

TECH NOTE :: ClipX with an Allen Bradley PLC

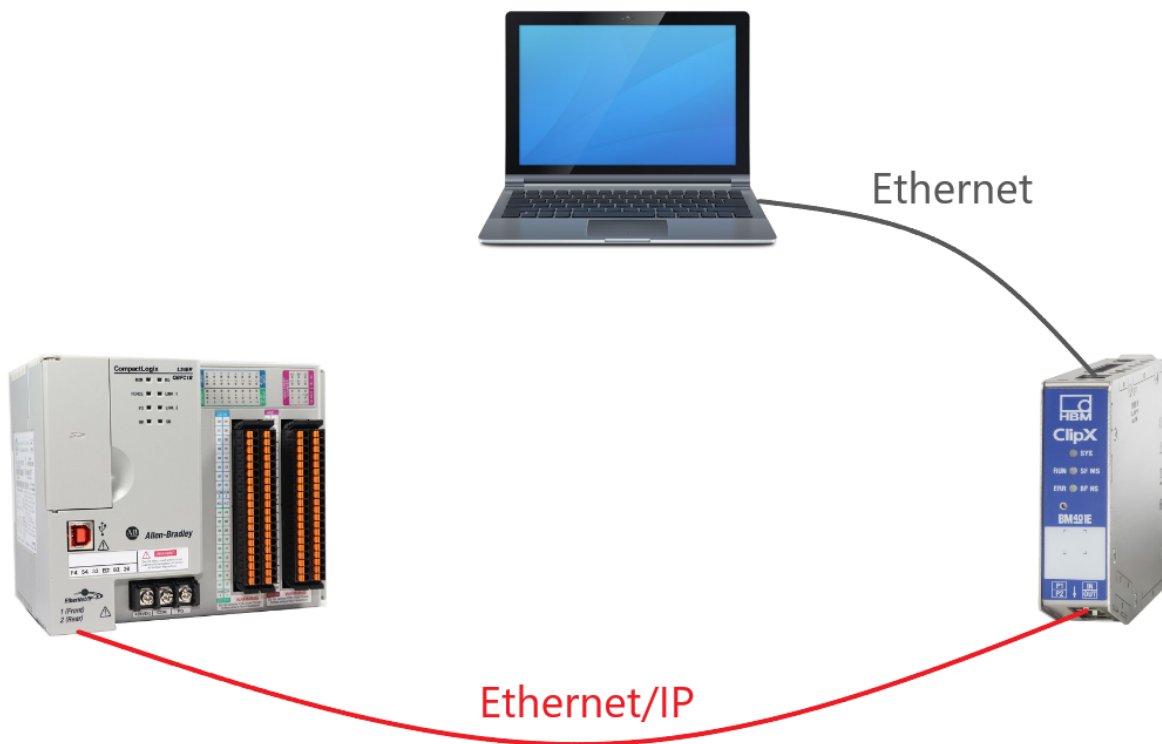
Version: 2020-06-09

Author: Michael Guckes, Roland Siepmann

Status: HBM: Public

Short description

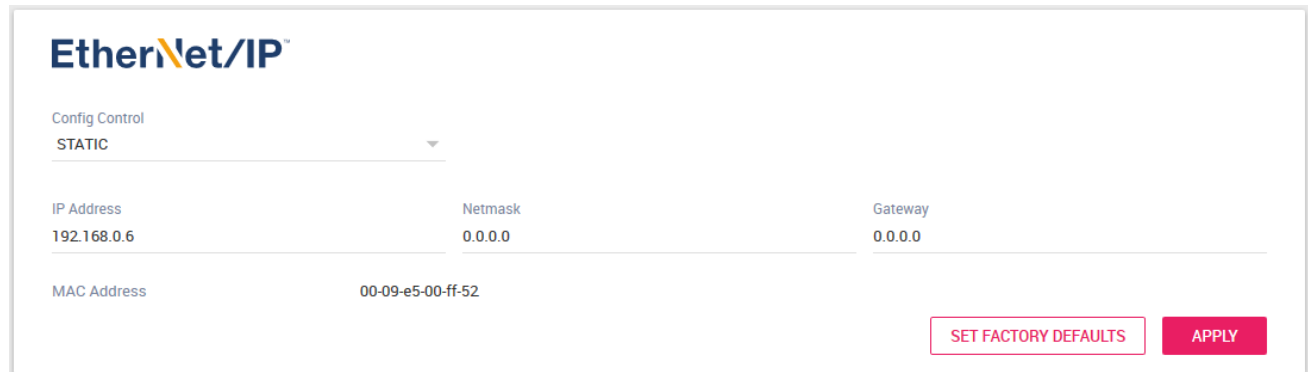
This is an instruction for using ClipX an Allen Bradley PLC via Ethernet/IP. In this example is described, how to create a project, establish a connection between ClipX and the plc and transmitting signals from ClipX to the plc.



ClipX settings and project setup in RSLOGIX 5000

