Time Electronics
Calibration, Test and Measurement

5025 Series
Multifunction Calibrators

High Performance Wide Workload Laboratory Calibrators

5025 Series Multifunction Calibrators

Precision calibration for wide workload coverage

EasyCal

PC Virtual Control

Calibrates

Digital/Analog Multimeters	Ohmmeters	Clamp Meters	Oscilloscopes
Handheld/Bench DMMs	AC/DC Millivoltmeters	Temperature Indicators	Tachometers
Frequency Meters	Thermocouple Indicators	Timer Counters	Data Loggers

And more

Multi Instrument Calibration

The 5025 series are high performance multi-product calibrators that provide the foundation for cost-effective calibration. Built for versatility and simplicity each model offers a solution to efficient calibration of a wide range of test and measurement equipment.

The 5025E is an entry level calibrator that is ideal for companies requiring fast implemention and immediate return on investment. The 5025C is a superior specification model that delivers superb accuracy over wide conditions with excellent capabilities. Both models are built for wide workload calibration, combining functionality with features for ease of use. For calibration professionals on a budget the 5025 series cover a comprehensive range of applications at an affordable price.

Functionality and Enhancements

Each model features over 11 standard functions. These include AC/DC voltage and current, digital frequency, decade and simulated variable resistance, capacitance, conductance, PT100 and thermocouple simulation. Internal options can be fitted for power and oscilloscope calibration. External adaptors are available for clamp meter calibration, optical tachometer calibration and more.

Both calibrators can be fitted with enhanced performance packs. These provide full range variable resistance, extended temperature functions, extended capacitance and increased ACV frequency bandwidth. On the 5025C inductance and additional precision high DCV ranges are included to cover the requirements for high specification multimeters.

5025 Series at a Glance

Functions

- 0 to 1050V AC/DC voltage
- 0 to 22A AC/DC current
- Up to 1GΩ decade resistance
- Simulated variable resistance to 40MΩ (40kΩ on 5025E)
- Optional full range variable resistance to 120MΩ
- Thermocouple simulation
- Conductance
- Digital frequency
- PT100 simulation
- Capacitance and optional inductance on 5025C
- Optional oscilloscope calibration
- Optional power calibration
- Adaptor for clamp meter calibration

About the 5025 Series

- 5025E: 40ppm entry level calibrator Calibrate up to 4.5 digit multimeters
- 5025C: 15ppm precison laboratory calibrator Calibrate up to 6.5 digit multimeters
- Wide workload at an affordable price for fast ROI
- Ready for use – Quick and easy implementation
- Simple front panel operation or PC virtual control
- EasyCal software for automated calibration
- RS-232 and USB interfaces (GPIB on 5025C)
- Adaptors for clamp meters, tachometers and more
- Options to add functions and performance enhancement
- Options can be retro-fitted to expand capabilities when required, or when budget allows
- Easy transportation with optional hard and soft carry cases

Operation Features

Easy to Use Front Panel Controls

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.

Virtual Control software

5025 series calibrators are supplied as standard with Time Electronics' windows based Virtual Control software. It allows quick and direct input of any value required.

The remote SCPI command is displayed to help users develop custom applications.
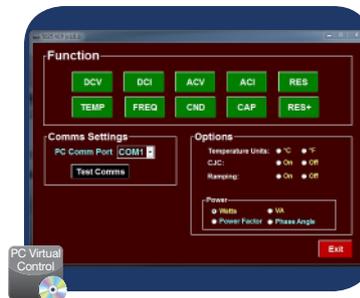
EasyCal Calibration Software

The 5025 can be connected to a PC/Laptop installed with Time Electronics' EasyCal software and automate the calibration process. This provides increased speed of calibration and consistency of results.

Produce calibration certificates and reports to ISO 9001, ISO 17025, and other international quality standards.

