



1051 – 8 DECADE LOW OHM RESISTANCE BOX

Range / Resolution: 0 to 1M Ω / 0.01 Ω steps

Decade	0.01 Ω	0.1 Ω	1 Ω	10 Ω	100 Ω	1k Ω	10k Ω	100k Ω
Accuracy	$\pm 10\%$	$\pm 5\%$	$\pm 1\%$	$\pm 0.5\%$	$\pm 0.1\%$	$\pm 0.1\%$	$\pm 0.1\%$	$\pm 0.1\%$
Max Current	1A	1A	1A	0.3A	0.1A	33mA	10mA	3mA

End Resistance: Less than 90m Ω

Power Rating: 1 watt per resistor

Voltage Rating: Maximum 250V DC/AC RMS

Temperature Coefficient: 100ppm/ $^{\circ}$ C

Dimensions / Weight: w215 x H100 x D120mm / 1kg (incl. protective boot)

Features: Colour coded digits, safety terminals, and protective rubber boot



1040 – 8 DECADE WIDE RANGE RESISTANCE BOX

Range / Resolution: 0 to 100M Ω / 1 Ω steps

Decade	1 Ω	10 Ω	100 Ω	1k Ω	10k Ω	100k Ω	1M Ω	10M Ω
Accuracy	$\pm 1\%$	$\pm 0.5\%$	$\pm 0.1\%$	$\pm 0.1\%$	$\pm 0.1\%$	$\pm 0.1\%$	$\pm 0.1\%$	$\pm 1\%$
Max Current	0.5A	0.3A	100mA	30mA	3mA	0.3mA	30 μ A	3 μ A

End Resistance: Less than 250m Ω

Power Rating: 1 watt per resistor

Voltage Rating: Maximum 250V DC/AC RMS

Temperature Coefficient: 100ppm/ $^{\circ}$ C

Dimensions / Weight: w215 x H100 x D120mm / 1kg (incl. protective boot)

Features: Colour coded digits, safety terminals, and protective rubber boot



1041 – 5 DECADE LOW OHM RESISTANCE BOX

Range / Resolution: 0 to 1k Ω / 0.01 Ω steps

Decade	0.01 Ω	0.1 Ω	1 Ω	10 Ω	100 Ω
Accuracy	$\pm 10\%$	$\pm 5\%$	$\pm 1\%$	$\pm 0.5\%$	$\pm 0.1\%$
Max Current	1A	1A	1A	0.3A	0.1A

End Resistance: Less than 60m Ω

Power Rating: 1 watt per resistor

Voltage Rating: Maximum 100V DC/AC RMS

Temperature Coefficient: 100ppm/ $^{\circ}$ C

Dimensions / Weight: w215 x H100 x D120mm / 1kg (incl. protective boot)

Features: Colour coded digits, safety terminals, and protective rubber boot



1061 – 6 DECADE RESISTANCE BOX

Range / Resolution: 0 to 1.2M Ω / 1 Ω steps

Accuracy: $\pm 1\%$

End Resistance: Less than 150m Ω

Power Rating: 0.75 watt per resistor

Voltage Rating: Maximum 300V DC/AC RMS

Dimensions / Weight: w355 x H63 x D82mm / 0.75kg

Features: Slimline design and front panel safety terminals

1067 – 6 DECADE PRECISION RESISTANCE BOX

Range / Resolution: 0 to 12k Ω / 10m Ω steps
 Accuracy: \pm 0.01%
 End Resistance: Less than 10m Ω . Less than 1m Ω variation
 Power Rating: 0.35 watt per resistor
 Stability: 20ppm/year (>1 Ω), 100ppm/year (<1 Ω)
 Voltage Rating: Maximum 200V DC/AC RMS
 Insulation: Case to resistance terminals 2kV / 50Hz maximum
 Temperature Coefficient: 10ppm/ $^{\circ}$ C (20ppm/ $^{\circ}$ C below 1 Ω)
 Dimensions / Weight: w355 x H63 x D89mm / 1.1kg
 Contacts: Make before break – silver alloy



1065 – 6 DECADE POWER RESISTANCE BOX

Range / Resolution: 0 to 120k Ω / 0.1 Ω steps
 Accuracy: \pm 5% (0.1 Ω), \pm 1% (1 Ω to 120k Ω)
 End Resistance: Less than 20m Ω
 Power Rating: 10 watt per resistor
 Voltage Rating: Maximum 500V DC/AC RMS
 Temperature Coefficient: 200ppm/ $^{\circ}$ C
 Dimensions / Weight: w390 x H60 x D150mm / 2kg
 Features: Ventilated robust metal case and multi-wafer switches for low switch contact resistance



1070 – 7 DECADE CAPACITANCE BOX

1071 – 7 DECADE CAPACITANCE BOX

1070 Range / Resolution: 0 to 10 μ F / 100pF steps
 1070 Accuracy: 1%
 1070 Residual capacitance: Less than 38pF
 1071 Range / Resolution: 0 to 100 μ F / 10pF steps
 1071 Residual capacitance: Less than 50pF
 Accuracy: 1% (5% above 10 μ F – 1071)
 Voltage Rating: Maximum 300V DC, 200V AC
 Dimensions / Weight: w215 x H100 x D120mm / 1kg (incl. protective boot)
 Features: Bi-polar working, colour coded digits, safety terminals, and protective rubber boot