Open the ClipX webserver.

- Go to the fieldbus menu
- Activate the Ethernet/IP protocol
- Select an IP address
- Confirm with 'Apply'



EtherNet/IP™

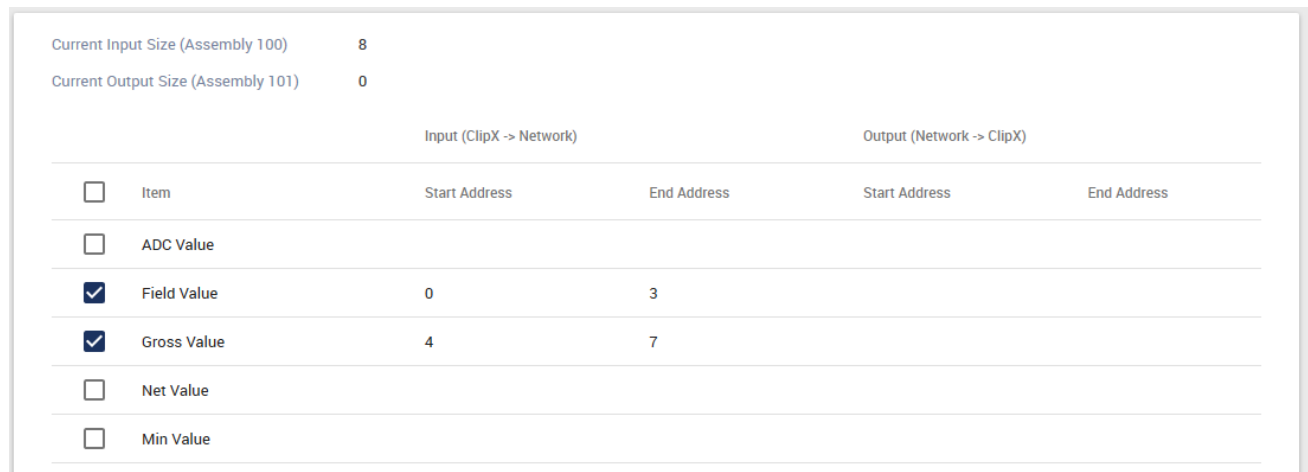
Config Control
STATIC

IP Address: 192.168.0.6 Netmask: 0.0.0.0 Gateway: 0.0.0.0

MAC Address: 00-09-e5-00-ff-52

SET FACTORY DEFAULTS APPLY

- Select the channels that should be transmitted
- Click 'Apply' lower in the menu
- After applying, note the input and output size



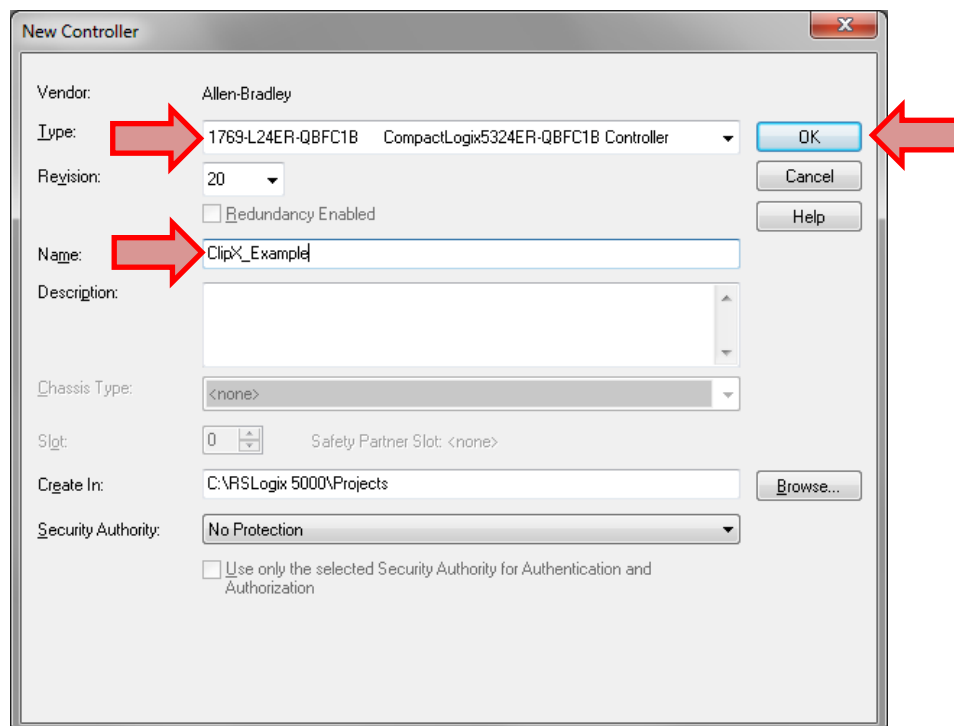
Current Input Size (Assembly 100): 8

Current Output Size (Assembly 101): 0

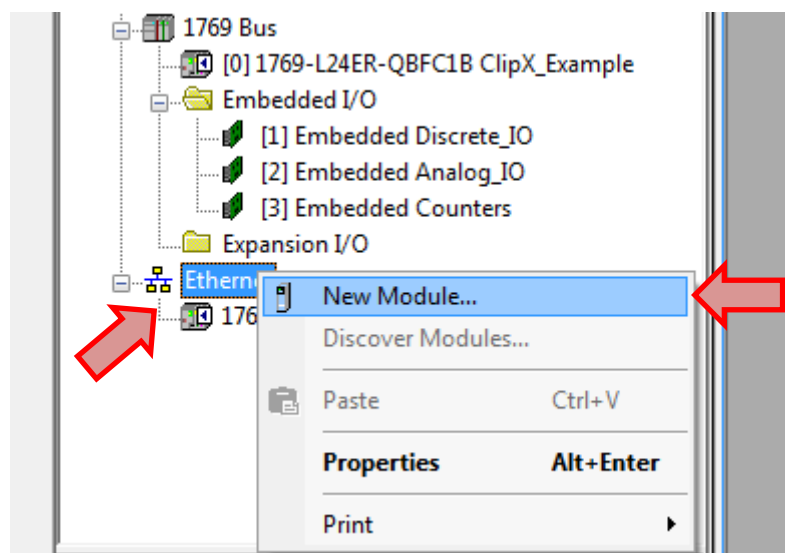
Input (ClipX -> Network)			Output (Network -> ClipX)	
	Start Address	End Address	Start Address	End Address
<input type="checkbox"/> Item				
<input type="checkbox"/> ADC Value				
<input checked="" type="checkbox"/> Field Value	0	3		
<input checked="" type="checkbox"/> Gross Value	4	7		
<input type="checkbox"/> Net Value				
<input type="checkbox"/> Min Value				

Run the RSLOGIX 5000 software and create a new project.

