of firmware release packages into a library. When StartView MLink is installed that library will be empty. The latest firmware release is available from www.motortronics-uk.co.uk under the product pages. The default import location will be that selected by the "Download Folder" button. If importing from another location, select "User Selected Folder" and locate the source folder. Select the required zip file and press import to transfer into the library.

Updating Firmware (continued)



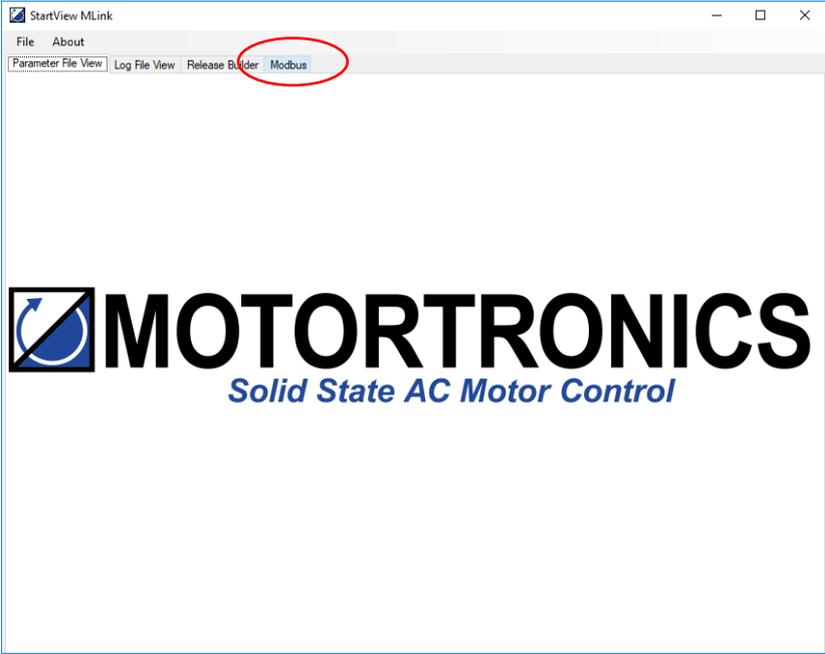
The following dialog shows the releases installed in the StartView MLink library. From the list, select the version required and click finish.



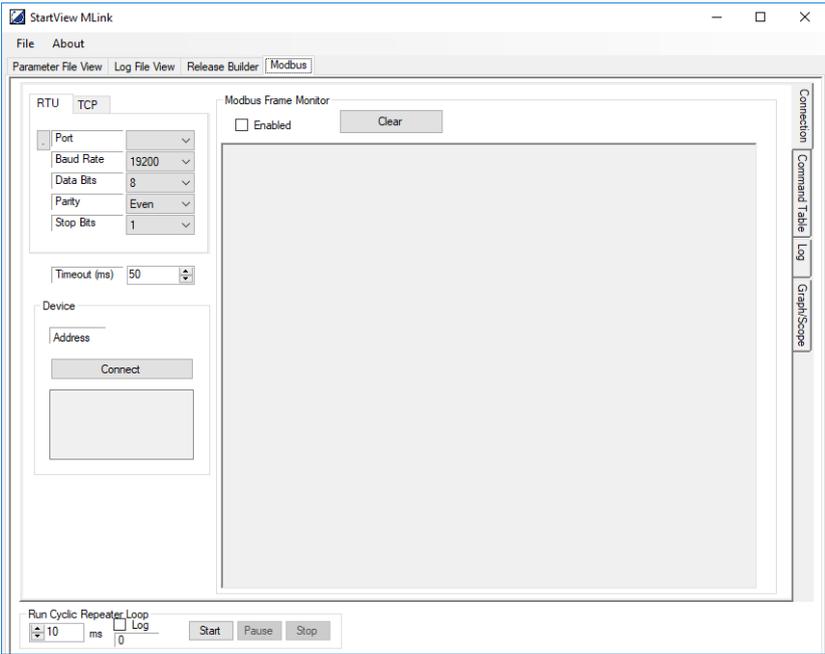
Modbus Control

Introduction

If one or more USB to RS485 cables (Motortronics UK product code VMX-SGY-040 or VMX-AGY-040) are connected to the PC, a normally hidden Modbus tab will appear. Note; the Modbus function will only function with the cables above.



