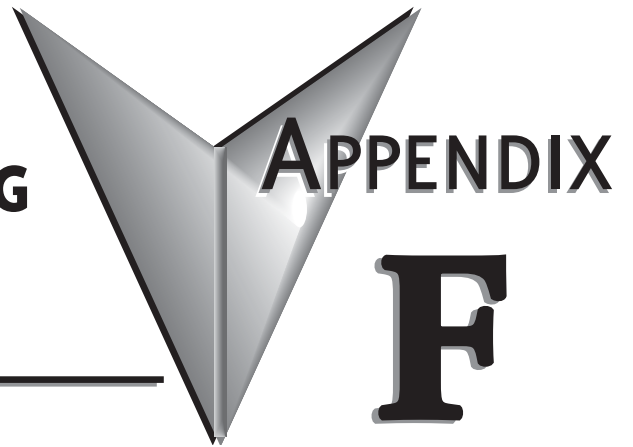


H2-EBC(100) ANALOG MODULE ADDRESSING

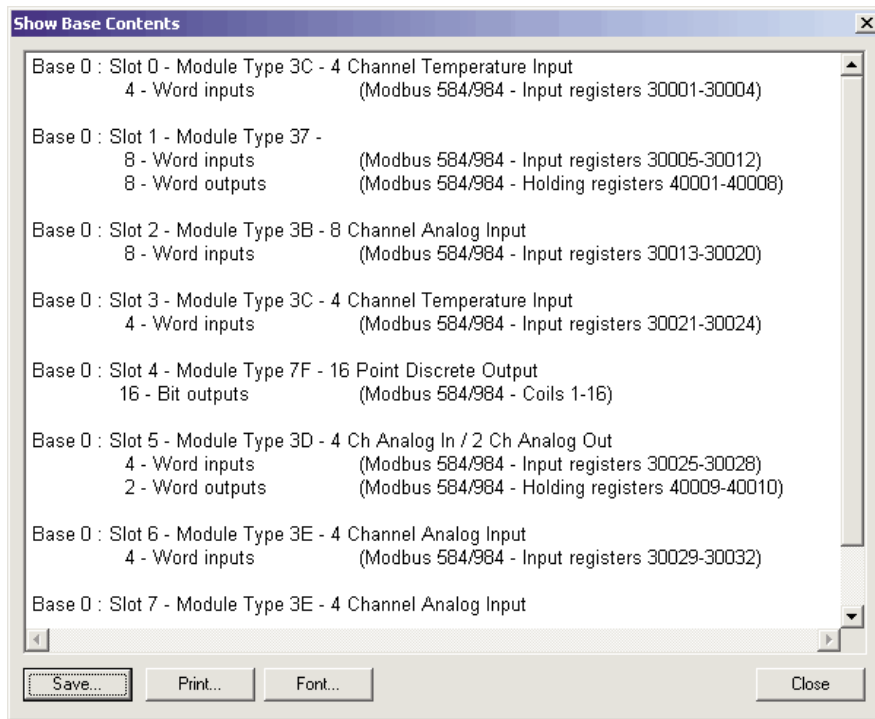


In This Appendix...

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H2-EBC(100) Analog Module Addressing H2/4-ERM(100)	F-5

H2-EBC(100) Analog Module Addressing - Modbus TCP

Using the NetEdit3 utility, find and select the IP address of the desired H2-EBC(100). Then select the 'EBC Settings' tab and the 'Show Base Contents' button to see the I/O modules in the H2-EBC(100) base and the Modbus addressing for those modules. You should see something similar to the following:



Use the addresses shown in the 'Show Base Contents' section of NetEdit3 along with the following table to access the analog I/O with your Modbus TCP master.

For example, to configure the range of the F2-8AD4DA-2 module located in Slot 1 of the system, the data provided above along with the table below would show that Modbus address 40006 is required. Also, to read the current temperature detected by Channel 3 of the RTD module in Slot 3, Modbus address 30023 is required.

