

How to control a V1000 via EtherNet/IP

Approved

Document Title

Document Status

Frequently Asked Question

17444

1.0

2018-Sep-12

Document Type

Document No

Version

Date

How to control a V1000 via EtherNet/IP?

YEU

Topic

Source

V1000 SI-EN3

Related Products

1. Introduction

The V1000 and A1000 can be controlled via EtherNet/IP using SI-EN3 /V or SI-EN3 option module. MPiec controller is scanner and inverter is adapter.

The inverter will be run by setting registers. There are simple or more advanced instances available. Please check the SI-EN3 manual 'SIEP YEACOM 01A'

2. EtherNet/IP setup MPiec controller

Add inverter axis as a new adapter:



and set IP address and status variable (monitoring the connection status to the inverter):

EtherNet/IP Adapters					
Name	IP Address	I/O Group	Task	Status Variable	Comment
Conveyor 3	192.168.1.12	Grp2	MedTsk	EnipStat	V1000

Set up instances to control and monitor the inverter axis:



Output assembly 101: Speed/Torque Control Output

Input assembly 151: Speed/Torque Status Input

I/O Assembly Instances

Type	Instance #	Size (bytes)	Update Interval (ms)	Ownership	Priority	Connection	Use Run Idle
Input	151	8	50	Exclusive	Scheduled	Point to Point	False
Output	101	8	50	Exclusive	Scheduled	Point to Point	True

The input assembly can be configured as a multicast. Please note that the inverter will send a different IP address (range 224.0.0.0 to 239.255.255.255).

After saving the configuration in project and on controller the MP2000iec must be rebooted.

3. Control / Monitoring the inverter axis

The drive will be controlled by setting IO registers and not by PLCopen FBs:

EtherNet/IP Adapter > 'iGrp2' Address Range: %IB32768 - %IB32775 (* Do Not Modify Group Name or Status Variable. *)								
Conv3_StatusWord	16#3431	WORD	VAR_GLOBAL		%MW32768		<input type="checkbox"/>	<input type="checkbox"/>
Conv3_Running	TRUE	BOOL	VAR_GLOBAL		%IX32768.0		<input type="checkbox"/>	<input type="checkbox"/>
Conv3_FBFreq	16#07D0	WORD	VAR_GLOBAL		%MW32770		<input type="checkbox"/>	<input type="checkbox"/>
Conv3_void1	16#0000	WORD	VAR_GLOBAL		%MW32772		<input type="checkbox"/>	<input type="checkbox"/>
Conv3_FBCurrent	16#0007	WORD	VAR_GLOBAL		%MW32774		<input type="checkbox"/>	<input type="checkbox"/>
EnipStat	16#1000	WORD	VAR_GLOBAL	(* Do Not Mo...	%MW32776		<input type="checkbox"/>	<input type="checkbox"/>
EtherNet/IP Adapter > 'oGrp2' Address Range: %QB32768 - %QB32775 (* Do Not Modify Group Name or Status Variable. *)								
Conv3_ControlWord	16#0001	WORD	VAR_GLOBAL		%QMW32768		<input type="checkbox"/>	<input type="checkbox"/>
Conv3_RunFwd	TRUE	BOOL	VAR_GLOBAL		%QX32768.0		<input type="checkbox"/>	<input type="checkbox"/>
Conv3_RefFreq	16#07D0	WORD	VAR_GLOBAL		%QMW32770		<input type="checkbox"/>	<input type="checkbox"/>
Conv3_void2	16#0000	WORD	VAR_GLOBAL		%QMW32772		<input type="checkbox"/>	<input type="checkbox"/>
Conv3_void3	16#0000	WORD	VAR_GLOBAL		%QMW32774		<input type="checkbox"/>	<input type="checkbox"/>

The inverter is running forward with 20.00Hz.

For simple applications we recommend to use instances 20 and 70.

4. V1000 Parameter settings

The following parameters have to be changed for ENIP communication:

- b1-01 = 3 Frequency Reference Selection: Option PCB: SI-EN3
- b1-02 = 3 Run Command Selection: Option PCB: SI-EN3
- F7-01 = 192 IP address: 192.168.1.20
- F7-02 = 168
- F7-03 = 1
- F7-04 = 20
- F7-05 = 255 Subnet Mask: 255.255.255.0
- F7-06 = 255
- F7-07 = 255
- F7-08 = 0
- F7-13 = 0 Address Mode at Startup: Static
- F7-14 = 2 Duplex Mode Selection: Full duplex forced
- F7-15 = 100 Communication Speed Selection: 100Mbps

After modifying the communication parameters the V1000 drive power must be cycled.

All parameters related to the option are described in the SI-EN3 manual chapter 7 'EtherNet/IP Option Drive Parameters'.