5025 Series Multifunction Calibrators

Precision calibration for wide workload coverage

5025E and 5025C Specifications

Function	Range / Values	Best 1 year Specification	
		5025E	**5025C**
Voltage DC	0 to ± 1050V	± 40ppm of setting	± 15ppm of setting
Current DC	0 to ± 22A	± 120ppm of setting	± 60ppm of setting
Voltage AC	1mV to 1050V / 20Hz to 20kHz (100kHz on 5025C) sine-wave	± 0.04% of setting	± 200ppm of setting
Current AC	10µA to 22A / 20Hz to 1kHz (5kHz on 5025C) sine-wave	± 0.07% of setting	± 0.05% of setting
Thermocouple Simulation	-210 to 1820°C. Type J, K, R, T, S, B, E, N	± 0.3°C	± 0.05°C
Digital Frequency/Period	0.1Hz to 10MHz / 100ns to 10s	± 20ppm of setting	± 20ppm of setting
Conductance	5025E: 100ms to 1ns | 5025C: 1s to 1ns (decade values)	± 60ppm of setting	± 20ppm of setting
Decade Resistance	5025E: 10Ω to 1GΩ | 5025C: 1Ω to 1GΩ (decade values)	± 60ppm of setting	± 20ppm of setting
Simulated Resistance	5025E: 40Ω to 40kΩ | 5025C: 10Ω to 40MΩ (variable)	± 0.02% of setting	± 0.02% of setting
PT100 Simulation	5025E: -140°C to 850°C | 5025C: -180°C to 850°C	± 0.25°C	± 0.15°C
Capacitance	1nF, 10nF, 20nF, 50nF, 100nF, 200nF, 500nF, 1µF	± 0.25% of setting	± 0.25% of setting
Option 9780: Clamp Meter Adaptor	AC/DC Current up to 1100A (DC, 45 to 90Hz)	± 0.5%	± 0.5%
Option 9770: Oscilloscope Calibration			
Amplitude	2mV to 200V and 1mV to 2V 50Ω (Square-wave or DC)	± 0.05%	
Frequency/Period	0.1Hz to 100MHz / 10ns to 10s (fixed values 1, 2, 5 sequence)	± 20ppm	
Duty Cycle	3 frequencies: 100Hz, 1kHz, 10kHz, settable from 0 to 100%	–	
Fast-Rise	< 400ps. Bandwidth checking up to 400MHz	–	
Option 9783: Frequency Reference	0.1Hz to 10MHz enhanced frequency accuracy reference	± 0.1ppm (enhanced accuracy for timer/counters)	
Option 9769: 2.2GHz Sweep	50MHz to 2.2GHz levelled sine-wave (0.5, 1, 1.5V pk-pk)	Amplitude ± 1%, Frequency ± 20ppm	
Option 9797: Power Calibration			
Power	22A, 1050V, 23kW, 45 to 400Hz	ACV: 0.03%, DCV: 0.01%. ACI: 0.1%, DCI: 0.03%	
Phase/Power Factor	± 90°/ 0.00 to 1.00PF	± 0.3°	
Enhanced Performance Packs – 5025E option: 9702 / 5025C option: 9701 *(added values/types shown in bold where applicable)*			
Full Range Resistance	1Ω to 120MΩ (variable)	± 100ppm of setting	
RTD Simulation	-180 to 850°C. Type PT100, **PT200**, **PT500**, **PT1000**	± 0.03°C	
Extended Thermocouple Simulation	-210 to 2315°C. Type J, K, R, T, S, B, E, N, **C**, **L**, **U**	± 0.05°C	
Extended Capacitance	1nF, 10nF, 20nF, 50nF, 100nF, 200nF, 500nF, 1µF, **10µF**, **20µF**, **50µF**, **100µF**	± 0.2% of setting	
Extended AC Voltage Frequency	5025E: 1mV to 200mV/100kHz, 200mV to 2V/100kHz, 2V to 20V/100kHz	± 0.05% of setting	
	5025C: 1mV to 20mV/300kHz, 20mV to 200mV/300kHz, 200mV to 2V/1MHz		
Additional Enhancements – 5025C only, included in option 9701			
Enhanced DC High Voltage	20 to 200V and 100 to 1020V additional ranges	± 15ppm	
Inductance	1mH, 1.9mH, 5mH, 10mH, 19mH, 50mH, 100mH, 190mH, 500mH, 1H, 10H	± 0.1% of setting	

