Calibrator / Multimeter / Touch Screen PC

A system that combines a high accuracy calibration source with a precision digital multimeter. The 5051Plus incorporates a wide range of functions to provide users with a multi product calibration solution. It is suitable for rapid calibration with automated test runs using EasyCal software, covering electrical test tools, process instrumentation, oscilloscopes and more. Adaptors and accessories are included for applications such as clamp meter and optical tachometer calibration. Supplied test leads enable the necessary connections for nearly all applications.

Calibrator: Provides a wide range of calibrated outputs for AC/DC voltage and current, resistance, capacitance, inductance, RTD and thermocouple simulation.

Multimeter: The integral 6.5 digit multimeter measures DC voltage to 1000 V, AC voltage to 750 V, resistance to 100 MΩ, and frequency to 300 kHz.

Computer: A intuitive user interface with large 10.4" touch screen display. The 5051Plus has an in-built PC with a 64 bit dual core processor, running Windows 10. For manual operation it features the calibrator and multimeter control applications, with the wide range of functions easily selectable using mouse, keyboard or touch screen.

EasyCal Software: Loaded as standard, EasyCal enables automatic calibration to increase speed and efficiency of work. It features applications to manage and administrate both inventory and quality control. To complement the system a printer and connectivity kit is supplied, for generation of certificates and reports. Further supplied accessories include a bar code reader for quick identification of devices in EasyCal, and label printer for creating stickers and labels to be placed on instruments. With EasyCal the operator can communicate with compatible test instruments via the 5051Plus system, creating a multi-parameter calibration workstation.

Features

- Integral multifunction calibrator and 6.5 digit multimeter
- Source up to 1050 V AC/DC voltage
- Source up to 22 A AC/DC current
- Source resistance (up to 1 GΩ), capacitance and inductance
- Oscilloscope calibration
- Measure voltage, current, resistance, frequency
- Thermocouple and Pt100 simulation and measurement
- EasyCal software, adaptors and accessories included
- Communicate with EasyCal compatible instruments

Calibration Capabilities

- Multimeters, clamp meters, ohmmeters, AC/DC signal sources
- Decade boxes, data loggers, RCL meters
- Tachometers, oscilloscopes, frequency meters
- Temperature indicators, meters, simulators
- Loop and process calibrators
- Additional calibration capabilities using compatible instruments

Technical Specifications

Calibrator (Source)

Function	Range / Values	Best 1 Year Specification
Voltage DC	0 to ± 1050 V	± 15 ppm of setting
Current DC	0 to ± 22 A	± 80 ppm of setting
Voltage AC	1 mV to 1050V (10 Hz to 1 MHz, sine-wave)	± 300 ppm of setting
Current AC	10 μA to 22 A (20 Hz to 1 kHz, sine-wave)	± 0.05 %
Clamp Meter Adaptor x50 turn	AC/DC Current up to 1100 A (DC, 45 to 90 Hz)	± 0.5 %
Capacitance	1 nF, 10 nF, 100 nF, 1 μF, 10 μF, 100 μF (100 V Max)	± 0.25 %
Inductance	1mH, 1.9mH, 5mH, 10mH, 19mH, 50mH, 100mH, 190mH, 500mH, 1H, 10H	± 0.1 %
Decade Resistance	1 Ω to 1 GΩ (decade values)	± 20 ppm of setting
Full Range Resistance	1 Ω to 120 MΩ (variable)	± 100 ppm of setting
Conductance	1 s to 1 ns (fixed values, decade steps)	± 20 ppm of setting
Thermocouple Simulation	-270 to 1820 °C (type J, K, R, T, S, B, E, N)	± 0.15 °C
Pt100 Simulation	-180 to 850 °C	± 0.07 °C
Oscilloscope Calibration		
Amplitude	6 mV to 200 V and 6 mV to 2 V 50 Ω (Square-wave or DC)	± 0.05 %
Frequency/Period	0.1 Hz to 100 MHz / 10ns to 10s (fixed values 1, 2, 5 sequence)	± 0.1 ppm (0.1 Hz to 10 MHz / 100 ns to 10 s) ± 20 ppm (20, 50, 100 MHz / 50, 20, & 10 ns)
Duty Cycle	3 frequencies: 100 Hz, 1 kHz, 10 kHz, settable from 0 to 100 %	–
Fast-Rise	< 400 ps. Bandwidth checking up to 400 MHz	–
Opt 9769: Scope 2.2 GHz Sweep	100 MHz to 2.2 GHz levelled sine-wave (0.5, 1, 1.5 V pk-pk)	Amplitude ± 1%, Frequency ± 20ppm

6.5 Digit Multimeter (measure)

Function	Range / Values	Best 1 Year Specification
Voltage DC	0 to 1000 V	35 ppm of rdg + 6 ppm of rng
Current DC	0 to 3 A	500 ppm of rdg + 50 ppm of rng
Voltage AC	0 to 750 V	0.06 % of rdg + 0.04 % of rng
Current AC	0 to 3 A	0.1 % of rdg + 0.04 % of rng
Resistance	0 to 100 MΩ	100 ppm of rdg + 50 ppm of rng
Frequency	3 Hz to 300 kHz	0.01 % of rdg
Thermocouple	-270 to 1800 °C (Type J, K, R, T, S, B, E, N)	± 0.5 °C
Pt100	-180 to 850 °C	± 0.08 °C

PC Information / General Specifications / Options

Feature	Specification / Details
PC Information	Processor: 64 bit, dual core (or equivalent) / RAM: 4 GB (or higher) / Hard Drive: 120 GB solid state. Operating System: Windows 10 / Display: 10.4" Touch Screen LCD / Ports: 4 x USB, 1 x Fast Ethernet. Included Software Programs: Calibrator and DMM control programs, EasyCal calibration software suite. Supplied Accessories: Keyboard, Printer, Cal & ID Label Printer, 4 port USB hub, Numeric keypad, USB memory stick.
General Specifications	Warm up: 30 minutes to full accuracy / Settling Time: Less than 5 seconds. Temperature Performance: Operating: 5 to 45°C. Calibration: 15 to 28 °C. Storage: -10 to 50 °C. Operating Humidity / Altitude: < 80 % non condensing. Altitude: 0 to 3 km. Non operating: 3 km to 12 km. Line Power: 100 to 230V AC 50/60 Hz. 200 W maximum. Dimensions / Weight: W 430mm, H 202mm, D 538 mm / 23 kg.
Supplied Items	5051Plus Calibration System / Clamp Meter Adaptor / Optical Tacho Adaptor / Premium Test lead Set / Soft Carry Case. Printer & Connectivity Kit / Cal & ID Label Printer / Bar Code Reader / Manual Control Software / EasyCal Software / Factory Cal Cert.
Options	9769: Internal Scope 2.2 GHz Levelled Sine Generator / 9762: External Rubidium Frequency Reference / 9764: Current Probe Adaptor 9790: 100 Amp AC Current Transformer / 9760: Power Amplifier (60 V AC, 90 V DC - 100 mA) / 5077: Power Calibrator. Digital Pressure Gauges / Dry Block Calibrators / IR Calibrators / C134: UKAS Calibration Certificate (ISO 17025).
EasyCal Software Extras	9779: Job & Address Label Printer / EC2FL Additional EasyCal User License / EAD: EasyAdmin Add-On. EWC: WebCerts Add-On / CREP: Crystal Reports Software.

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