- Select your plc
- Set a name for the project
- Confirm with 'OK'

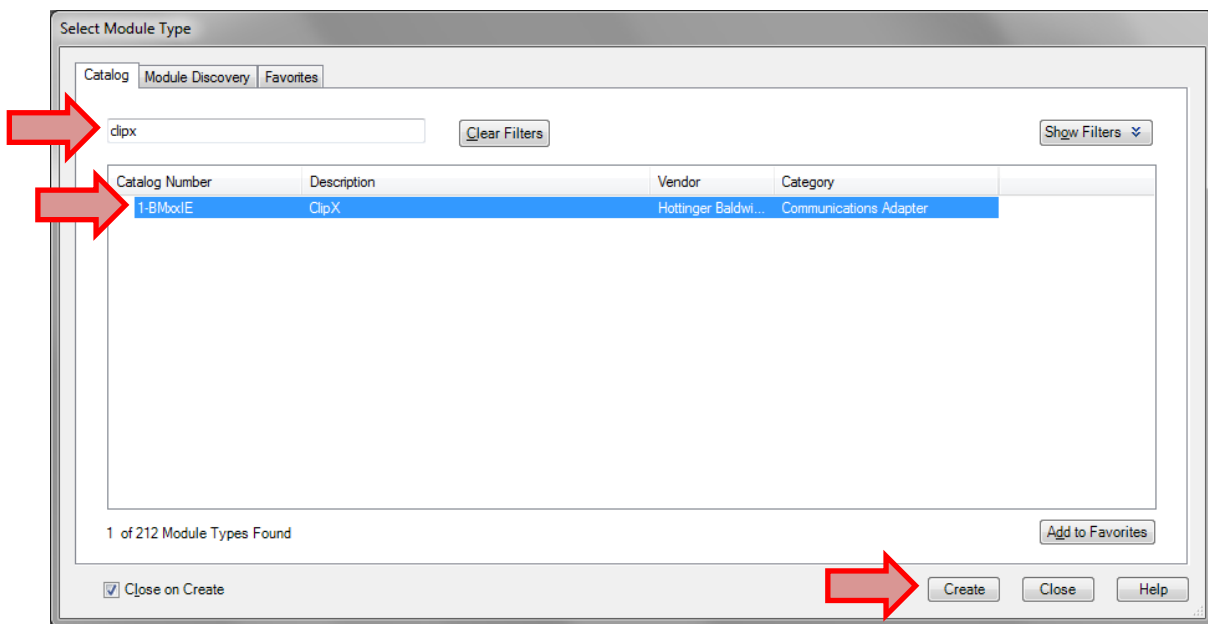


- Right click 'Ethernet' in the left menu and select 'New Module...'