5025E and 5025C External Options

External Adaptors/Instruments	9780: Clamp Meter Adaptor (1 & 50 turn coil) • 9773: Optical Tacho Adaptor • 9790: 100 Amp AC Current Transformer 9760: Power Amplifier (60V AC, 90V DC - 100mA) • 9762: Rubidium High Stability Frequency Reference 9764: Current Probe Calibration Adaptor • 9766: Low Noise Attenuator (1000:1) • 9767: Low Noise Attenuator (100:1)
Accessories and Calibration Certificates	9085: Soft Carry Case • 9059: Hard Transit Case • 9728: 19" Universal Rack Mount Kit • 9796: Premium Test Lead Set Factory Certificates (NPL traceable): C159 for 5025E / C220 for 5025C • UKAS Certificates (ISO 17025): C103 for 5025E / C225 for 5025C
EasyCal Software	ECFLA: EasyCal Full License • 9777: Bar Code Reader • 9779: Job and Address Label Printer EC2FL/EC2WL: Additional User Licenses • EAD: EasyAdmin Add-On • EWC: WebCerts • CREP: Crystal Reports Software

General Specifications

Supplied Accessories	Basic Test Lead Set • PC Virtual Control Software • RS-232 Cable • RS-232 to USB Adaptor • User Manual
Warm up	30 minutes to full accuracy
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 50/60Hz. 200W maximum
Interfaces	RS-232, USB, (and GPIB on 5025C)
Dimensions / Weight	W455mm, H155mm, D480mm. Weight: 16.5kg

Calibration Capabilities Chart

Software driven calibration relates to EasyCal Software being able to control the Time Electronics model for automated calibration procedures

Instrument Type	Time Electronics Solution	Software Driven Calibration
3.5 Digit Multimeter	**5025E / 5025C**	✓
4.5 Digit Multimeter	**5025E / 5025C**	✓
5.5 Digit Multimeter	**5025C**	✓
6.5 Digit Multimeter	**5025C** *with option 9701 performance enhancement pack*	✓
Clamp Meter	**5025E / 5025C** *with option 9780 clamp meter adaptor*	✓
Ohm Meter	**5025E / 5025C**	✓
Optical Tachometer	**5025E / 5025C** *with option 9773 optical tachometer adaptor*	✓
Volt / Continuity Tester	**5025E / 5025C**	✓
Data Logger	**5025E / 5025C**	✓
Frequency Meter	**5025E / 5025C**	✓
Oscilloscope	**5025E / 5025C** *with option 9770 scope calibration (9769 2.2GHz sweep required for high range scopes)*	✓
Timer Counter	**5025E / 5025C** *with option 9770 scope calibration + 9783 timer/counter calibration*	✓
Current Probe	**5025E / 5025C** *with option 9770 scope calibration + 9764 current probe adaptor*	✓
Power Meter	**5025E / 5025C** *with option 9797 power calibration*	✓
Thermocouple Meter	**5025E / 5025C**	✓
Insulation Tester	5069 Insulation Tester Calibrator	Manual Entry
Micro Ohm Meter	5070 Ductor Tester/ Micro-Ohmmeter Calibrator	Manual Entry
Decade Resistance Box	5065 Digital Multimeter	✓
Temperature Calibrator	5065 Digital Multimeter	✓
4-20mA Source Meter	5065 Digital Multimeter	✓
Portable Appliance Tester	5080 PAT Calibrator	Manual Entry
RCD Tester	5030 Electrical Tester Calibrator	✓
Loop Tester	5030 Electrical Tester Calibrator	✓
Installation Tester	5030 Electrical Tester Calibrator	✓
Earth Ground Tester	5030 Electrical Tester Calibrator	✓
DC Power Supply	9758 DC Electronic Load	Manual Entry
Pressure Indicator	TE pressure pump and digital gauge (models by range and accuracy required)	✓
Pressure Transmitter	TE pressure pump and digital gauge (models by range and accuracy required) Power supply and 5065 multimeter for measure capabilities required	✓
Pressure Gauge	TE pressure pump and digital gauge (models by range and accuracy required)	✓

Instrument type is based on commonly used products, please check specifications to confirm your DUT is covered by the above TE models.

9780 Clamp Meter Adaptor

A precision adaptor for use with calibrated AC or DC sources and allows accurate calibration of a wide range of clamp meters. When used with the 5025 series models clamp calibration up to 1100A is possible.

