

Sending Messages to EZMarquee using TIA Portal

This guide will walk you through the setup of communicating from a Siemens PLC to an EZMarquee using Industrial Ethernet (TCP). It will show you how to setup the slave EZMarquee and program Siemens PLC to send message to the slave EZMarquee using TIA Portal.

Setup of EZMarquee

To setup the EZMarquee the port number needs to be changed on it due to TIA portal not being able to address ports higher 49151 and EZMarquee are factory preset to 49999. To do this follow the directions below.

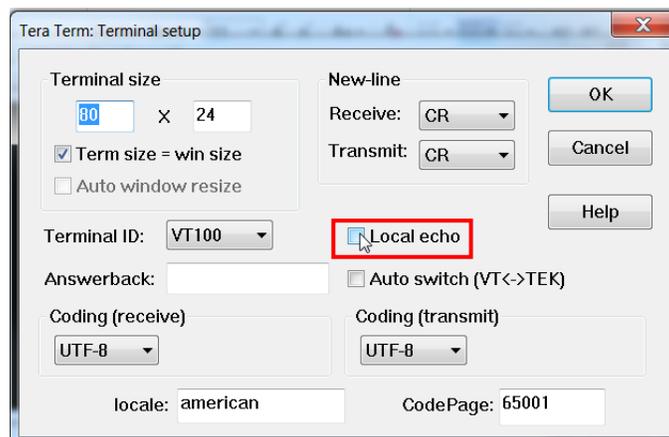
How to change port number on EZMarquee

Note: if you change the port number on the EZMarquee, the EZMarquee software will not communicate to the EZMarquee anymore (Recommend setting the IP address using EZMarquee software before changing port number)

1. To change the port number of the EZMarquee, a software like Terra Term is needed.
2. Once the software is installed connect the EZMarquee serially (RS232, RS422 or RS485) to your computer.
3. Start the Terra Term software. Select the serial com port of the EZMarquee. Then click OK.



4. Then going to **Setup** → **Terminal** turn on local echo for seeing what you are sending.



5. Then in **Setup** → **Serial Port..** make sure that the settings match the settings of the EZMarquee.

Baud Rate: 9600 or 38400 (based on Marquee)

Data: 8 Bits

Parity: None

Stop: 1 bit

Flow Control: None

6. Now type in the following command (it will change the port number [PN] to the number)

`^P1N#####` (example: `^P1N02000` [will change PN to 2000 which is Siemens default])

7. If you would like to, you can also send the following commands to setup the IP Address of the EZMarquee.

IP Address: `^P1A192.168.000.001`

Subnet Mask: `^P1M255.255.255.000`

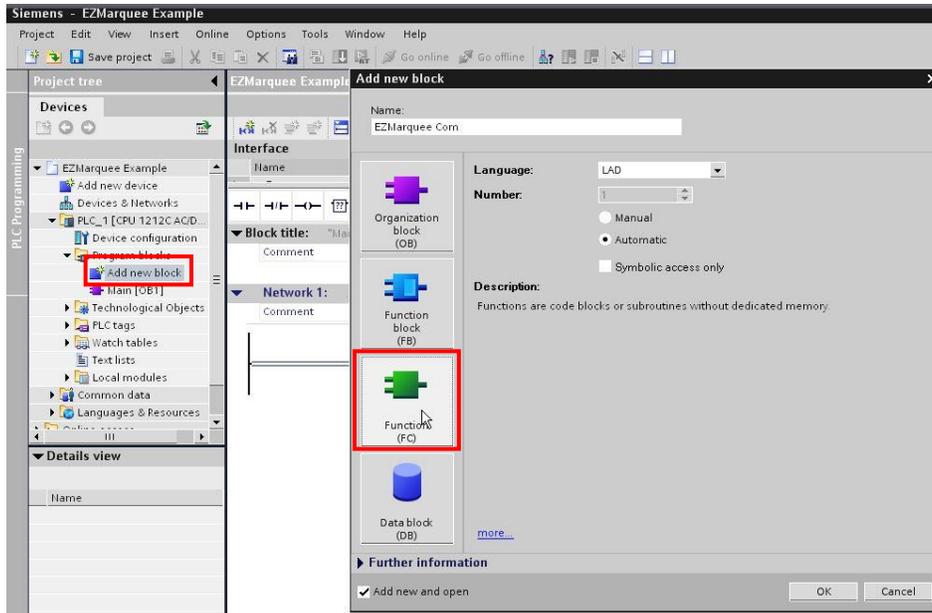
Gateway: `^P1G000.000.000.000`

8. Once you have sent the commands, power cycle the EZMarquee and make sure your settings have been set. The new settings will cycle through on the EZMarquee upon power up.
9. The EZMarquee is now setup to communicate with the Siemens PLC over Ethernet. You can disconnect the serial cable at this point.

