INTEGRATED CIRCUITS

ELECTROINC INDUSTRIES

Pressure control unit
ICF-CTRL-PRE

2025

1.Overview

The ICF-CTRL-PRE Pressure Control Unit is an advanced educational trainer designed for hands-on learning and experimentation in the field of industrial automation and control, specifically for engineering college students. It provides a complete platform to study and implement various control strategies for pneumatic systems using both open-loop and closed-loop configurations. Students can experiment with P, PI, PD, and PID control modes and gain practical insights into process control engineering.

ICF-CTRL-PRE

2.Specification

- Steel tank of 20 liters.
- Safety valve.
- Pneumatic control valve.
- Electronic pressure transmitter with range of 0 to 6 bar and 4 to 20 mA output signal.
- Flowmeter of stainless steel and glass for measuring the f low rate of air, range of 2 to 20 m^3/h.
- Electro-pneumatic converter, 4 to 20 mA / 0.2 to 1 bar.
- Thermometer with range of 0 to 60 °C.
- Bourdon gauge of stainless steel with range of 0 to 6 bar.
- Monitoring Based Software are available.
- SD card for data logging.
- HMI will be for digital monitor and data storage.

3.Experiments to be done

1. Open-loop pressure control.
2. Closed-loop pressure control.
3. Proportional (P) control.
4. Proportional-Integral (PI) control.
5. Proportional-Derivative (PD) control.
6. Proportional-Integral-Derivative (PID) control.

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