

FACTS 205 Analog Modules with H2-EBC and ERM

The Host Engineering ERM (H2-ERM or H4-ERM) allows I/O in an H2-EBC base to act as remote I/O to the PLC that contains the ERM module. FACTS Analog module data in the H2-EBC base is mapped to V-memory or Discrete I/O.

The ERM Workbench software will tell you what the mapping is for each I/O module in the H2-EBC base. Once you have configured the ERM you will get a screen similar to this:

The screenshot shows the ERM Workbench software interface. At the top, it displays the title bar "ERM Module [00 E0 62 60 0D 29] - ERM Workbench". Below the title bar is a menu bar with "File", "View", and "Help". A toolbar contains various icons for file operations and help. The main interface is divided into several sections:

- Configuration Section:** Includes "Ethernet Remote Master" set to "H4-ERM", "Ethernet Address" (00 E0 62 60 0D 29), "IP" (192.168. 0.147), and "Module ID" (47). It also shows "CPU Interface" (PLC), "CPU" (450), "Last ERM Error" (no error), and "PLC Mode" (Program).
- Slave Status Section:** A grid of buttons numbered 1 through 16. Button 1 is highlighted in yellow. Below the grid, it says "Click on slave # above to see its Last Error:" and "Slave 1 - Module error:". There are buttons for "Clear Last Error Slave 1" and "Slave 1's Error List".
- Buttons:** On the right side, there are three buttons: "1. Configure ERM...", "2. Select Slaves...", and "3. Write to ERM...".
- Table:** A table at the bottom lists I/O modules and their mappings. The table has columns for "I/O Module", "I/O Points", "PLC Start", "PLC End", "V-Map", and "Notes".

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	
Slave 1	H2-EBC100				Ethernet Address[00 E0 62 00 27 C9] on IPX;
Slave 1/Slot 0	4 Word Input	V2000	V2003		16-bit Binary;
Slave 1/Slot 1	8 Word Input	V2004	V2013		16-bit Binary;
	8 Word Output	V2100	V2107		16-bit Binary;
Slave 1/Slot 2	8 Word Input	V2014	V2023		16-bit Binary;
Slave 1/Slot 3	4 Word Input	V2024	V2027		16-bit Binary;
Slave 1/Slot 4	16 Discrete Output	Y320	Y337	V40515	
Slave 1/Slot 5	4 Word Input	V2030	V2033		16-bit Binary;
	2 Word Output	V2110	V2111		16-bit Binary;
Slave 1/Slot 6	4 Word Input	V2034	V2037		16-bit Binary;
Slave 1/Slot 7	4 Word Input	V2040	V2043		16-bit Binary;

At the bottom of the window, there is a status bar with "Ready" and several buttons: "Read ERM Status : AUTO", "MODIFIED", "NUM", and "SCRL".

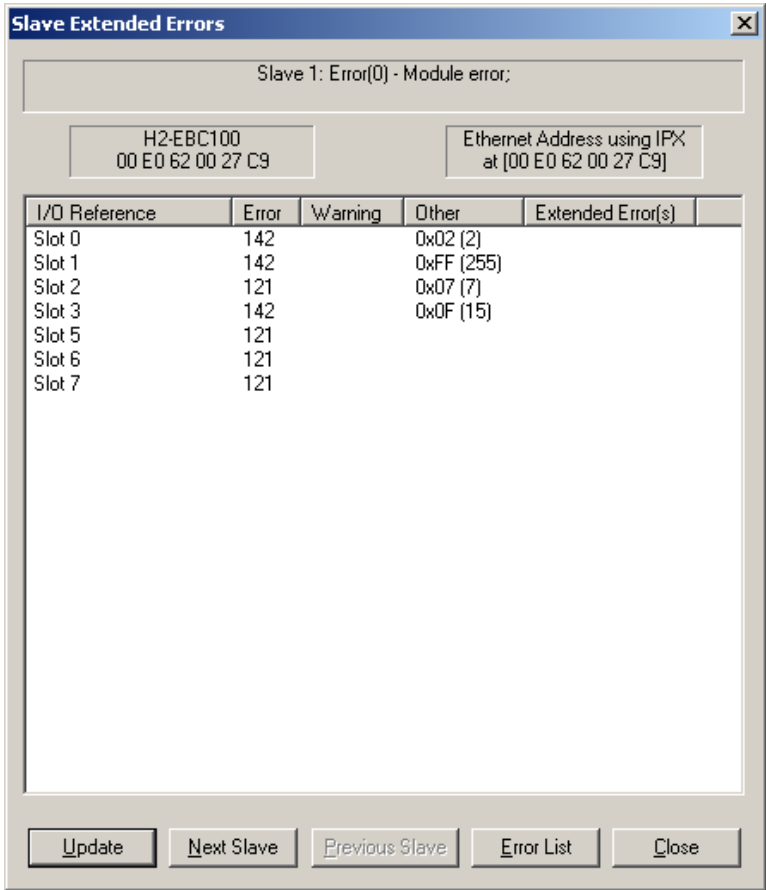
The I/O Configuration for Slave 1 in the above screen shot is:

