

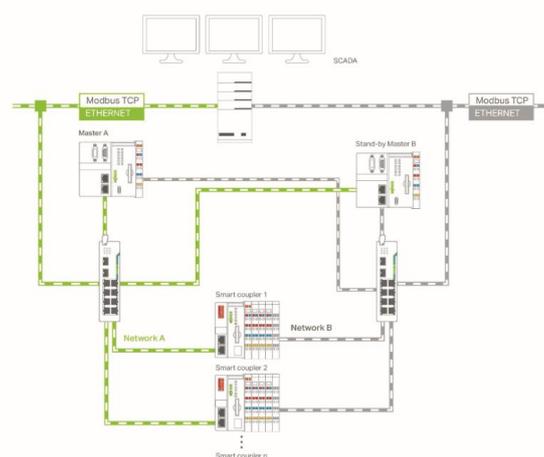
WAGO Presents New Concept for Applicative Controller Redundancy

Two parallel controllers enhance the availability of alarm and monitoring systems

At this year's SMM in Hamburg, WAGO is presenting a new concept for applicative controller redundancy that significantly increases availability in alarm and monitoring applications. What sets this redundancy solution apart from others? As the system is based on the Modbus TCP protocol and standard WAGO hardware, it is not only makes commissioning easy, but also offers a cost advantage explicitly for WAGO customers when integrating the solution into existing automation systems.

WAGO's e!COCKPIT engineering software tool is used as the programming environment for the controller. The multi-node programming environment can easily transmit the PLC program to both PLCs. In order to use the application-based controller redundancy, a software library with the necessary synchronization functions must be integrated into the master PLCs. The library also offers the opportunity to redundantly link subnodes with a dual-LAN. The subnodes, also known as smart couplers, do not have to be programmed; they can simply be booted from an SD card and then configured using an integrated Web server. The analog input/output modules and digital input/output modules are detected automatically by the smart coupler; process mapping is likewise automatically made available to the higher-level Master PLC. In addition, the master PLC can communicate with higher-level SCADA systems via the Modbus-TCP protocol. The redundant connection is carried out over two separate networks.

Application-based controller redundancy



WAGO concept for applicative controller redundancy

The solution design corresponds to an SPOF-tolerant system (Single Point of Failure), which means that any fault that occurs, such as a loss of power supply, of the LAN connection, of the switches or of the controller, can always be compensated for. Duplicating the ETHERNET topology and redundant message transmission enable instantaneous switching ("bumpless transfer") in the event of a fault in the network.