



## Product Description

An advanced and customizable workstation designed to provide flexibility for users to configure the setup as per specific experimental and testing requirements. The system features a vertically mounted instrument panel along with a spacious working area, ensuring convenience, accessibility, and efficient operation during laboratory use.

## Construction & Design Features

- Modular and customizable workstation design
- Vertical instrument panel layout for ergonomic operation
- Adequate working space for circuit assembly and testing
- Heavy-duty structure suitable for continuous laboratory usage
- Powder-coated finish for durability and corrosion resistance

## Safety Features

- Equipped with **ELCB/MCB protection** on AC supply
- Protection against overload, short circuit, and leakage current
- Proper earthing provision for all instruments

## Standard Configuration

The setup is supplied with the following instruments:

### 1. Digital Oscilloscope (CRO)

- Bandwidth : 20 MHz
- Channels : Dual Channel
- Input Impedance :  $1\text{ M}\Omega$  ||  $20\text{--}30\text{ pF}$
- Time Base Range :  $0.2\ \mu\text{s}/\text{div}$  to  $0.5\ \text{s}/\text{div}$  (typical)
- Vertical Sensitivity :  $5\ \text{mV}/\text{div}$  to  $5\ \text{V}/\text{div}$
- Trigger Modes : Auto / Normal / Single

*Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.*



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- Display : Digital LCD

## 2. Function Generator (F/G)

- Frequency Range : 1 Hz to 1 MHz
- Waveforms : Sine, Square, Triangle
- Output Impedance : 50  $\Omega$
- Amplitude Control : Variable with fine adjustment
- DC Offset Control : Available
- Frequency Stability : High stability with low distortion

## 3. Dual Tracking DC Power Supply

- Output Voltage : 0 – 30 V (Dual Output)
- Output Current : 0 – 2 A (typical per channel)
- Tracking Mode : Independent / Series / Parallel
- Regulation : Line & Load regulation within  $\pm 0.01\%$
- Ripple & Noise :  $\leq 1$  mV RMS
- Display : Digital Voltmeter & Ammeter

## 4. Soldering / Desoldering Station

- Temperature Range : 200°C to 450°C
- Heating Element : Ceramic heater
- Temperature Control : Adjustable with feedback
- ESD Safe Design
- Quick heating and stable temperature maintenance

## Integrated Measuring Instruments

### Voltmeter

- Type : Digital / Analog (Panel Mounted)
- Range : 0 – 500 V AC/DC
- Accuracy :  $\pm 1\%$  of Full Scale

### Ammeter

- Type : Digital / Analog
- Range : 0 – 10 A / 0 – 20 A AC/DC
- Accuracy :  $\pm 1\%$  of Full Scale

### Wattmeter

- Type : Electrodynamometer / Digital
- Voltage Range : Up to 300 V
- Current Range : Up to 10 A
- Accuracy : Class 1.0 or better

### Power Factor Meter

- Range : 0 to 1 (Lagging/Leading)
- Type : Analog / Digital

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- Accuracy :  $\pm 2\%$

**Ohm Meter (OMM)**

- Resistance Range : 1  $\Omega$  to 1 M $\Omega$  (or higher)
- Measurement Method : Digital
- Accuracy :  $\pm 1\%$

**Functional Requirements / Applications**

The setup is designed to perform the following functions:

- Measurement and analysis of electrical parameters such as:
  - Voltage
  - Current
  - Power
  - Power Factor
  - Frequency
- Observation of waveforms and phase relationships using CRO
- Generation of test signals for circuit testing using Function Generator
- Calibration and accuracy testing of various measuring instruments

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