CIP Modbus Object Write Example

TSXETC101 using
Explicit Messaging via Send_Req

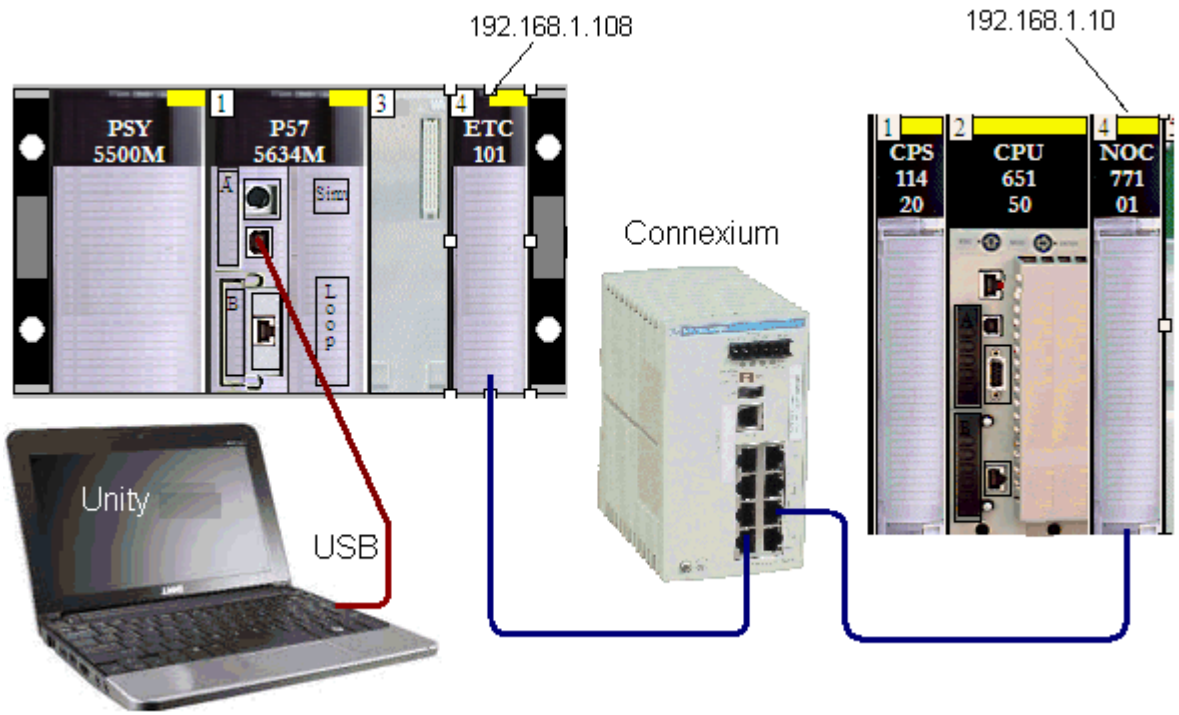
Dec 15, 2012

Version 1.0

Schneider Electric

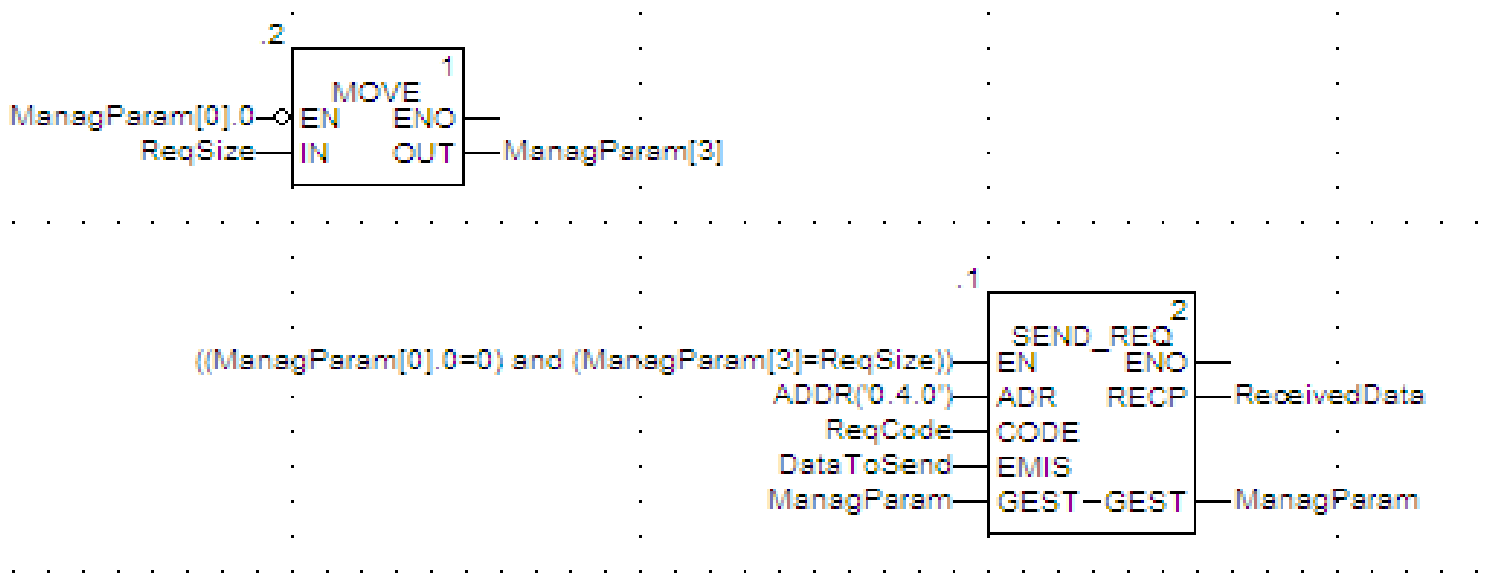
PLC Hardware Configuration

- TSXETC101 (192.168.1.108) to query NOC77101 (192.168.1.10) with Explicit Messaging CIP Modbus Object WRITE.
- The USB connection is for Unity to PLC communications.



Unity Program

- Note to add the ‘Pin negation’ on the AND_BOOL IN1 input.



CIP Request
DataToSend and ManagParam

Modification | Force

Name	Value	Type	Comment
ManagParam[0].0	1	BOOL	1=Start messaging
ReqCode	14	INT	Variable that identifies the function type (0E = CIP Request)
ReqSize	26	INT	DataToSend length=13 words (26 bytes)
DataToSend		ARRAY[0..12] O...	
DataToSend[0]	16#000E	INT	Explicit Message: High Byte: unconnected=0, connected=1 Low Byte: E=CIP Request
DataToSend[1]	16#C0A8	INT	IP Address: Byte 4 (192), Byte 3 (168)
DataToSend[2]	16#010A	INT	IP Address: Byte 2 (001), Byte 1 (010)
DataToSend[3]	16#0250	INT	CIP message (Request Path Size / Service Code)
DataToSend[4]	16#4420	INT	Class, Class Segment
DataToSend[5]	16#0124	INT	Instance, Instance Segment
