



DC MOTOR SPEED CONTROL TRAINER (SAP – 54)

The **DC Motor Speed Control Trainer (SAP - 54)** i.e. DC DRIVE TRAINER outlines the basics of their operation, Construction and speed control of motor.

Technical Specification:-

No.	Item Name	Technical Specifications
1	PMDC Motor-	12V DC, 1500 RPM, 1.5 Amp, Torque: ½ Kgcm, Mounting Horizontal
2	Optical Sensor / Inductive Proximity Sensor-	3 Wire, Sensing Distance: 10cm/ 7mm, 24 VDC
3	RPM Indicator/ Tachometer-	Speed: 0-1500 RPM, Supply: 230V AC, Cut out size :92 X 92 Retransmission O/P: 4-20mA according 0-1500rpm, 3 ½ digital display.
4	DC Drive-	Power Supply: 230 V AC, Input: 4-20mA, Output Voltage. 0-12 V DC.
5	Voltmeter	Supply:230VAC, 0-20VDC
6	Ammeter	Supply:230VAC, 0-2ADC
7	Electrical Control Panel-	MS Powder coated panel with switches, indicator, test Points, controller on front fascia, UK 2.5 Terminal Connectors mounted on DIN rail channel, Use of 1sq mm multi-strand wire with proper insulated Lugs, Feruling & Neat wire dressing & clamping. Wires & power cables are seated through 1"×1"PVC cable tray. Dimension: 1ft (L) ×1ft (W) ×1ft (H)
8	PID Controller-	With Serial PC Interface (ASCII Protocol) USB / RS 485 / RS 232, Input: 4-20mA, Output:4-20mA, 3½ Digit display, Display: Dual for PV & SP , Bar graph Display for Output & Deviation, High-Low Alarm Annunciation, Cut Out Size: 92mmX92mmX144mm

Objectives-

- ❖ Study of operation, construction of DC motor.
- ❖ Study of characteristics of DC motor.
- ❖ Study of tachometer.
- ❖ Study of DC drive.
- ❖ Characteristics plot of Voltage VS Speed, Speed VS Current.
- ❖ Study of closed loop control system (speed control).
- ❖ Study of P, PI, and PID controllers.

- ❖ Study of computerized speed control of DC motor (Optional).
- ❖ Study of SCADA SOFTWARE for DC Speed control application (Optional).
- ❖ Study torque VS speed for characteristics of DC Motor.

Features: -

- ❖ The self contained unit.
- ❖ Modern industrial components are used for operating.
- ❖ Comprehensive training manual supplied.
- ❖ Optional components are available to allow fault finding.
- ❖ Operation and diagnosis training
- ❖ Computer interface facility.
- ❖ SCADA software for graphical user interface (GUI), Digital data display, redundant bidirectional parameter selection facility, real time Trend plotting historical trends, report generation (Optional)

System Components:-

- ❖ DC drive.
- ❖ PID controller.
- ❖ Tachometer.
- ❖ DC motor.

Services Required-

- ❖ Electric Supply of 1 ϕ 230 VAC, 50Hz
- ❖ DC generator or DC supply. (Other supply can be catered for required)
- ❖ PC Pentium Dual core for SCADA software analysis for computerized control.(Optional)

System Dimensions: 2 Ft. (L) X 1Ft. (W) X 2 Ft. (H)

Weight: Approx.22 Kg

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.