- Twin coils fitted as standard
- Ratios 1:1 and 50:1
- Primary current up to 22A
- Simulated current up to 1100A
- AC or DC
- Frequency up to 90Hz
- Max drive voltage 3V
- Low resistance test leads included
- W240 x H85 x D280mm, weight 3.9kg

9773 Optical Tachometer Adaptor

An optical tacho adaptor is designed to provide an interface to allow the 5025 multifunction calibrators to calibrate virtually all optical tachometers. A high intensity LED can be driven from the 10MHz digital frequency output or the main output terminals when AC voltage is selected.

- RPM range (using digital frequency): 6 rpm (0.1Hz) - 600,000 rpm (10KHz)
- RPM range (using 2V AC range): 600 rpm (10Hz) - 600,000 rpm (10KHz)
- Standard accuracy 0.01% (0.03% using 2V AC range)
- Screened 1000mm lead
- Create EasyCal procedures to show accuracy at any required RPM on certificate
- Supplied with battery charger and carry case
- 77 x 50 x 28mm, weight 153g

9760 Power Amplifier

The 9760 has been designed to complement 5025 series multifunction calibrators. The amplifier provides an output current suitable for driving even the most demanding analogue meters.

- 60V AC RMS – 100mA
- 90V DC – 100mA
- 0.02% best accuracy
- AC V to 10kHz
- Short circuit protection: 160mA
- Compact unit takes up minimal bench space
- W430 x H90 x D230mm, weight 5kg

9764 Oscilloscope Current Probe Adaptor

The 9764 current probe adaptor converts the amplitude output of the 5025 calibrator to a square-wave current in the wire loop of one of three interchangeable heads.

- For use with the 5025E/5025C with fitted oscilloscope calibration option
- Calibrate oscilloscope current probes
- Drive current 0.1mA to 100mA pk-pk
- 0.5% accuracy
- Three interchangeable heads supplied – 1, 10 and 100 turn
- Battery powered, easily portable
- 142 x 78 x 50mm, weight 0.6kg

9790 100A Current Transformer

A heavy duty current transformer mounted in a robust steel case. It extends the AC current capability of the 5025 calibrators to 100A RMS.

- Robust clamp action 100A terminals
- 20A input terminal posts take 4mm plugs, spade connectors, or bare wired ends
- Portable steel case with carry handle
- Current: 100A RMS maximum
- VA Rating: 30VA maximum
- Compliance: 0.3V RMS at 100A increasing to 0.5V rms at 20A
- Operating Frequency: 50/60Hz only
- Ratio Error: 5A to 50A 0.15%. 50A to 100A 0.2%
- Phase Error: < 0.05 degree from 5% to 120% of full load current (100A)
- W317 x H275 x D177mm, weight 9.2kg

9762 Rubidium Frequency Standard

The 9762 is a high accuracy rubidium atomic frequency reference. It is designed to enhance the output frequency of the 5025 calibrator up to 10MHz.

- High accuracy frequency reference
- For use with the 5025E/5025C with fitted oscilloscope calibration option
- 10MHz sine-wave
- Accuracy 1×10^{-10}
- Good short and long-term stability
- Compact design
- Built for long operating periods (10 years)
- 190 x 120 x 90mm, weight 0.60kg

Test Lead Sets

The 5025E and 5025C are both supplied as standard with a basic test lead set. An optional premium test lead set is also available.

Supplied Test Lead Set
- General purpose 4mm test leads
- 4mm to mini thermocouple
- BNC to 4mm plug
- Low thermal 4mm test leads & clips
- 4mm sockets to BNC
- Thermocouple male to male CU

9796 Premium Test Lead Set including wall mount holder
- General purpose 4mm test leads
- 4 wire screened, 4mm test leads
- BNC test lead
- BNC to 4mm plug
- 4mm test lead couplers
- Low thermal 4mm test leads & clips
- 4mm to mini thermocouple
- 4mm to spade adaptors
- Thermocouple male to male CU
- Pair of 4mm test Clips

Carry Cases

For the 5025 series two types of carry case are available. The 9085 is a soft case for personal transportation and the 9059 is a durable transit case suitable for customers that require a secure solution for shipping the unit.

