

Weintek USA, Inc. www.WeintekUSA.com (425) 488-1100 Rev. Oct 9, 2018

Weintek HMI to ABB AC500-eCo-CPU PLC

Introduction: This instruction discusses how to communicate between Weintek cMT3090 HMI and ABB AC500-eCo-CPU PLC via Codesys Ethernet protocol. The purpose of this document is to show how to correctly set up communications, including exporting tags from ABB Automation Builder and importing tags into Easybuilder Pro.

Equipment:

- A) Weintek cMT3090 HMI
- B) ABB PM554-ETH PLC(AC500-eCo-CPU)

Note: Easybuilder Pro version 6.01.02 and greater supports importing the .SYM file format, which is a tag file generated by ABB Automation Builder.

Details of the Communication Setting (PLC Side):

- 1. Launch ABB Automation Builder and choose the PLC model PM554-ETH.
- 2. Create tags on the Global_Variables window.



Page 1 of 10

Weintek USA, Inc.

3. Right click on the PLC and go to [Communication Settings].



4. Check the [Use Advanced Settings] checkbox, and then click the [Advanced Settings] button.



5. This window shows all the communication settings.

hannels					01/
- Local	ABB Tcp/lp Level 3	2 AC App	lication.AC500PR0		UK
AC500 Default TCP-IP	Name	Value	Comment	^	Cancel
AC500 Default TCP IP	Address	172.17.0.55	IP address or hostname		
TK503	Port	1200			New
	Receive Timeout	2000			
	Routing levels	0	(02)		Remove
	Coupler (Level 1)	0			
	Channel (Level 1)	0	(019)		Gateway
	Address (Level 1)	0, 0, 0, 0, 0, 0	Address		datendy.
	Coupler (Level 2)	0			Update
	Channel (Level 2)	0	(019)		
	Address (Level 2)	0, 0, 0, 0, 0, 0	Address		
	Block size	1430	(128, 1430)		

 Click on [New] to add a new protocol. Enter a name and choose [TCP/IP (Level 2 Route)], which is an Ethernet protocol defined by 3S company, for the HMI communication protocol. Click [OK].

ommunication Param	neters: New Channel	>	਼	UK
				Cancel
Name codesys_comm		OK	stname	
Device		Cancel]	New
Name	Info ^			Bemove
ABB Tcp/lp Level 2 AC	ABB SST Tcp/lp Level 2 rou			
Тср/Ір	3S Tcp/lp driver			
Serial (RS232)	3S Serial RS232 driver			Gateway
Serial (Modem)	3S Modem driver			
Tcp/lp (Level 2 Route)	3S Tcp/Ip Level 2 Router Dri			Update
c	>			

7. Enter an IP address. Click [OK].

E-Local	Tcp/lp (Level 2 Ro	ute)		OK
codesys AC500 local_192.168.0.10:12	Name	Value	Comment	Cancel
	Port	172.17.0.55	IP address of hosthame	New
AC500 Default TCP-IP,	TargetId	0		
codesys codesys_comm	Motorola byteorder	Yes		Hemove
				Gateway .
				Update

Export tag file-

8. Right click on [Application].



9. Click [Export] » [Symbol file]. Select a desired location folder to save the .SYM file on the PC.



Details of the Communication Settings (HMI Side):

- 1. Open a new project in Easybuilder Pro and choose the HMI model cMT3090.
- 2. To get the HMI taking to the PM554-ETN PLC, go to [Home] » [System Parameters].

EasyBuilder Pro	: EBProject1 - [1	0 - WINDOW_010]				
File 🔡 🖾 🖞	5 🔦 🖈 🗧 🕨	ome Project Object Da	ata/History IIoT/Energy View To	əl		
Paste Cut	System Parameters	Select	◎ II III III III IIII IIII IIIII IIIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	■▲ 말 우리 만에 내 문 만 困면 세 ☆	Arial ▼ 5 ▼ \$A A\$, \$I\$ <u>A</u> <u>U</u> ≡ ≡ Ap	S0 S1 S2 S3 0 \$ L1 L2 L3 L4 1 \$
Clipboard		Editing	Object	Arrange	Font	State/Language
4 10 - WINDO	OW_010 ×					

Page 5 of 10

Weintek USA, Inc.

