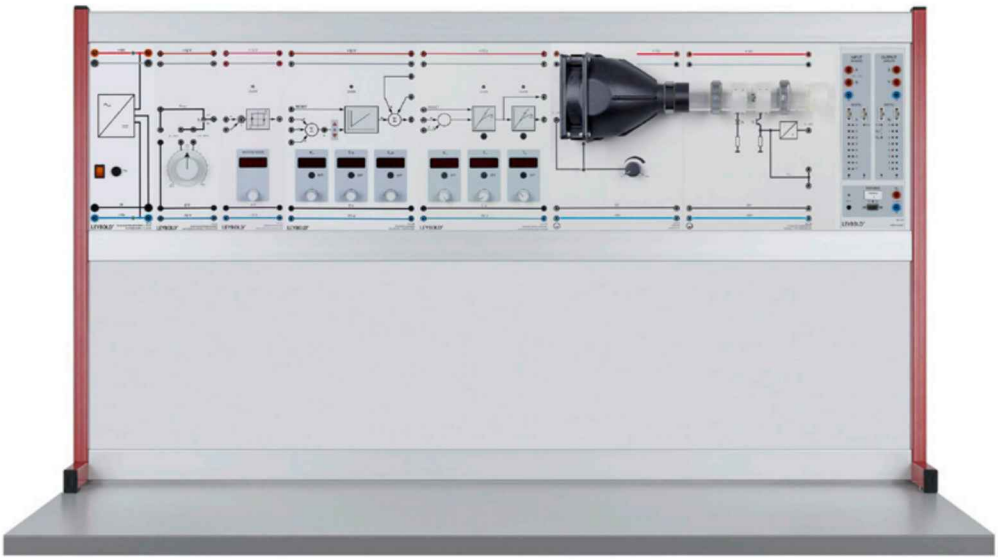
E6.3.1

TECHNICALLY CONTROLLED SYSTEMS

E6.3.1.3
Control of Airflow



Control of Airflow (E6.3.1.3)

Cat. No.	Description	E6.3.1.3
734 02	Reference variable generator	1
734 011	Two position controller	1
734 064N	PID digital controller Net	1
734 091	Digital Controlled System	1
666 630	Blower	1
666 632	Windmill type anemometer	1
524 016S2	Profi-CASSY Starter 2	1
726 09	Panel frame T130, two-level	1
726 86	DC-Power Supply ± 15 V/3 A	1
500 59	Safety bridging plugs, black, set of 10	1
500 592	Safety bridging plugs with tap, black, set of 10	1
500 641	Safety connecting lead, 100 cm, red	3
500 642	Safety connecting lead, 100 cm, blue	3
500 644	Safety connecting lead, 100 cm, black	2
726 10	Panel frame T150, two-level	1*
734 482	WinFACT COM3LAB / CASSY Edition	1*
734 492	WinFACT LD Licence	1*
775 682EN	LIT: E6.3.1.3 Control of airflow	1*
	additionally required: 1 PC with Windows 7/8/10	

* additionally recommended

Control of Airflow

The airflow system is comprised of a sensor for measuring the flow and a controllable wind generator. The wind generator is directly activated, with a PID controller for example. An external power amplifier is not necessary for this. The airflow in the measuring tube is measured with a vane wheel anemometer. The cap on the air tube acts upon the controlled system as an external disturbance variable.

Topics

- Measuring airflow
- Step responses of the controlled system
- Evaluation of the step response with adjusting function
- Determination of the system parameters of a PT2 component
- Computer-based system identification
- Empirical optimisation for the airflow system
- etc.

Experiments are operated and evaluated with CASSY Lab 2 and WinFACT.