

I want to control motors and read sensors from Simulink blocks with state flow via wireless ad hoc network.

1.) How would I configure the block to take an IP address rather than serial port?

2.) Is it possible for two blocks to share this address?

3.) If there are 6 sensors to be read, how would I input this value into the block as a 1x6 vector instead of a constant?

Hello Alexander,

Thank you for contacting MathWorks Technical Support. My name is Dimitris, and I am writing in reference to your Technical Support Case #02777533 regarding 'Simulink Serial Port via Wifi'.

If I understand your question correctly, you want to read data from six sensors and control a motor, and you want to do that through WiFi using Simulink and Stateflow.

To answer your questions in the same order:

1. I would like to suggest using the Instrument Control Toolbox that has the TCP/IP Send/Receive blocks that serves the purpose you want. Using the TCP/IP protocol you can communicate between your Simulink model and the hardware.

You can find more information on how to send and receive data from devices in the following link:

<https://www.mathworks.com/help/instrument/building-simulink-models-to-send-and-receive-data.html#brcdzfi-1>
<<https://www.mathworks.com/help/instrument/building-simulink-models-to-send-and-receive-data.html#brcdzfi-1>>

Once you receive your data, you can use Stateflow charts for the control of the devices. Within the Stateflow charts, you can use MATLAB function blocks as well.

2. Yes, it is possible to share this address between blocks. In order to do that, you will need to save the TCP/IP object as a persistent variable in the base workspace. This way it can be shared between different blocks.

3. Once you read your data, as long as they are of the same datatype, you can use a Mux block to combine them into a vector. You can find more information on the Mux Block in the following documentation link:

<http://www.mathworks.com/help/simulink/slref/mux.html>
<<http://www.mathworks.com/help/simulink/slref/mux.html>>

Once you create the vector, you can use it as an input to another Simulink block.

I will close this case for now, but please let me know if you have any further questions.

Sincerely,
Dimitris Iliou
MathWorks Technical Support Department

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If you have a new technical support question, please submit a new request here:
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