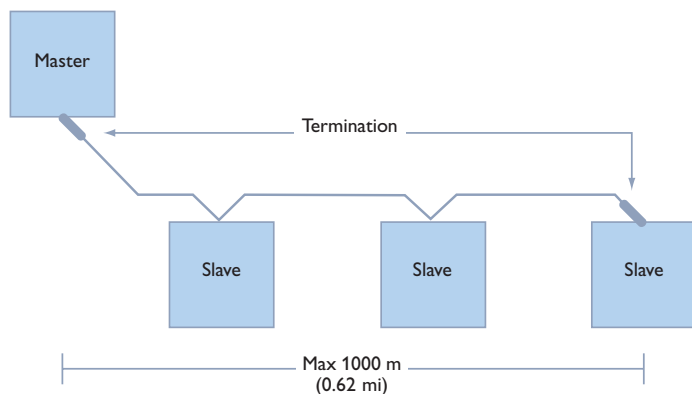


Modbus

Modbus ASCII and Modbus RTU

Modbus ASCII and Modbus RTU are protocols that have become the de-facto standard in many applications. The protocol was developed at the end of the seventies by Modicon. Communication is based on multidrop with a master and slaves. Modbus was not just intended for industrial applications. It is used universally where there is a need to control a process or the flow of information.



Devices connected to Modbus ASCII and Modbus RTU communicate serially over RS-232 or RS-485. The main difference between these is that in RTU each 8-bit byte in a message contains two 4-bit hexadecimal characters whereas in ASCII each 8-bit byte in a message is sent as 2 ASCII characters. This means that RTU is more efficient and able to transfer more data, but the downside is that it is not tolerant to the data packet being broken up on transmission. Modbus ASCII on the other hand can tolerate gaps in transmission making it the preferred protocol for modem transmission.

The maximum transfer rate is normally limited to 19.2 kbit/s. Communication is controlled by a master and can only take place at half duplex, communication between slaves is not possible.

The basic modbus protocol between a master and slave is made up from:

