

V - 10.20.2011

How to use the EthernetIP Driver

Creating the Links

To create a link to an A-B CompactLogix/ControlLogix PLC using Ethernet I/P protocol, Click on the menu item Panel>Link>Add to get the Add Link dialog box and make the selections as shown in the following example.

Add Link	×
Properties	
Link Number:	1
Link Name:	My A-B PLC
Link Type:	Direct Link (Ethemet)
Device/Serve	r: Allen Bradley CompactLogix/ControlLogix Ethemet/IP Tag
Link Port:	Ethemet 1 -

After adding the link, click on the menu item Panel>Link>Properties>My A-B PLC to get the Link Properties dialog box. Click on the Parameter tab and specify the IP address of the PLC as shown in the following example.

Link Properties	×
General Parameter	
IP Address: 192.168.1.222	
☑ Use Default Port	
Port: 44818	
Node Address: 1	
Timeout Time: 0 (x 0.1 Sec.)	
Command Delay: 0 🚖 (x 0.1 Sec.)	
Retry Count: 0	

Importing Tags

To make things simple, it is recommended that your HMI only access the data of the basic type in the PLC when you are doing the first test. The basic data types include: BOOL, INT, DINT, UINT, UDINT, REAL, STRING, COUNTER, and TIMER. You need to import the tags of the PLC's project in order that you can configure the HMI to access the PLC data.

The steps to import the tags are shown in the following:

- 1) Use RSLogix 5000 to export the tags of the PLC project to a CSV file.
- 2) In the PM Designer, click on Panel>Tags to get the Tag table of the current panel application.
- 3) Right-click the node of the A-B PLC link on the link tree of the tag table to get the pop-up menu as shown in the following picture.

	Tag Table (I	My Te	est)					
	Internet	Internal Memory My My	My A	-B I	PLC Data Type			
	Import Tag Export Tag				Name	Alias For	Data Type	
			Export All Ta	gs				
	Import Data		Type					
			Export Data	Туре				
			Add Group					
			Delete Group	р				
			Rename Gro	up				
					,			

4) Click Import Tag on the pop-up menu to start the import process. You need to specify the CSV file that stores the exported tags of the PLC project. A list of the importable tags will be shown in the preview table as the example shown below after the CSV file is successfully read.

	Name	Alias For	Data Type	Address	Scan Rate	Description
	aliasTT_PRE	tagTT.PRE	DINT			
2	tagBOOL		BOOL		Normal	
3	tagBOOLArray		BOOL[256]		Normal	
4	tagDINT		DINT		Normal	
5	tagDINTArray		DINT[512]		Normal	
6	tagINT		INT[2,65537]		Normal	
7	tagREAL		REAL		Normal	
8	🗖 tagStart		TIMER		Normal	
8.1	- PRE		DINT			
8.2	- ACC		DINT			
8.3	EN EN		BOOL			
8.4	— TT		BOOL			
8.5	DN DN		BOOL			
9	agTimer		TIMER		Normal	
9.1	PRE		DINT			
9.2	- ACC		DINT			
9.3	EN EN		BOOL			
9.4	TT -		BOOL			
9.5	DN DN		BOOL			
•						

5) Click the Import button to complete the import process.

Important Notes:

- 1) All the existing tags of a link will be removed when you import a new set of tags.
- 2) A tag can be imported if its data type is a basic one or the data type is already defined in the Data Type page of the link in the tag table.

Importing Tags

There are three methods to define a user data type (UDT):

- 1) Create and define a data type manually in the Data Type page of the link in the tag table. When you define a data type, the name of the data type, the number of its data members, and the name and the data type of each of its data members must be exactly the same as the data type was defined in the PLC project, or the PLC will not recognize the data type. Apparently this is not an efficient way to define a data type when you can import a data type by the other 2 methods described below.
- 2) Copy the definition of a data type in RSLogix and paste it in a Data Type page of the PM Designer.
 - a. In RSLogix, select "User Defined Data Type".
 - b. Select the desired data type.
 - c. Select all the members of the data type and right-click and copy.
 - d. In PM Designer, open the tag table.
 - e. Select the link. Right-click the link to get the pop-up menu. Click "Import Data Type..." to get the Import Data Type dialog box.

Import Data Type			A REAL PROPERTY AND A REAL		X
Paste From Clipboard	Import From File	Convert		OK	Cancel
			Data Type Definition:	 Show the last converted data types 	oe 🔘 Show all data types
•					

f. Click the "Paste From Clipboard" button to import the text of the data type definition.

Ir	mport Data Type	- 4		_		×
	Paste From Clipboard Import From File Convert				ОК	Cancel
	Name the imported data type here:					
	Imported text from the dipboard:		Data Type Definition:	Show the la	ast converted data type	Show all data types
	Imem1 INT Decimal 1 0° Imem2 diStruct 2 0° Im1 DINT Decimal 1° Im2 INT Decimal 1° "m3 TIMER 1° "PRE DINT Decimal 2° "NO Decimal 2° "BN BOOL Decimal 2° "T BOOL Decimal 2° "TH BOOL Decimal 2° "m4 INT Decimal 1° "mem3 DINT Decimal 3 "mem3 DINT Decimal 3	•				

- g. Specify the name of the imported data type. The name must be the same as defined in RSLogix.
- h. Click "Convert" button to convert the imported text to the data type definition.

mport Data Type	-				×
Paste From Clipboard Import From File Convert				ОК	Cancel
Name the imported data type here: MyDataType1					
Imported text from the dipboard:		Data Type D	Definition:	Show the last converted data type	Show all data types
"mem1 INT Decimal 1 0"	*		Name	Data Type	Description
"m1 DINT Decimal 1"		1	MyDataType1		
"m2 INT Decimal 1" "m3 TIMER 1"		1.1	mem1	INT	
"PRE DINT Decimal 2" "ACC DINT Decimal 2"		1.2	mem2	dtStruct	
"EN BOOL Decimal 2"		1.2.1	m1	DINT	
"DN BOOL Decimal 2"		1.2.2	- m2	INT	
"m4 INT Decimal 1" "m5 STRING 1"		1.2.3	- 🖵 m3	TIMER	
"mem3 DINT Decimal 3 0"		1.2.3.1	PRE PRE	DINT	
		1.2.3.2	ACC	DINT	
		1.2.3.3	EN EN	BOOL	
		1.2.3.4	Π - Π	BOOL	
		1.2.3.5	DN	BOOL	
		1.2.4	- m4	INT	
		1.2.5		STRING	
		1.2.5.1	LEN	DINT	
		1.2.5.2	DATA	INT[82]	
		1.3	mem3	DINT	
	Ŧ	1			

- i. Click "OK" button to actually import the data type and exit the dialog box.
- 3) Import a data type definition file generated by RSLogix. This method is under development.

Important Notes:

1) A data type can be imported if the data types of all of its members are already defined.