KPC-03 | **TEMPERATURE PROCESS CONTROL TRAINER (AIR)** | **MAKE : KITEK**

KPC-03 Temperature Process Control Trainer is designed for understanding the basic temperature control principles for the Process control mounted on Aluminum profile rack with sturdy table top flat panel. The process setup consists of heating chamber fitted with SSR controlled heater for on-line heating of the air. Temperature sensor (RTD/K-Type) is used for temperature sensing. Fan is fitted in the chamber for maintaining the temperature. The process parameter (Temperature) is controlled by microprocessor based digital indicating controller which manipulates heat input to the process. Each panel has ABS molded plastic sturdy enclosure with 4mm shrouded connectors showing circuit diagram & its connection tag numbers for easy understanding and connections

TECHNICAL SPECIFICATION

- Process Control Trainer having control panel provided in 30X30mm Aluminum profile rack with sturdy table top flat panel.
- Electrical Control panels are provided in slidable ABS plastic panel mounted on the aluminum rack with mimic diagram
- All input & output are terminated in 4mm BS-10 shrouded / 2mm banana connector, provided with 4mm shrouded / 2mm banana cable for experiments.
- Type of Control Digital PID
  - Display: Dual Display, 4 digit, 7 segment LED
  - LED Status Indicator: Auto Tune, OUT1, OUT2, %, ºC / ºF
  - Inputs: 4- 20mA, 0-10VDC, Thermocouple, RTD PT-100 etc.
  - Output: Relay Output, SSR Output/Current Output (4-20mA)
  - Interface: PC Interface using USB/RS-232 Serial MODBUS.
  - Compatible Software Provided : Autonics DAQ Master /Kitek's PID Controller
- Temperature Transmitter Two Wire Type RTD-PT100, Range 0-100 DegC, Output 4–20 mA
- Temperature Transmitter Two Wire Type K Thermocouple, Range 0-100 DegC, Output 4–20 mA
- Process Chamber with Heater, Temperature Sensor & Fan Assemblies.
- Power Supply Unit, Input voltage 85 – 265 VAC, Output voltage: 24 V DC, Output Current: Max. 4.5 A, short-circuit protection.

- Type of Control Data Acquisition **(Optional)**
  - Analog Input 6 Channels (Differential) Range ±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V, ±20 mA , 0 ~ 20 mA, 4 ~ 20 mA (Jumper Selectable), Resolution 16-bit
  - Analog Output 2 Channels Range +0 ~ +5 VDC, +0 ~ +10 VDC, ±5 VDC, ±10 VDC, +0 ~ +20 mA, +4 ~ +20 mA (Jumper Selectable), Resolution 12-bit
  - Digital Input 3 Channel Source Type, 50Hz, Optionally 8 Channel
  - Digital Output 3 Channel Open Collector Type, Optionally 8 Channel
  - Protocol: Modbus TCP, Modbus UDP 2-way Isolation Ethernet: 1500 VDC, I/O: 2500 VDC
  - Ethernet/USB Port for PC communication with Windows based Software.

- **HMI (Optional)**
  - Display Type 7" (800 x 480 pixels) TFT LCD 65536 colors
  - Data logging Inbuilt (Upto 100000 logs)
  - Communication USB/RS232 /RS485

- **Experiment List**
  - Study of Open Loop (Manual Control) & Closed Loop PID Controller
  - Tuning of PID Controller (Open Loop/ Closed Loop/Auto Tuning)

Note: Specifications and Photos can be altered without prior notice in our constant efforts for improvement.