

Rev. Aug 28, 2020

Weintek HMI to Allen Bradley Studio 5000 PLCs

Introduction: This instruction manual discusses how to export tags from Allen Bradley RSLogix 5000 and import tags into EasyBuilder Pro. The L5X file generated from RSLogix 5000 software contains information about **Data Type (user-defined)**, **IO Module**, and **Alias**. Importing tags via L5X file simplifies the steps to integrate with RSLogix 5000 projects and allows HMI developers to access their tags with a few clicks. It is easy to import your tags, multi-dimensional arrays, aliases, and I/O module tags directly into a Weintek HMI.

Note: Alias tags, which are tags assigned to other tags, are not accessible in EasyBuilder Pro when using CSV file to import tags.

Equipment & software: Easybuilder Pro version 6.03.01.339 or greater.

Exporting the PLC tags (PLC Side):

The L5X file, which is an XML file that can be edited in XML editor or text editor, is the accepted file format in EasyBuilder Pro. To generate your L5X file, the following steps are required.

- 1. Open your project in RSLogix 5000.
- 2. On the toolbar, go to [File] » [Save As].
- 3. The [Save As] dialog will pop up. Select the desired location to save it.
- 4. Enter the name of the file into the **File name** box.
- 5. From the Save as type list, select Logix Designer XML File (.*L5X) for the format type.
- 6. Click Save.

Importing the PLC tags (HMI Side):

- 1. Open a new project in Easybuilder Pro and select your HMI model.
- 2. To get the HMI talking to the Studio 5000 PLC, go to the [Home] tab » [System Parameters].

	-						
🔣 EasyBuilder Pro :	EBProject1 - [10 - WIND	OW_010]				
File 🔡 🖾 🗸	k 🥕 🗧 Ho	me Pro	oject Object Data/	'History IloT/Energy View Tool			
	P		∞ Find/Replace Addr		일 은 의 한 아 네 문 한 철 왕 /	7barSP • 5 •	S0 S1 S2 S3 0 🗘
Paste	System Parameters	Select	Window copy	∴ A □ □ □ □ ○ □ □ □	바운 문 한 왕 전 태구 태구는 동소		L1 L2 L3 L4 1 🗘
Clipboard			Editing	Object	Arrange	Font	State/Language

3. You will need to select one of the following drivers based on the PLC model you have.

Driver Name	PLC Models
Rockwell EtherNet/IP (CompactLogix)-Free	CompactLogix
Tag Names	
Rockwell EtherNet/IP (ControlLogix)-Free Tag	ControlLogix, ControlLogix with
Names	Ethernet module

Note: If using the **Rockwell EtherNet/IP (ControlLogix)-Free Tag Names** driver, please enter the correct CPU slot number for this driver based on which slot the PLC CPU unit is located.

Name : R	ockwell EtherNet/IP (0	ControlLogix)		
	@ Davia			
	@ Devic			
Location : Lo	ocal 🗸 🗸	Settings		
* Select Local for a de HMI.	vice connected to this	HMI, or Remote	for a device connec	ted through anothe
Device type :	Rockwell Eth	erNet/IP (Contro	lLogix) - Free Tag Na	mes 🛛 🕨
De	vice ID : 176, V. 1.70,	ALLEN_BRADLE	Y_EIP_CONTROL_TA	G.c30
I/F: Ef	thernet	~	Open Device Conn	ection Guide
* Support off-line simul	ation on HMI (use LB-:	12358).		
IP : 19	2.168.1.111, Port=4	4818		Settings
IP : 19	2.168.1.111, Port=4 Use UDP (User Datag	4818 ram Protocol)		Settings
IP: 19	2. 168. 1. 111, Port=4 Use UDP (User Datag	4818 ram Protocol)	_	Settings
IP : 19	2. 168. 1. 111, Port=4 Use UDP (User Datag	4818 ram Protocol) : 0		Settings
IP : [19	2.168.1.111, Port=4 Use UDP (User Datag CPU slot no.	4818 ram Protocol) : 0]	Settings
ei : ۹I	2.168.1.111, Port=4 Use UDP (User Datag CPU slot no.	4818 ram Protocol) : 0		Settings
IP: 19	2. 168. 1. 111, Port=4 Use UDP (User Datag CPU slot no.	4818 ram Protocol) : 0		Settings
IP : 19	2. 168. 1. 111, Port=4 Use UDP (User Datag CPU slot no.	4818 ram Protocol) : 0		Settings
IP : 19	2.168.1.111, Port=4 Use UDP (User Datag CPU slot no.	4818 ram Protocol) : 0		Settings
IP: 19	2. 168. 1. 111, Port=4 Use UDP (User Datag CPU slot no.	4818 ram Protocol) : 0		Settings
IP : 19	2. 168. 1. 111, Port=4 Use UDP (User Datag CPU slot no.	4818 ram Protocol) : 0		Settings

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In this case, the **Rockwell EtherNet/IP (CompactLogix)-Free Tag Names** driver is added to the Device List.