The cable allows the real time interaction between StartView MLink and either VMX-synergy™ or VMX-agility™ units. Note that the cable(s) must be plugged into the PC before StartView MLink is run. Subsequent cables/devices can then be added once the Modbus tab becomes active.



Modbus Control (continued)

Modbus/Connection

The Connection tab comprises three functions:

(1) Comms allows the selection of the port and connection settings for the unit's cable. The port list in the drop down will only show the ports with a USB to RS485 cables connected. If there is a late insertion or extraction of cables, the port list can be refreshed by pressing the refresh button.

(2) The Device group enables device connection. Clicking the Connect button will force a request for the device's type and serial number. If successful, these will be displayed in the window.

Note; only one device can be connected at a time. If there is more than one device available, either on separate comms port or on the same port but with different addresses, the current connected device must be disconnected first by clicking the a button.

3) The Modbus Frame Monitor, when enabled, will show the Modbus transmission packets taking place between StartView MLink and the selected device.

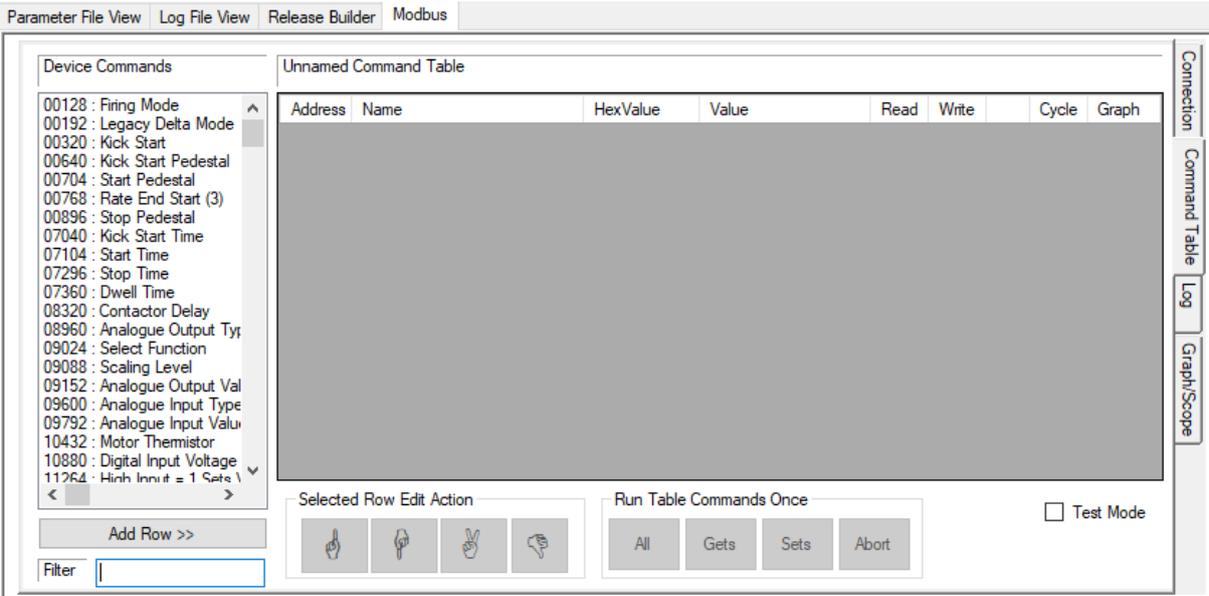
```

42207.2297608 : Writing 12 [01.03.00.0C.00.02.04.08.]
42207.4694587 : Read[01.83.02.C0.F1.]
42207.4704599 : crcs 61888 61888
42207.4799661 : Exception :Modbus error
42207.4804666 : Writing 13184 [01.03.33.80.00.02.CA.A7.]
42207.4960944 : Read[01.03.04.00.1F.F1.59.4E.5F.]
42207.4960944 : crcs 24398 24398
42207.4960944 : Writing 12800 [01.03.32.00.00.08.4A.B4.]
42207.5273457 : Read[01.03.10.00.41.00.30.00.33.00.30.00.30.00.30.00.31.00.33.E1.01.]
42207.5273457 : crcs 481 481
    
```