1053 – 4 DECADE INDUCTANCE BOX

Range / Resolution: 0 to 10H / 1mH steps
 Accuracy at 1kHz: 3% of setting
 Voltage Rating: Maximum 30V AC
 Maximum Current: 150mA
 End Resistance: Less than 0.2 Ω
 End Inductance: Less than 1 μ H
 Dimensions / Weight: w248 x H62 x D102mm / 0.8kg
 Features: Robust metal case and front panel safety terminals





Voltage and Current Test Equipment

Portable Calibrators, Simulators, and Sources



1006 DC MILLIVOLT SOURCE

1007 DC MILLIVOLT POTENTIOMETER AND CALIBRATOR

High accuracy handheld millivolt sources primarily used for voltage injection or potentiometric voltage measurement (1007). Applications include thermocouple simulation and calibration of A/D converters and chart recorders.

- 3 ranges up to 1V
- Accuracy 0.02%
- 20mA output current
- Best resolution 1 μ V
- Short circuit and overload protected
- LED null measuring facility (1007)
- Safety terminals
- Removable protective boot
- Powered by 6 x AA batteries
- 100 hours typical battery life
- Optional carry case
- H215 x W100 x D120mm, weight 1.15kg



1010 DC VOLTAGE CALIBRATOR

A highly stable and accurate calibrator designed for applications requiring a precision voltage source of low internal resistance. Suitable for calibration, linearity, and gains stability measurements on DC amplifiers, voltmeters, data loggers, and chart recorders.

- 0.01 μ V to 10V in 5 ranges
- Accuracy 0.02%
- 10ppm/hr stability
- 30mA output current
- Safety terminals
- Battery or mains operation
- 40 hours typical use between charges
- Battery level indicator
- Optional carry case
- W217 x H160 x D193mm, weight 3.3kg



1024 DC CURRENT CALIBRATOR

A portable benchtop DC current source for calibration and test applications from nanoamp levels to 100mA. Applications include current transducer testing and calibration and linearity tests on digital and electronic current meters.

- 0 to 100mA output in 5 ranges
- Accuracy 0.02%
- 10ppm/hr stability
- 30ppm/ $^{\circ}$ C temperature coefficient
- Up to 15V output drive
- Null meter measures to 1 μ A resolution
- Safety terminals
- Battery or mains operation
- 12 hours typical use between charges
- Battery level indicator
- Optional carry case
- W217 x H160 x D193mm, weight 3.3kg



1021 MILLIAMP SOURCE WITH NULL INDICATOR

A precision DC current source suitable for calibration and test applications from micro-amp levels up to 100mA. The 1021 is used to calibrate current sensitive transducers and their associated indicating and recording instruments.

- 0 to 100mA output in 3 ranges
- Accuracy 0.02%
- 25ppm/hr stability
- Up to 40V output drive
- LED null measuring facility
- Short circuit overload protected
- Safety terminals
- Removable protective boot
- 10 hours typical use between charges
- Battery charger supplied
- Optional carry case
- H215 x W100 x D120mm, weight 1.4kg

1077 MILLIAMP TRANSDUCER SIMULATOR

A multi-purpose handheld test instrument that can be used as an adjustable current load, adjustable power supply, or precision current source. The 1077 is commonly used for the testing and simulation of milliamp transducer systems.

- 3 operating modes
- Accuracy 0.02%
- 100mA source and load
- 24V line mode
- Variable drive source 14 to 40V
- Short circuit and overload protected
- Safety terminals
- Removable protective boot
- 10 hours typical use between charges
- Battery charger supplied
- Optional carry case
- H215 x w100 x D120mm, weight 1.5kg



1017 VOLTAGE/CURRENT/RESISTANCE CALIBRATOR

A portable multifunction calibrator with voltage, current, and resistance ranges. The 1017 is suitable for calibrating a wide range of instruments including thermocouples, transducers, transmitters, and platinum resistance thermometers.

- DC Volts 10nV to 100V
- DC Current 100nA to 100mA
- Resistance 10mΩ to 10kΩ
- Accuracy 0.005% (50ppm)
- 1ppm setting resolution
- Noise <2ppm (0.1 to 1Hz)
- Stability <5ppm/day, <25ppm/yr
- End resistance <200mΩ
- Deviation control – Voltage and Current
- Battery or mains operation
- 12 hours typical use between charges
- w250x h119 x D314mm, weight 2.4kg



1030 VOLTAGE/CURRENT SOURCE

A simple operation pocket-sized calibrator suitable for voltage and current loop signal simulation as well as thermocouple simulation. A cost-effective and popular instrument used in various applications across industries.

- 10mV, 100mV, 1V ranges
- 10mA, 100mA ranges
- Accuracy 0.1%
- Linearity 0.15%
- Up to 8V output (using 1kΩ resistor)
- Precision 10-turn dial
- 1kΩ resistor supplied
- Battery level indicator
- Battery powered 9V PP3
- 60 hours typical battery life
- Supplied with carry case
- H115 x w62 x D55mm, weight 0.24kg



1044 VOLTAGE/CURRENT CALIBRATOR

A precision handheld calibrator that can be used as a general purpose current and voltage source. High performance and ease of use make it suitable for test engineers, R&D, service, and calibration technicians.

