



Communication Modbus®

Modbus® RTU (developed by Modicon in 1979)

Modbus® RTU is an open master/slave protocol, and can be easily implemented on serial interfaces.

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Numerous automation systems have Modbus® RTU interfaces as standard or optional features, and are thus easily able to communicate with the AC500 via its integrated COM1 and COM2 interfaces (RS232 or RS485). The Modbus® is used not only in industrial applications, but also in building installations, in energy optimization systems, for long-distance data transmission and for linking up operator panels.

Communication

By polling, i.e. the master transmits a request to the slave and then receives the response. Both interfaces COM1 and COM2 can operate simultaneously as Modbus interfaces. The Modbus operating mode of an interface is set using the engineering tool.

Topology

Point-to-point via RS232 or multi-point via RS485. With RS232, a maximum of one master and one slave is possible, while with RS485 one master and a maximum of 31 slaves can be operated. The maximum cable length is 15 m with RS232 and 1.2 km with RS485.

Data transfer

Max. 187.5 kB/s. Each telegram has a 16-bit CRC appended. The telegrams permit process data (input/output data) to be written and read, either individually or in groups. The data are packed in the RTU format.

Transmission media

May vary. One widely used option is the RS485 bus physics, a twisted-pair, shielded cable with terminators.

Diagnostics

Detailed diagnostic messages for rapid troubleshooting are shown on the CPU display.