H2-EBC(100) Analog Module Addressing - Modbus TCP			
Part Number	Channel Data	Module Configuration Data	Diagnostics Data
F2-04AD-1 (L) F2-04AD-2 (L)	Input Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	None	No Broken Transmitter Detection If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> All channels = 0 counts 'Error Code' = 121d* 'Info Code' = 0*

* See H2-EBC(100) System Memory Section in Chapter 4 for further details.

Appendix F: H2-EBC(100) Analog Module Addressing

H2-EBC(100) Analog Module Addressing - Modbus TCP			
Part Number	Channel Data	Module Configuration Data	Diagnostics Data
F2-08AD-1	Input Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8	None	Channels with broken transmitter: <ul style="list-style-type: none"> • Channel=0 counts • 'Error Code' =121d* • 'Info Code' = High Byte - Bit On for Each Failed Channel* If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> • All channels = 0 counts • 'Error Code' =121d* • 'Info Code' = Cycles 0100h thru 0700h*
F2-08AD-2	Input Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8	None	No Broken Transmitter Detection If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> • All channels = 0 counts • 'Error Code' =121d* • 'Info Code' = 0Cycles 0100h thru 0700h*
F2-4AD2DA	Input Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Holding Registers Word 1 = Ch1 Word 2 = Ch2	None	No Broken Transmitter Detection If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> • All channels = 0 counts • 'Error Code' =121d* • 'Info Code' = Cycles 0100h thru 0400h*
F2-8AD4DA-1	Input Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8 Holding Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	Holding Registers Word 5 = Input Resolution Word 6 = N/A Word 7 = Track and Hold Word 8 = Not Used	Channels with broken transmitter: <ul style="list-style-type: none"> • Channel=0 counts • 'Error Code' =121d or 142d* • 'Info Code' = High Byte - Bit On for Each Failed Channel* If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> • All channels = 0 counts • 'Error Code' =121d* • 'Info Code' = 0FF00h*
F2-8AD4DA-2	Input Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8 Holding Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	Holding Registers Word 5 = Input Resolution Word 6 = Range Selection Word 7 = Track and Hold Word 8 = Not Used	No Broken Transmitter Detection If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> • All channels = 0 counts • 'Error Code' =121d* • 'Info Code' = 0FF00h*

* See H2-EBC(100) System Memory Section in Chapter 4 for further details.

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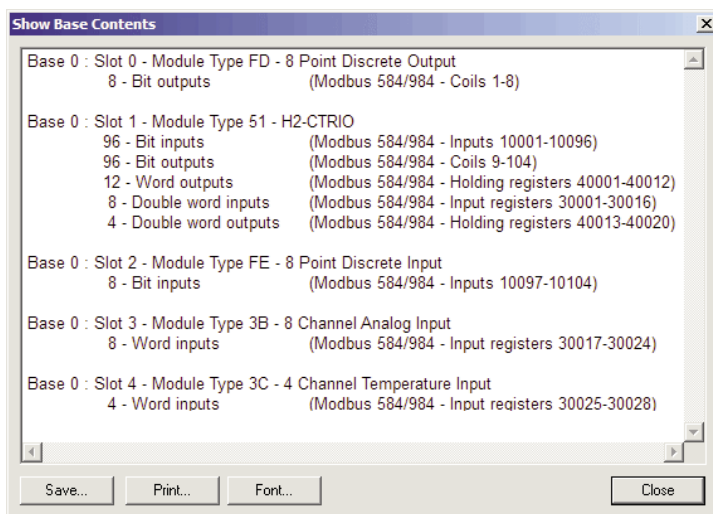
Appendix F: H2-EBC(100) Analog Module Addressing