- Measure voltage and current
- Source voltage and current
- 3 voltage ranges 0 to 20V
- 3 current ranges 0 to 20mA
- Accuracy 0.05%
- 4.5 digit LCD display
- Battery powered 9V PP3
- 28 hours typical battery life
- Optional mains power supply
- Supplied with carry case
- H142 x w78 x D50mm, weight 0.30kg
- Voltage/Current/Loop version 1048





Loop and Temperature Calibration Instruments

Handheld Loop Calibrators, RTD and Thermocouple Calibrators



1048 VOLTAGE/CURRENT/LOOP CALIBRATOR

A compact voltage, current, and process loop calibrator for engineering, manufacturing, test, and process control applications. The 1048 combines digital accuracy with simple analogue control and is well suited to plant operations such as powering control loops.

- Source/measure voltage and current
- 3 source ranges: 0 to 22mA and 0 to 22V
- 3 measure ranges: 0 to 70mA and 0 to 50V
- Accuracy 0.02%
- Transmitter simulator/sink loop control
- Output steps and ramps
- Fine adjustment (inching)
- Battery powered 9V PP3, 20 hours typical use
- H142 x w78 x d50mm, weight 0.34kg



7005 VOLTAGE/CURRENT/LOOP CALIBRATOR

A handheld instrument for the calibration and simulation of voltage and current loops. The 7005 is a high accuracy compact calibrator with source and measure capabilities.

- Current measurement: 125mA, source 50mA. Resolution 1 μ A
- Voltage measurement: 25V, source 21V. Resolution 1mV
- Accuracy 0.01%
- Transmitter and square root functions
- Auto-ranging feature
- Programmable steps and ramp
- 9 hours typical use between charges
- Supplied with battery charger and carry case
- H165 x w90 x d45mm, weight 0.42kg



7006 LOOP-MATE 1: LOOP SIMULATOR AND SOURCE

A cost-effective handheld loop simulator that provides 4 to 20mA or 0 to 10V loop signals. Features include manual and automatic step modes with audible indication that changes pitch as the output increases/decreases.

- 4 to 20mA or 0 to 10V ranges
- Set-points: 0, 10, 25, 50, 75, 90, 100% of range
- Accuracy 0.1%
- TxSim or RxTest modes
- Internal loop supply, 25mA maximum
- Auto-stepping mode: up/down/up, 0.5, 1, 2, 4, or 8 sec/step
- Battery powered 9V PP3, 40 hours typical use
- Supplied with carry case
- H140 x w65 x d30mm, weight 0.18kg



7007 LOOP-MATE 2: LOOP SIGNAL INDICATOR

A simple operation portable loop signal indicator with LCD display. Suitable for use with the 7006 Loop-Mate 1.

- 4 to 20mA, 0 to 10V, 0 to 50V ranges
- LCD 4 digit display, mA, V, or % of range
- Accuracy 0.05%
- RxSim, TxTest, or 50mA/50V measure modes
- Internal loop supply, 25mA maximum
- Battery powered 9V PP3, 40 hours typical use
- Supplied with carry case
- H140 x w65 x d30mm, weight 0.20kg

1049 PT100 SIMULATOR

A handheld precision simulator for PT100 0.3850 platinum resistance elements used for accurate temperature measurement. High performance metal film resistors are used throughout which ensures a good temperature coefficient and long term stability.

- -200°C to +800°C with 23 set points
- Accuracy $\pm 0.3^{\circ}\text{C}$
- Less than 30ppm/ $^{\circ}\text{C}$ temperature coefficient
- ITS-90 IEC60751
- Exceeds class A
- Passive resistance source
- Supplied with carry case
- H112 x W61 x D55mm, weight 0.17kg
- $^{\circ}\text{F}$ version available – 1050



7000 RTD TEMPERATURE CALIBRATOR

A portable process control instrument that combines a precision digital thermometer (using RTD probes) with an RTD/ohms calibrator.

- Temperature – Accuracy 0.05°C (0.09°F). Resolution 0.01°C (0.02°F)
- Resistance – Accuracy 0.03Ω . Resolution 0.01Ω
- 2, 3, and 4 wire connections
- Measure and simulate $^{\circ}\text{C}$, $^{\circ}\text{F}$, $^{\circ}\text{K}$, and ohms
- Ramp and step
- PT100 plus 7 other RTD types
- User programmable
- 24 hours typical use between charges
- Supplied with battery charger and carry case
- H165 x W90 x D45mm, weight 0.42kg



1090 PROCESS AND TEMPERATURE CALIBRATOR

A portable, key-press operation instrument that combines source and measurement functions for thermocouples, RTDs, mV and mA. The 1090 features a memory storage function that holds frequently used values.

- Measures/simulates 8 thermocouple types, PT100-RTD, mV and mA
- Displays units in $^{\circ}\text{C}$, $^{\circ}\text{F}$, $\mu\text{V}/\text{mV}$, or mA
- Automatic or manual cold junction compensation
- Inching and step functions with time configurable steps
- Process loops 4 to 20mA and 0 to 50mA
- 24V loop drive voltage
- Mains or battery operation – 60 hours typical use between charges
- Supplied with battery charger and carry case
- H235 x W150 x D75mm, weight 1.25kg



7050 PROCESS AND THERMOCOUPLE CALIBRATOR

A process calibrator that combines the essential functions of measurement and simulation of volts, millivolts, milliamps, and ohms with the direct readout simulation of thermocouples and RTDs in $^{\circ}\text{C}$ or $^{\circ}\text{F}$ units.