DataToSend[6]	1	INT	Starting Register
DataToSend[7]	5	INT	Number of Registers to Write If the 'Number of Registers to Write' changes, then
DataToSend[8]	1111	INT	First register value the ReqSize value will have to be adjusted by +/- 2 bytes
DataToSend[9]	2222	INT	Second register value for each register added or subtracted from the message.
DataToSend[10]	3333	INT	Third register value
DataToSend[11]	4444	INT	Fourth register value
DataToSend[12]	5555	INT	Fifth register value
ManagParam		ARRAY[0..3] OF...	
ManagParam[0]	16#3E01	INT	Activity Bit
ManagParam[1]	0	INT	Operation Report, Communication Report
ManagParam[2]	3	INT	Function Block TimeOut
ManagParam[3]	26	INT	Length of DataToSend Parameter (in Bytes)

CIP Response ReceivedData

- ReceivedData[0] = 00D0 good response
- ReceivedData[1] = Error message
- ReceivedData[2] = Responds with starting register value from DataToSend[6]
- ReceivedData[3] = Responds with number of registers written to from DataToSend[7]

ReceivedData		ARRAY[0..10] O...	
ReceivedData[0]	16#00D0	INT	
ReceivedData[1]	16#0000	INT	
ReceivedData[2]	16#0001	INT	Starting Register
ReceivedData[3]	16#0005	INT	Number of Registers written to