



1336 PLUS II Custom Firmware

EN922 - Variable Voltage Control



ATTENTION: This Custom Firmware has been designed for a specific application and differs from the standard 1336 PLUS II product offering. It must be installed and run only under this custom application. Attempting to run this Custom Firmware under any other type of application or condition could result in unpredictable and/or hazardous conditions.

Description

Custom Firmware EN922 differs from the standard 1336 PLUS II version 3.002 firmware as follows:

- Drive parameters have been added to allow the drive output voltage to be controlled independently of the commanded output frequency. All voltage parameters are accessed from the new “Voltage Control” parameter group following the “Motor Control” group.

Voltage Control	This group of parameters are used to independently control drive output voltage.		
<p>[Control Select]</p> <p>Selects the motor control method for the drive. The default setting provides full stator flux control that is suitable for most applications.</p>	<p>Parameter Number</p> <p>Parameter Type</p> <p>Factory Default</p> <p>Units</p>	<p>9</p> <p>Read and Write</p> <p>“Sens Vector”</p> <p>Display Drive</p> <p>“Economize” 0 Stator Flux control with Economize</p> <p>“Sens Vector” 1 Stator Flux control</p> <p>“Fixed Boost” 2 V/Hz w/programmed accel/run boost</p> <p>“Full Custom” 3 V/Hz with full configuration</p> <p>“Variable Voltage” 4 Independent voltage/freq control (new selection)</p>	
<p>[Minimum Voltage]</p> <p>This parameter sets the lowest voltage the drive will output when [Control Select] is set to “Variable Voltage”.</p>	<p>Parameter Number</p> <p>Parameter Type</p> <p>Display Units / Drive Units</p> <p>Factory Default</p> <p>Minimum Value</p> <p>Maximum Value</p>	<p>333</p> <p>Read and Write</p> <p>1 Volt / 4096 = Drive Rated Volts</p> <p>0 Volts</p> <p>0 Volts</p> <p>120% of Drive Rated Voltage</p>	
<p>[Maximum Voltage]</p> <p>This parameter sets the highest voltage the drive will output.</p>	<p>Parameter Number</p> <p>Parameter Type</p> <p>Display Units / Drive Units</p> <p>Factory Default</p> <p>Minimum Value</p> <p>Maximum Value</p>	<p>20</p> <p>Read and Write</p> <p>1 Volt / 4096 = Drive Rated Volts</p> <p>Drive Rated Volts</p> <p>0 Volts</p> <p>120% of Drive Rated Voltage</p>	
<p>[Volt Incr Time]</p> <p>This value determines the time it will take the drive to ramp from 0 Volts to [Maximum Voltage] when [Control Select] is set to “Variable Voltage”. The rate determined by this value and [Maximum Voltage] is linear.</p>	<p>Parameter Number</p> <p>Parameter Type</p> <p>Display Units / Drive Units</p> <p>Factory Default</p> <p>Minimum Value</p> <p>Maximum Value</p>	<p>334</p> <p>Read and Write</p> <p>0.1 Second / Seconds x 10</p> <p>10.0 Sec</p> <p>0.0 Sec</p> <p>3600.0 Sec</p>	