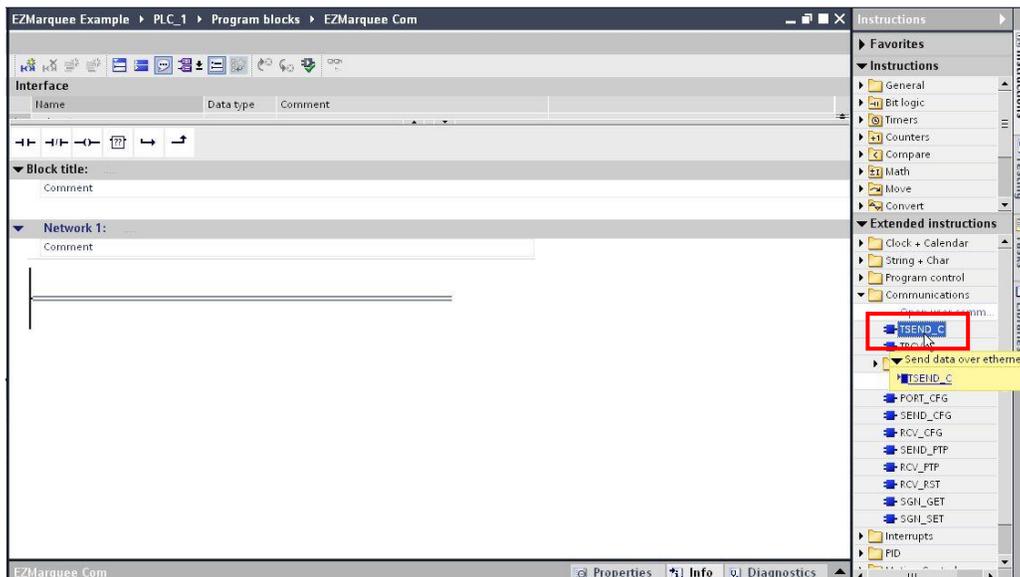
Setup of Siemens PLC using TIA Portal

This setup will show how to create a new project using TIA Portal v10 (or greater), which will send messages to the EZMarquee. Please follow the steps below to create a program for a Siemens PLC. Currently we support Siemens PLC models like S7-1200, S7-1500 and any other models that use TIA Portal for programming.

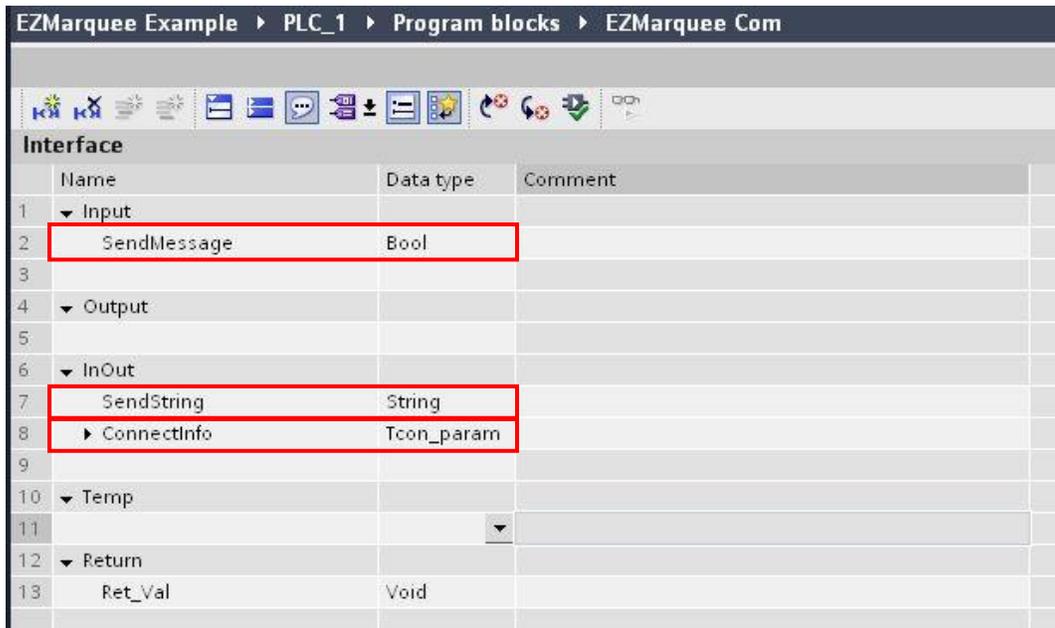
1. Open up a new project and add your PLC to it using the add hardware setup.
2. In the new project click on “Add new block”. Then select the Function making sure that it is using the Language LAD and uncheck the symbolic access only.



