E6.3.1

TECHNICALLY CONTROLLED SYSTEMS

E6.3.1.4
Brightness Control

Brightness Control (E6.3.1.4)

Cat. No.	Description	E6.3.1.4
734 02	Reference variable generator	1
734 064N	PID digital controller Net	1
734 311	Light 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	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	1
500 644	Safety connecting lead, 100 cm, black	1
726 10	Panel frame T150, two-level	1*
734 482	WinFACT COM3LAB / CASSY Edition	1*
775 683EN	LIT: E6.3.1.4 Brightness Control	1*
	additionally required: 1 PC with Windows 7/8/10	

* additionally recommended

Brightness Control

Light control systems contain light sources for usable and disturbance light as well as a photo sensor. The LED light sources are activated directly with the controller. An external control element (power amplifier) is not necessary. The diffusing screen spatially influences the controlled system as an external disturbance variable. Influenced by the relatively high limit frequencies of the opto semiconductors, the light control system has a time response similar to a fast PT1 system. The resulting system order is n = 1; there is only one main energy store. Light control is required for rooms where light is critical to safety, such as in sports arenas or hospitals. One biological example would be the ability of the eye to adapt to different levels of brightness (pupils).

Topics

- Characteristic curve for the temperature controlling system
- Recording the jump response
- Optimal amount, replacement controlled system
- Technical controller
- Controller in the limit range
- Empirical tuning of controllers
- etc.

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