Voltage Control

<p>[Volt Decr Time]</p> <p>This value determines the time it will take the drive to ramp from [Maximum Voltage] to 0 Volts when [Control Select] is set to "Variable Voltage". The rate determined by this value and [Maximum Voltage] is linear.</p>	<table border="0"> <tr> <td>Parameter Number</td> <td>335</td> </tr> <tr> <td>Parameter Type</td> <td>Read and Write</td> </tr> <tr> <td>Display Units / Drive Units</td> <td>0.1 Second / Seconds x 10</td> </tr> <tr> <td>Factory Default</td> <td>10.0 Sec</td> </tr> <tr> <td>Minimum Value</td> <td>0.0 Sec</td> </tr> <tr> <td>Maximum Value</td> <td>3600.0 Sec</td> </tr> </table>	Parameter Number	335	Parameter Type	Read and Write	Display Units / Drive Units	0.1 Second / Seconds x 10	Factory Default	10.0 Sec	Minimum Value	0.0 Sec	Maximum Value	3600.0 Sec								
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<p>[Voltage Command]</p> <p>This parameter displays the commanded voltage value from the reference specified by [Volt Select].</p>	<table border="0"> <tr> <td>Parameter Number</td> <td>336</td> </tr> <tr> <td>Parameter Type</td> <td>Read Only</td> </tr> <tr> <td>Display Units / Drive Units</td> <td>1 Volt / 4096 = Drive Rated Volts</td> </tr> <tr> <td>Factory Default</td> <td>None</td> </tr> <tr> <td>Minimum Value</td> <td>0 Volts</td> </tr> <tr> <td>Maximum Value</td> <td>120% Rated Drive Output Voltage</td> </tr> </table>	Parameter Number	336	Parameter Type	Read Only	Display Units / Drive Units	1 Volt / 4096 = Drive Rated Volts	Factory Default	None	Minimum Value	0 Volts	Maximum Value	120% Rated Drive Output Voltage								
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<p>[Volt Select]</p> <p>This parameter specifies which input signal will be used as the [Volt Command] reference when [Control Select] is set to "Variable Voltage".</p>	<table border="0"> <tr> <td>Parameter Number</td> <td>337</td> </tr> <tr> <td>Parameter Type</td> <td>Read and Write</td> </tr> <tr> <td>Factory Default</td> <td>"Volt Preset"</td> </tr> <tr> <td><u>Units</u></td> <td><u>Display</u> <u>Drive</u></td> </tr> <tr> <td></td> <td>"Analog In 0" 0</td> </tr> <tr> <td></td> <td>"Analog In 1" 1</td> </tr> <tr> <td></td> <td>"Analog In 2" 2</td> </tr> <tr> <td></td> <td>"Volt Preset" 3 Refer to [Volt Preset] Value</td> </tr> <tr> <td></td> <td>"Adapter 1-6" 4-9</td> </tr> <tr> <td></td> <td>"Volt Cmd Ref" 10 Refer to [Volt Command Ref] Value</td> </tr> </table>	Parameter Number	337	Parameter Type	Read and Write	Factory Default	"Volt Preset"	<u>Units</u>	<u>Display</u> <u>Drive</u>		"Analog In 0" 0		"Analog In 1" 1		"Analog In 2" 2		"Volt Preset" 3 Refer to [Volt Preset] Value		"Adapter 1-6" 4-9		"Volt Cmd Ref" 10 Refer to [Volt Command Ref] Value
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<p>[Volt Trim Select]</p> <p>This parameter specifies which input signal will be used to trim (increase/decrease) the [Volt Command] reference. Volt trim is only active when [Volt Trim%] is set to a non-zero value.</p>	<table border="0"> <tr> <td>Parameter Number</td> <td>339</td> </tr> <tr> <td>Parameter Type</td> <td>Read and Write</td> </tr> <tr> <td>Factory Default</td> <td>"Analog In 1"</td> </tr> <tr> <td><u>Units</u></td> <td><u>Display</u> <u>Drive</u></td> </tr> <tr> <td></td> <td>"Analog In 0" 0</td> </tr> <tr> <td></td> <td>"Analog In 1" 1</td> </tr> <tr> <td></td> <td>"Analog In 2" 2</td> </tr> <tr> <td></td> <td>"Volt Preset" 3 Refer to [Volt Preset] Value</td> </tr> <tr> <td></td> <td>"Adapter 1-6" 4-9</td> </tr> <tr> <td></td> <td>"Volt Cmd Ref" 10 Refer to [Volt Command Ref] Value</td> </tr> </table>	Parameter Number	339	Parameter Type	Read and Write	Factory Default	"Analog In 1"	<u>Units</u>	<u>Display</u> <u>Drive</u>		"Analog In 0" 0		"Analog In 1" 1		"Analog In 2" 2		"Volt Preset" 3 Refer to [Volt Preset] Value		"Adapter 1-6" 4-9		"Volt Cmd Ref" 10 Refer to [Volt Command Ref] Value
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<p>[Volt Trim%]</p> <p>This parameter specifies the voltage trim percentage added/deducted from the [Voltage Command] reference. The value represents \pmVolt Trim% of drive [Rated Voltage].</p> <p>Minimum Input = -Volt Trim% Value Mid-Point Input = No Trim Maximum Input = +Volt Trim% Value</p> <p>The volt trim signal can be "inverted" by entering a negative value.</p>	<table border="0"> <tr> <td>Parameter Number</td> <td>340</td> </tr> <tr> <td>Parameter Type</td> <td>Read and Write</td> </tr> <tr> <td>Display Units / Drive Units</td> <td>1% / 4096 = 100%</td> </tr> <tr> <td>Factory Default</td> <td>0%</td> </tr> <tr> <td>Minimum Value</td> <td>-100%</td> </tr> <tr> <td>Maximum Value</td> <td>+100%</td> </tr> </table>	Parameter Number	340	Parameter Type	Read and Write	Display Units / Drive Units	1% / 4096 = 100%	Factory Default	0%	Minimum Value	-100%	Maximum Value	+100%								
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Voltage Control

[Volt Command Ref]

This parameter specifies the drive output voltage when [Volt Select] is set to "Volt Cmd Ref". The parameter value is cleared at power-up and is not retained in EEPROM storage. This parameter can be be "linked" with a SCANport communications adapter via the [Data In xx] Adapter I/O parameters.

Parameter Number(s)	341
Parameter Type	Read and Write
Display Units / Drive Units	1 Volt / 4096 = Drive Rated Volts
Factory Default	0 Volts
Minimum Value	0 Volts
Maximum Value	120% Drive Rated Volts

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