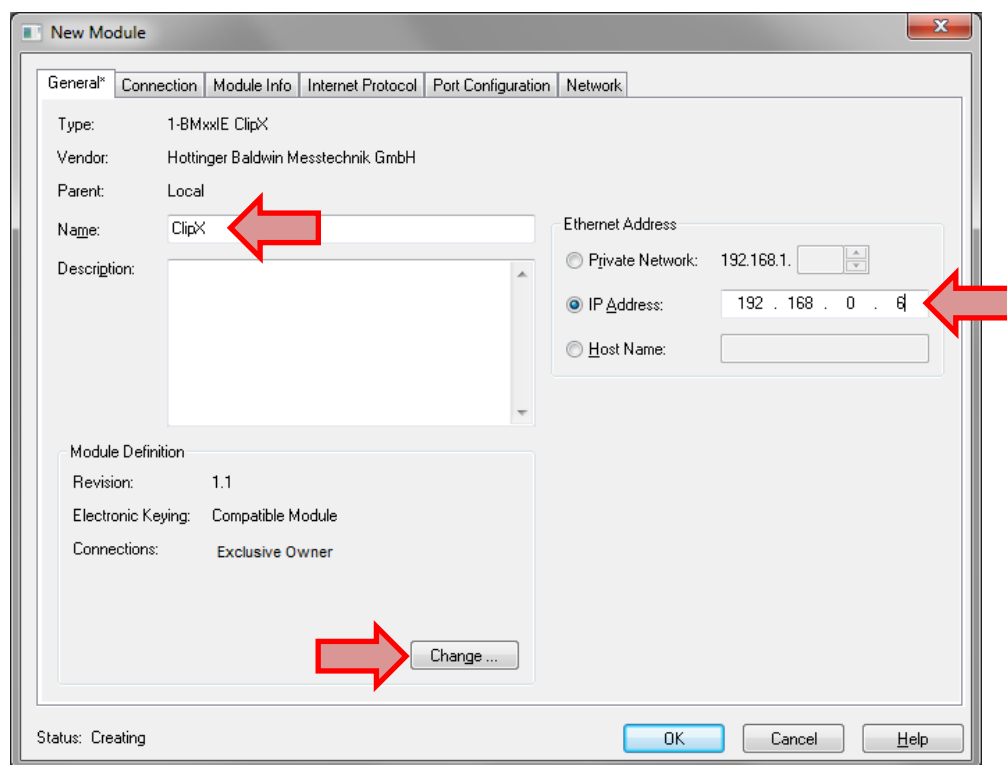


- In the following dialog select ClipX (use the search function)

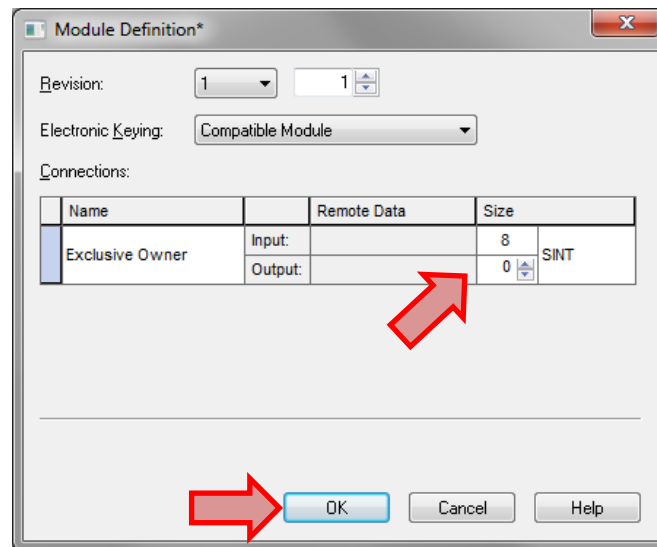
- Continue with 'Create'



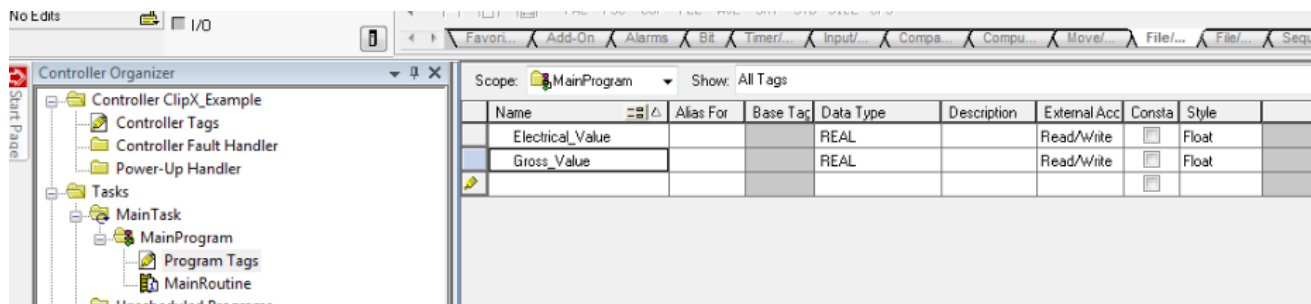
- Set a name and enter the Ethernet/IP address of ClipX
- Click 'Change' at 'Module Definition'



