2.6.2 Modbus

Modbus is a communication protocol based on a master/slave or client/server architecture. It is widespread and supported by many manufacturers and devices. In many cases, Modbus is therefore the common denominator for transferring data between different devices and systems.

Modbus with Saia PCD®

Modbus comes in three forms:

▸ **Modbus ASCII** data are transmitted in ASCII format via serial interfaces (RS-232, RS-485).

▸ **Modbus RTU** data are transmitted in binary format via serial interfaces (RS-232, RS-485).

▸ **Modbus TCP** data are transferred in TCP/IP or UDP/IP packets via Ethernet.

The Modbus protocol is supported in the Saia PCD COSinus operating system by all Saia PCD1.M0_, Saia PCD1.M2_, Saia PCD2.M5_ and Saia PCD3 controllers. Client and server functionalities are available for all types of protocol. Ethernet interfaces and serial interfaces (RS-232 and/or RS-485) are already included in the PCD controller basic devices. Additional plug-in interface modules can be used to operate up to 9 serial Modbus interfaces per PCD system.
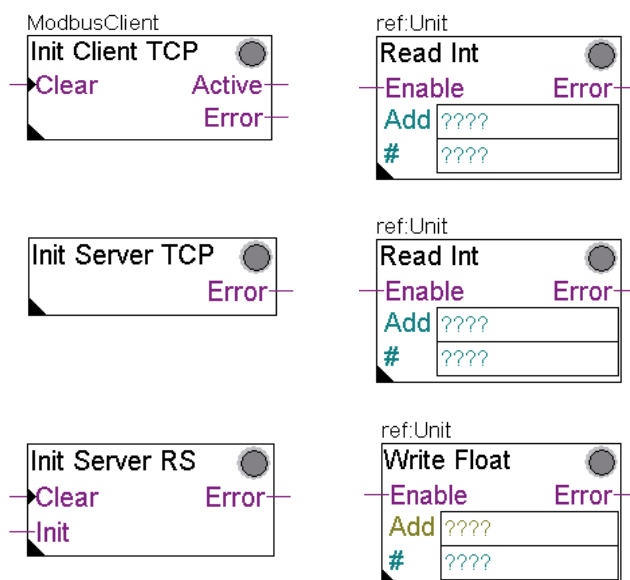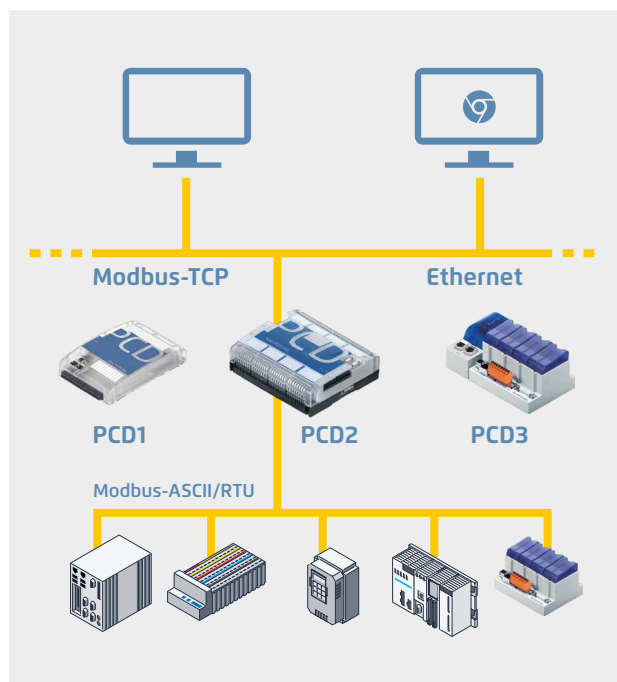
Supported Modbus function codes

1   Read Coils
2   Read Discrete Inputs
3   Read Holding Registers
4   Read Input Registers
5   Write Single Coil
6   Write Multiple Coils
7   Write Single Holding Register
8   Write Multiple Holding Registers

Media Mapping:	adjustable by the user
Mapping Areas:	max. 10 per UID
Number of servers:	max. 4 per PCD system
Number of unit IDs:	max. 10 per PCD system
Number of channels:	max. 10 per PCD system

Number of connections

Each Saia PCD system is able to establish up to a maximum of 26 connections. Of these, the Saia PCD controller is able to use a maximum of 10 for client connections. The remaining connections can be used as server connections to the same Saia PCD controller.

Application example

▲Convenient Fulpa FBoxes or CSF commands are available for configuring and programming the exchange of data.

◂ With the integrated automation server, external systems can also be easily linked to master Web+IT automation environments via Modbus.