Modbus Control (continued)

Modbus/Command Table

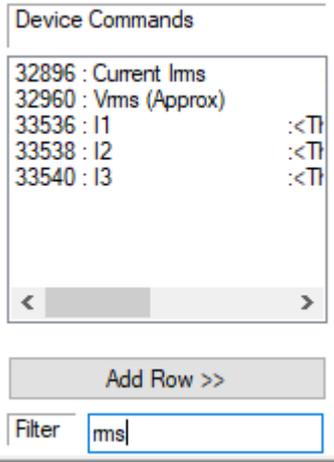
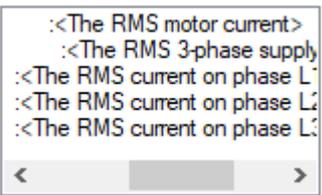
When a unit is connected, the Command Table will be populated with commands allowed for the connected device type. Note that when there is no device connected the command table is disabled, as no Device Commands are loaded.



These commands can be actioned, in real time, individually or in sequence. The tab is divided into two parts.

(1)The Device Command list may be filtered by entering a search term in the Filter field (see example with “rms entered”).

Once the required command is found, it can be selected and added to the actual Command Table by clicking the add button. Note: This example, using “rms” for a filter, I1 to I3 are shown because the description appended to these items have “RMS” in them. Use the bottom scroll bar to display the descriptions.



Modbus Control (continued)

(2) The right-hand side of the tab consists of the command table. The table is empty until commands are added, either by selecting and adding from (1) or by selecting a pre-configured table file using the file menu.

Unnamed Command Table

Address	Name	HexValue	Value	Read	Write		Cycle	Graph
32896	Current Ims			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input type="checkbox"/>	<input type="checkbox"/>
34688	True Power P			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input type="checkbox"/>	<input type="checkbox"/>
34816	Apparent Power S			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input type="checkbox"/>	<input type="checkbox"/>

Selected Row Edit Action

Run Table Commands Once

Test Mode

Command Table Column Descriptions:

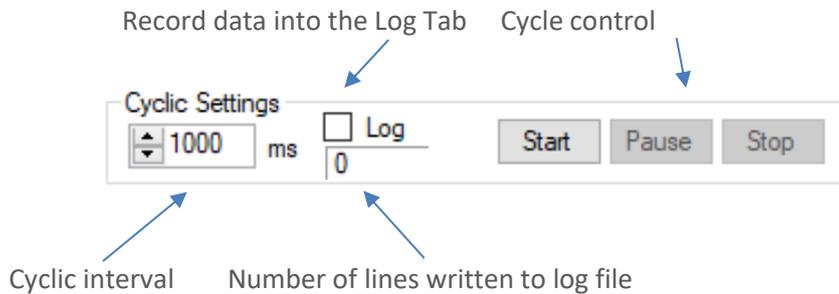
Heading	Cell function
Address	Represent the actual address of the parameter
Name	Parameter Name
Hex Value	Raw Hexadecimal value of parameter
Value	Derived (formatted) value of or for parameter. If in Write mode this can be edited by double clicking the value cell
Read	Check to select Read mode
Write	Check to select Write mode. Disabled if the Parameter is ReadOnly
blank	Contains an action button which is either cause a one shot Read or Write of the data for the selected PNU
Cycle	Read or Write parameter values in a continuous cycle (see Cyclic Settings)
Graph	Selected parameter available for graphing function when checked

Buttons action descriptions:

Selected Row Edit Action Button Group		Run Table Commands Once Button Group	
	Move select row up	All	Run all rows once
	Move select row down	Gets	Run just the Gets once
	Duplicate selected row	Sets	Run just the Sets once
	Delete select row	Abort	Abort in middle of run. Useful for long runs

Cyclic Settings

Cyclic settings are used to repeat the selected commands over a prolonged time period so their data can be logged to a CSV text output and/or graphed. Only commands with their Cycle option checked will be active during the cyclic sequence.



