YASKAWA			
Subject: EtherNet/IP Configuration	Product: MPiec Controllers	Doc#: AN.MPIEC.07 revc	
Title: Configuring an MPiec controller to o	connect to a VIPA bus coupler		

Use this document to configure an MPiec Series Controller to communicate with an EtherNet/IP VIPA bus coupler.

Recommended minimum firmware:

MPiec: 2.6.0

VIPA Bus Coupler: 2.0.10

1) In MotionWorks IEC Hardware Configuration, click on the EtherNet/IP node, and then on "Add Adapter Device".

MotionWorks IEC 2 Pro - Hardware Configuration			
File Edit Device Tuning Online Help			
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Get UNTITLED Get MyMachine Get Mechatrolink-II		Offline Connect 192	. 168 . 207 . 235
Groups TCP/IP Settings	Configure Controller as an EtherNet/IP Adapter		
EtherNet/IP	Input Assembly Instances (Originator to Target)	Output Assembly Instances (Target to Originator)	Output state when PL
Modbus/TCP	Enabled Instance Size (byt	Enabled Instance Size (byt	Retain last s
- [Slot_1]	111 128	101 128	Set all outpu
	113 128	102 256	
	114 256	104 256	
	115 128	105 128	
	116 256	106 256	
	Note: Instances are generic. Select an instance and : VO Task Assignment FastTsk Scanner Timeout Multiplier 16x	size to match your EtherNet/IP Scanner configuration.	
	Name IP Address I/O Group Task	k Status Varia Comment	
		Add Ada	upter Device
			.:
,, ,			



2) Enter a Name (optional), the bus coupler's IP address, an I/O Group name, and a Status Variable name.

Add EtherNet/IP	Adapter 🔀
Name	Vipa bus coupler
IP Address	192 . 168 . 207 . 230
I/O Group	Group1
Task	FastTsk ▼
Status Variable	Status1
Comment	
	OK Cancel

3) Select OK to close the dialog. The Status Variable will be created in the Global Variables table under the I/O Group name when the Hardware Configuration is saved.



4) Click on the name that was entered for the VIPA bus coupler, and then click on the "Add Input/Output Assembly Instance" link.

MotionWorks IEC 2 Pro - Hardware Configuratio	n		
File Edit Device Tuning Online Help			
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WINTITLED		Offline Connect 192	. 168 . 207 . 235
- Groups - TCP/IP Settings	Vipa bus coupler		
EtherNet/IP	I/O Assembly Instances		
- <mark>≉ Modbus/TCP</mark> - [Slot_1]	Type Instance # Size	(bytes Update Interval Ownership Priority Conn	ection Use Run
	•	Ш	4
	Configuration Accombly Insta	Add Input/Output Assembly	Instance
	Type Instance # Size	(bvtes ^I Ootional Data (hexadecimal)	
		Add Configuration Assembly	Instance
			.:



5) Enter the input Instance number (20), the Size in bytes (496), the Update Interval, and select Point to Point for the connection type.

Add	d EtherNet/IP A	Assembly				×
	Assembly	Input	Output	t 📃 L	Jse Run Idle	
	Instance #			Ownership		
	20			Exclusive		•
	Size (bytes)			Priority		
	496			Scheduled		-
	Update Interva	ıl (ms)		Connection T	уре	
	50			Point to Point		•
				Add	Can	icel

- 6) Click "Add" to close this dialog.
- 7) Click on the "Add Input/Output Assembly Instance" link again to add an output instance.



8) Enter the output Instance number (10), the Size in bytes (496), and the Update Interval. Select an update interval that is appropriate for the needs of the application and the IEC application task in which the bus coupler data will be used.

Ado	d EtherNet/IP A	Assembly				×
	Assembly	O Input	Output	ıt	V Use Run Id	lle
	Instance #			Owners	hip	
	10			Exclusi	ve	•
	Size (bytes)			Priority		
	496			Schedu	uled	•
	Update Interva	al (ms)		Connec	tion Type	
	50			Point to	Point	-
					Add	Cancel
				_		

9) Click "Add" to close the dialog.



