

RT 512 – RT 552 PROCESS CONTROL TRAINING RIGS WITH PROCESS CONTROL SYSTEM



Didactic goals and exercises

Comprehensive programme of experiments with each training rig:

- Introduction to the fundamentals of process control based on experimentation
- Familiarisation with real industrial components such as controllers, chart recorders, actuators and sensors
- Demonstration of a wide variety of types of control system (e.g. temperature, pressure)
- Familiarisation with different system characteristics
- Disturbance feedforward control
- Controller optimisation
- Parameter setting of the local industrial controller
 - manually
 - automatically
 - via process control software
- Downstream processing of process variables with external recording devices: chart recorder, oscilloscope
- Familiarisation with and use of a process control software programme (with accessory RT 650.50)



The practice and training systems in this equipment series provide a comprehensive and practical introduction to the fundamentals of process control. The training rigs are fully practice-based in design: only controls and process components currently deployed in industrial applications are used.

Each training rig in itself represents a complete course in the fundamentals of process control. The special feature of these units is that two or more training rigs can be interconnected via a



Profibus interface to a state-of-the-art process control software to form a networked complete system.

The systems are suitable for two learning situations: demonstration by the tutor or independent laboratory experimentation by the students.

The well structured instruction material sets out the technological fundamentals and provides a step-by-step guide through the experiments.

Process Control Software

State-of-the-art LabView-based process control software for Windows, featuring extensive monitoring and visualisation functionality:

- For stand-alone systems or networking of multiple training rigs
- Network capability
- Process schematics with online display of all process variables
- Parameter setting of the individual controllers
- Control room function for multiple training rig configurations
- Chart recorder function with storage of measured data
- Alarm function with logging
- 4 pre-selectable languages and 1 user-defined language possible

Communication between PC and local controllers and networking of the individual systems via field bus system (Profibus DP):

- Profibus interface card for PC with driver software (RT 650.12)
- Profibus interface for controllers provided as standard

