

ADwin Communication to Simatic PLC

The Simatic Fetch/Write communication is a point-to-point communication between an **ADwin** system and a Simatic PLC. Write and read-only accesses to the system memory of the Simatic are possible via Ethernet. Data modules, markers, inputs, outputs, counters and timers can also be accessed.

Seen from the Simatic S7's side, it is a passive communication function which needs only to be configured. The **ADwin** system as client is the active part of the communication. The PLC cannot access the **ADwin** system.

The Simatic Fetch/Write communication is a software expansion for **ADwin** systems, which has to be indicated upon purchasing.

Requirements

For accessing the Simatic PLC you need:

- an **ADwin** system with the Ethernet interface ENET2, current firmware, and boot-loader option.
- a Simatic PLC with a CP (communication processor), which supports the Fetch/Write protocol.
- two configured network connections on the PLC, one for Fetch and Write each.

Functions

In an **ADbasic** program a global variable controls the communication with the PLC. The data which have been sent or received are stored in global arrays (Data_x) and the configuration data for the communication are stored in an additional array.

Configurable are:

- array numbers for sent and received data.
- number and start address of the data to be transferred.
- network configuration of the PLC: IP and port numbers.
- the type of the system module (DB, marker, etc.).
- TCP/IP-timeout and polling time.

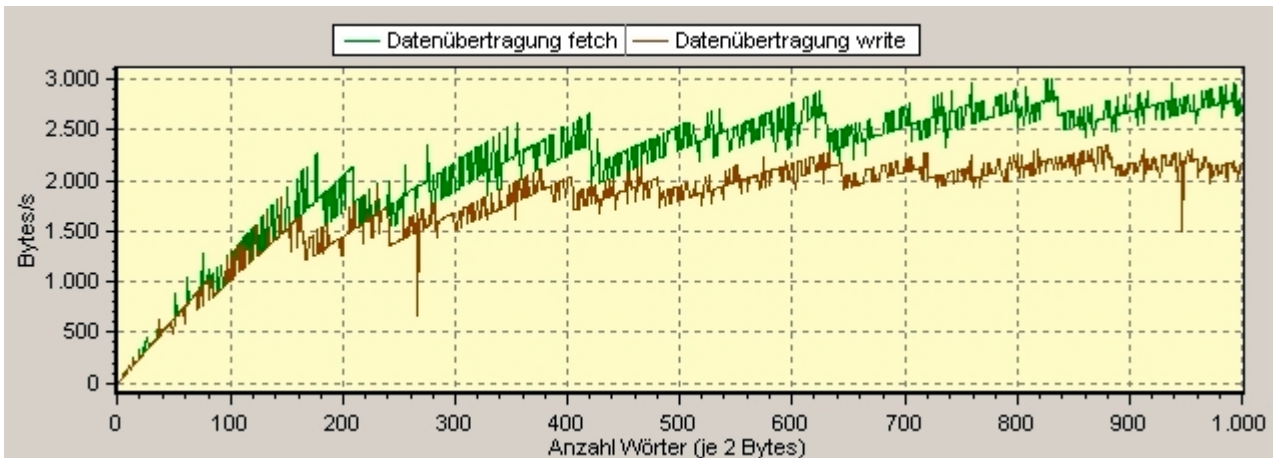
The global variable controls the following communication processes:

- connect: connection startup to the PLC
- disconnect: disconnect all connections
- fetch: reading of system data
- write: writing of system data
- changing of the polling time

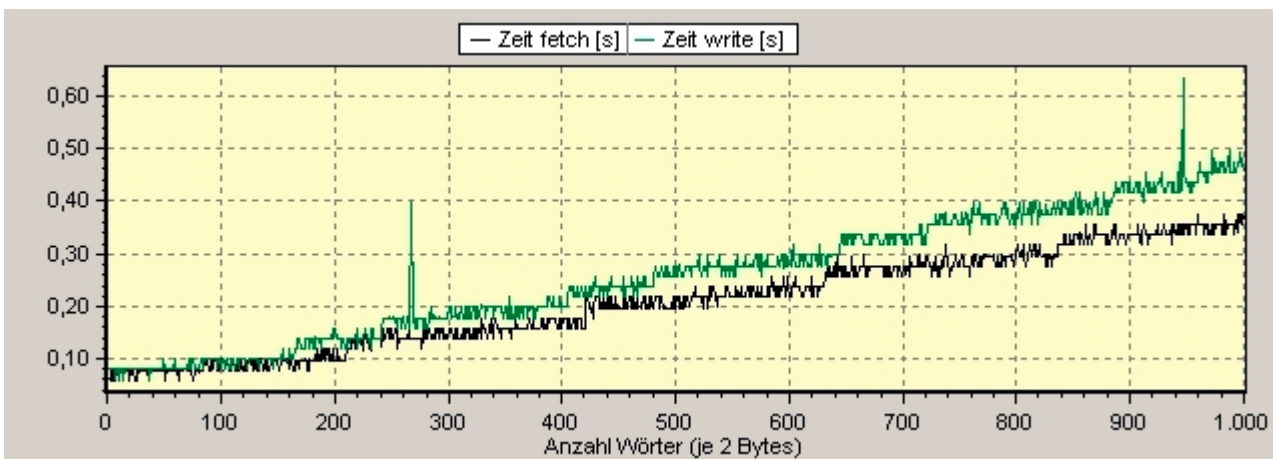
The value of the variable remains unchanged during instruction execution. If successful the value is set to zero, if an error occurs the value presents an error number.



The transfer rates and access time mainly depend on the type of Simatic and of the CP and its workload, respectively.



Data transfer rates between an ADwin system and an S7-300 with a CP 343-1 Lean



Times in [s] upon accessing a data module of an S7-300 with a CP 343-1 Lean

Supported Simatic CPs

Generally all CPs that support the Fetch/Write protocol via TCP can be used. The following overview shows the current systems.

The names of the CPs (at right) are links to the official Siemens documentation in PDF format. In the corresponding Chapter 2 "Requirements" all released CPUs and devices are indicated.

Simatic S7-300

- [CP 343-1 Lean](#)
- [CP 343-1 IT](#)
- [CP 343-1](#)
- [CP 343-1 Advanced](#)
- [CP 343-1 PN](#)

Simatic S7-400

- [CP 443-1](#)
- [CP 443-1 Advanced](#)
- [CP 443-1 IT](#)

