

Technical Teaching Equipment



DESCRIPTION

Trainer for industrial process controllers.

This trainer allows students the study and familiarisation with the function and operation of a industrial process controller.

The "CECI" Trainer consists of:

- Digital controller with freely selectable parameters. It has accessible inputs and outputs. As well as manual configuration and parameter setting with keys, the controller can be configured from a computer (PC) over an RS232 interface.
- Digital voltmeter for the measurement of the input and output signals.
- A signal generator allows to produce defined input levels and step signals.
- Controlled system simulator. A first order lag is simulated to allow the response and stability of a closed control loop to be studied.

All signals are accessible via lab jacks, so instruments or apparatus can be used (for example a plotter, line recorder, ect).

Possibility of control external system models with this controller.



ISO:9001-2000 Certificate of Approval. Reg. No. E204034



European Union Certificate



Certificates ISO 14001: 2004 and ECO-Management and Audit Scheme (environmental management)



Worlddidac Quality Charter Certificate Worlddidac Member

SPECIFICATIONS

Trainer for industrial process controllers.

Steel box.

Configurable digital controller:

2 inputs, 1 output. Configurable as P, PI or PID controller. Proportional gain X_p : 0 -999.9%. Integral action time T_i : 0-3600s. Derivative time T_d : 0-1200s. RS232 interface for configuration on computer (PC).

Digital voltmeter: 0 -20V.

Signal generator with potentiometer. Reference variables generator: 2 voltages selectable. Output voltage: 0-10V.

Controlled system simulator:

Controlled system type: First order lag . Time constant: 20s. Process variables as analogue signals: 0-10V. System gain: 1...10.

All variables accessible as analog signals at lab jacks .

Possibility of connection of external instruments via lab jacks (for example:line recorder, plotter, oscilloscope...).

Configuration software CD.

Interface cable.

Set of lab cables.

Manuals:

This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Trainer

To study methods and terminology of process control:

- 1.-Closed loop control.
- 2.-Static and dynamic transfer function.
- 3.-To study the step response.
- 4.-Reference variable step.

To learn and to familiarise with a process controller:

- 5.-Configuration level.
- 6.-Parameter level.
- 7.-Operation control levels.

Control parameters:

- 8.-Setting input channels.

9.-Setting output channels.

10.-To use computer (PC) - based configuration tools.

11.-Scaling displays.

REQUIRED SERVICES

- Electrical supply: single-phase 220V. / 50Hz. or 110V. / 60 Hz.
- Computer (PC).

DIMENSIONS & WEIGHT

- Dimensions: 490mm x 330mm x 310mm. approx.
- Weight: 8Kg. approx.