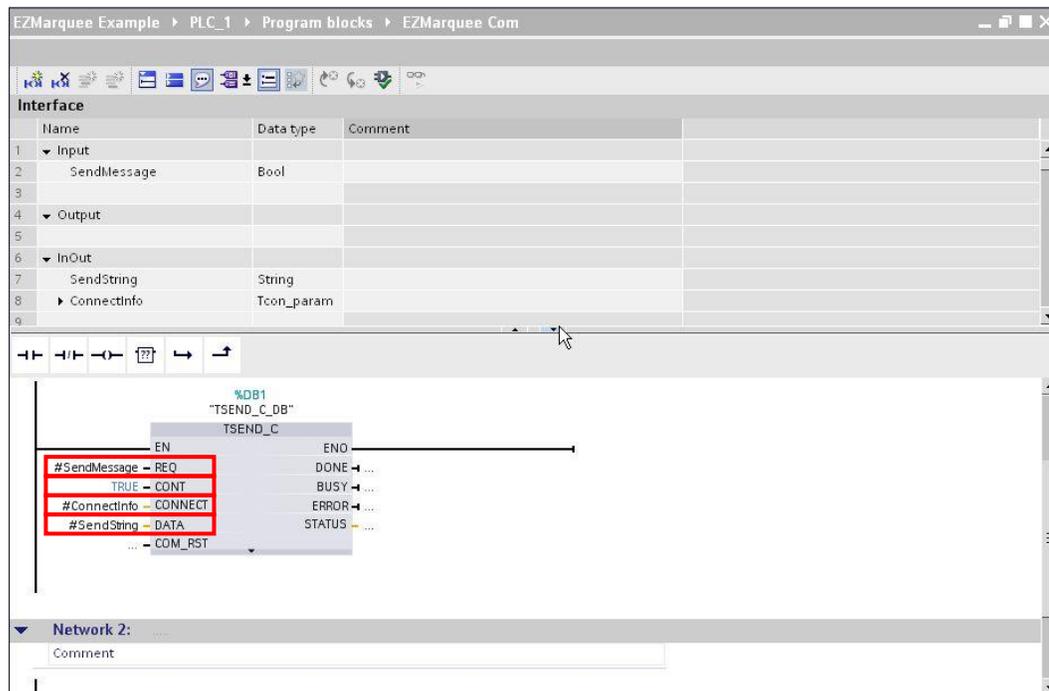
3. In this function you need to add the TSEND_C Communication Function block to the ladder logic. After dragging it into the ladder logic a pop up will display. Select Single Instance Data Block. Once in the ladder logic you will now have some new blocks in your project area.



