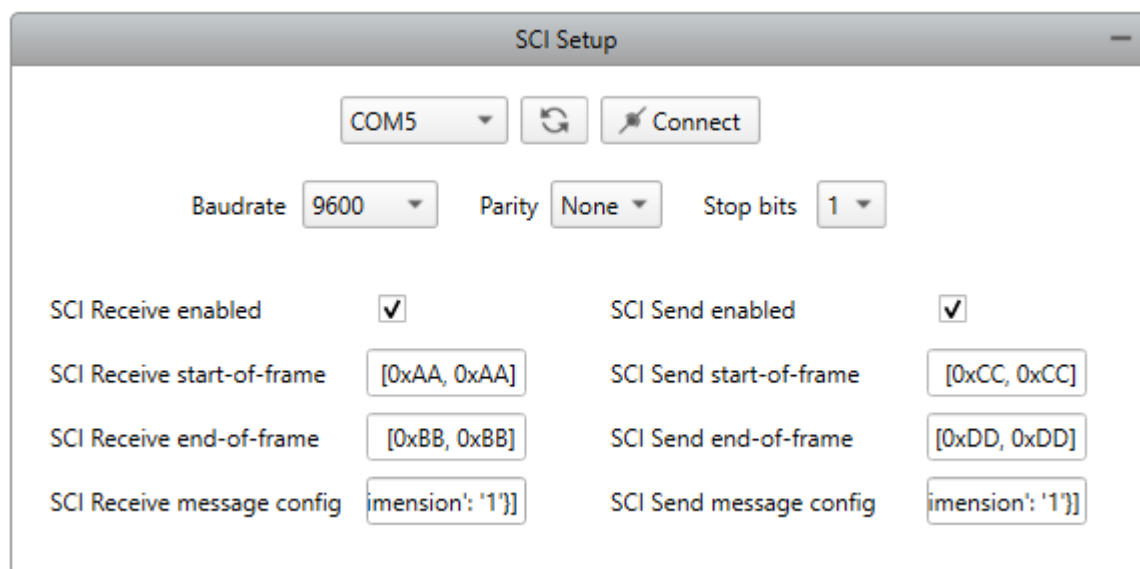


TI C2000 Toolbox SCI Setup SCADA Widget

This document describes *SCI Setup* SCADA widget from TI C2000 Toolbox widget library.

Short description

SCI Setup is the main widget for configuring serial communication between MCU and PC on the PC side. It is used to parametrize [pySerial](#) python module which is used to exchange data via PC COM port. Selected settings will be applied to *serial_con* python object representing pySerial session instance. This widget should be used if SCI peripheral is configured to send and/or receive bytes through **USB** connection with the PC (*Access port* property of [SCI Setup Schematic Editor component](#) is set to *USB*).



The screenshot shows the 'SCI Setup' window with the following controls:

- COM port: COM5 (dropdown)
- Refresh button (circular arrow icon)
- Connect button (lightning bolt icon)
- Baudrate: 9600 (dropdown)
- Parity: None (dropdown)
- Stop bits: 1 (dropdown)
- SCI Receive enabled: ☒
- SCI Send enabled: ☒
- SCI Receive start-of-frame: [0xAA, 0xAA] (text box)
- SCI Send start-of-frame: [0xCC, 0xCC] (text box)
- SCI Receive end-of-frame: [0xBB, 0xBB] (text box)
- SCI Send end-of-frame: [0xDD, 0xDD] (text box)
- SCI Receive message config: dimension: '1'] (text box)
- SCI Send message config: dimension: '1'] (text box)

Figure 1. SCI Setup widget.

IMPORTANT NOTE: Target development board must be configured to enable the serial communication through USB connection. Details on how to do this can be found [here](#).

IMPORTANT NOTE: It is required to configure *SCI Setup* widget parameters in the same way as previously configured [SCI Setup Schematic Editor component](#) before opening connection and starting simulation. For details about *SCI Setup* parameters, see [SCI Setup Schematic Editor component](#) description.

Exactly one *SCI Setup* widget must be used to utilize serial communication successfully.

SCI Setup widget will automatically detect COM port that is connected to the controller. Nevertheless, it is recommended to check COM ports in the Windows *Device Manager*.

After parameters are configured and COM port is selected, click *the Connect* button to open the connection **before** the simulation starts.

Widget properties:

- **Baudrate, Parity, Stop bits** – values should be copied from [SCI Setup Schematic Editor component](#). Description of these properties is also available on this link.
- **SCI Receive enabled** – specifies if [SCI Receive Schematic Editor component](#) is used (configured) for code generation **and** if *Access port* of the component is set to **USB**. If value is set to **True**, SCADA will enable data transmitting to the COM port,
- **SCI Receive start-of-frame, SCI Receive end-of-frame, SCI Receive message config** – these properties matter if **SCI Receive enabled** is set to **True**. Values should be copied from [SCI Receive Schematic Editor component](#). Description of these properties is also available on this link.
- **SCI Send enabled** – specifies if [SCI Send Schematic Editor component](#) is used (configured) for code generation **and** if *Access port* of the component is set to **USB**. If value is set to **True**, SCADA will enable data reading from the COM port,
- **SCI Send start-of-frame, SCI Send end-of-frame, SCI Send message config** – these properties matter if **SCI Send enabled** is set to **True**. Values should be copied from [SCI Send Schematic Editor component](#). Description of these properties is also available on this link.

Essentially, to make serial communication between SCADA and controller work, all parameters in *Schematic Editor* components and SCADA widgets must be the same. Everything must be set before clicking *Connect* button and starting the simulation.

Backward incompatibility

With *TI C2000 Toolbox* version 1.0.0 *SCI Setup* widget suffered major refactoring. Many new properties are introduced (see *Widget properties* section) and as a result, panels containing this widget may not perform serial communication successfully if new properties are not configured properly.

There is also one small “bug” in the GUI. Since the old *SCI Setup* widget was significantly smaller, when loading a panel containing old *SCI Setup widget* with the new toolbox version, it will appear like a big part of it is cut out. Fix this easily just by resizing the widget (Fig. 2).

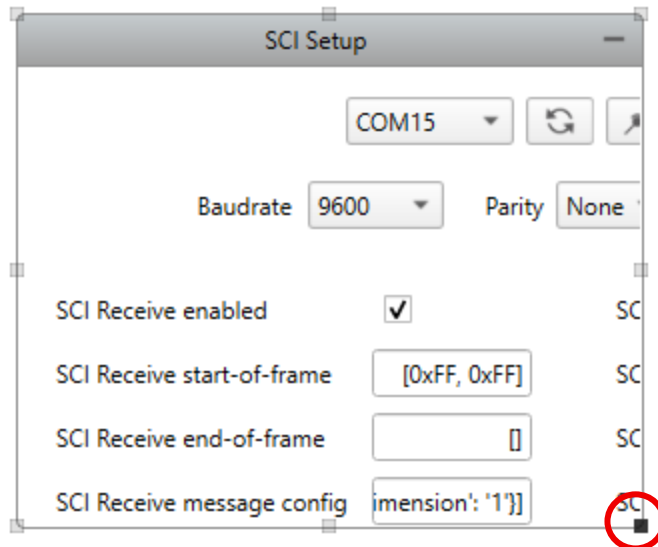


Figure 2. Resizing SCI Setup widget.