- Measure (3 ranges) up to 400V, 400mA, $40\text{k}\Omega$
- Output voltage (3 ranges) up to 10V, $1\mu\text{V}$ resolution
- Output current (3 ranges) up to 20mA, $1\mu\text{A}$ resolution
- Output resistance: 0 to 400Ω , 0.01Ω resolution
- Thermocouple measure and simulate: J, K, T, E, R, S, B, N
- RTD measure and simulate: PT100
- Ramp function
- Battery or mains operation
- W270 x H175 x D250mm, weight 4.5kg





Resistance and Electrical Test Calibrators

Portable Benchtop Calibrators for lab and field use



5068 INSULATION TESTER/MEGOHMMETER CALIBRATOR

A precision instrument for calibrating general purpose insulation testers and megohmmeters with test voltages up to 2.5kV. Rugged, compact, and portable it is ideal for site calibration.

- Insulation resistance from 100K Ω to 10G Ω
- Low ohm verification at 1 Ω , 10 Ω , 100 Ω , 1K Ω
- Basic accuracy 1%
- Up to 2.5kV operation
- Battery operation (over 150 hours between charges)
- Continuous connection – no arcing
- Fully shrouded safety connectors
- Display of open circuit voltage (0 to 1.999kV or 0 to 2.50kV)
- Display of short circuit current (0 to 2mA or 0 to 20mA)
- w270 x h175 x d250mm, weight 2.1kg



5069 INSULATION TESTER/MEGOHMMETER CALIBRATOR

A high accuracy calibrator for insulation testers and megohmmeters with test voltages up to 9kV. Sturdy and transportable it is suitable for both lab and site calibration.

- Insulation resistance from 100k Ω to 100G Ω
- Basic accuracy 1%
- Up to 9kV operation
- Battery operation (over 150 hours between charges)
- Continuous connection – no arcing
- Fully shrouded safety connectors
- Display of open circuit voltage (0 to 2kV or 0 to 9kV)
- Display of short circuit current (0 to 2mA or 0 to 20mA)
- w406 x h175 x d330mm, weight 4.4kg



5070 DUCTOR TESTER/MICRO-OHMMETER CALIBRATOR

The DuctorCal is a portable instrument suitable for calibrating high current ductor testers and micro-ohmmeters. It contains 5 sets of high current rating standard resistors that simulate the resistance being measured.

- Calibrate ductor testers and micro-ohmmeters
- 0.2, 2, 20, 200, 2000m Ω ranges
- 5 point calibration: 0, 25, 50, 75, 100%
- Gold plated terminals
- Low thermal emf connection
- Portable robust carrying case
- w540 x h410 x d210mm, weight 11kg



5080 PORTABLE APPLIANCE TESTER CALIBRATOR

Designed to provide rapid high accuracy calibration of portable appliance testers and insulation/continuity testers. The 5080 has calibration functions for earth bond, insulation, leakage, touch leakage, and load test.

- Earth bond range 18 Ω to 20m Ω
- Earth bond currents up to 50A AC
- Load test currents up to 13A AC
- Voltage and current displayed on integral LCD display
- Safety interlock feature
- Portable robust carrying case
- Battery powered (over 200 hours between charges)
- w406 x h175 x d330mm, weight 5.5kg

Pressure Calibration Instruments

Portable Pressure Calibrators and Test Pumps

7040 DIGITAL PRESSURE/CURRENT CALIBRATOR

A versatile calibrator that combines a digital pressure gauge and current indicator. Suitable for pressure testing and maintenance as well as process loop applications.

- 0.2, 2, 5, 10, or 20bar versions (vacuum available on 2bar model)
- Pressure/vacuum calibration, 0.04% accuracy
- Loop current calibration (displayed in mA, or as % of range, 4 to 20mA)
- 9 engineering units – bar, psi, KPa, inWg, cmWg, inHg, mmHg, Kg/cm2, Atm
- Minimum/Maximum logging and leak rate functions
- 4.5 digit display
- RS232 serial interface and EasyCal software compatible
- Battery powered 9V PP3, 50 hours typical use
- Supplied with carry case, fittings kit and hose, test lead, and RS232 cable
- H157 x W90 x D33mm, weight 0.29kg



7010 SINGLE CHANNEL PRESSURE CALIBRATOR 7015 DUAL CHANNEL PRESSURE CALIBRATOR

Portable battery or mains powered pressure calibrators designed for both lab and field applications.

- Vacuum, 0.2, 2, 5, 10, 20, 35, 70, 100, 200, 400, or 600bar versions
- Accuracy 0.04% of full scale
- Pneumatic or hydraulic
- Up to 5 selectable engineering units per channel
- Loop current measure
- 24/36V loop power
- Over-pressure alarm
- RS232 serial interface and EasyCal software compatible
- W270 x H175 x D250mm, weight 3kg



7016 REGULATED LOW PRESSURE CALIBRATOR 7018 DIFFERENTIAL PRESSURE CALIBRATOR

Portable pressure calibrators that are rugged and easy to operate, suitable for pneumatic field instrumentation.