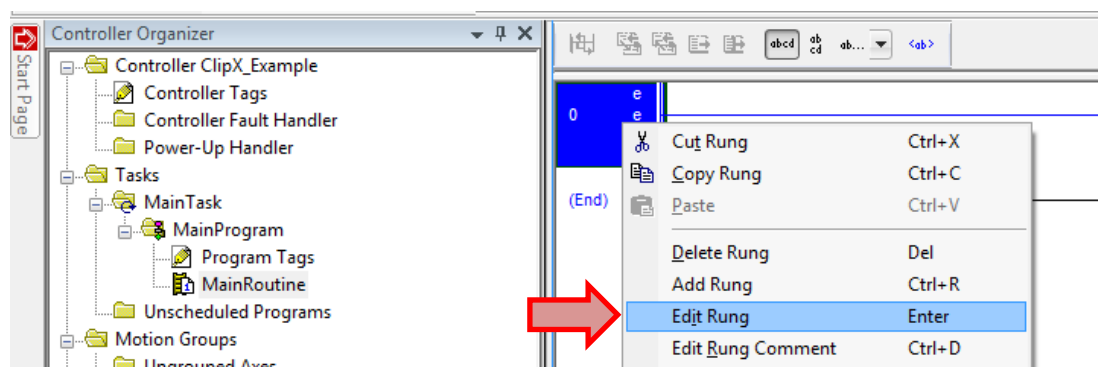
- Set the input and output size that is shown in the ClipX webserver
- Confirm all dialogs with 'OK'



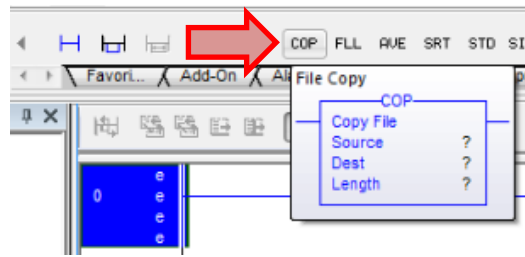
- Go to Tasks → Main Task → Main Program → Program Tags and switch to the 'Edit Tags' tab
- Add the signals that are transmitted as tags with data type 'REAL'



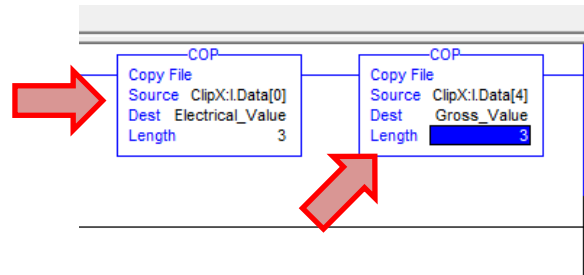
- Go to Tasks → Main Task → Main Program → MainRoutine
- Right click the upper line and select 'Edit Rung'



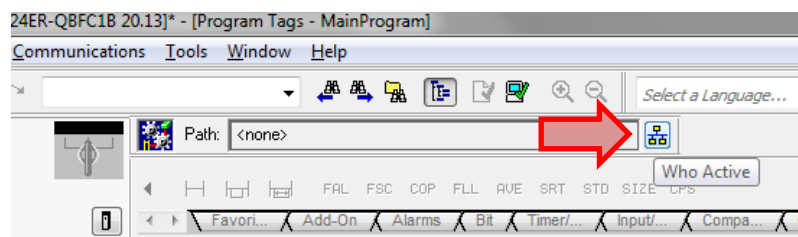
- Add two COPY blocks at 'File/Misc'



