

APPLICATION NOTE

AC500 V3 ETHERNET/IP AC500 AS SCANNER CONNECTED TO ANOTHER AC500 AS ADAPTER



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1 Introduction

1.1 Scope of the document

AC500 V3 PLCs support EtherNet/IP communication. This document describes how to configure the AC500 as scanner mode or adapter mode for EtherNet/IP communication.

1.2 Compatibility

For this application the following modules and engineering system versions were used. It should also work with other versions, nevertheless some small adaptations may be necessary for future versions.

- AC500 V3 PLC (PM56xx-2ETH)
- AC500-eCo V3 PLC (PM5032-x-ETH, PM5052-x-ETH and PM5072-x-2ETH(W))
- Automation Builder 2.5.0 or newer

1.3 Overview



Fig. 1: AC500 V3 as EtherNet/IP scanner and EtherNet/IP adapter protocol

2 Connect to AC500(-eCo) V3

This chapter shows how to configure AC500(-eCo) V3 PLC as EtherNet/IP Scanner and connect to another AC500(-eCo) V3 PLC as EtherNet/IP adapter module.



2.1 Create AC500(-eCo) V3 EtherNet/IP adapter

1. Launch Automation Builder and create a new project "AC500V3_EIP_Adapter.project" with the AC500 V3 PLC PM5650-2ETH as the target.

New project					\times
Object path:					
C:\AutomationBuild	der\Projects\AC500	V3_EIP_Adapter.projec	t		
Object name:	PLC_AC500_V3				
Categories	~	Search object name			Q
		Name	Short Description		^
PLC - AC500 V3		PM5072-T-2ETH	AC500 CPU 8MB,	Ethernet, 12DI/8	[]
AC500-Co		T PM5630-2ETH	AC500 CPU 8MB,	Ethernet	
ACOUVECU		PM5650-2ETH	AC500 CPU 80ME	8, Ethernet	
		PM5670-2ETH	AC500 CPU 160N	1B, Ethernet	
		DMECTE OCTU	ACE00 CB11 160M	ID Ethomot	×
		< .		,	
Close this dialog a	fter each transactic	Display all versions			
Reset filter			Add PLC	Close	

2. In the device tree, Go to the CPU Parameters tab and change the communication schema to "Realtime onboard Ethernet". This selection provides high priority to the EtherNet/IP communication.

PLC_AC500_V3 X				
Communication Settings	Parameter	Туре	Value	Default Value
	😁 🔷 Error LED	Enumeration of BYTE	On	On
PLC Settings	Check battery	Enumeration of BYTE	On	On
Version information	Stop on error class	Enumeration of BYTE	Diagnosis of at least error class 2	Diagnosis of at least error class 2
	Diagnosis - Add PLC name to node name	Enumeration of BYTE	Off	Off
Statistics	PLC behaviour after voltage dip	Enumeration of BYTE	Halt	Halt
	 Missed cycle behavior 	Enumeration of BYTE	Next	Next
Files	Communicaton Schema	Enumeration of BYTE	Realtime onboard Ethernet	Default
	Automated reboot after E2 error	Enumeration of BYTE	Off	Off
Log				
PLC Shell				
Users and Groups				
Access Rights				
Symbol Rights				
PM5650-2ETH Hardware				
CPU-Parameters Parameters				

3. In the device tree, right-click on "ETH1 (IP Setting)" under "Ethernet" object and select "Add object"

Add Object .				
□ Interfaces	ш <u>а</u> Ж	Cut		
CAN (<empty>)</empty>	×	Delete		
Ethernet		Rename		
ETH1 (IP Settings)		Refactoring +		
ETH2 (IP Settings)	i,	Properties		
NetConfig_1 (NetConfig)		Add object		
Extension_Bus		Update objects		

