SCPI Protocol Connector

Test and measurement instruments over TCP/IP, using SCPI commands.

- Name: **SCPI**
- Version: 1.0.0.1
- Protocol: SCPI (Standard Commands for Programmable Instruments)
- Interface: TCP/IP
- Runtime: Multiplatform (.NET Standard 2.0)
- Configuration:
  - Devices / Protocols

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Overview

The SCPI Protocol connector reads and writes settings and measurements of SCPI instruments, such as power supplies, multimeters and signal generators, over a TCP socket. The connector operates as a Master. Each point holds one SCPI command header.

Communication Driver Information	
Driver name	SCPI
Assembly Name	T.ProtocolDriver.SCPI
Assembly Version	1.0.0.1
Protocol description	SCPI Protocol Connector
Interface	TCP/IP
Multiplatform	True

Procedure

1. In **Devices Channels**, create a channel and select the protocol **SCPI Protocol Connector**.
2. In **Devices Nodes**, create a node on the channel and set the Station to the IP address and TCP port of the instrument. See Node Configuration.
3. In **Devices Points**, add one point per tag. Set Address to a SCPI command header, for example `:MEAS:VOLT:DC`. See Points Configuration.
4. Start the runtime.

Channel Configuration

Protocol Options

- **BlockSize**: maximum number of points per request. Fixed at 8192.

Settings

TCP/IP:

- **NodeConnections**: maximum number of parallel requests sent to each node. Default: 1.

Node Configuration

Station Configuration

Station syntax: **`<IP address>;<Port number>`**

- **IP address**: IP address of the instrument.
- **Port number**: TCP port of the instrument SCPI socket. Default: 5025.

Example: `192.168.1.1;5025`

Points Configuration

Address

The Address is a SCPI command header without the trailing question mark, for example `:MEAS:VOLT:DC`, `:SOUR:VOLT` or `*IDN`.

Read

- The connector appends ? to the header and ends the message with a line feed.
- Points on the same AccessType go out in one message, joined with `;:`. The connector splits the reply at commas and assigns the fields to the points in order.
- Each reply field arrives as text. FrameworX converts it to the type of the tag.

Write

- The connector sends the header, a space and the tag value, and ends the message with a line feed, for example `:SOUR:VOLT 5`.
- The IEEE 488.2 common commands `*CLS`, `*ESR`, `*IDN`, `*OPC`, `*RST`, `*STB`, `*TST` and `*WAI` go out without a value.
- Points in a WriteGroup AccessType go out together in one message.

Driver Revision History

SCPI Revision History	
Version	**Notes**
1.0.0.1	Removed leftover debugging calls that could interrupt the connector when the runtime started or sent commands.
1.0.0.0	Initial documentation release.

Related Pages

- Devices Module
- Devices AccessTypes Reference
- Standard Protocols

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