- 7016 - Regulated low pressure: Vacuum, 0.2, 2, 5, 10, or 20bar versions
- 7018 - Differential pressure: Vacuum, 0.2, 2, 5, 10bar versions
- Pneumatic
- Up to 5 selectable engineering units
- Loop current measure
- 24/36V loop power
- Over-pressure alarm
- RS232 serial interface and EasyCal software compatible
- W270 x H175 x D250mm, weight 3kg



7090 PNEUMATIC CALIBRATION PUMP 7095 HYDRAULIC CALIBRATION PUMP

Pneumatic and hydraulic calibration pumps that combine high performance with rugged design. Features include contoured cushioned handles for comfort and dual o-rings on all pistons to ensure zero leakage.

- 7090 – Pneumatic pressure to 40bar, Vacuum to -950mbar
- 7095 – Hydraulic pressure to 700bar
- Non-oil based lubricant used on all moving parts
- Both supplied as kit with carry case, hoses, and fittings
- 7090 – H200 x W125mm, weight 0.91kg
- 7095 – H240 x W125mm, weight 1.4kg
- Digital pressure gauges available





5025 and 5051 Multifunction Calibrators

Precision calibration for wide workload coverage



MULTI INSTRUMENT CALIBRATION

The 5025 is a high performance multi-product calibrator that provides the foundation for cost-effective calibration. Designed for a wide workload the 5025 calibrates both traditional and new test equipment quickly and accurately. Standard features include AC/DC voltage and current, digital frequency, decade resistance, conductance, and thermocouple simulation. Further options include capacitance and inductance, wideband AC voltage, full range resistance (incorporating PT100 simulation), power calibration, and oscilloscope calibration. In addition external adaptors are available for clamp meter and optical tachometer calibration, and a power amplifier for demanding analogue instruments.

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.

CALIBRATION MADE EASY

Connect the 5025 to a PC/Laptop installed with Time Electronics' EasyCal software and automate the calibration process. Increase speed of calibration and consistency of results, produce calibration certificates and reports to ISO 9001 quality standards.

STANDARD FEATURES

	Range	Best 1 year Specification
Voltage DC	0 to $\pm 1050V$	$\pm 15ppm$ of setting
Current DC	0 to $\pm 22A$	$\pm 80ppm$ of setting
Voltage AC	1mV to 1050V (10Hz to 20kHz, sine-wave)	$\pm 300ppm$ of setting
Current AC	10uA to 22A (20Hz to 1kHz, sine-wave)	$\pm 0.05\%$ of setting
Resistance	1 Ω to 1G Ω (Fixed values, decade steps)	$\pm 20ppm$ of setting
Conductance	1S to 1nS (Fixed values, decade steps)	$\pm 20ppm$ of setting
Thermocouple Simulation	-270 to 1800°C (Type J, K, R, T, S, B, E, N)	$\pm 0.15^\circ C$
10MHz Digital Frequency/ Period	0.1Hz to 10MHz / 100nS to 10S	$\pm 20ppm$ of setting

OPTIONS

	Range/Values	Best 1 year Specification
Wideband AC Voltage (9771)	20 to 200mV/300kHz. 0.2 to 2V/1MHz. 2 to 20V/100kHz	$\pm 0.05\%$ of setting
Capacitance (9798)	1nF, 10nF, 100nF, 1 μF , 10 μF , 100 μF	$\pm 0.25\%$ of setting
Inductance (9798)	1mH, 1.9mH, 5mH, 10mH, 19mH, 50mH, 100mH, 190mH, 500mH, 1H, 10H	$\pm 0.1\%$ of setting
Full Range Resistance (9787)	1 Ω to 120M Ω (Variable)	$\pm 100ppm$ of setting
- PT100	-200 to 850°C	$\pm 0.2^\circ C$
Power Calibration (9797)	22A, 1050V, 23kW, 45 to 400Hz	ACV: 0.03%, DCV: 0.01% ACI: 0.1%, DCI: 0.03%
- Phase/Power Factor	$\pm 90^\circ$ / 0.00 to 1.00PF	$\pm 0.3^\circ$
- External Options	AC Current Transformer (9790): 100A / 100kW. Clamp Meter Adaptor x50 turn (9780): 1100A / 1.1MW	
Oscilloscope Calibration (9770)		
- Amplitude	0mV to 200V and 0mV to 2V 50 Ω (square-wave or DC)	$\pm 0.05\%$
- Frequency/ Period	0.1Hz to 100MHz / 100nS to 10S	$\pm 20ppm$ ($\pm 0.1ppm$ optional)
- Duty Cycle	3 frequencies: 100Hz, 1kHz, 10kHz, settable from 0 to 100%	
- Fast-Rise	< 300ps. Bandwidth checking up to 600MHz	
2.2GHz Sweep (9769)	100MHz to 2.2GHz levelled sine-wave (0.5, 1, 1.5V pk-pk)	Amplitude $\pm 1\%$, Frequency $\pm 20ppm$