H2-EBC(100) Analog Module Addressing - Modbus TCP			
Part Number	Channel Data	Module Configuration Data	Diagnostics Data
F2-04THM F2-04RTD	Input Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	None	Channels with broken transmitter: <ul style="list-style-type: none"> • Channel=0 counts • 'Error Code' = 142d* • 'Info Code' = High Byte - Bit On for Each Failed Channel* If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> • All channels = 0 counts • 'Error Code' =121d* • 'Info Code' = 0F00h*
F2-02DA-1(L) F2-02DA-2(L)	Holding Registers Word 1 = Ch1 Word 2 = Ch2	None	None
F2-02DAS-1 F2-02DAS-2	Holding Registers Word 1 = Ch1 Word 2 = Ch2	None	None
F2-08DA-1 F2-08DA-2	Holding Registers Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8	None	None

* See H2-EBC(100) System Memory Section in Chapter 4 for further details.

F2-04RTD Example (Module in Slot 4)

Using the 'Show Base Contents' dialog below and the 'H2-EBC(100) Analog Module Addressing - Modbus TCP' chart above, we can find the addresses that contain channel data for the F2-04RTD module in Slot 4. Using the I/O Module Status entry in the System Memory table in Chapter 4 of this manual, we can also find the location of the error words. Since there are 20 status words per slot, the first status word for slot 4 will be stored in register 37481.

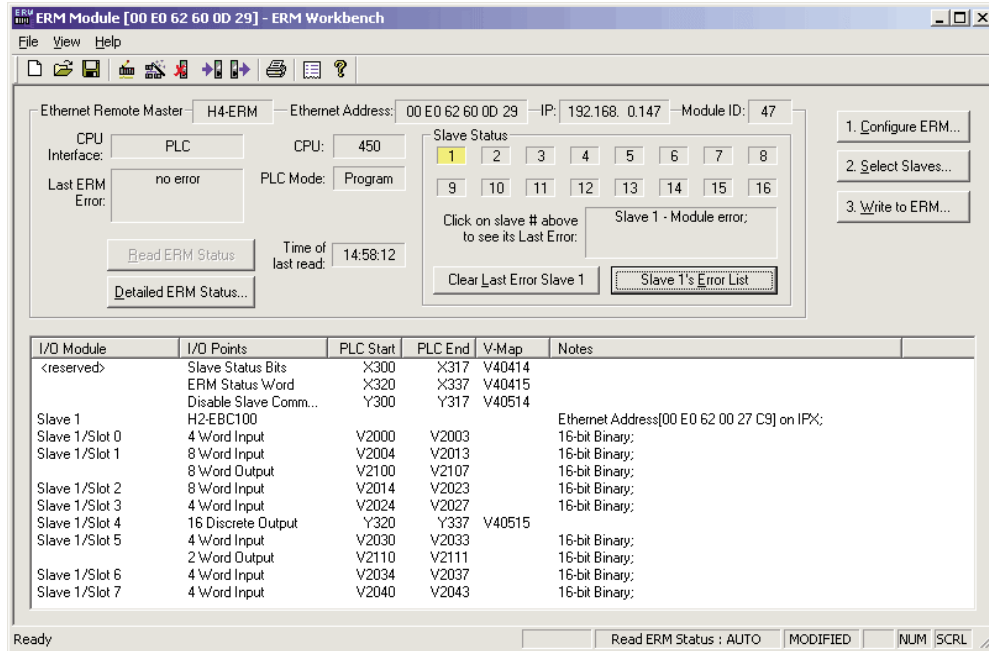


Input Channel	Address	Error Words
Channel 1	30025	<ul style="list-style-type: none"> • 37481 is the Flags Word, bitmapped error indicators • 37482 is the Error Code Word • 37483 is the Warning Code Word • 37484 is the Info Code Word, with the low byte indicating error codes and the high byte having a bit ON for each failed channel • 37485 -374820 are reserved
Channel 2	30026	
Channel 3	30027	
Channel 4	30028	

H2-EBC(100) Analog Module Addressing - H2/4-ERM(100)

When using an ERM to EBC configuration, most analog module data in the H2-EBC(100) base is mapped to V-memory or Discrete I/O. Certain Diagnostics Data is not automatically mapped. If needed, the Diagnostics Data can be accessed as described in H24-ERM-M Appendix B.

