

SAP E & C UNIVERSAL PROCESS CONTROL TRAINER
(PRODUCT CODE: SAP - 82)



UNIVERSAL PROCESS CONTROL TRAINER (SAP-82)

The **Universal Process Control Trainer (Product Code: SAP-82)** is highly flexible and modular system for studying of various feedback and cascade control loops in industrial processes. It has been designed to include these processes in a single structure. The system in fact includes transducers, PID + computerized control with SCADA Software.

Key Words: -

- Feedback Level control.
- Feedback Pressure control.
- Feedback Temperature control
- Feedback Flow control.
- Position Measurement.
- Cascade Control

DCS AND SCADA

Hybrid Controller (AI 8, AO4) & (DI16,DO16), Control Loops 8 with RS 232 & RS 485, Ethernet

Technical Specification:-

| No. | Item Name | Technical Specifications |
|-----|--------------------------|---|
| 1. | Type of Control- | DCS & SCADA |
| 2. | Control Unit- | Hybrid Controller, AI-8, AO-4, DI-16, DO-16, Control loops 8 with |
| 3. | Communication- | RS232, RS485, Ethernet |
| 4. | Software Packages- | i] DCS: Hybrid Control Designer ii] SCADA: Wonder ware In touch 64 tags |
| 5. | Temperature Sensor- | RTD, PT-100, Range: 0-100°C, 02 Nos. |
| 6. | Temperature Transmitter- | PT100, Type-2 wire, Range: 0-100°C, Output: 4-20 mA, 02 Nos. |
| 7. | Flow Transmitter- | DPT, Type: 2 wire, Range: 0-200 mm H ₂ O, Output: 4-20 mA, Sq. root |
| 8. | Level Transmitter- | DPT, Type: 2 wire, Range: 0-500 mm H ₂ O, Output: 4-20 mA, Sq. root |
| 9. | Level Transmitter- | GPT, Type: 2 wire, Range: 0-600 mm H ₂ O, Output: 4-20 mA |
| 10. | Pressure Transmitter- | GPT, Type: 2 wire, Range: 0-2.5 bar, Output: 4-20 mA |
| 11. | Position Transmitter- | Type Electronic, 2 wire, Output: 4-20 mA |
| 12. | I to P Converter- | Input: 4-20 mA, Output: 3-15 psig, 2 Nos. |
| 13. | Heating Control- | Proportional power controller (SSR), Input: 4-20 mA |
| 14. | Heater / Geyser- | Type: Electrical 2 coil, Capacity: 3 KW |
| 15. | Rotameter- | 1 No., Range: 40-400 LPH, Glass tube type/acrylic body, Bob Material: SS 304 Connection: 1", Mounting: Inlet- Bottom, Outlet- Top. |

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| 16. | Process Tank- | Capacity: 7.5 Liter, 0-100% scale, SS304 |
| 17. | Interacting Tank- | Capacity: 7.5 Liter, 0-500 mm scale, SS304 (02 Nos.) |
| 18. | Supply Tank- | Capacity- 27 Liters, SS304 |
| 19. | Float Switch- | Type: Magnetic (02 Nos.) |
| 20. | Solenoid Valves- | Type: 2/2 way normally closed, ¼" BSP, water (2 Nos.) |
| 21. | Pneumatic Control Valve- | 2 Nos., Type: Pneumatic, Size: ½", Input: 3-15 psig, Linear & Equal Percentage |
| 22. | Power Supply- | Supply: 230 VAC, Output: 24 V DC (02 Nos.) |
| 23. | VFD- | Input single phase: 200 VAC, 1.1 A, Output: AC3 phase |
| 24. | Pump- | Fractional horse power, Type: centrifugal |
| 25. | Diaphragm pump- | Positive displacement diaphragm pump, Cap: 200 Lph |
| 26. | Air Filter Regulator- | Range: 0-2.5 Kg/cm ² |
| 27. | Pressure Gauge- | Range: 0-2.5 Kg/cm ² (03 Nos.), Range: 0-7 Kg/cm ² |
| 28. | Flow Measurement Devices- | Orifice meter (03 Nos.), Venturi meter |
| 29. | Compressor- | 1 HP, 3.8 CFM |
| 30. | Overall Dimensions- | 1150mmL×800mmW×1900mmH |
| 31. | Electronic PID Controller- | 1 No., Single input PID & Dual Input PID, with Serial Interface (ASCII Protocol) RS 232, Cut Out Size; 92×92×144mm, Input: 4-20 mA, Output: 4-20 mA, Display: Dual for PV & SP, Bar graph display for Output & deviation, Hi-Low alarm annunciation. |
| 32. | SCADA Application Software- | SCADA Wonderware(Ellipse) in Touch 64 Tags, PID control settings (P, PI, PD and PID mode),Auto/Manual Tuning of PID,Data Storage,Off Line analysis, Online Data Acquisition Simulation and Printing of data in Graphical & tabular form. Interactive Graphical. User Interface (GUI) included |
| 33. | Piping- | 1" Class B GI with 1" SS ball valves |
| 34. | Thyristerized Phase Angle Control Card- | Input: 4-20 mA, Output: 0-230 VAC variable, 10 A Max |
| 35. | Electrical Control panel- | MS Powder coated panel with switches, indicator, Test Points, Controller on front facia, UK 2.5 Terminal connectors mounted on DIN rail channel, Use of 1sq mm Multistrand wire with proper insulated Lugs, Ferruling & neat wire dressing & clamping Wires & power cables are seated through 1"×1"PVC cable tray. Dimension: 1ft (L) ×1ft (W) ×1ft (H). |

Features-

- ❖ Compact Ergonomic Design.
- ❖ User Friendly, Self Explanatory Systems.
- ❖ Leak proof Safety Measures, sturdy piping.
- ❖ Enhanced Electrical Safety Considerations.
- ❖ Training Manuals and mimic Charts for Operation Ease.
- ❖ System Frame with Caster Wheel Arrangement for ease in movement.
- ❖ M.S. powder coated cubical plant with standard Instrument Mountings.
- ❖ Inbuilt Safety Measures to avoid improper usage.
- ❖ SCADA software connectivity for analysis given feedback system.
- ❖ Caster wheel mounted movable frame

Services Required-

- ❖ Electric Supply of 1 ϕ 230 VAC motor.
- ❖ Clean, Dry, Compressed Air Supply. Working Pressure: 5-6Kg/cm².

Note-

All descriptive matter and illustrations are intended to give only a general idea of the equipment Detailed specifications may be altered at the company's discretion without any notice.