	-	
	Device	
Location :	Local \lor Settings	
* Select Local for a HMI.	device connected to this HMI, or Remote for a device connected thro	ough anothe
Device type :	Rockwell EtherNet/IP (CompactLogix) - Free Tag Names	•
	Device ID: 121, V.1.80, ALLEN_BRADLEY_EIP_TAG.c30	
I/F:	Ethernet V Open Device Connection (Guide
	102 169 1 111 Dect-44919	ettinas
IP :	192.100.1.111, POIL=+910	
19 :	Use UDP (User Datagram Protocol)	
16 :	Use UDP (User Datagram Protocol)	
14:	Use UDP (User Datagram Protocol)	
14 :	Use UDP (User Datagram Protocol)	
ци.:	Use UDP (User Datagram Protocol)	
: ч	Use UDP (User Datagram Protocol)	

4. Click on [Setting...] on the previous window. Enter the IP address and port number.

IP Address Settings
IP address : 192 , 168 , 1 , 216
Port no. : 44818
Timeout (sec) : 1.0 V Turn around delay (ms) : 0
The number of resending commands :
OK Cancel

5. Click [Import Tags...] button.

	Cellular D	ata Network	<	Time	Sync./DST	e	-Mail	Recipe Data	abase
De	vice	Model	Gene	ral	System	Remote	Security	Extended	l Memory
)evi	ice list:							What's	my IP?
		Name	Location	Device T	Гуре	Interface	I/F Protocol	Station No.	
¥	Local HMI	Local HMI	Local	cMT3090	0 (1024 x 768)	-	-	0	1
	Loc	Rockw	Local	Rockwel	EtherNet/I	Ethernet	TCP/IP	N/A	
	New H	МІ	New	Device/Ser	rver	Delete		Settings	

6. Select Import Files (*.L5X) and click OK.

	Data Network	:	Tin	me Sync./DST	e	-Mail	Recipe Databa	ase
Device	Model	Gene	ral	System	Remote	Security	Extended M	emory
evice list:							What's my	<u>(IP?</u>
	Name	Location	Devic	е Туре	Interface	I/F Protocol	Station No.	
 Local Hi 	MI Local HMI	Local	cMT30	090 (1024 x 768)	-	-	0	
Loc	Rockw	Local	Rockv	vell EtherNet/I	Ethernet	TCP/IP	N/A	
	Import Tag	IS					×	
	Import Tag	is type				Туре	×	
	Import Tag Importer Import Fil	type es (*.CSV))			Type Linear	×	
	Import Tag Importer Import Fil Import Fil	type es (*.CSV) es (*.L5X))			Type Linear Hierar	r rchical	
New	Import Tag Importer Import Fil Import Fil	type es (*.CSV) es (*.L5X))			Type Linear Hierar	r rchical	
New	Import Tag Importer Import Fil	type es (*.CSV) es (*.L5X))			Type Linea Hiera	r rchical	
New Import	Import Tag Importer Import Fil Import Fil	type es (*.CSV) es (*.L5X)	,			Type Linea Hiera	r rchical	

7. Navigate to the L5X file. Select this generated file and click **Open**.

💽 Open						×
← → • ↑ 📑 • 1	This PC → D	esktop → New folder		ٽ ~	Search New folder	Q
Organize 🔻 New fol	der					
 Quick access Desktop Downloads Documents Pictures AB_LSX_UserManu Burn Control 	* * * * * * * * * * * * * * * * * * *	Name A RSLogix500_tags.L5X	Date modified 9/25/2019 2:41 PM	Type L5X File	Size 575 KB	
 PPT Project Desktop Dopbox OpeDrive 						
A WeintekUSA_Engir This PC	neer 🗸			~	Import Files (*.L5X)	~
					Open	Cancel

8. If it succeeds, the below dialog will come up. Click **OK**.

EasyBuilder Pro	×
Imported tag information successful	y.
ОК	

- 9. Click **OK** to close the [System Parameter Settings] dialog.
- 10. To see your tags, create a basic object, such as [Bit Lamp] object or [Numeric] object.

Note: Boolean tags are only accessible in Bit objects. Word objects can only display Word tags.

Example of HMI Programming:

1. Create a [Bit Lamp] object. Select an address under [Read/ Write address].

gs	^	Name	Data type	Description	
≣ Local:1:C ≡ Local:1:I		BIT[0]	BOOL		
Local:2:C		BITT11	BOOL		
Elocal:2:1					
Data		BIT[2]	BOOL		
Array2D[25,5]		BIT[3]	BOOL		
ArrayBool[256] ArrayDINT[130]		BIT[4]	BOOL		
BigBoolArray[32768] BigIntArray[32767]		BIT[5]	BOOL		
BigSIntArray[32767]		🔲 BIT[6]	BOOL		
Comment2		BIT[7]	BOOL		
DintArrayBin[8]		BIT[8]	BOOL		
DIntArrayLevel[3,3,3] DIntBin		BIT[9]	BOOL		
IntArray[360]		BIT[10]	BOOL		
IntArrayLevel[3,3,3]		BIT[11]	BOOL		
N007[255]		BIT[12]	BOOL		
SIntArrayBin[8] SIntArrayLevel[3,3,3]		BIT[13]	BOOL		
SIntBin StringArray[10]		BIT[14]	BOOL		
Struct		BIT[15]	BOOL		
tonyBoolArray[32]					
tonyDint tonyDintArray[32]					
tonyInt					
tonyIntArray[32]					
tonySIntArray[32]					
VarDint					
VarString					
VarStringArray[10]					
VarUDT					
VarUDTarray[3]					
VarUDTofUDT					
Program:MainProgram	*				
description					