3. Add [Codesys V2(Symbolic Addressing)(Ethernet)] driver to the Device List.

	And the second						
	OHMI	Dev	/ice				
Location :	Local	\sim	Settings				
* Select Local for a HMI.	device connec	ted to th	is HMI, <mark>o</mark> r Re	mote fo	r a device co	onnected thr	ough another
Device type :	CODE	SYS V2 (Symbolic Add	ressing)	(Ethernet)	•	
	Device ID: 3	75, V.1.4	0, CODESYS	V2_ETH	ERNET.e30		
	199002					a company	
I/⊢∶ Support off-line si	Ethernet mulation on HN	4I (use LE	3-12358)	✓ <u>⊆</u>	pen Device	Connection	Guide
1/⊢ : * Support off-line si	Ethernet mulation on HN	4I (use LE	3-12358)	✓ Q	<u>pen Device</u>	Connection	<u>Guide</u>
ı/⊢ : * Support off-line si IP :	Ethernet mulation on HM	/II (use LE Port=12	3-12358) 201	~ 9	ipen Device.		Guide
I/⊢: Support off-line si IP:	Ethernet mulation on HM 172. 17.0.55, Use UDP (I	4I (use LE Port=12 User Data	3-12358) 201 agram Protoc	✓ ⊆	<u>pen Device</u>		Guide
ı/⊢ : 'Support off-line si IP : □	Ethernet mulation on HM 172. 17.0.55, Use UDP (evice default s	AI (use LE Port=12 User Data station no	3-12358) 201 agram Protoc	✓ ⊆	<u>ipen Device</u>		Guide

4. Click on [Setting] on the previous window. Enter the IP address and port number. Choose [TCP/IP (Level 2 Route)] and check [Motorola Byteorder] checkbox. Click [OK].

IP address : 172 . 17 . 0 . 55 Port no. : 1201	
Protocol : Tcp/Ip [Level 2 Route] V	
Timeout (sec) : 1.0 v Turn around delay (ms) : 0	

Page 6 of 10 www.WeintekUSA.com

Weintek USA, Inc.

Import tag file-

5. Click on [Import tags].

Cellular D	ata Netwo	ork	Printer/Backup Server			Time Sync./DST	e-Mail	Recipe Database	
Device	Mode	I	Gener	al S	ystem Setting	Remote	Security	Extended Memo	
Device list	:							What's my IP?	2
		Name	e	Location	Device Type			Interface	1
Local	Local HMI		HMI	Local	MT8102iE (1				
Local	Local Device 4		ESYS V2	Local	CODESYS V	Symbolic Addres	sing) (Etherne	t) Ethernet (IP=17)	1
<								>	
<				New Devi	ce	Delete		> Settings	

6. Click on the icon highlighted in red.





Weintek USA, Inc.

7. Click on [Import Tags].

y Application	Variable List		
— Application	Name : TagTable		Find : Q
TagTable	• X *	Verifying Tags with device	A
	Symbols Data Ty	Import Tags	scription
	Tag		

8. Navigate to the .SYM file. Select this generated file and click [Open].

)rganize 🔻 New fold	er				[]== ·	- 🔳	6
OneDrive OneDrive This PC Objects Octoments Octoments Octoments Octoments Music Pictures Vindows (c) RECOVERY (b) Samsung T5 (c) USB Drive (F)	Name	Date modified 9/20/2018 2:45 PM	Type SYM File	Size 1	KB		
File o					SVM Eiler (* SVM)		1

9. The imported tags will be displayed as shown.

	Variable Lis	,t						
- Application	Name	2: TagTable			Find	1: [Q		
TagTable	0	X 🎭			0 0 0	3		
		Symbols	Data Type	Scan Rate (s)	Binary Access	Online	Description	
	臣	Tag						
		- 📶 .Bool1	BOOL	Default	FALSE	🗶 None		
		- 📶 .Bool2	BOOL	Default	FALSE	🐔 None		
		- 🛃 .INt1	INT	Default	FALSE	🗶 None		
		— 🚻 .Real1	REAL	Default	FALSE	🐔 None		
		- 🥂 .String1	STRING	Default	FALSE	🗶 None	String size: [80]	
nort Status								
port Status	stilly.							
port Status mported tag information succes I warning(s)	ssfully.							



