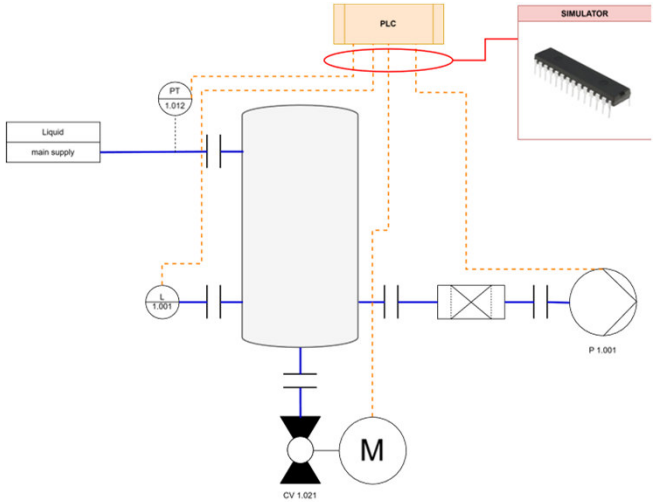
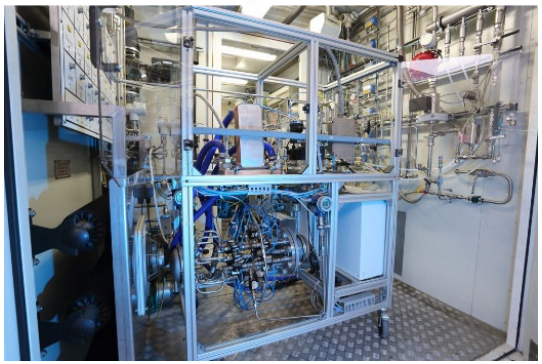
A Universal Sensor and Actuator Interface Simulator for Commissioning of Process Technical Systems





Quelle: Komponentenprüfstande, HyCentA Research GmbH

short description:
To validate theoretical concepts, test systems must be physically implemented alongside their design. These systems combine hydraulic, pneumatic, and electrical subsystems of increasing complexity, which raises the effort required during commissioning. Automated test benches play a key role by controlling test sequences and recording measurement data for real-time or later analysis. PLCs serve as the central controller, interfacing with sensors and actuators via standard process interfaces. A dedicated simulation device for typical sensor and actuator interfaces enables early subsystem testing, supports the development and validation of control strategies, and significantly accelerates commissioning.

contents:
- Evaluation of different sensor and actuator interfaces(1 week)
- Conceptual design of the simulator(4 weeks)
- Circuit design and PCB development(4 weeks)
- Firmware development & testing(4 weeks)
- Preparation of documentation and thesis(3 weeks)

starting date: immediately

duration: approx. 4 months

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