10) Click on the "Add Configuration Assembly Instance" link

MotionWorks IEC 2 Pro - Hardware Configuratio	n	
File Edit Device Tuning Online Help		
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VipaMax MyMachine Mechatrolink-II Groups TCP/IP Settings EtherNet/IP Modbus/TCP [Slot_1]	Offline Control Vipa bus coupler UO Assembly Instances U/O Assembly Instance # Size (bytes) Update Interval Ownership Print Print Type Instance # Size (bytes) Update Interval Ownership Print Output 10 496 50 Exclusive Sci Image: Configuration Assembly Instance Image: Configuration Assembly Instance Image: Configuration Assembly Instance Type Instance # Size (bytes) Optional Data (hexadecimal) Add Configuration	ionnect 192 . 168 . 207 . 235
l		

11) Enter the configuration Instance number (30), and the Size in bytes (400).

Add EtherNet/IP Ass	sembly
Туре 🍥	Config
Instance #	
30	Instance # rang
Size (bytes)	
400	
Optional Data (h	exadecimal)
Add	Cancel



12) The configuration assembly is added with the optional data padded with zeros. Since we did not add any optional data, this field is padded with 400 zeros.

MotionWorks IEC 2 Pro - Hardware Configuration	1		
File Edit Device Tuning Online Help			
в€€<∠⊘∂	+*00		
WINTITLED WiMachine Mechatrolink-II Groups TCP/IP Settings Wipa bus coupler Modbus/TCP [Slot_1]	Vipa bus coupler VO Assembly Instance # Size Input 20 Output 10 Configuration Assembly Instant Type Instance # Size configuration Assembly Instant	Offline Connect (bytes] Update Interval Ownership Priority 496 50 Exclusive Scheduled 496 50 Exclusive Scheduled 10 Mdd Input/Output Ass Add Input/Output Ass Ince Add Configuration Asse	192 . 168 . 207 . 235
			.:



13) Click on the disk icon to save the Hardware Configuration. Next, click on "Controller Configuration Utilities", found on the Online menu.

MotionWorks IEC 2 Pro - Hardware Co	onfiguration	
File Edit Device Tuning Onlin	ne Help	
	Online/Offline	
	Reboot Controller	
	Reset Mechatrolink	005
🖶 🚔 MyMachine 🛛 🧹	Controller Configuration Utilities Offline	235
Mechatrolink-II		
Groups	Vipa bus coupler	
TCP/IP Settings		
	I/O Assembly Instances	
Modbus/TCP	Type Instance # Size (bytes I Indate Interval Ownership Priority Connection	
[Slot_1]	Input 20 496 50 Exclusive Scheduled Point to Point	
	Output 10 496 50 Exclusive Scheduled Point to Poin	
	۰	
	Add Input/Output Assembly Instance	
	Configuration Assembly Instance	
	Type Instance # Size (bytes Ontional Data (hevadecimal)	
	Confia 30 400 D000000000000000000000000000000000000	
	Add Configuration Assembly Instance	



14) In the Controller Configuration Utilities dialog, select "Send offline configuration to controller then reboot controller" and then click "Execute".

Controller Configuration Utilities	×			
Send offline configuration to controller then reboot controller				
C Restore controller to factory defaults then reboot controller				
Create archive of current project on controller				
Send project archive to controller then reboot controller				
Send CAM data file to data/cam directory on the controller				
<u>Execute</u> Close				

15) When the application prompts to reboot select Yes.





16) Enter the IP address of the VIPA bus coupler in the browser window and navigate to the Parameter tab.

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ИРА А УАЅКАWA СОМРАНУ								
Device (VIPA IM053-1IP00) Modulo 1 (021-18500)	Info	Data	Parameter	Security	IP	Firmware	Configuration	
Module 1 (022-18F00) Module 2 (022-18F00)	Device Ignore Alway Disca	e (VIPA IM e Web Cor rs Send Tr rd a single e	1053-11P00) parar nfig: ansmit Address: connection on Ti	meout				

17) Make sure that the options "Always Send Transmit Address" and "Discard a single connection on Timeout" are checked, then click "Save".