2. Click **OK**.

Dec	urity Snape Label Profile		
Comr	nent:		
	Bit Lamp	○ Toggle	Switch
ead addre	55		
ead addre Device :	ss Rockwell EtherNet/IP (Compac	tLogix)	✓ Settings
ead addre Device : Tag :	ss Rockwell EtherNet/IP (Compac Local:2:O.Data.0	tLogix)	✓ Settings ✓ BOOL

Tags	Name	Data type	Description
Local:1:C	[0,0]	DINT	
Local:2:C	I [0 1]	DINT	
Local:2:1		2017	
Array2D[25,5]	[0,2]	DINT	
ArrayDINT[130]	[0,3]	DINT	
BigIntArray[32767]	[0,4]	DINT	
BigRealArray[32767] BigSIntArray[32767]	[1,0]	DINT	
BitDIntArray[32767]	[1,1]	DINT	
DintArrayEin[8]	[1,2]	DINT	
IntArray[360] IntArrayBin[8]	[1,3]	DINT	
IntArrayLevel[3,3,3]	[1,4]	DINT	
RealArrayLevel[3,3,3]	[2,0]	DINT	
SintArrayEevel[3,3,3]	[2,1]	DINT	
> 🚦 StringArray[10] > 🔩 Struct		DINT	
Struct_Tony[5] tonyDintArray[32]	[2,3]	DINT	
tonyIntArray[32]	[2,4]	DINT	
tonySintArray[32]	[3,0]	DINT	
 VarString VarStringArray[10] 	(3,1]	DINT	
> 📲 VarUDT > 📕 VarUDTarray[3]	[3,2]	DINT	
VarUDTofUDT Program:MainProgram	[3,3]	DINT	
- , , ,	[3,4]	DINT	
	[4,0]	DINT	
	[4,1]	DINT	
	[4,2]	DINT	
	[4,3]	DINT	
	[4,4]	DINT	

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

4. Go to [Format] tab.

eneral Data	a Entry	Format	Trigger Action Setting	Security	Shape	Font
Descrip	tion :					
Allov	v input					
Rea	d/Write u	se differ	ent addresses			
Rea	d/Write u	se differ	ent addresses			
Rea	d/Write u	se differ	ent addresses			
Read/Write	d/Write u	se differ	ent addresses			
Read/Write Device :	d/Write u address - Rockwe	se differo	ent addresses et/IP (CompactLogix)		~	Settings

5. Select the correct data type.

New Numeric Object	×
General Data Entry Format Trigger Action Setting Security Shape Font	
Device data format : 32-bit Signed V Mask	
Left of decimal Pt. : 4 Right of decimal Pt. : 0	* *
Display format	
Enable	

6. Create a [ASCII] object. Select an address under [Read/ Write address].

🕨 🛅 Tags 🕨 🏪 VarString 🕨 🚼 DATA[8	2] 🕨		Q	
✓ Tags	Name	Data type	Description	^
Array2D(25,5) ArrayD(NT[130] BigIntArray[32767] BigSIntArray[32767] DintArray[32767] DintArray[6] DintArrayLevel[3,3,3]	[0]	SINT		
	[]	SINT		
	[2]	SINT		
	[3]	SINT		
IntArray[300]	[4]	SINT		
IntArrayLevel[3,3,3] N007[255]	[5]	SINT		
SIntArrayBin[8] SIntArrayLevel[3.3.3]	[6]	SINT		
StringArray[10]	[7]	SINT		
Struct_Tony[5]	[8]	SINT		
tonyDIntArray[32]	[9]	SINT		
tonySIntArray[32]	[10]	SINT		
DATA[82]	[11]	SINT		
> tarubanay(10)	[[12]	SINT		
> tarUDTarray[3]	[13]	SINT		
	[14]	SINT		
	[[15]	SINT		
	[[16]	SINT		
	[17]	SINT		
	[18]	SINT		
	[[19]	SINT		
	[20]	SINT		
	[21]	SINT		
	[22]	SINT		
	[23]	SINT		
	[24]	SINT		~
Show description	٢			>
The second second second second				01

7. Click the [Settings...] button and set the appropriate word count.

		×
Device :	Rockwell EtherNet/IP (CompactLogix)	~
Tag :	VarString.DATA[0]	~
Data type :	SINT	
	Index register	
Element count :	28	
	OK Cancel	

8. While the [General] tab is selected ensure that the [Data format] is set to [Unicode].

Data format		
Unicode		

Note: If [Data format] is not set to [Unicode], String data may not transfer correctly.



9. Go to [Project] » [Online Simulation] to run the emulator.





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.

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