Calibrates

Digital/Analogue Multimeters

AC/DC Millivoltmeters

Timer Counters

Handheld/Bench Multimeters

Thermocouple Indicators

Oscilloscopes

Frequency Meters

Clamp Meters

Decade Boxes

Ohmmeters

Temperature Indicators

Data Loggers

GENERAL SPECIFICATION

Warm up.....	30 minutes to full accuracy
Settling Time.....	Less than 5 seconds
Interfaces	GPIO (IEEE-488), RS-232, USB
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 3km. Non operating: 3km to 12km
Line Power	100 to 230V AC 50/60 Hz. 200W maximum
Dimensions.....	w455mm, H155mm, D480mm. Weight: 16.5kg

ADDITIONAL / EXTERNAL OPTIONS

9747.....	EasyCal Software and options (see page 19)	9767.....	External Low Noise Attenuator 100:1
9780.....	Clamp Meter Adaptor (1 and 50 turns)	9766.....	External Low Noise Attenuator 1000:1
9773.....	Optical Tachometer Calibration Adaptor	9728.....	19" Rack Mount Kit
5065.....	6½ Digit Bench Multimeter	9796.....	Test Lead Set
9790.....	100A AC Current Transformer	9085.....	Carry Case
9760.....	Power Amplifier (60V AC, 90V DC – 100mA)	9159.....	Factory Calibration Certificate (NPL Traceable)
9762.....	Rubidium Frequency Standard	9103.....	UKAS Calibration Certificate (ISO 17025)

Also available: 5025A Superior Specification Calibrator Package. AC/DC 1050V/22A, Variable Resistance 1Ω-120MΩ. Capacitance and Inductance. Power Calibration 20kW, ACV 1MHz. Thermocouples (J,K,T,R,S,B,N,E,C,M,U,L). RTD (PT10,100,200,500,1000).

5051 MULTIFUNCTION CALIBRATION SYSTEM

The 5051 is a universal calibration system providing the same high specification, features and options as the 5025. It is ideal for engineers requiring an all-in-one unit which can be used for both lab and site calibration work. The internal features include a 6½ digit multimeter and industrial PC that can be preloaded with EasyCal software. In addition the 5051's touch screen user interface can speed up operation and helps maximise bench space.

The 5051 PLUS

A comprehensive package that provides a lab ready solution. It comes equipped with every item required for a complete calibration station: DMM; Oscilloscope Calibration; Capacitance and Inductance; Full Range Resistance; Clamp Meter Adaptor; Touch Screen; Test Lead Set; EasyCal; Factory Calibration Certificate; Carry Case; Printer and Connectivity Kit.

5051 Dimensions: w430mm, H202mm, D538mm. **Weight:** 23kg





ATE/Bench Calibrators and Digital Multimeters

Multi-purpose Calibrators and Benchtop DMMs



EasyCal

5011 RESISTANCE/TEMPERATURE CALIBRATOR

A versatile, high accuracy calibrator that is primarily a programmable resistance/RTD source. Internal options such as DC voltage and thermocouple simulation, DC current, and 10MHz frequency can be added to increase capabilities.

- 1Ω to $120M\Omega$, 100ppm basic accuracy
- RTD simulation
- Optional thermocouple simulation
- 0 to 22V DC voltage option
- 0 to 220mA DC current option
- 10MHz frequency option
- RS232/GPIB/USB interface
- Front panel operation
- PC/laptop control via EasyCal software
- Rack mount kit option
- w451 x H152 x D272mm, weight 7kg



EasyCal

5018 PROGRAMMABLE DC-AC V-I CALIBRATOR

A high precision calibration instrument that can be configured as a simple benchtop DC voltage calibrator or advanced AC/DC voltage and current source controlled via PC, performing any number of tasks as part of a complex ATE test rig.

- 15ppm accuracy, 0.5ppm resolution
- 1999999 full scale + 10% over-range
- 20mV-200mV-2V-20V DC voltage
- Deviation control -9.999% to +9.999%
- Ramping feature
- RS232/GPIB/USB interface
- Ideal for ATE applications
- Front panel operation
- PC/laptop control via EasyCal software
- Rack mount kit option
- w451 x H152 x D272mm, weight 8.2kg



EasyCal

5045 OSCILLOSCOPE CALIBRATOR

A high performance benchtop instrument for calibrating a wide range of oscilloscopes and frequency meters. It provides outputs for amplitude, frequency, period, duty cycle, and bandwidth. Frequencies are generated from an internal 0.1ppm temperature controlled oscillator.

- 1mV to 220V square wave/DC
- Frequency 0.1Hz to 100MHz
- Time marker/period 15s to 10ns
- Fast rise <300ps
- Bandwidth check up to 600MHz
- Optional 2GHz levelled sweep
- Rubidium frequency reference option
- Front panel operation
- Virtual front panel control software supplied as standard
- PC/laptop control via EasyCal software
- w451 x H152 x D272mm, weight 8.2kg

5077 POWER CALIBRATOR

A high accuracy power calibrator suitable for calibrating watt-meters, power meters, and kW-Hr meters. Supplied with its own "Virtual Front Panel" software allowing the user full control via laptop or PC.

- Phase angle $\pm 90^\circ$, power factor 0.00 to 1.00
- 1mV to 1050V AC/DC
- 0.02 to 22A AC/DC
- 0 to 22kVA or 0 to 22kW
- 100A AC current transformer option
- 45 to 400Hz in 0.1Hz steps
- Clamp meter adaptor option
- RS232/GPIB/USB interface
- Virtual front panel control software supplied as standard
- w455 x h155 x d480mm, weight 25kg



5065 BENCH DIGITAL MULTIMETER

A versatile 6½ digit bench multimeter with 19 measurement functions. Low cost, easy to use, stability, and high accuracy make the 5065 an ideal DMM for a variety of applications. With a comprehensive range of features the 5065 is suitable for test engineers, R&D, service, and calibration technicians.

