

Configuring Terminator I/O Analog Output Modules

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— Analog Output Module Control Byte

Analog Output Module Control Byte

Terminator I/O analog voltage and current output and combination analog modules require configuring via the module control byte. Analog input modules do not require configuration. The example below shows an ERM network Terminator I/O slave with a discrete input module in slot 1, an analog voltage output module in slot 2 and a combination analog current module in slot 3. Note that the module control bytes are automatically mapped to the “Y” data type registers. The bits within the module control byte are used to enable or disable the analog outputs, select bipolar or unipolar output and select the voltage or current output range.

The screenshot shows the 'ERM Workbench' interface for Slave 1. The 'I/O Module' table is as follows:

I/O Module	I/O Points	PLC Start	PLC End	V-Map	Notes
<reserved>	Slave Status Bits	X300	X317	V40414	
	ERM Status Word	X320	X337	V40415	
	Disable Slave Comm...	Y300	Y317	V40514	
	T1H-EBC				hotswap(auto),Ethernet Address[00 E0 62 40 06 34] on IPX;
Slave 1 / Slot 1	8 Discrete Input	X340	X347	V40416 Lo(0-7)	
Slave 1 / Slot 2	8 Double Word Output	V2100	V2117		32-bit Binary;
	8 Discrete Output	Y320	Y327	V40515 Lo(0-7)	
Slave 1 / Slot 3	8 Double Word Input	V2000	V2017		32-bit Binary;
	4 Double Word Output	V2120	V2137		32-bit Binary;
	8 Discrete Output	Y330	Y337	V40515 Hi(8-15)	

Annotations in the image point to the V-Map entries for the analog output modules in Slot 2 and Slot 3, specifically the 'Lo(0-7)' and 'Hi(8-15)' ranges.

Module Control Byte for each analog output module

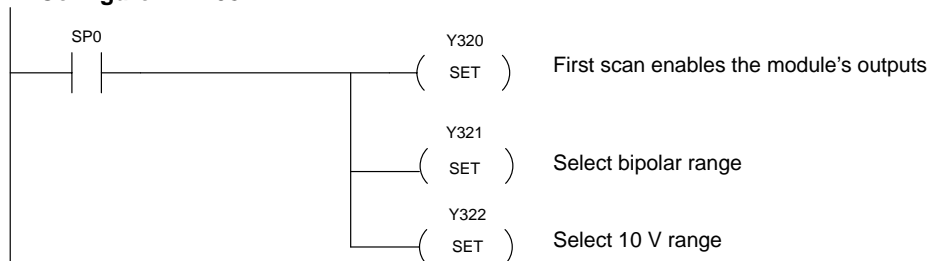
The table below defines the bits of an analog module control byte. Example “Y” bit addresses are listed for the analog module control bytes from the ERM network example on the previous page. The module control byte addresses will vary depending on the location of the analog module in the system, the number of slaves, the amount of output modules used in an ERM network and the starting discrete output address that is user specified. ERM Workbench will list the appropriate control byte for any Terminator analog module that requires configuration.

Module Control Byte of 8&16-Channel Analog Output Modules and Analog Combination Modules			
Bit Definitions		Example Bit Addresses for T1F-08DA-2	Example Bit Addresses for T1F-8AD4DA-1
Bit 0	Outputs Enable 0 = All outputs OFF 1 = All outputs Enabled	Y320	Y330
Bit 1	Unipolar / Bipolar 0 = Unipolar selected 1 = Bipolar selected	Y321	Y331
Bit 2	5V / 10V Range 0 = 5V range 1 = 10V range	Y322	Y332
Bit 3	0 – 20mA / 4–20mA Range 0 = 0 – 20mA range 1 = 4 – 20mA range	Y323	Y333
Bit 4–7	Reserved for system use	–	–

The following example ladder logic code configures the analog output and combination analog modules used in the previous examples. The T1F-08DA-2 is configured for outputs enabled with 10V bipolar range. The T1F-8AD4DA-1 is configured for outputs enabled with 4–20mA unipolar range. The RST instruction can be used to reset the bits, if necessary.

DirectSOFT32

Configure T1F-08DA-2



Configure T1F-8AD4DA-1