4. Select the "EtherNet/IP Adapter" and click the "Add object" button to continue.

Add object below :	ETH1					×
Object path: PLC_AC500_V3\lr	nterfaces\Ethernet\ETH1					
Object name:	EtherNet_IP_Adapter					
Categories	~	Search object name				
Ethemet protoco	bls	Name		Short Description	Version	د م
Scripting		EtherCAT Master			3.5.0.42	
Uncategorized		EtherNet/IP Adapter			4.1.0.0	
		EtherNet/IP Scanner			4.1.0.0	
		FTP Server			3.5.0.0	
		1EC 60870-5-104 Cont	trolstation		3.5.0.0	~
		<				>
Close this dialog a	after each transaction	Display all versions				
Reset filter			Ado	d object	Close	

5. The "ENIPAdapterIOTask" and "ENIPAdapterServiceTask" is created automatically under "Task Configuration".



6. Double click on the "ENIPAdapterIOTask" to open the setting. In this example, change the "Priority" to 10 (this setting is based on user preference).

🖉 🖄 ENIPAdapter]	OTask 🗙 🗌		
Configuration			
Priority (016):	10		
Cyclic	~	Interval (e.g. t#200ms)	10

7. Double click on the "ENIPAdapterServiceTask" to open the setting. In this example, change the "Priority" to 11 (this setting is based on user preference).

😸 ENIPAdapter	ServiceTask	×	
Configuration			
Priority (016): Type	11	Interval (e.g. t#200ms)	20



Note: The IEC user program has 17 priorities, from 0 (highest priority) to 15 (lowest priority) runs in the real-time area. The priority 16 is the non-real-time IEC task runs in the non-real-time area.

2.2 Data setup for implicit messaging

In this chapter, you will prepare the data exchange in the AC500 V3 adapter for implicit messaging with the EtherNet/IP scanner.

12 Byte input and 12 Byte output is used in this example. The size of the data exchange can be determined by the user.

- Right-click on "EtherNet/IP Adapter" under "ETH1 (IP Setting)" object and select "Add object".
- 2. At the add object windows, select the "EtherNet/IP Module" and click the "Add object" button to continue.

🖻 🚟 Ethernet

- 🖻 🗊 ETH1 (IP Settings)
 - MetConfig (NetConfig)
 - EtherNet_IP_Adapter (EtherNet/IP Adapter)
 - EtherNet_IP_Module (EtherNet/IP Module)
- ETH2 (IP Settings)
 - 🔤 👔 NetConfig_1 (NetConfig)
- 3. After that, double-click on the "EtherNet/IP_Module" to open the setting. The 12 Byte input and 12 Byte output will be entered into the Consuming Assembly and Producing Assembly respectively.

2	EtherNet_IP_Module X											•
	Assemblies	Consuming Assembly	Consumed Data (In	stance 16#	64)	~	Producing /	Assembly Proc	duced Data (Insta	ance 16#65	5)	~
	EtherNet/IP Module IEC Objects	P Module IEC Objects			nsumed Data" (O>T)				Producing Assembly "Produced Data" (T>0) ♣ Add ≫ Delete ☆ Move Up ♣ Move Down			
	Status	Name Data Typ	e Bit Length	Unit	Help String		Name	Data Type	Bit Length	Unit	Help String	
	Information											

4. The 12 Byte input is split into these data type.

- Data In 0, WORD
- Data In 1, INT
- Data In 2, DINT
- Data In 3, REAL

In the Consuming Assembly, click on the "Add" button and enter the data based on the list.

Assemblies EtherNet/IP Module IEC Objects		Consuming A	Assembly Con Assembly "Cons Delete 1	~	Producing A —Producing A -P Add	ssembly Produ Assembly "Produ			
Status		Name	Data Type	Bit Length	Unit	Help String		Name	Data Type
Information	Add Assembl	ly Parameter							×
	Name Unit Help string Data type Bit length Count	Data In 0 Data Input 0 WORD	> •					OK	Cancel

- 5. Repeat the same step until all the data input is insert into the Consuming Assembly.
- 6. For Producing Assembly, the 12 Byte output is split into these data type.
 - Data Out 0, WORD
 - Data Out 1, INT
 - Data Out 2, DINT
 - Data Out 3, REAL

In the Producing Assembly, click on the "Add" button and enter the data based on the list. Repeat the step till all data output is insert.

