

# SIEMENS

## SIMATIC

### Engineering Tools

## S7-PLCSIM V16 Readme

### Readme

## View the most recent product information online

Siemens updates this readme file as needed and publishes it on the Siemens Industry Online Support (<https://support.industry.siemens.com>) ("SIOS") website. Each readme file on the SIOS site contains the contents of this readme file as well as additional information about S7-PLCSIM V16 that was not available when the product was released.

If you encounter unexpected behavior in S7-PLCSIM, check the SIOS site and search for "S7-PLCSIM V16 readme" to see whether there is a newer version that addresses your issue.

## What's new in S7-PLCSIM V16?

S7-PLCSIM V16 introduces the following new or updated functionality:

- Operating system support
- Support for the latest firmware (Page 1)
- Event simulation (Page 1)
- Scan control (Page 1)
- SIM table enhancements (Page 2)

## Support for the latest firmware

S7-PLCSIM V16 supports CPU device families with the following firmware:

- S7-1200 versions from 4.0 to 4.4
- S7-1200F versions from 4.1 to 4.4
- S7-1500 and S7-1500F versions 2.8 and lower
- ET 200SP and ET 200SPF versions 2.8 and lower

## Event simulation

S7-PLCSIM V16 provides Event tables to simulate the following interrupt events:

- Rack or station failure
- Pull or plug of modules
- Hardware interrupt
- Diagnostic error interrupt

You add Event tables in the project tree.

## Scan control

S7-PLCSIM V16 provides the following features for you to control the scan cycle of your simulated CPU:

- CPU operator panel
- Ability to pause the program scan
- Ability to execute scans for a particular period of time or for a specific number of scans

## SIM table enhancements

S7-PLCSIM V16 provides the following enhancements for SIM tables:

- Browse function for creating a SIM table from STEP 7 PLC tag tables, watch tables, or force tables
- Ability to hide and unhide columns in the SIM table editor

## Known problems

### S7-PLCSIM cannot simulate V5.2 Modbus TCP communication

If your STEP 7 program uses V5.2 of the Modbus TCP MB\_SERVER and MB\_CLIENT instructions, S7-PLCSIM cannot simulate the communication. To simulate these instructions with S7-PLCSIM, use V4.0 of these instructions.

### Error returned by High\_Speed\_Counter instruction

If you use S7-PLCSIM to simulate a high speed counter in a TM Count module, the High\_Speed\_Counter instruction returns the error 16#80C7.

The High\_Speed\_Counter instruction expects that the module has set a status ready (STS\_READY) bit. Because S7-PLCSIM does not simulate module behavior, the instruction returns an error.

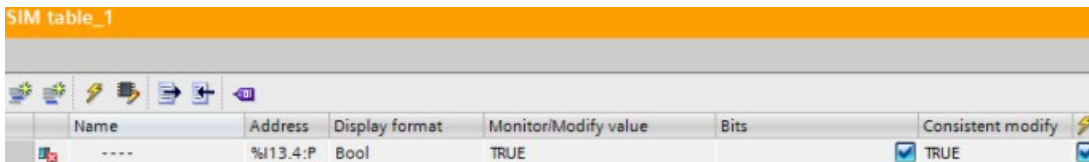
The STS\_READY bit is in the input area of the module at offset 13.4. If the input area of your TM Count module begins at %I32, for example, then the STS\_READY bit is at %I45.4.

You can set the STS\_READY bit to avoid the error condition that the High\_Speed\_Counter instruction returns.

#### Setting STS\_READY from a SIM table

Consider an example using an S7-1500 with a TM Count 1x24V module where the TM Count 1x24V begins at %I.0. Note that you can find this address in the device configuration for your technology module.

To set the STS\_READY bit for the module to TRUE, enter the corresponding I address for offset 13.4 in your SIM table. Set the modify value to TRUE. For example, if your module begins at %I0, configure a SIM table entry as follows:



The screenshot shows a software interface for editing a SIM table. The title bar reads "SIM table\_1". Below the title bar is a toolbar with several icons. The main area is a table with the following columns: Name, Address, Display format, Monitor/Modify value, Bits, and Consistent modify. There is one row in the table with the following values: Name: ----, Address: %I13.4:P, Display format: Bool, Monitor/Modify value: TRUE, Bits: (empty), and Consistent modify:  TRUE. There is also a small lightning bolt icon in the last column.

Name	Address	Display format	Monitor/Modify value	Bits	Consistent modify
----	%I13.4:P	Bool	TRUE		<input checked="" type="checkbox"/> TRUE

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