The ERM Workbench software will tell you what the mapping is for each I/O module in the H2-EBC(100) base. Once you have configured the H2-ERM(100) or H4-ERM(100) using ERM Workbench you will get a screen similar to the following:



For the example above, the I/O configuration for Slave 1 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 the ERM Workbench along with the following table to access the analog I/O with your ERM master.

For example, to configure the input resolution of the F2-8AD4DA-1 module located in Slot 1 of the system, the data provided above along with the table below would show that V memory location V2104 is required. Also, to read the current temperature detected by Channel 3 of the RTD module in Slot 3, V memory location V2026 is required.

Appendix F: H2-EBC(100) Analog Module Addressing

H2-EBC(100) Analog Module Addressing - H2-ERM(100)			
Part Number	Channel Data	Module Configuration Data	Diagnostics Data*
F2-04AD-1 (L) F2-04AD-2 (L)	Input Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	None	No Broken Transmitter Detection If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> All channels = 0 counts 'Error' = 121** 'Other' = Cycles 1 thru 3***
F2-08AD-1	Input Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8	None	Channels with broken transmitter: <ul style="list-style-type: none"> Channel=0 counts 'Error' =121** 'I/O Module Status Word 1' = Channel Number** If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> All channels = 0 counts 'Error' =121** 'Other' = Cycles 1 thru 7***
F2-08AD-2	Input Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8	None	No Broken Transmitter Detection If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> All channels = 0 counts 'Error' =121** 'Other' = Cycles 1 thru 7***
F2-4AD2DA	Input Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Output Words: Word 1 = Ch1 Word 2 = Ch2	None	No Broken Transmitter Detection If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> All channels = 0 counts 'Error' =121** 'Other' = Cycles 1 thru 3***
F2-8AD4DA-1	Input Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8 Output Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	Output Words: Word 5 = Input Resolution Word 6 = N/A Word 7 = Track and Hold Word 8 = Not Used	Channels with broken transmitter: <ul style="list-style-type: none"> Channel=0 counts 'Error' = 142** 'I/O Module Status Word 1' = Bit On for Each Channel with Broken Transmitter** If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> All channels = 0 counts 'Error' =142** 'Other' = 0xFF***

* Diagnostics Data is not automatically mapped. If needed, the Diagnostics Data can be accessed via ERM Workbench or ladder as described in H24-ERM-M Appendix B.

** See H2-EBC(100) System Memory Section in Chapter 4 for further details.

*** 'Other' is a field accessible only in ERM Workbench by clicking the button: Slave N's Error List. This field cannot be read programmatically.

Appendix F: H2-EBC(100) Analog Module Addressing

H2-EBC(100) Analog Module Addressing - H2-ERM(100)			
Part Number	Channel Data	Module Configuration Data	Diagnostics Data*
F2-8AD4DA-2	Input Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8 Output Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	Output Words: Word 5 = Input Resolution Word 6 = Range Selection Word 7 = Track and Hold Word 8 = Not Used	No Broken Transmitter Detection If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> • All channels = 0 counts • 'Error' = 121** • 'Other' = 0xFF***
F2-04THM F2-04RTD	Input Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4	None	Channels with broken transmitter: <ul style="list-style-type: none"> • Channel=0 counts • 'Error' = 142d** • 'I/O Module Status Word 1' = Bit On for Each Channel with Broken Transmitter** If No 24VDC or No Terminal Block: <ul style="list-style-type: none"> • All channels = 0 counts • 'Error' = 121** • 'Other' = 0x0F***
F2-02DA-1(L) F2-02DA-2(L)	Output Words: Word 1 = Ch1 Word 2 = Ch2	None	None
F2-02DAS-1 F2-02DAS-2	Output Words: Word 1 = Ch1 Word 2 = Ch2	None	None
F2-08DA-1 F2-08DA-2	Output Words: Word 1 = Ch1 Word 2 = Ch2 Word 3 = Ch3 Word 4 = Ch4 Word 5 = Ch5 Word 6 = Ch6 Word 7 = Ch7 Word 8 = Ch8	None	None

* Diagnostics Data is not automatically mapped. If needed, the Diagnostics Data can be accessed via ERM Workbench or ladder as described in H24-ERM-M Appendix B.