When complete, you should have the list as below.

EtherNet_IP_Module X											
Assemblies	Consuming Assen	bly Consume	l Data (Instance	16#64)		~	Producing Assembly	Produced Dat	ta (Instance 16#	¢65)	~
EtherNet/ID Module 1/0 Manping Assembly "Produced Data" (0>T) Producing Assembly "Produced Data" (T>O)						ta" (T>0)					
Elicited in todale yo happing	🕂 Add 🗙 Del	lete 🕆 Move	e Up 🐥 Move	Down			🕂 Add 🔀 Delet	te 🖙 Move	Up 🐥 Move 🛛	Down	
EtherNet/IP Module IEC Objects	Name	Data Type	Bit Length	Unit	Help String	٦	Name	Data Type	Bit Length	Unit	Help String
I/O managing list	- Data In 0	WORD	16		Data Input 0		- Data Out 0	WORD	16		Data Output 0
1/0 mapping list	- Data In 1	INT	16		Data Input 1		Data Out 1	INT	16		Data Output 1
Status	Data In 2	DINT	32		Data Input 2		Data Out 2	DINT	32		Data Output 2
	Data In 3	REAL	32		Data Input 3		Data Out 3	REAL	32		Data Output 3
Information											

7. After that, select the "EtherNet/IP Module I/O Mapping" tab, type in the variable name for the data input and data output.

D EtherNet_IP_Module X									
Assemblies	Find	Find				- +	🝷 🕂 Add FB for IO Channel		
EtherNet/IP Module I/O Mapping	Variable	Mapping	Channel	Address	Туре	Default Value	Unit	Description	
EtherNet/IP Module IEC Objects	+ AC500_DataIn_0	×9 ×4	Data In 0	%IW0	WORD			Data Input 0	
	AC500_DataIn_1	*	Data In 2	%ID1	DINT			Data Input 1 Data Input 2	
I/O mapping list	AC500_DataIn_3	*	Data In 3	%ID2	REAL			Data Input 3	
	E V AC500_DataOut_0	*	Data Out 0	%QW0	WORD	0		Data Output 0	
Status	🕸 🗇 AC500_DataOut_1	**	Data Out 1	%QW1	INT	0		Data Output 1	
. Comme Marco	E V AC500_DataOut_2	*	Data Out 2	%QD1	DINT	0		Data Output 2	
Information	AC500_DataOut_3	**	Data Out 3	%QD2	REAL			Data Output 3	

8. Now, create a simple application to simulate the output data.

Open the POU "PLC_PRG" and insert the code as below.

AC500_DataOut_0 := AC500_DataIn_0 + 1;

AC500_DataOut_1 := AC500_DataIn_1 + 5;

AC500_DataOut_2 := AC500_DataIn_2 + 111;

AC500_DataOut_3 := AC500_DataIn_3 + 55.55;

F	LC_PRG X
1	PROGRAM PLC_PRG
2	VAR
3	END_VAR
1	AC500_DataOut_0 := AC500_DataIn_0 + 1;
2	<pre>AC500_DataOut_1 := AC500_DataIn_1 + 5;</pre>
3	AC500_DataOut_2 := AC500_DataIn_2 + 111;
4	AC500_DataOut_3 := AC500_DataIn_3 + 55.55;
5	

2.3 EDS export

A unique EDS (according to the project setup) can be exported and later imported to the EtherNet/IP scanner.

Before exporting the EDS, the product name, product code, major version and minor version can be changed.

1. Double-click on "EtherNet_IP_Adapter (EtherNet/IP Adapter)" under "ETH1 (IP Setting)" object to open the setting, change the product name to "AC500_EIP_Adapter".