- 6½ digit resolution
- Accuracy 0.005% DC voltage
- RS232 and USB interface
- Optional GPIB interface
- Temperature measurements
- SCPI command set
- High sample rate
- 10 channel scanner card option
- PC/laptop control via EasyCal software
- w210 x h85 x d350mm, weight 4.4kg



5075 PRECISION DIGITAL MULTIMETER

A benchtop digital multimeter that combines high performance with simple operation. The 5075 easily measures from nanovolts to 10kV, from picoamps to 30 amps, from micro-ohms up to 1GΩ, from picofarads to 300μF, with up to 7½ digit accuracy.

- 7 digit resolution
- 10nV to 10kV, 10pA to 30A
- Resistance, capacitance, frequency
- 18ppm accuracy/best 1 year
- 10 channel low thermal emf scanner option
- PC/laptop control via EasyCal software
- GPIB interface (USB adaptor available)
- Rack mount kit option
- w423 x h89 x d415mm, weight 8.5kg





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ADDITIONAL CALIBRATION PRODUCTS

1. Pressure Calibrators

2. Handheld pressure test pumps

3. Pressure comparators

4. Temperature calibrators

5. Flue Gas Analysers

6. Emission Analysers

Pressure Calibrators

Pressure Calibrator Models



EiUK [LPC 300](#) Documenting Process Calibrator
Accuracy ± 0.025 FS
max. 6000 bar, mA/V reading
up to 10 plug & play sensors



EiUK [LPC 200](#) Electronic Pressure Calibrator
Accuracy $\pm 0.025\%$ FS
max. 6000 bar
up to 10 plug & play sensors



EiUK [P12](#) High Accuracy Digital Test Pressure Gauge
Accuracy $\pm 0.025\%$ FS
max. 2500 bar
opt. ATEX EEx ia IIC T4



EiUK [P100](#) Pressure Calibrator
Accuracy $\pm 0.05\%$ FS
max. 2000 bar



EiUK [G10](#) Reference Pressure Gauge
Accuracy $\pm 1.0\%$ FS
max. 1000 bar
Analogue instrument, dual scale bar/psi



EiUK [LCC 100](#) Pressure Controller
Accuracy $\pm 0.1\%$ FS
max. 2 bar
With internal electric pressure/vacuum pump



EiUK [PC4](#) Pressure Calibrator
Accuracy $\pm 0.2\%$ FS
max. 1 bar
With internal manual pressure pump

Handheld Pressure test pumps

Pressure Calibration Pumps

Pneumatic and hydraulic hand operated test pumps for pressure calibration from vacuum to 1000 bar/14500 psi

Pressure Calibration Pumps or Pressure Pumps are hand held devices designed to generate precise and stable pressure values for pressure calibration routines.

Pressure Pumps are used in conjunction with reference pressure instruments such as Digital Pressure Indicators or Bourdon Analogue Standard Test Gauges for calibration and testing of pressure transmitters, pressure gauges, pressure switches and many other pressure devices installed in the process industries.

There are two types of **Pressure Test Pumps** which are used for pressure calibration:

Pneumatic Calibration Pumps

Pneumatic Test Pumps use air as pressure media. They are capable of generating both **vacuum** and **pressure** and typically they get to a **maximum pressure of 60 bar** (870 psi)

EiUK manufacture 4 different model of pneumatic calibration pumps:

- PGS-60 Calibration Hand Pump, Range -1 to 60 Bar (870 psi)
- PGS-40 Pressure Test Pump, Range -1 to 40 bar(600 psi)
- PGS-7 Pressure Test Pump, Range 0 to 7 bar (100 psi)
- PGS-1V Vacuum Test Pump, Range -0.950 bar to 0 bar

Models



[PGS-60 Pneumatic Calibration Hand Pump](#)

Range:-1 to 60 bar

Media : Air



[PGS-40 Pneumatic Calibration Hand Pump](#)

Range: -1 to 40 bar

Media: Air



[PGS-700 Hydraulic Calibration Hand Pump](#)

Range: 0 to 700 bar

Media: Oil or Water



[PGS-1000 Hydraulic Calibration Hand Pump](#)

Range: 0 to 1000 bar

Media: Oil or Water



[PGS-7 Low pressure Pneumatic Test Pump](#)

Range: 0 to 7 bar

Media: Air



[PGS-1V Vacuum Calibration Test Pump](#)

Range: - 960 mbar to 0 bar

Media: Air

Pressure Comparators

The **Pressure Comparator series** are a remarkable range precision pressure sources (bench type spindle pumps) for generating pressure (hydraulic) for calibration purposes. The build-in priming pump guarantees fast and easy pressure generation without the need of bleeding the system. The precision spindle allows a very smooth adjustment of the required pressure.