** See H2-EBC(100) System Memory Section in Chapter 4 for further details.

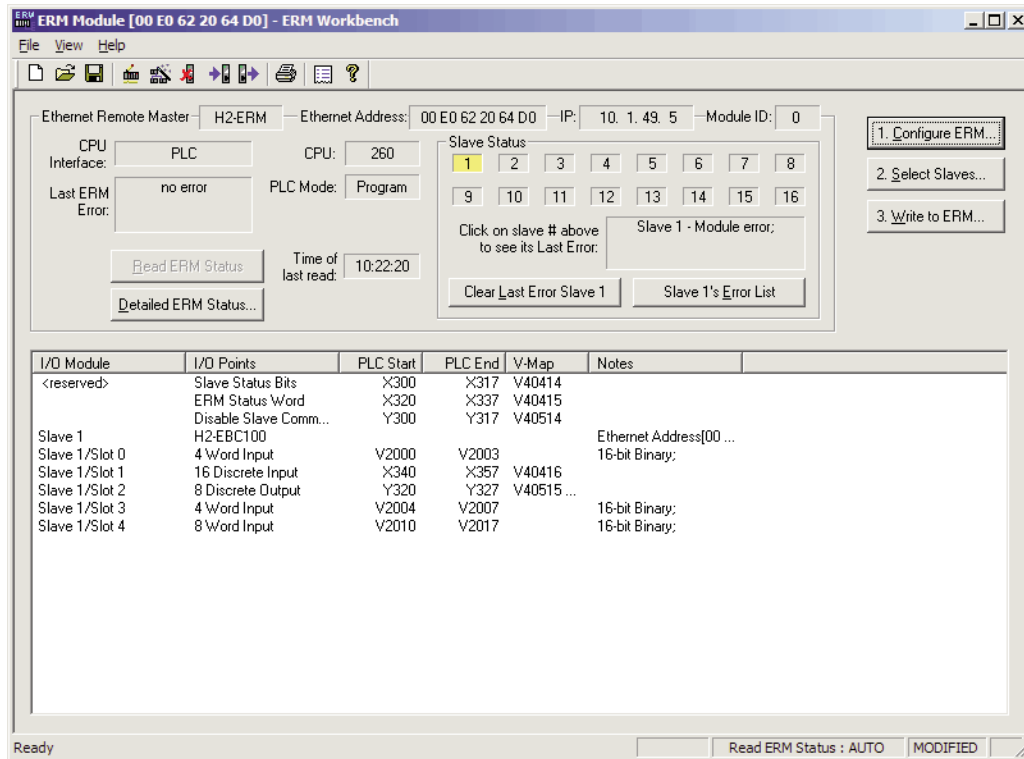
*** 'Other' is a field accessible only in ERM Workbench by clicking the button: Slave N's Error List. This field cannot be read programmatically.

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Appendix F: H2-EBC(100) Analog Module Addressing

F2-04RTD Example (Module in Slot 3)

Using the 'ERM Workbench' dialog below and the 'H2-EBC(100) Analog Module Addressing - H2-ERM(100)' chart above, we can find the addresses that contain channel data for the F2-04RTD module in Slot 3. Diagnostics Data is not automatically mapped. If needed, the Diagnostics Data can be accessed via ERM Workbench or ladder as described in H24-ERM-M Appendix B.



Input Channel	Address	Error Words
Channel 1	V2004	The Slave Diagnostic Word for slot 3 would be mapped to V + 7 (the eighth address in your chosen V-memory range). The H24-ERM-M manual Appendix B contains an example.
Channel 2	V2005	
Channel 3	V2006	
Channel 4	V2007	