EtherNet_IP_Adapter ×			
General	EDS File		
Tags	Vendor name	ABB Automati	ion Products GmbH
Log	Vendor ID	593	
	Product name	AC500_EIP_A	Adapter
EtherNet/IP Adapter I/O Mapping	Product code	20007	-
EtherNet/IP Adapter IEC Objects	Major revision	1	-
Status	Minor revision	1	-
Information	Enable ACD		
	Install to Device	Repository	Export EDS File

- As we are using the same computer, click on the "Install to Device Repository..." button to install this EDS into the Automation Builder automatically.
 If the EDS file is needed for another system, click on "Export EDS file..." button and save it to the desired folder.
- 3. When complete, save the project.

2.4 Download the project to EtherNet/IP adapter

To set-up the communication between the PC and the PLC, e.g., for downloading the compiled program, you have to set-up the communication parameters.

The IP address of your PC must be in the same class as the IP address of the CPU.

The factory setting of the IP address of the CPU is 192.168.0.10.

The IP address of your PC should be 192.168.0.X. Avoid X = 10 in order to prevent an IP conflict with the CPU.

Subnet mask should be 255.255.255.0.

- 1. Follow the steps below to change the PC IP address.
 - a) Open Windows Control Panel. Click "Network and Internet > Network and Sharing Center".
 - b) Click Change adapter settings.
 - c) Right-click Local Area Connection (Ethernet) and select Properties.

onnect using:			
🚽 Intel(R) PRO/	1000 MT Desktop Adapte	r	
		Conf	figure
his connection use	s the following items:		
🗹 🌄 Client for Mi	crosoft Networks		^
🗹 🐙 File and Prir	nter Sharing for Microsoft I	Vetworks	
🗹 🏪 QoS Packe	t Scheduler	_	
🖌 🛄 Internet Pro	tocol Version 4 (TCP/IPv4	4)	
Microsoft N	etwork Adapter Multiplexo	r Protocol	
Microsoft LI	LDP Protocol Driver		
Internet Pro	tocol Version 6 (TCP/IPve	i)	×
C			>
Install	Uninstall	Prop	erties
Description			
Transmission Cont	tral Protocol/Internet Proto	col The d	lefault
wide area network	protocol that provides co	mmunicati	on
and the second s	erconnected networks		

d) Double-click "Internet Protocol Version 4 (TCP/IPv4)".

Internet Protocol Version 4 (TCP/IPv4) Properties							
General							
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.							
Obtain an IP address automatical	lly						
• Use the following IP address:							
IP address:	192.168.0.9						
Subnet mask:	255.255.255.0						
Default gateway:							
Obtain DNS server address autor	matically						
Use the following DNS server add	iresses:						
Preferred DNS server:							
Alternative DNS server:	· · ·						
Validate settings upon exit	Advanced						
	OK Cance	ł					

- e) Enter your desired IP address and subnet mask.
- f) Click "OK" to continue.



Note: If VPN is connected, it might influence the connection to the PLC.

We recommend to disconnect from VPN before connecting to the PLC locally.

For the AC500 V3 EtherNet/IP adapter, the IP address "192.168.0.11" is used.
 To change the default IP address, go to Automation Builder menu and select "Tools > IP-Configuration".



3. Click on the "Scan" button, it will scan the network and the results will appear in this field.

	Scan							
							1	1
l	(MAC) address	Device	Port	Serial number	Device ID	IP Address	Config. IP Address	Information
	. 00-24-59-0D-21-E4	PM5650-2ETH-	ETH1	0000072	0x00	192.168.0.10	0.0.0.0	ABB Net config

Select the CPU in the field and insert the IP address, Subnet Mask and Gateway.