18) When the MPiec controller powers up, the status variable should have a value of 1000 hex indicating that the MPiec controller is connected to the VIPA bus coupler.

S MotionWorks IEC 2 Pro - VipaMax - [Global_Variables:Configuration.Resource - Configuration.Resource.Global_Variables]										
🖬 Eile Edit View Project Build Layout Online Extras Window 2									-	e ×
●◎◎◎◎ ● ◎◎◎◎ ● ●●●● ●●●● ●●●●● ●●●●●●●●										
Project Tree Window	Na	me	Online value	Type	Usage	Description	Address	Init	Retain	P ▲
Project : C:\Users\Public\Documents\MotionW	PLC TASK	5		EXT TASK L	VAR GL	,	%MB1.1260			
🖨 🖾 Libraries	PLC TASK	6		EXT TASK I	VAR GL		%MB1.1324			H I
W PLCopenPlus_v_2_2a	PLC TASK	7		EXT TASK I	VAR GL		%MB1.1388			H
Data Types_Toolbox_v260	PLC TASK	8		EXT TASK I	VAR GL		%MB1.1452			H
PLCopen_1 00ID0x_V260 Data Turaca	PLC TASK	9		EXT TASK I	VAR GL		%MB1.1516			H
	PLC TASK	10		EXT TASK I	VAR GL		%MB1.1580			T I
	PLC TASK	11		EXT TASK I	VAR GL		%MB1.1644			T I
	PLC TASK	12		EXT TASK I	VAR GL		%MB1.1708			T I
H Main	PLC_TASK	13		EXT_TASK_I	VAR_GL		%MB1.1772			
i III HMI	PLC_TASK	14		EXT_TASK_I	VAR_GL		%MB1.1836			
😑 📾 Physical Hardware 😑	PLC_TASK	15		EXT_TASK_I	VAR_GL		%MB1.1900			
Configuration : MP2000_Series	PLC_TASK	16		EXT_TASK_I	VAR_GL		%MB1.1964			
Resource : MP2300Siec	ISR_TIMING			SYS_TIMIN	VAR_GL		%MD3.65536			
🖯 📾 Tasks	ISR_EVT_TI	MING		SYS_TIMIN	VAR_GL		%MD3.65560			
😑 🙆 FastTsk: CYCLIC	HIGH EVT	TIMING		SYS TIMIN	VAR GL		%MD3.65584			
IO : IO	LOW EVT	TIMING		SYS_TIMIN	VAR_GL		%MD3.65608			
B O MedTsk : CYCLIC	ALM_EVT_T	IMING		SYS_TIMIN	VAR_GL		%MD3.65632			
Main : Main	HIRES_TAS	K_TIMING		HIRES_TAS	VAR_GL		%MD3.65792			
Cy Slow 1sk: CYCLIC Group1 Address Range: %IB32768 - %IB32768 - %IB3263 (* Do Not Modify Group Name or Status Variable. *)										
	Status1	(16	5#1000	WORD	VAR_GL	(* Do Not Modify. *) EtherNet/IP Adapter Status	%IW33264			
	⊟ <vipa bu<="" td=""><td>is coupler> of</td><td>Froup1' Addre</td><td>ss Range: %QB32</td><td>768 - %QB3320</td><td>3 (* Do Not Modify Group Name or Status Varia</td><td>ble. *)</td><td></td><td></td><td></td></vipa>	is coupler> of	Froup1' Addre	ss Range: %QB32	768 - %QB3320	3 (* Do Not Modify Group Name or Status Varia	ble. *)			
	User Variables									
					111					•
	🔢 Global_V									
For Help, press F1								34 / 34	C: >	2GB .#

19) Notice the IEC address range provided in the group header rows. (32768 to 33263) These are the bytes assigned to the VIPA I/O driver and map to the Bus Couplers I/O. Add variables as needed for each device connected to the bus coupler. Refer to the VIPA documentation for mapping of each analog and digital slice.