Flow & Level Control (E6.3.1.2)

E6.3.1

TECHNICALLY CONTROLLED SYSTEMS

E6.3.1.2
Flow & Level Control

Cat. No.	Description	E6.3.1.2
734 011	Two position controller	1
734 02	Reference variable generator	1
734 064N	PID digital controller Net	1
734 265	Digital Liquid Controlled System	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	2
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	3
726 10	Panel frame T150, two-level	1*
734 482	WinFACT COM3LAB / CASSY Edition	1*
	additionally required: 1 PC with Windows 7/8/10	

* additionally recommended

Flow & Level Control

The liquid control system is comprised mainly of a pump as well as holding and measuring tanks. The inflow and outflow of liquids can be manipulated using two valves. The device contains an impeller wheel flowmeter with subordinate flow controller. An immersion pipe with pressure sensor records the fill level in the measuring tank and converts it into an electric signal for the fill level. The measured variables for flow rate and fill level are displayed on 7-segment displays. The digital liquid control system is characterized by a very compact build. It is delivered complete with all sensors and operation equipment and needs very few accessories.

Topics

- Control design through pole-zero compensation
- Determination of the controller gain Kp from a batch run
- Control unit design through numerical optimization
- Rule of thumb method
- Digital liquid controlled system
- Flow measurement
- etc.

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