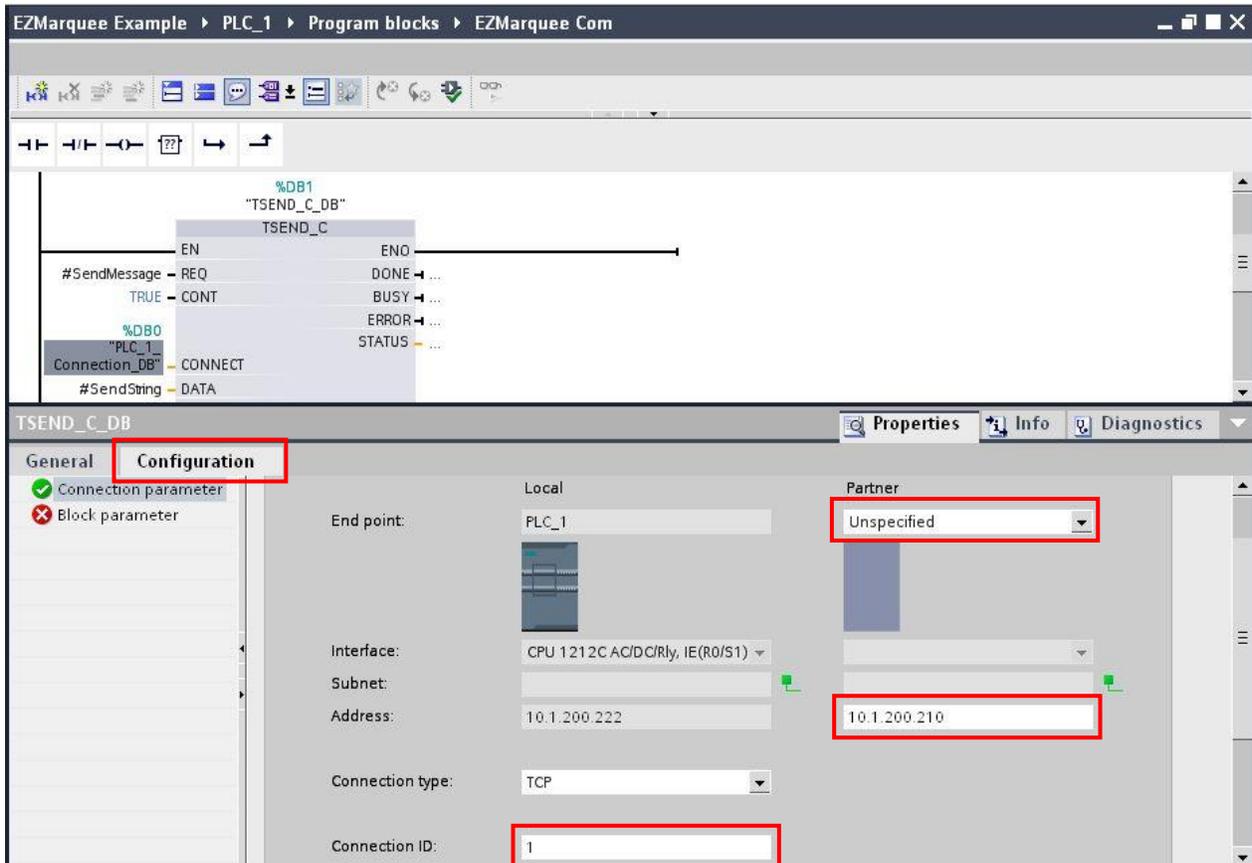
- Now in the EZMarquee Com Function add 1 Input and 2 InOut tags (this interface is a drop down menu from the top of the function block area). The 3 variables are 1 Boolean which will actually send the message, 1 String which is the message itself, and 1 Tcon_param which includes the data for the connection.



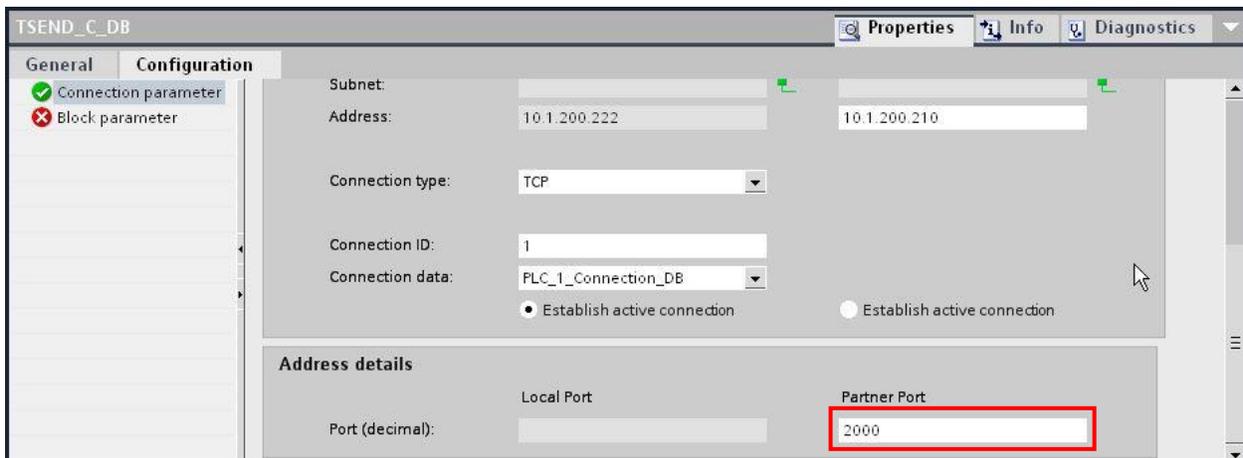
- Now drag or input the 3 tags in the TSEND_C_DB command. Also set the CONT input to TRUE. No output variables are necessary.



