Unified-E Siemens S7 Adapter User Manual

Configure Siemens PLC Endpoints and Datapoints

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Content

1 General

The Unified-E Siemens S7 adapter enables communication between the Unified-E system and a Siemens S7 controller via the S7 protocol. It is suitable for use with S7 controllers and compatible devices. The adapter uses the S7 protocol (ISO-on-TCP, RFC1006) for communication.

The following PLC controllers are supported:

- S7-200
- S7-200 Smart
- S7-300
- S7-400
- S7-1200
- S7-1500
- LOGO! 0BA8

In order for the connection to be established successfully, certain settings must be made in advance in the TIA Portal. These concern, among other things, the access protection of the control system and the release of S7 communication via TCP/IP. In the rest of this manual, the necessary steps in the TIA Portal and the configuration of the adapter in the Unified-E App Designer are described in detail.

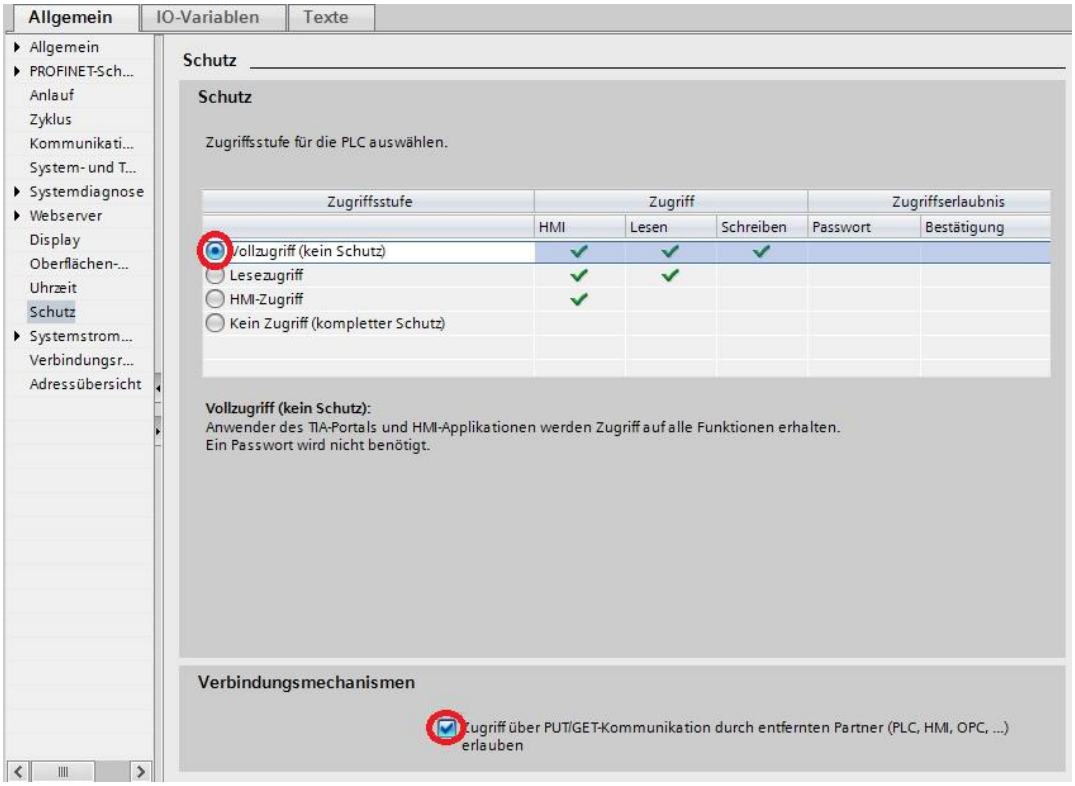
2 Configure Communication in the TIA Portal

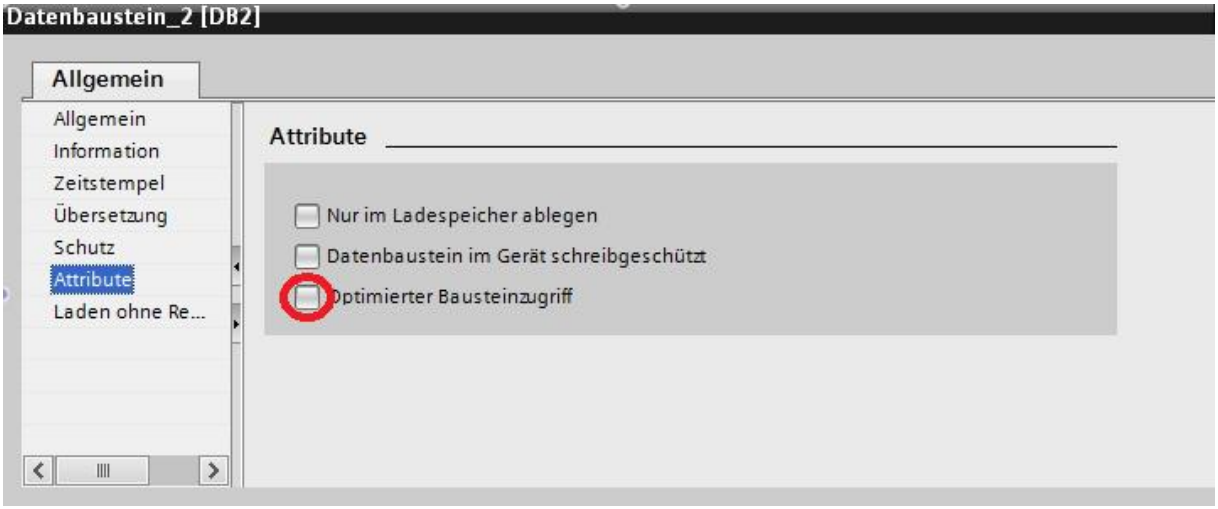
Configurations must be made to the S7 controller in the TIA portal so that S7 TCP communication with HMI apps is possible. This must be done in the properties.

For the S7-1200 and S7-1500 specifically, the following settings must be made:

1. Mark "Visible in HMI" in the variable table or on the data module
2. Allow full access in the device settings (category "Protection")
3. Permitt access with PUT/GET communication from remote partner

Example:





3 Adapter Parameters in Unified-E

The following parameters can be set:

- CPU: Describes the respective S7 controller, e.g. S71200, S71500, S7300...
- Rack no.: The rack number in which the CPU is plugged
- Slot no.: The slot number in which the CPU is plugged
- Timeout (ms): Timeout when connecting, reading, or writing

4 Addressing Datapoints

In the Unified-E App Designer, the datapoints in the datapoints table are linked to variables of the S7 control via an address. This is done in the "Address" column in the Datapoints table.

Structure of an S7 address:

<Address Range>:<Register Address>:<Data Type>

e.g. O:1.1:BOOL, DB100:100:STRING[30], DB100:2:REAL

Possible address ranges:

- Input: Abbreviation is "I"
- Output: Abbreviation is "O"
- DataBlock: The abbreviation is "DB<Module-Number>"
- Memory: Abbreviation is "M"

Possible data types:

- BOOL
- BYTE, USINT
- SINT
- WORD, UINT
- DWORD, UDINT
- INT
- DINT
- LINT
- ULINT
- REAL
- LREAL
- STRING
- STRING[<number>]
- Arrays for numeric values, <base type>[<number of elements>], e.g. INT[3], REAL[7]

Register/Bit Number:

A bit is addressed as follows: <register>.<bit number>, e.g. 12.0

Example configuration in the Unified-E App Designer: