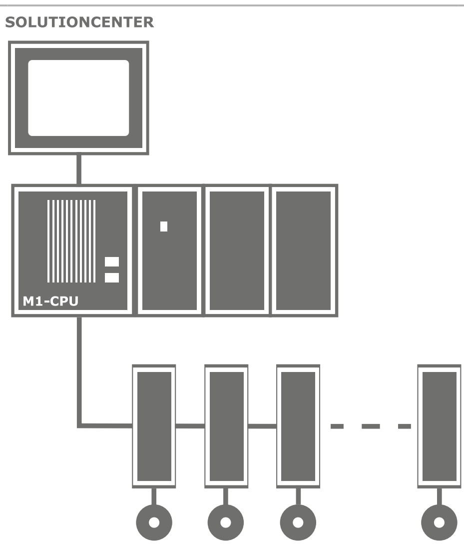

Possible topology: EtherCAT

EtherCAT®-Master / EtherCAT® Configurator

The EtherCAT® Master for the M200 controller is a pure software solution and uses an Ethernet port of the controller CPU. No additional hardware is required. The cyclic data, which are exchanged automatically with the slaves, are available in the control system as process variables and therefore are just as easy to use as data from local input and output modules. For the access to acyclic data by the application software, CoE and SoE library modules are available for the profiles.

The software on the controller can be synchronized exactly with the EtherCAT® Bus by the activation of `Distributed Clocks` to ensure control tasks. Standard Ethernet traffic to the slaves, e.g. access to the web server of a servo amplifier, can be transferred in parallel on the same connection via Ethernet-over-EtherCAT® (EoE). During this process, the M200 controller routes the packets from the service PC directly to the EtherCAT® slave. The simple data transfer to the slave, e.g. for the firmware update, is also possible with File-over-EtherCAT (FoE).

Configuration, commissioning and testing are supported by the Bachmann SolutionCenter. The slave description files (ESI) are managed in a catalog and compiled for the network. PDO mapping is generated automatically and can be changed manually. The cyclic data can be displayed and tested immediately without any additional programming. Read and/or write access to all other service data is also possible in an SDO monitor. File transfer is supported by a wizard.

Diagnostics of configuration problems is simplified since the master can also start in the case of configuration errors and the SolutionCenter displays the discrepancies after repeating a bus scan. EtherCAT® slaves can be handled as optional nodes for modularly designed machines.

EtherCAT® Master

- Software solution for operation on standard controller CPUs
- Addressing of the slave via autoincrement or alias address
- Assigning and checking the alias address
- Support of optional nodes
- Supports slaves with Distributed Clock
- Synchronization of application programs and fieldbus is possible
- Cyclic data exchange via PDO mapping
- Representation of process values as logical I/O modules and in the PLC process image
- Acyclic data exchange for application programs available via SDO function interface
- Support of the following profiles:
  - **CoE** (CANopen® over EtherCAT®)
  - **SoE** (Servo over EtherCAT®)
  - **FoE** (File over EtherCAT®)
  - **EoE** (Ethernet over EtherCAT®)
  - **MDP** (Modular Device Profile)
- Function interface for network and slave status
- Extensive diagnostics via system variables
- Quality ensured by means of regular involvement in plug fests of the ETG

EtherCAT® Configurator

- Integrated in the Bachmann SolutionCenter
- Easy creation of an online configuration by means of Busscan
- Creation of an offline configuration by selecting the slave from a catalog
- Management of standard-compliant ESI files in the catalog
- Monitors for process data, SDO access, reading and setting of alias addresses
- File transfer wizard
- Subsequent adding, removing and changing the sequence of slaves
- Targeted search for configuration errors by repeating Busscan also in the event of an error
- All diagnostic options also via remote maintenance over network boundaries
- Archiving of configurations in the templates and solutions