Log Tab

As mentioned in “Cyclic Settings” if the Log option is checked, any data recorded in a cyclic sequence will be recorded on a window on the Log Tab in a comma delimited text format. Once created, this can be exported to other applications such as Microsoft Excel to be used in a report or to be further analysed. Note also, that when connected to a VMX-agility™ soft starter an Upload button appears that will cause a predefined upload procedure to run, obtaining the internal log file via modbus from the attached unit. This can subsequently be saved and then imported into the Log File Viewer for further analysis. Note, the modbus log file download is not available with VMX-synergy™ soft starters.

Modbus/Graph (Scope)

The Graph (Scope) Tab will display cyclic data as it is collected from the connected unit. Both the Cycle and the Graph check boxes need to be selected on each command row. Either a trace or state change tag will be drawn on the graph as the data is recorded during the cycle.

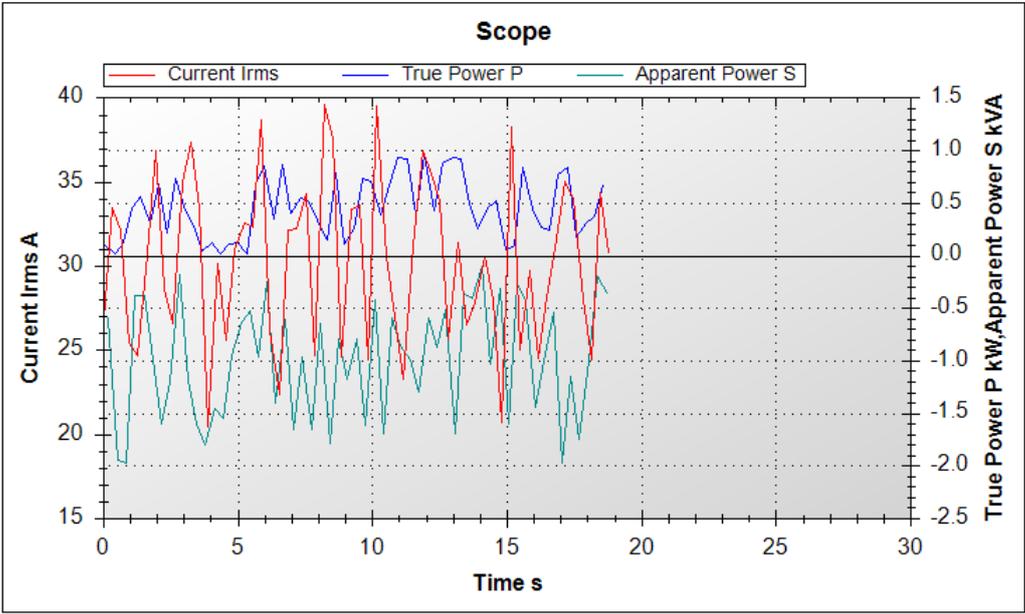
Address	Name	HexValue	Value	Read	Write		Cycle	Graph
32896	Current Ims			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
34688	True Power P			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
34816	Apparent Power S			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Modbus Control (continued)

The scope capture shown demonstrates the result of selecting three commands to query and graph data in a cyclic run. The first selected data is bound to the primary Y-Axis (Right-hand side). Any other selections will be bound to the shared secondary Y2-Axis on the right-hand side. The scaling for both axes will be automatically determined as the data is added.

Note that the graph data is stored in rolling FIFO (First in first out) buffer so that when a new value is added an old value will be deleted from the earliest entry of a full buffer.

Zooming can be achieved by moving the mouse pointer over the graph area and rolling mouse wheel. Auto Fit buttons can be used to scale the frame size around the data extent. There is also a time base control to set a fixed width of the X-axis in milli-seconds.



Test Mode

The table can be run as a sequential limit test, by selecting the Test Mode check box beneath the table. When selected more columns are added.