Product Showcase:



Pressure Comparator (spindle pump) [PCP-1000-EB-VP](#)
to generate and adjust pressure up to 1000 bar



Pressure Comparator (spindle pump) [PCP-1200-EB-VP](#)
to generate and adjust pressure up to 1200 bar



Pressure Comparator (spindle pump) [PCP-1600-EB-VP](#)
to generate and adjust pressure up to 1600 bar

Temperature Calibrators

Portable Dry Block and Liquid baths temperature Calibrators

[PTB Series- Portable Temperature Calibrators](#)



Temperature Range from -50°C to 1100 Deg °C

- Stability 0.03°C
- Accuracy down to 0.08°C
- Built in dual channel read out for UUT and Reference Sensor
- Use as a Dry Blok, Ice Point, Surface Sensor calibration, Infrared thermometers Calibrator

[PLB Series- Portable Liquid Baths](#)



Temperature Range from -35 to 250 Deg °C

- Stability 0.02°C
- Accuracy down to 0.08°C
- Built in dual channel read out for UUT and Reference Sensor
- Large Calibration Volume 54x150 mm
- Use as a Dry Block, Ice Point, Surface Sensor calibration, Infrared thermometers Calibrator

[TM Series- Marine Temperature Calibrators](#)



Temperature Range from -45 to 650 Deg °C

- 110/220 VAC switching operation-
- interchangeable multi-hole insert-
- Stand alone switch test function
- Light weight and easy to transport

[ETB Series- Multifunction Temperature Calibrators](#)



Temperature Range from -55 to 1200 Deg °C

- Use as Dryblock, liquid bath and Infrared Calibrator
- Stability: ± 0.02 °C (ETB 140)
- Excellent Radial and Axial Uniformity
- Digital interface as standard
- Calibrate all type of sensors

Flue Gas Analysers

One of the most comprehensive range of flue Gas analysers for servicing and installing domestic and commercial boilers. All our flue gas analysers are independently tested to EN BS 50379 and are suitable for engineers working to the BS7967. We offer 5 years limited warranty on all our new products and a tailored made service plan to help reduce your cost of ownership.



RASI 200 Multi-Purpose Flue Gas Analyser

Flue Gas Analyser for domestic Boilers.

Suitable for Gas, Oil and wood fired Boilers, RASI 200 is not just a combustion analyser but much more

- Check all combustion parameters
- Measure differential temperature
- Measure differential pressure and draft
- Perform let by, stabilization and tightness test
- Perform CO test
- Tested to BS 7967 and BS EN 50379
- 5 years limited warranty
- Available in different kits (CPA1 KIT)

[Get more info here...](#)



RASI 200C Flue Gas Analyser

Flue Gas Analysers for commercial/industrial boilers.

Suitable for Gas, Oil and wood fired Boilers.

RASI 200C is equipped with a long life high CO cell (H2 compensated as required by legislation) for use on highly contaminated boilers

- CO (H2) 0 to 8000 ppm
- Check all combustion parameters
- Measure differential temperature
- Measure differential pressure up to 300 mbar
- Measure draft
- Perform let by, stabilization and tightness test
- Perform CO test
- Tested to BS 7967 and BS EN 50379
- 5 years limited warranty

[Get more info here...](#)



RASI 700CA Advanced Flue Gas Analyser

Advance Flue Gas Analyser for commercial/industrial boilers.

Advanced flue gas analyser with high resolution, TFT colour graphical display for commercial boilers.

- Suitable for all gas, oil and wood fired boilers
- Multi-fuel
- Long life O2 and CO sensors
- Optional NO/NOX sensor
- Measures and displays flue gas oxygen, temperature and carbon monoxide, pressure differential and draft
- Calculates CO/CO2 ratio, CO2 and efficiencies net/gross and condensing
- Timed CO test
- Timed tightness and let by test
- AIR Ratio
- TÜV approved to BS EN 50379 (independently tested)
- 5 years limited warranty

[Get more info here...](#)

Emission Analysers

Portable combustion and emission Analysers

The **EiUK portable emissions analysers** have been designed and developed to meet the growing demands of easy emission monitoring and testing across the industry. The EiUK's range of Portable Emission Analysers are rugged, robust and easy to use. They provide a high accuracy and reliable solution for both long term and short term stack analysis in industrial processes. Whatever you need to report emissions or adjust combustion parameters for efficiency optimization, our portable combustion analysers are the right solution for your company.

We offer

- Cutting edge technology
- Wide range of products from 2 to trough 9 measurement gases
- Portable unit for semi-continuous monitoring
- NDIR technology for direct CO₂%, CO and HC (Hydrocarbon) measurement
- Heated sampling lines and built-in gas cooler
- Hand held unit with up to 5 measurement gases

Models



[Rasi 800 Portable Emissions and Combustion Analyser](#)
O₂, CO, NO, NO₂, SO₂, H₂S and NDIR technology for CO₂%, HC and CO.
MCERT'S Pending approval



[Rasi 901 Advanced Portable Emissions and Combustion Analyser](#)
O₂, CO, NO, NO₂, SO₂, H₂S and NDIR technology for CO₂%, HC and CO
Heated Line and gas cooler.



[Rasi 700 Hand Held Portable Emissions and Combustion Analyser](#)
O₂, CO, NO, NO₂, SO₂, H₂S, Low CO, Low NO
NDIR technology for CO₂% and CH₄.



[Rasi 200I Hand Held Portable Combustion Analyser](#)
measure O₂, CO, NO