Overview

Communication functions

Data communication (e.g. PROFIBUS FMS) serves to exchange data between programmable controllers or between a programmable controller and intelligent partners (PC, computers, etc.).

The following communication functions are available for this purpose:

PG/OP communication

Comprises integral communication functions that are used by the SIMATIC programmable controllers to perform data communication with HMI devices (e.g. TD/OP) and SIMATIC PG (STEP 7). PG/OP communication is supported by MPI, PROFIBUS and Industrial Ethernet networks.

S7 routing

Using S7 routing it is possible to use the programming device communication across networks.

S7 communication

S7 communication is the integral communication function that has been optimized within the SIMATIC S7/C7. It enables PCs and workstations to be connected. The maximum volume of useful data per task is 64 KB. S7 communication offers simple, powerful communication services and provides a network-independent software interface for MPI, PROFIBUS and Industrial Ethernet networks.

S5-compatible communication (SEND/RECEIVE)

The SEND/RECEIVE interface (with PROFIBUS over FDL) is optimized for communication between SIMATIC S5 and S7 controls and therefore facilitates migration of SIMATIC S5, SIMATIC S7 controls and PCs over PROFIBUS and Industrial Ethernet.

Standard communication

This comprises standardized protocols for data communication .

- PROFIBUS FMS (Fieldbus Message Specification)

This is ideally suited to communication from different automation systems (e.g. PLCs, PCs) from different manufacturers at the cell level with only a few stations (max. 16). Communication with field devices using the FMS interface is also possible.

With the FMS services READ, WRITE and INFORMATION REPORT, read or write access to variables of the communication partner is possible from the user program by means of a variable index or variable name, or the user program can transfer its own variable values to a communications partner. Partial access to variables is supported. Communication is processed over acyclic connections (master-to-master, master-to-slave), over acyclic connections with a slave initiative or with cyclic connections (master-to-slave). The INFORMATION REPORT can also be used to send a message to all stations on the network using a broadcast service. The FMS service IDENTIFY (request for identification characteristics of the partner) and STATUS (request partner status) can also be activated.

OPC server

The basic principle of OPC (OLE for Process Control) is that OPC client applications communicate with the OPC server over a standardized, open and manufacturer-independent interface.

IT communication can be implemented over the OPC XML DA interface.

The appropriate OPC servers are included in the scope of supply of the respective communication software.