	IP ac	ddress	:	192.168. 255 255	0.11					
	Subi	iet Mask	: >	255.255.	255.0					
	Gate	way	:	192.168.	0.1					
/ IP-Confi	guration 🗙									•
	Scan									
(MAC) add	dress	Device	Port	Serial number	Device ID	IP Address	Config. IP Address	Information	Scan Protocols	
	59-0D-21-E4	PM5650-2ETH-	ETH1	00000072	0x00	192.168.0.10	0.0.0.0	ABB Net config	ABB Net con	ifig protocol (j)
									IP settings DHCP Selected device IP address Subnet mask Std. gateway Link mode Blink Blink	PM5650-2ETH- ETH1 SN-00000072 ID=0x00 I92 168 0 11 255 255 255 0 I92 168 0 1 100MB full duplex ~ ttings

Ensure the CPU is in "STOP" mode, the click on the "Send settings" button to download the setting.

4. In the Automation Builder device tree right-click "PLC_AC500_V3" and select the "Communication Settings".

Devices	
AC500V3_EIP_Adapter	
🖻 🗐 PLC_AC500_V3 (РМ5650-2ЕТН - ТВ5620-2ЕТН)	
PLC Logic	Communication Settings
🖹 💮 Application	Source Download 너장
	1
Communication Settings for 'PLC_AC500_V3' X	
IP Address 192 . 168 . 0 . 11	
Use advanced settings	
Advanced Settings	
(j) OK Cancel	

- 5. Type in the current IP address of the AC500 V3 PLC and select "OK" to implement the needed communications gateway.
- 6. After that, double-click "PLC_AC500_V3" in the device tree. Select "Communication Settings".

The selected IP address is shown. To test the connection and/or to see the CPU information press [Enter] or click on the black dot next to the PLC picture.

Devices 👻 🕂 🗙	PLC_AC500_V3 X			
AC500V3_EIP_Adapter	Communication Sattings	Scan Network Gateway - Device -		
PLC_AC500_V3 (PM5650-2ETH - TB5620-2ETH)	Communication Settings			
	PLC Settings			
Application	Version information			
Task Configuration	Statistics			•
CHUPAdapterIOTask EtherNet_IP_Adapter.IOCyde Set DIPAdapterServiceTask	Files	Gateway-1	Gateway	192.168.0.10:11740 (active)
EtherNet_IP_Adapter.ServiceCycle	Log	IP-Address:		Device Name:
□ S Task □ @ PLC_PRG	PLC Shell	Port:		Device Address:
ID_Bus Interfaces	Users and Groups	1217		030F-1000.2DDC.C0A8.000A
COM (<empty>) CAN (<empty>) CAN (<empty>)</empty></empty></empty>	Access Rights			192.168.0.10:11740
Ethernet	Symbol Rights			1020 0700
If I (µ) Settings) If NetConfig (NetConfig)	PM5650-2ETH Hardware			Target Type: 4096
EtherNet_IP_Adapter (EtherNet/IP Adapter) EtherNet_IP_Module (EtherNet/IP Module)	CPU-Parameters Parameters			Target Vendor: ABB AG
ETH2 (IP Settings)	IEC Objects			Target Version: 3.5.0.0
Protocols (Client Protocols) Extension_Bus	I/O mapping list			
K Slot_1 (<empty>) K Slot_2 (<empty>)</empty></empty>	I/O-Bus I/O Mapping			

The black dot will turn green when communication is established.

Logging-in to the CPU will load the project into the AC500 V3 CPU. The first log-in will also load the hardware set-up.

7. In the Automation Builder menu select "Online > Login [PLC_AC500_V3]".

ABB AC500V3_EIP_Adapter.project* - Automation Builder 2.5 - Premium



8. Select "Yes" to download the application to the AC500V3 CPU.

Automation Builder 2.5 - Premium						
?	Warning: An application 'Application' is currently in RUN mode on the PLC. As there is no matching compile information, this existing application needs to be replaced.					
	Click 'Yes' to download the latest code or 'No' to abort.					
	Yes No Details					

PLC is in "stop" mode.



 Select menu "Debug > Start [PLC_AC500_V3]". Alternatively, select the "start" icon in the tool bar. A pop-up appears, click "OK" to continue. After that, go to menu select "Online > Logout [PLC_AC500_V3]" and manually reboot the CPU.



10. When CPU reboot is completed, go to menu "Online > Login [PLC_AC500_V3]". The project is downloaded and the CPU is in RUN mode.

2.5 Create AC500(-eCo) V3 EtherNet/IP scanner

1. Launch the Automation Builder and create a new project "AC500V3_EIP_Scanner.project" with the AC500 V3 PLC PM5650-2ETH as the target.

New project					×
Object path: C:\AutomationBuilde Object name:	er\Projects\AC500V3_El PLC_AC500_V3	IP_Scanner.project			
Categories	~	Search object name			٩,
		Name PM5072-T-2ETH PM5630-2ETH PM5650-2ETH PM5670-2ETH PM5670-2ETH	Short Description AC500 CPU 8MB, Eth AC500 CPU 8MB, Eth AC500 CPU 80MB, Eth AC500 CPU 160MB, I AC500 CPU 160MB, I	lemet, 12DI/8DO-T/2D lemet themet Ethemet	<
Close this dialog after	er each transaction	Display all versions			
Reset filter			Add PLC	Close	

2. In the device tree, double-click on the CPU. Go to the CPU Parameters tab and change the communication schema to "Realtime onboard Ethernet". This selection provides high priority to the EtherNet/IP communication.

PLC_AC500_V3 🗙				
Communication Settings	Parameter	Туре	Value	Default Value
	💬 🖗 Error LED	Enumeration of BYTE	On	On
PLC Settings	Check battery	Enumeration of BYTE	On	On
Version information	Stop on error class	Enumeration of BYTE	Diagnosis of at least error class 2	Diagnosis of at least error class 2
	Diagnosis - Add PLC name to node name	Enumeration of BYTE	Off	Off
Statistics	PLC behaviour after voltage dip	Enumeration of BYTE	Halt	Halt
	Missed cycle behavior	Enumeration of BYTE	Next	Next
Files	Communicaton Schema	Enumeration of BYTE	Realtime onboard Ethernet	Default
	Automated reboot after E2 error	Enumeration of BYTE	Off	Off
PLC Shell				
Access Rights				
Symbol Rights				
PM5650-2ETH Hardware				
CPU-Parameters Parameters				

3. In the decvice tree, right-click on "ETH1 (IP Setting)" under "Ethernet" object and select "Add object".

Interfaces		
COM (<empty>)</empty>		
CAN (<empty>)</empty>		
🖃 🔛 Ethernet		
ETH1 (IP Settings)	Đ	Сору
ETH2 (IP Settings)	Ē.	Paste
MetConfig_1 (NetC	ж	Cut
Protocols (Client Protoc	×	Delete
🖻 🛤 Extension_Bus		Rename
<pre>Slot_1 (<empty>) Slot_2 (<empty>) Slot_2 (<empty>)</empty></empty></empty></pre>		Refactoring +
	Ē	Properties
		Add object 📐
		Update objects
		Scan for Devicer

4. Select the "EtherNet/IP Scanner" and click the "Add object" button to continue.

Add object below :	ETH1					×
Object path: PLC_AC500_V3\lr	nterfaces\Ethemet\ET	H1				
Object name: EtherNet_IP_Scanner						
Categories	~	Search object name				Q
Ethemet protoco Scripting Uncategorized	ols	Name EtherNet/IP Adapt EtherNet/IP Scann EtherNet/IP Scann	er her Controlstation Substation	Short Description	Version 4.1.0.0 4.1.0.0 3.5.0.0 3.5.0.0 3.5.0.0 >	<
Close this dialog a	after each transaction	Display all versions				
Reset filter			Add obj	ect (Close	

The ENIPScannerIOTask and ENIPScannerServiceTask is created automatically under "Task Configuration".

i . 🙀	Task Configuration
÷	🕼 ENIPScannerIOTask
	EtherNet_IP_Scanner.IOCycle
÷	😂 ENIPScannerServiceTask
	EtherNet_IP_Scanner.ServiceCycle

5. Double-click on the "ENIPScannerIOTask" to open the setting. In this example, change the "Priority" to 10 (this setting is based on user preference).