Unnamed Command Table

Address	Name	HexVa	Value	Read	Write		Cycle	Graph	Test	Minimum Limit	Maximum Limit	Result	Block Wait	Time Out	Time Taken ms
32896	Current Irms			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0	10000	None	<input type="checkbox"/>	0 ms	
34688	True Power P			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0	10000	None	<input type="checkbox"/>	0 ms	
34816	Apparent Power S			<input checked="" type="checkbox"/>	<input type="checkbox"/>	Get	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0	10000	None	<input type="checkbox"/>	0 ms	

Selected Row Edit Action:

Run Table Commands Once:

Test Mode

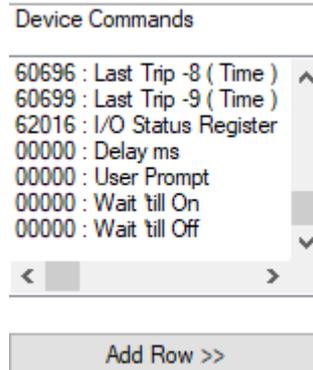
Modbus Control (continued)

The basic function of this mode is to sequentially query the device and compare the results with pre-set limits. Below explains each test columns function in detail.

Heading	Cell function
Test	When selected, the row will be included in the test.
Minimum Limit	Minimum limit to test the Value by. Double click to change.
Maximum Limit	Maximum limit to test the Value by. Double click to change.
Result	Will show either None, Pass or Fail when run.
Block Wait	The selected device address will be polled until the PNU value falls between the limits or the Time Out value expires.
Time Out	The time in milliseconds that Block Wait will run before it gives up.
Time Taken	How long, in milliseconds, the command took to run.

Special Test Functions.

In test mode several special functions are added to the bottom of the PNU table. These can be added to the command table in the same way as a PNU row.



As these are not PNUs they are all preceded by 00000 address. Their functions are:

Name	Description
Delay	When added the row value can be changed to the number of milliseconds that the row will dwell for before proceeding to the next row
User Prompt	Stops and displays a dialog box with the message specified in the value cell
Wait 'till On	Dwells on the row until the device can communicate (is on) or until timeout reached
Wait 'till Off	Dwells on the row until the device can not communicate (is off) or until timeout reached

Modbus Control (continued)

File Menu

When a device is connected the File menu includes the Open and Save Command Table functions. This allows the storage and recall of command table lists.

Appendix 1

Saving Parameter and Log Files from VMX-synergy™ and VMX-agility™ soft starters

Parameter File VMX-synergy™

To download the operational parameters of **VMX-synergy™**, attach a USB flash drive to the USB port (under the front cover just above the touchscreen).

From the Device Setting menu on the Home screen, scroll down to the third menu and select “Parameters to USB.” This will create a file called PARAMS.CSV and copy it to a PARAM folder on the stick. There is no way to rename the file during the save process. If you have another PARAMS.CSV file on the flash drive, it will be overwritten. It is suggested that parameter files be archived in a separate folder with a unique name other than PARAM. A new parameter configuration must be configured on VMX-synergy™ and saved using the method described above.

A parameter file modified and saved to a USB flash drive by StartView MLink may be uploaded to the VMX-synergy™ unit using the option to copy “Parameters From USB”

Log File

Insert a USB flash drive into the USB socket. From the Log menu on the Home screen, scroll down to the second menu and select “Download Log File.” Log files may not be uploaded to the VMX-synergy™ unit.

Parameter File VMX-agility™

To download the operational parameters of **VMX-agility™**, attach a USB flash drive to the USB port on the front cover.

From the Device menu, scroll down to “USB”. Scroll right to “To USB” and press the centre button. This will create a file called PARAMS.CSV, and copy it to a PARAM folder on the stick. There is no way to rename the file during the save process. If you have another PARAMS.CSV file on the flash drive, it will be overwritten. It is suggested that parameter files be archived in a separate folder with a unique name other than PARAM.

A parameter file modified and saved to a USB flash drive by StartView MLink, may be uploaded to an VMX-agility™ unit using the “From USB” option

Log File

Insert a USB flash drive into the USB socket. From the Log menu scroll right to “Save Log” and press the centre button. Log files may not be uploaded to the VMX-agility™ unit.



Part number **VMX-USB-008** is a USB flash drive that has been verified to work with Motortronics UK products. Other flash drives may not physically fit, or may not perform correctly

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