Weintek USA, Inc.

Programming visualization-

10. Create a [Numeric] object. Select an address under [Read/ Write address].

entral Data Entry Format Security Shape Font Description: Allow input Read/Write use different addresses Read/Write address Device: Device: Device: Device: Device: Device: Description Inst Inst Inst Inst Inst Inst Inst In	lew Numeric	Object	× uuu	899,	
Allow input Read/Write use different addresses Read/Write address Read/Write addresses Device : CODESY V2 Tag : Read1 Read1 Read1 Read1 REAL Notification REAL REAL REAL	General Data Descript	e Entry Format Security Shape Font			
Read/Write use different addresses Read/Write use different addresses Device : CODESYS V2 Tag : Real Name Data type Description Name Data type Name Data type Name Data type Name Data type Description Name Data type Name Data type Name Data type Name Data type Description Name Data type Description Description Description Description Description Description Description Description Description Description <th>Allov</th> <th>vinput</th> <th></th> <th></th> <th></th>	Allov	vinput			
Read/Write address Device: CODESYS V2 Settings Tag: Real1 REAL	Read	d/Write use different addresses			
Device: CODESYS V2 Settings Tag: Real1 REAL Notification Real Real Name Data type Description Real1 Real	Read/Write	address			
Notification Image Image <td>Device :</td> <td>CODESYS V2</td> <td>V Settings</td> <td></td> <td></td>	Device :	CODESYS V2	V Settings		
Name Data type Description Int1 INT Int1 Int1 In		Tags +	Non for		9
Notification Image: Second		Tags	Name	Data type	Description
Notification on Brail Brail Date Brail Bra	Natification		INt1	INT	
Notification on Enable The Teatly	Enab	le	.Real1	REAL	
	[]] Enab	ole.	.Real1	REAL	
	Notification of	20			
	Enab	ble			
		Tag: Real1			04

11. Go to [Project] » [Online Simulation] to run online simulator.

EasyBuilder Pro : Codesys les	t - [10 - WINDOV	M_010]						
File 🔡 🖬 🧆 🗢 H	ome Project	Object D	ata/History	lloT/Energy	View To	ol		
System Language Message & Font Setting	oile Online Simulation	Offline Simulation	Download (PC->HMI) Build	Build Downloa Files	ad Reboot HMI	Shape P	Picture Label	String Ma
Windows	▼ × 4	10 - WINDOW	V_010 × 11	- Window_011	1			
Object list	~			• Tubbu	100	aaaaaa	1.200	300
 3: Fast Selection 4: Common Window 5: Device Response 6: HMI Connection 7: Password Restriction 8: Storage Space Insufficie 9: Backup *10: WINDOW_010 *11: Window_011 12 13 14 	nt d				A IPEAH .B	2 ^{a(1)}		



Weintek USA, Inc.

References:

Weintek Labs website: http://www.weintek.com

ABB AC500-eCo-CPU PLC

https://new.abb.com/plc/programmable-logic-controllers-plcs/ac500eco/cpus



www.WeintekUSA.com Founded in 1996, WEINTEK LABS is a global-leading HMI manufacturer and is dedicated to the development, design, and manufacturing of practical HMI solutions. WEINTEK LAB's mission is to provide quality, customizable HMI-solutions that meet the needs of all industrial automation requirements while maintaining customer satisfaction by providing "on-demand" customer service. WEINTEK LABS brought their innovative technology to the United States in 2016, WEINTEK USA, INC., to provide quality and expedient solutions to the North American industrial market.

6219 NE 181s Street STE 120 Kenmore, WA 98028 425-488-1100

Page 10 of 10

Weintek USA, Inc.