/ 😒 ENIPScannerI	OTask 🗙		
Configuration			
Priority (016):	10		
Type			
(6) Cyclic	~	Interval (e.g. t#200ms)	10

(hij)

6. Double click on the "ENIPScannerServiceTask" to open the setting. In this example, change the "Priority" to 11 (this setting is based on user preference).

BNIPScanner	ServiceTask	×	
Configuration			
Priority (016):	11		
Type Cyclic	~	Interval (e.g. t#200ms)	20

Note: The IEC user program has 17 priorities, from 0 (highest priority) to 15 (lowest priority) runs in the real-time area. The priority 16 is the non-real-time IEC task runs in the non-real-time area.

2.6 Implicit messaging with AC500(-eCo) V3

1. Right-click on "EtherNet_IP_Scanner (EtherNet/IP Scanner)" under "ETH1 (IP Setting)" object and select "Add object".

⊟ ह	Ethernet		Сору
	ETH1 (IP Settings)	R.	Paste
	MetConfig (NetConfig)	¥	Cut
	🖹 👚 👘 EtherNet_IP_Scanner (EtherNet/IP Scanner)	90	Cut
	ACS380 with FENA (ACS380 with FENA)	$ \mathbf{X} $	Delete
	ETH2 (IP Settings)		Rename
	NetConfig_1 (NetConfig)		Refactoring +
	Protocols (Client Protocols)	-	
÷.	Extension_Bus		Properties
			Add object 💫
			Update objects

2. Select the "AC500V3_EIP_Adapter" and click the "Add object" button to continue.

Add object below	: EtherNet_IP_So	canner			×	
Object path: PLC_AC500_V3\I	Interfaces\Ethem	et\ETH1\EtherNet_IP_Scanner				
Object name: AC500_EIP_Adapter						
Categories	~	Search object name			Q	
Uncategorized		Name AC500_EIP_Adapter ACS380 with FENA Generic EtherNet/IP device	Short Description	Version Major Revis Major Revis 3.5.17.0	sion=16#1, Minor Revis sion=16#3, Minor Revis	
Close this dialog	after each transa	Display all versions			>	
Reset filter]		Ad	d object	Close	

- 3. Double-click on the "AC500V3_EIP_Adapter" to open the setting.
- 4. At the "General" tab, set the device IP address and cross-check the "Electronic Keying". If the shown revision is different from the AC500(-eCo) V3 EtherNet/IP adapter module, leave the selection box "Check match" empty.

AC500_EIP_Adapter X						
General	Address Settings					
Connections	IP address 192 . 168 . 0 . 11					
Assemblies						
User-Defined Parameters	Electronic Keying					
Log	Compatibility check					
EtherNet/IP I/O Mapping	Vendor ID 593 Check match	1				
FiberNet/ID IEC Objects	Device type 12 Check match	1				
Etherwet/1P IEC Objects	Product code 20007 Check match	1				
I/O mapping list	Major revision 1 🗹 Check match	1				
Status	Minor revision 1 Check match	1				

Move on to the "EtherNet/IP I/O Mapping" tab, type in the variable name for the data input and data output.
 AC500_EIP_Adapter x