- Slot 0 = F2-04THM
- Slot 1 = F2-8AD4DA-1
- Slot 2 = F2-08AD-1
- Slot 3 = F2-04RTD
- Slot 4 = D2-12TR
- Slot 5 = F2-4AD2DA
- Slot 6 = F2-04AD-2
- Slot 7 = F2-04AD-1

Use the addresses shown in ERM Workbench along with the following table to read/write your analog I/O with your ERM master.

DIAGNOSTICS NOTE:

Click on 'Slave 1's Error List' to see any errors associated with that slave. It should look something like this, note the 'Error' column and the 'Other' column:



Note that reading the error using ERM Workbench as shown above also clears the error if the error condition has been removed. In order to clear the error using ladder logic you would need to add logic as shown in Appendix B of the H24-ERM-M manual:

<http://www.automationdirect.com/static/manuals/h24ermm/appxb.pdf>

Part Number	Channel Data	Configuration Data	Diagnostics Data See DIAGNOSTICS NOTE above
F2-04AD-1 (L) F2-04AD-2 (L)	Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	No software configuration	No Broken Transmitter Detection If No 24VDC or No Terminal Block: All channels = 0 counts 'Error' = 121 'Other' cycles 1 thru 3
F2-08AD-1	Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8	No software configuration	Channels with broken transmitter: Channel = 0 counts 'Error' = 121 'Other' = Channel Number If No 24VDC or No Terminal Block: All channels = 0 counts 'Error' = 121 'Other' = Cycles 1 thru 7
F2-08AD-2	Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8	No software configuration	No Broken Transmitter Detection If No 24VDC or No Terminal Block: All channels = 0 counts 'Error' = 121 'Other' = Cycles 1 thru 7
F2-4AD2DA	Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 1 = Ch1 Word 2 = Ch2	No software configuration	No Broken Transmitter Detection If No 24VDC or No Terminal Block: All channels = 0 counts 'Error' = 121 'Other' = Cycles 1 thru 3
F2-8AD4DA-1	Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8 Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	Word 5 = Input Resolution Word 6 = N/A Word 7 = Track and Hold Word 8 = Not Used See 15-15 of D2-ANLG-M	Channels with broken transmitter: Channel=0 counts 'Error' = 142 'Other' = Bit On for Each Channel with Broken Transmitter If No 24VDC or No Terminal Block: All channels = 0 counts 'Error' = 142 'Other' = 0xFF

F2-8AD4DA-2	<p>Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8</p> <p>Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4</p>	<p>Word 5 = Input Resolution Word 6 = Range Selection Word 7 = Track and Hold Word 8 = Not Used</p> <p>See 16-14 and 16-15 of D2-ANLG-M</p>	<p>No Broken Transmitter Detection</p> <p>If No 24VDC or No Terminal Block: All channels = 0 counts 'Error' = 121 'Other' = 0xFF</p>
F2-04THM F2-04RTD	<p>Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4</p>	<p>No software configuration</p> <p>RTD or THM type is set jumpers.</p>	<p>Channels with broken transmitter: Channel=0 counts 'Error' = 142d 'Other' = Bit On for Each Channel with Broken Transmitter</p> <p>If No 24VDC or No Terminal Block: All channels = 0 counts 'Error' = 121 'Other' = 0x0F</p>
F2-02DA-1(L) F2-02DA-2(L)	<p>Word 1 = Ch1 Word 2 = Ch2</p>	<p>No software configuration</p>	<p>None</p>
F2-02DAS-1 F2-02DAS-2	<p>Word 1 = Ch1 Word 2 = Ch2</p>	<p>No software configuration</p>	<p>None</p>
F2-08DA-1 F2-08DA-2	<p>Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8</p>	<p>No software configuration</p>	<p>None</p>

Version History

11/13/2008 – Fixed typo in 'Word Configuration Data' for F2-8AD4DA-1 and 2. Changed 5,7,8,9 to 5,6,7,8.