



5025 Multi Function Calibrator

- 0 - 1050 V AC/DC voltage
- 0 - 22 A AC/DC current
- 0 - 1G Ω resistance
- Thermocouple simulation
- Digital Frequency
- Oscilloscope Calibration
- Capacitance & Inductance
- Clamp Meter Calibration
- GPIB, RS232 & USB Interface



Multi Instrument Calibration

A calibrator with a wide range of capabilities to cover multiple functions is a modern day necessity. The 5025 is the ultimate multi-product calibrator, designed for both traditional and new measurement equipment.

The 5025 can calibrate, bench and handheld multi-meters, frequency meters, ohm meters, ac/dc millivoltmeters, thermocouple indicators, clamp meters, temperature indicators, timer counters, oscilloscopes and many other measurement devices.

Reliability and Accuracy

The outstanding accuracy and stability of the 5025 is achieved by the use of patented circuit that uses a dedicated microprocessor to continually monitor the state of a bank of precision voltage references. The main digital to analogue converter has 22 bit (0.25ppm) resolution, 1ppm linearity, and temperature coefficient compensated in software to better than 0.1ppm of full scale per °C. This achieves a best 1-year specification of 15ppm on DC voltage.

Simple Operation

Functions and ranges are easily accessed from the front panel. Increase and decrease keys per digit, are used to quickly set the output value. Deviation control then enables the user to finely adjust the output value as a percentage (+/-9.999%). All this information is shown on a clear, easy to read LED display.

Flexible Options

The 5025 can be equipped to specific requirements. The standard unit is fitted with AC/DC voltage to 1050kV, AC/DC current to 22A, digital frequency to 10MHz, decade resistance to 1G ohms, conductance and thermocouple simulation.

Individual options include; capacitance and inductance, simulated resistance (incorporating PT100 simulation), and oscilloscope calibration. These options can be specified at time of order or fitted at a later date by an authorised service agent.

In addition external adaptors are available for clamp meter calibration (up to 1000A), optical tachometer calibration and low noise attenuation.

Calibration Made Easy

Connect the 5025 to a PC/Laptop (via RS233, GPIB or USB) installed with Time Electronics EasyCal and automate the calibration process. Increase speed of calibration and consistency of results, produce calibration certificates and reports to ISO 9001 quality standards.

Technical Specifications		
Voltage DC	Range: Best 1 Year Specification:	0 to \pm 1050V \pm 15ppm of setting
Current DC	Range: Best 1 Year Specification:	0 to \pm 22A \pm 80ppm of setting
Voltage AC	Range: Best 1 Year Specification:	1mV to 1050V (10Hz to 20kHz, Sine-wave) \pm 300ppm of setting
Current AC	Range: Best 1 Year Specification:	10uA to 22A (20Hz to 1kHz, Sine-wave) \pm 0.05% of setting
Resistance 2 & 4 Wire	Range: Best 1 Year Specification:	0 to 1G ohms (Fixed Values, decade steps) \pm 20ppm of setting
Conductance 2 & 4 Wire	Range: Best 1 Year Specification:	1 S to 1n S (Fixed Values, decade steps) \pm 20ppm of setting
Thermocouple Simulation	Range: Best 1 Year Specification:	-270 to 1800°C (Type J,K,R,T,S,B,E,N) \pm 0.3 °C
10MHz Digital Frequency/Period	Range: Best 1 Year Specification:	0.1Hz to 10MHz / 100nS to 10S \pm 20ppm of setting

Options		
Hi Frequency AC V	Range/Max Freq: Best 1 Year Specification:	20 to 200mV/300kHz. 0.2 to 2V/1MHz. 2 to 20V/100kHz 0.05% + 0.1mV
Capacitance	Values: Best 1 Year Specification:	1nF, 10nF, 100nF, 1uF, 10uF & 100uF (100V Max) \pm 0.25%
Inductance	Values: Best 1 Year Specification:	1, 1.9, 5, 10, 19, 50, 100, 190, 500mH - 1H & 10H \pm 0.1%
Simulated Resistance	Range: Best 1 Year Specification:	0 to 40M ohms (Variable) \pm 200ppm of setting
PT100	Range: Best 1 Year Specification:	-100 to 400°C \pm 0.2 °C
Oscilloscope Frequency/Period	Range: Best 1 Year Specification:	0.1Hz to 100MHz / 100ns to 10s \pm 0.1ppm of setting
Oscilloscope Duty Cycle	Values:	3 frequencies, 100Hz, 1kHz, 10kHz. Settable from 0 to 100%
Oscilloscope Amplitude	Range: Best 1 Year Specification:	0mV to 200V & 0mV to 2V 50 ohms (Square-wave) \pm 0.05%
Oscilloscope Fast-Rise	Values:	< 300ps. Bandwidth Checking up to 600 MHz
2.2 GHz Sweep External PC driven option	Range: Best 1 Year Specification:	10MHz - 2.2GHz levelled sine-wave (400mV to 1Vpk-pk). Amplitude \pm 1%, Frequency \pm 0.1ppm.

General Specification	
Warm up	1 Hour to full accuracy
Settling Time	Less than 5 seconds
Standard Interfaces	GPIB (IEEE-488), RS-232, USB
Operation Environment	Temperature: Operating: 15 - 25 °C, Full Spec: 22 °C +/- 3°C, Storage: -10 °C to 50 °C Humidity: Operating < 80% non condensing. Altitude 0 - 3km. Non Operating 3Km - 12km
Line Power	100 - 230V AC 50/60 Hz. Power Consumption 200W max
Dimensions	W 430mm, D 480mm, H 155mm, (17x18x6") 16.5Kg (36.4lbs)

Ordering Information			
Code	Description	Code	Description
9798	Capacitance and Inductance	9749	Cal Manager Software
9774	Simulated Resistance & PT100	9743	PCI GPIB Interface Card
9770	Oscilloscope Calibration	9794	USB to GPIB Interface
9761	2.2 GHz Sweep	9765	USB Interface
9790	100A Current Option	9597	GPIB Interface Cable
9780	Clamp Meter Adaptor 1 and 50 Turns	9728	19" Rack Mount Kit
9773	Optical Tachometer Calibration Adaptor	9796	Test Lead Set
9767	External Low Noise Attenuator	9159	NPL Traceable Calibration Certificate
9747	EasyCal Software	9103	UKAS Calibration Certificate
9771	High Frequency AC Voltage	9085	Carry Case

Full specifications are available on request.

Due to continuous development Time Electronics reserves the right to change specifications without prior notice.