



**INTEGRATED CIRCUITS**  
**ELECTROINC INDUSTRIES**

# Temperature Control Unit ICF-CTRL-TMP

**2025**

## 1. Overview

The ICF-CTRL-TMP is a compact temperature control training unit designed to demonstrate the basic principles of process temperature regulation. It features a heated tank with an SSR-controlled electric heater, an RTD sensor for accurate temperature measurement, and a digital microprocessor-based controller that supports On/Off and PID control modes. The unit also includes a rotameter for manual flow adjustment and is mounted on a sturdy tabletop frame, making it ideal for laboratory and educational use.

## 2. Specification

- Steel tank of 20 liters.
- Circulation pump.
- Radiator.
- Controlled valve.
- Flow meter 0-30 L/m.
- 2 Controlled Fan.
- Heater 1500 W.
- Pt 100 Temperature Sensor.
- Monitoring Based Software are available.

## 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.



ICF-CTRL-TMP