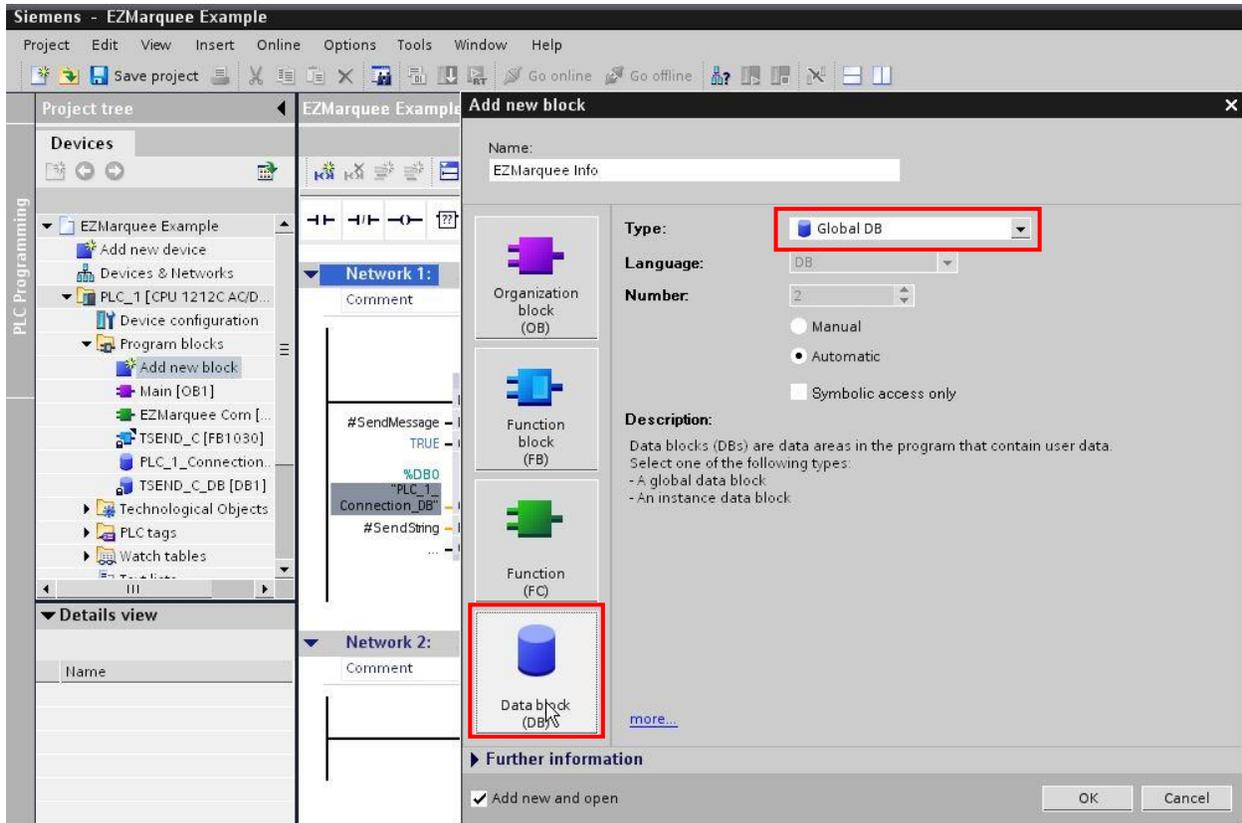
- Now the TSEND_C_DB connection information has to be set. This can be done within the function or you can set it later. In the function you need to select the TSEND_C_DB and then go to properties in the bottom bar. Select the Configuration tab. Now you need to set the partner as Unspecified with the EZMarquee IP Address (example is 10.1.200.210) and set the Connection ID (for instance 1).



- Once those have been set, scroll down and set the Partner Port. If you have set it to 2000 in the EZMarquee setup then you can leave it as default. No other options need to be changed and no other tags should be added in the function.



- Now use “Add new block” again to create the data block for the information to be stored and sent. Make sure that it is a data block type Global DB and uncheck symbolic access only.



- Now in the Data Block create 2 tags. One tag should be the string to be sent. In this case the message is ‘^E1^L0^C1^K0^dC1EZMarquee^Y1’ which will clear the display and show “EZMarquee” on line 1. The other tag is a tag structure which contains the connection parameters. If you would like here is the other location where you can set these settings. They can also be modified using this tag structure.

The screenshot shows the 'EZMarquee Info' data block configuration table. The table has columns for Name, Data type, Offset, Initial value, Retain, and Comment. Two rows are highlighted with a red box: 'Send String' and 'Connection Param'.

Name	Data type	Offset	Initial value	Retain	Comment
Static					
Send String	String	0.0	^E1^L0^C1^K0^dC1EZMarquee^Y1	<input type="checkbox"/>	
Connection Param	Tcon_param	256.0		<input type="checkbox"/>	

10. Now finally in the main block add the EZMarquee Com Function and set the 3 inputs as a control Boolean (Input in my case), the SendString (created in the Data Block), and the ConnectionParam (also created in the Data Block) respectively. Now download this setup to the PLC and it will send a message to the EZMarquee upon the control Boolean becoming true.

