Siemens SIMATIC 3964(R)

Siemens SIMATIC 3964(R) communication protocol

Supported device types and versions

The protocol supports reading data from control PLC automats of Siemens SIMATIC of the S5 and S7 series. PLC Simatic must be equipped with the following serial communication point-to-point modules:

- SIMATIC S5 series: CP521, CP523, CP524, CP525 or CP544
- SIMATIC S7-300 series: CP340, CP341
- SIMATIC S7-400 series: CP441-1, CP441-2

Protocol implementation allows reading data in just one data block of the 3964 protocol (the protocol is a specification of the link layer, the transport layer is the matter of the PLC application software). The connection is periodically initialized by Simatic, the D2000 KOM process confirms and takes over the data block according to the specification of the 3964 protocol. Data block initialization in PLC Simatic must be programmed in the STEPS5/7 programming language according to a particular CP communication module documentation.

The 3964 protocol has two variants - 3964 and 3964R. The 3964R allows extra data security using a BCC checksum.

For complex reading or writing of data into PLC Simatic, we recommend using the Siemens SIMATIC RK512 protocol.

Communication line configuration

- Communication line category: Serial, SerialOverUDP Device Redundant.
- Serial line parameters must be configured according to the setting of the SIMATIC communication module.

Communication station configuration

- Communication protocol: **Siemens SIMATIC 3964(R)**.
- No address is specified, only a single Simatic PLC can be attached to one communication line.

Station protocol parameters

The Communication station dialog box - tab **Protocol parameters**.
Parameters defined in the input field have an effect on some optional protocol parameters. The following station protocol parameters can be defined:

Table 1

Parameter	Meaning	Unit	Default value
Wait Timeout	The delay between the response readings till its finalization.	ms	50 ms
Max Wait Retry	The maximum number of retries of the response reading till its finalization.	-	600
3964 (without BCC)	Enable the 3964 protocol, i.e. version with no transmission security using the checksum. By default, the 3964R protocol with the BCC checksum is used.	YES /NO	NO

I/O tag configuration

Possible I/O tag types: **Ai, Ci, Di**.

I/O tag address is a character string as follows:

Format	Meaning
DWm	WORD type value (16 bits) included in received data block on the m word-offset (offset is counted from 0). Value is converted as a signed number in case of the I/O tag type of the Ai type or as an unsigned number in the case of the Ci type.

DLm	The left byte value of WORD placed on the *m* word-offset. Possible I/O tag values are Ai or Ci.
DRm	The right byte value of WORD placed on the *m* word-offset. Possible I/O tag values are Ai or Ci.
Dm.n	Binary address, the value of the *n* bit (*n* is within the range 0...15) of WORD placed on the *m* word-offset. Possible I/O tag type is Di (or Ai and Ci, if get the values of 0/1).

Literature

-

Changes and modifications

-

Document revisions

- Ver. 1.0 - January 24th, 2002 - document creation.
- Ver. 1.1 - November 3rd, 2010 - document update.

ⓘ **Related pages:**

Communication protocols