General	Find	Find Filter Show all					- 🕂 Add FB for IO Channel		
Connections	Variable	Mapping	Channel	Address	Туре	Default Value	Unit	Description	
Assemblies	🖶 🦄 AC500_DataIn_0	***	Data Out 0	%IW12	WORD			Data Output 0	
	AC500_DataIn_1	**	Data Out 1	%IW13	INT			Data Output 1	
User-Defined Parameters	🗈 🦄 AC500_DataIn_2	**	Data Out 2	%ID7	DINT			Data Output 2	
	🍫 AC500_DataIn_3	**	Data Out 3	%ID8	REAL			Data Output 3	
Log	AC500_DataOut_0	*	Data In 0	%QW12	WORD	0		Data Input 0	
	AC500_DataOut_1	*	Data In 1	%QW13	INT	0		Data Input 1	
EtherNet/IP I/O Mapping	🗐 🧖 AC500_DataOut_2	**	Data In 2	%QD7	DINT	0		Data Input 2	
	AC500 DataOut 3	*	Data In 3	%QD8	REAL			Data Input 3	

6. Now create a simple application to simulate the output data.

Open the POU "PLC_PRG", insert the code as below.

AC500_DataOut_0 := AC500_DataIn_0 + 1; AC500_DataOut_1 := AC500_DataIn_1 + 5; AC500_DataOut_2 := AC500_DataIn_2 + 111; AC500_DataOut_3 := AC500_DataIn_3 + 55.55;

🖉 📋 PI	LC_PRG X
1	PROGRAM PLC_PRG
2	VAR
3	END_VAR
1	AC500 DataOut 0 := AC500 DataIn 0 + 1:
2	AC500_DataOut_1 := AC500_DataIn_1 + 5;
3	AC500_DataOut_2 := AC500_DataIn_2 + 111;
4	AC500_DataOut_3 := AC500_DataIn_3 + 55.55;
5	

7. When complete, save the project.

2.7 Download the project to EtherNet/IP scanner

1. In the Automation Builder device tree, right-click "PLC_AC500_V3" and select the "Communication Settings".

Devices	
AC500V3_EIP_Scanner	
🖻 🗐 PLC_AC500_V3 (PM5650-2ETH - TB5620-2ETH)	
PLC Logic	Communication Settings
🖹 💮 Application	Source Download
621 (1 1 1 1 1 1 1 1 1 1	
Communication Settings for 'PLC_AC500_V3' ×	
IP Address 192 . 168 . 0 . 10	
Use advanced settings	
Advanced Settings	
() OK Cancel	

2. Keep the default value in the IP address of the CPU or type in the current IP address of the AC500 V3 PLC. If the IP address is unknown, select "...".

P	ick IP Address fo	r 'PLC_AC500_V3'						- 0	\times
[Abort scan	Extend	ed Scan						
	MAC address	Device name	Port	Serial number	Device ID	IP Address	Config. IP Address	Device Type	e
ł	Scanning								
							-		
								OK. C	ancel

The automatic scan will run and the results will appear in this field.

- 3. Select the CPU in the field and select "OK" to implement the needed communications gateway.
- 4. After that, double-click "PLC_AC500_V3" in the device tree. Select "Communication Settings".

The selected IP address is shown. To test the connection and/or to see the CPU information press [Enter] or click on the black dot next to the PLC picture.

The black dot will turn green when communication is established.

Logging-in to the CPU will load the project into the AC500 V3 CPU. The first log-in will also load the hardware set-up.



6. Select "Yes" to download the application to the AC500V3 CPU.

Automat	ion Builder 2.5 - Premium	×						
?	Warning: An application 'Application' is currently in RUN mode on the PLC. As there is no matching compile information, this existing application needs to be replaced.							
	Click 'Yes' to download the latest code or 'No' to abort.							
	Yes No Details							

PLC is in "stop" mode.



 Select menu "Debug > Start [PLC_AC500_V3]". Alternatively, select the "start" icon in the tool bar. A pop-up appears, click "OK" to continue. After that, go to menu select "Online > Logout [PLC_AC500_V3]" and manually reboot the CPU.

Automation Builder 2.5 - Premium		×
<u> </u>	Notification from target: "Prevent RUN due changed startup parameter, Reboot required"	
	OK	Details

8. When CPU reboot is completed, go to menu select "Online > Login [PLC_AC500_V3]". The project is downloaded and the CPU is in RUN mode. Now you can test the application.





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