# easySoft/Galileo Application Note for Communication from easySoft to Galileo

#### Introduction

easySoft is an intuitive, yet powerful software platform for Nano PLCs. easySoft contains basic visualization features, however for systems that require advanced graphics and visualization, Galileo should also be used in combination with easySoft. The programmer will need to configure easySoft and Galileo to be able to communicate with one another via Modbus TCP. The purpose of this application note provides instructions on how to exchange data between the two software applications.

## Configuring easySoft for Modbus TCP Communications

Once you have completed your easySoft program, you will need to ensure that you have set your device up to be a Modbus TCP slave. To do so, go to the Project view, then click on the Modbus tab. You will then need to manually enable the Modbus TCP server, and then select which marker and net words you want to allow to be used in Galileo. If your tags are not in this range, Galileo will not be able to access them. Additionally, if you want to be able to directly read physical I/O and clock data, the box must be manually checked for this too as seen below in Figure 1.

Device information   System settings   Security   Clock   NET   Ethernet   Webserver	Modbus E-Mail Assigned operands Device properties
Modbus TCP configuration	
Obisabled	Enable marker (read/write)
Modbus TCP server enabled	From To MW01 V MW10 V
	Enable NET marker (read/write)
	From To NW10 ~ NW15 ~
	Enable I/O and clock data reading
	itf Export

Figure 1

# Exporting Tags from easySoft

The next step is to export the program tags from easySoft as an itf file. This file will contain the inputs, outputs, markers, and Real Time Clock data that are used in the project. To create the file, click on the "itfExport..." button seen in Figure 1. It is important to note that the "itfExport..." feature is only available in Version 7.11 and newer of easySoft.

### **Create Modbus TCP Communication in Galileo**

You will need to add a Modbus TCP communication connection in Galileo. This can be done right away when creating a project by adding a Modbus TCP communication, otherwise the connection can be added after the project is created. To add communications after creating a project, go to the Device tab in Galileo and then click on PLC Communication. You then must select Modbus TCP and be sure to select the correct port on the interface column.

	Home	Cont	rols Device									
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Panel Type	Visualization	Connec	tions PLC Commun	nication CE	Configuration							
			Device									
Tags		P	LC Selection & Co	nfiguration								x
	[type here to filte	er]										
	)🏴 0: Modb	us 1	us 7							-		
Scre	🏓 #: Inter	nal 1									······	
ens	🕨 🎲 💲 Syste	m T	Selected com	nunications:								_
			Model				Interface			Description		
2			0 Modbu	s TCP		•	Ethernet1					
Ta												
S												
g												
)ata			Information:						PLC Parameters:			
Түре			Port Number:	502 (default)	) Infor to the 'Wir	down CE' d	ocumentatio	^	Default Unit Identifier:		0 🛊	<b>^</b>
ß			IF Address of Hostname: Refer to the Windows CE docu						Status Refresh [s]:		10 🜲	
II.			Little/Big E	ndian Mode:	Byte Order:				Address Offset:		1 🛊	
6			Little Endia	Little Endian 0, 1, 2, 3 MSB is on hig	higher addre		Port Number:		502 🖨			
Med			Big Endian Little Endia	an Twisted	3, 2, 1, 0 2, 3, 0, 1	LSB is on h	igher addres	=	Break [ms]:		0 🗘	J
a l			Big Endian	1, 0, 3, 2	1, 0, 3, 2		=	ID Address or Hostname		• • •		
(In all									Min. Cycle Time [ms]:		50 🚖	
111									a thu the state		•	
Scrip								-	Additional Parameters:			_
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			Communicatio	ns Manual								*
											OK Car	cel

Figure 2

Additionally, you will need to configure the PLC parameters. Set the Unit Identifier to 1, enter the IP address of the easyE4 into the designated spot, set Memory Alignment to 2 Bytes (Word), and lastly set the Endian Mode to "Little endian twisted" as seen below in Figure 3.

Default Unit Identifier:	1	ŧ	*
Status Refresh [s]:	10	÷	
Address Offset:	0	÷	
Port Number:	502	÷	
Break [ms]:	0	÷	
Startup Delay [s]:	5	ŧ	
IP Address or Hostname:	192.168.1.1		
Min. Cycle Time [ms]:	50	ŧ	1
Endian Mode:	Little endian twisted	•	
Memory alignment inside structures:	2 Byte (Word)	•	-

Figure 3

Once complete, the Modbus TCP connection you created will be added to the Tags tab of the project organization part of the application.



Figure 4

# Import Tags into Galileo

Once the Modbus TCP connection is added and can be found in the Tags tab, you can right click on it to import the itf you previously created.



Figure 5

Select the Communication connection you want the tags to import into, and then browse for the file and click next.

Galileo Tag Import			
Import options			
Specify the communication	n and the tag definition file Calile	should import. Click "Quick Im	ort" to import the tags now or
press "Next" to review the	e changes made by the Galileo tag	j import.	sore to import the tags now of
Communication:	📜 1: Modbus TCP	•	
Symbol file:			▼ Browse
	Quick impor	t	
	_		
Re-Import options:	Delete tags, which no longer exist	on the PLC.	
			Next > Cancel
	Fia		

Lastly review the list of tags and click "Finish" to import all the tags in the file.

#### Application Note AP050009EN

#### Effective August 2019

Galileo Tag Import				
Tag Import Review the tag import. Click "Finish" to apply the	merged ta	gs to your Galileo project.		
PI Not imported Tags:		Galileo Project:		
X			×	Show:
	<ul> <li></li> <li></li></ul>	X	•	Deleted tags     Deleted tags     Remaining tags     Data type changed     Address modified     Matched tags
				Einish Cancel

Figure 7

The tags will now be in your Galileo program .



# **Additional Help**

In the US or Canada: please contact the Technical Resource Center at 1-877-ETN-CARE or 1-877-326-2273 option 2, option 5.

All other supporting documentation is located on the Eaton web site at www.eaton.com/easy





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