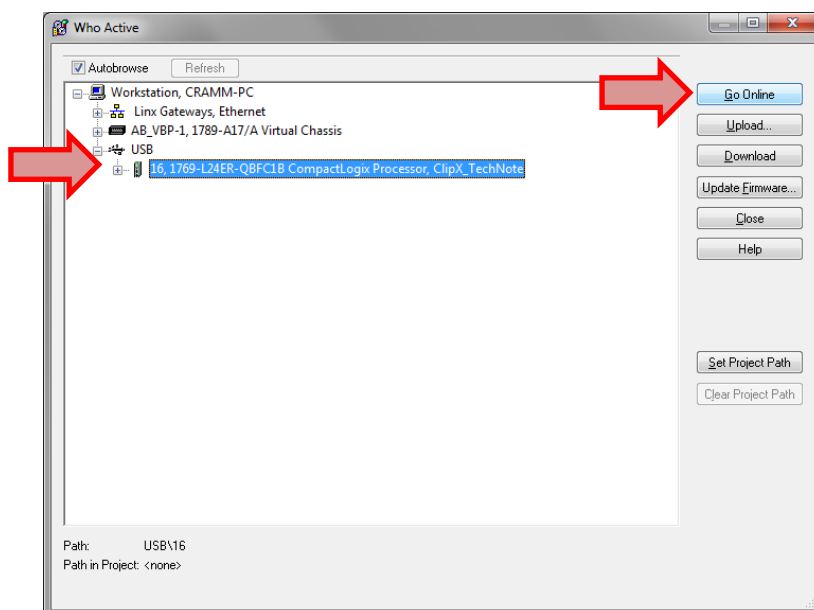
- Set the parameters as shown below



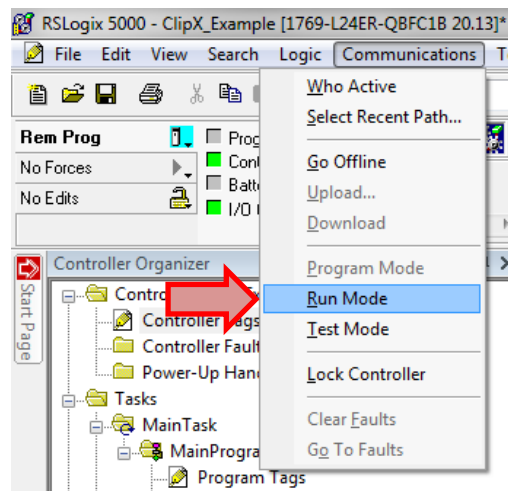
- Select the path symbol



- Select the PLC at 'USB'
- Click 'Go online' and download the program to the PLC



- Select Communications and click 'Run Mode' (confirm with 'yes')



Now you can see the byte values at 'control tags' and the float values at 'program tags'.

Controller Organizer

Scope: ClipX_Example Show: All Tags

Name	Value	Force Mask	Style	Data Type	Description	Constant
ClipX	{...}	{...}		_0389:1_BMx4E...		<input type="checkbox"/>
ClipX.I.ConnectionFaulted	0		Decimal	BOOL		
ClipX.I.RunMode	1		Decimal	BOOL		
ClipX.I.Data	{...}	{...}		SINT[8]		
+ ClipX.I.Data[0]	-115		Decimal	SINT		
+ ClipX.I.Data[1]	79		Decimal	SINT		
+ ClipX.I.Data[2]	25		Decimal	SINT		
+ ClipX.I.Data[3]	59		Decimal	SINT		
+ ClipX.I.Data[4]	-80		Decimal	SINT		
+ ClipX.I.Data[5]	-73		Decimal	SINT		
+ ClipX.I.Data[6]	-107		Decimal	SINT		
+ ClipX.I.Data[7]	63		Decimal	SINT		

Controller Organizer

Scope: MainProgram Show: All Tags

Name	Value	Force Mask	Style	Data Type	Description	Constant
Electrical_Value	2.30337540e-003		Float	REAL		<input type="checkbox"/>
Gross_Value	1.1516877		Float	REAL		<input type="checkbox"/>

Disclaimer

These examples are for illustrative purposes only. They cannot be used as the basis for any warranty or liability claims.