9085 Soft Carry Case
- Light weight canvas material
- Heavy duty velcro openings
- Test leads/document pouch
- Shoulder strap and carry handles

9059 Hard Transit Case (shown)
- Injection molded ultra strong shell
- Double-layered, soft-grip handle
- Flush Powerful Hinges
- Telescopic handle
- L632 x W602 x H333mm
- Two Press and Pull Latches
- Two Padlockable Hasps
- Watertight
- Transport wheels for easy mobility
- 11kg / 30kg with 5025

5030 Electrical Tester Calibrator

Designed to calibrate RCD, loop, insulation, earth testers and multifunction installation testers. The 5030 accurately simulates RCD trip times and measures currents produced by RCD testers. It replicates loop impedance and auto adjusts for local line impedance. It also provides insulation resistances and measures test voltages and currents.

- RCD 3mA to 2500mA, 10ms to 2000ms
- Loop 50mΩ to 1.8kΩ
- Insulation up to 2GΩ / 1kV
- Continuity 0.1Ω to 10kΩ
- RS-232 / USB Control
- Fast and intuitive user interface
- PC/laptop control via EasyCal software
- W430 x H155 x D255mm, weight 8kg

5069 Insulation Tester/Megohmmeter Calibrator

A high accuracy calibrator for insulation testers and megohmmeters with test voltages up to 10kV. Sturdy and transportable it is suitable for both lab and site calibration.

- Insulation resistance from 100kΩ to 100GΩ
- Accuracy: Resistance 1% of setting. Voltage and Current to 1% of reading
- Up to 10kV 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, 2000mΩ ranges
- Accuracy/rng: 0.2mΩ (0.8%), 2mΩ (0.5%), 20mΩ (0.2%), 200 & 2000mΩ (0.1%)
- 5 point calibration: 0, 25, 50, 75, 100%
- Gold plated terminals
- Low thermal EMF connection
- Portable robust carrying case
- W540 x H210 x D410mm, 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 18Ω to 20mΩ
- Earth bond currents up to 50A AC
- Load test currents up to 13A AC
- Accuracy: Resistance 1% of setting. Voltage and Current to 0.25% of reading
- 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

Measurement: 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
- RS-232 and USB interfaces (optional GPIB)
- Temperature measurements
- High sample rate
- 10 channel scanner card option
- PC/laptop control via EasyCal software
- W210 x H85 x D350mm, weight 4.4kg

DC Power Supply Calibration: 9758 Electronic Load

The 9758 electronic load is a precision instrument that works by putting a required DC load across a power source under test. It can be also be used to investigate the behaviour of many different types of power source such as batteries, solar cells, fuel cells or wind generators, as well as electronic power supply units.

- Constant current, resistance, conductance,voltage, and power modes
- Wide voltage and current range: 0 to 80 volts and 0 to 80 amps
- 300 watts continuous dissipation at 40°C
- Ten turn controls for level setting
- Built-in transient generator – variable slew
- Current monitor output for waveform viewing
- Variable drop-out voltage for battery testing
- W212 x H130 x D435mm, weight 6kg

Pressure: Digital Gauges and Test Pumps

For pressure calibration Time Electronics offer benchtop pumps that are a comfortable and simple operation, providing an easy way to generate pressure in the lab. Each pump is a dual pressure source for connection to both a DUT and digital pressure guage, enabling reference calibration.

- 7193 Pneumatic Pump – 0.95bar vacuum to 40bar pressure (600psi)
- 7194 Pneumatic Pump – 0.95bar vacuum to 100bar pressure (1500psi)
- 7195 Hydraulic Pump – 0.9bar vacuum to 600bar pressure (8700psi)
- Digital pressure gauges with ranges up to 2500bar (37500psi)
- Gauge/Absolute/Differential/Compound models
- 0.025%, 0.05%, 0.1% or 0.2% FS accuracy
- Easy-to-read backlit display with 5 digit resolution
- RS-232 connection on rear of gauge, EasyCal compatible

Dimensional: 7151 Vernier and Micrometer Calibration Kit

A comprehensive kit for dimensional calibration applications including verniers, calipers, micrometers, and depth gauges.

- 47 piece grade 1 block set comprising of:
- 21 pcs - 1mm to 1.19mm x .01mm, (plus 1.005mm)
- 8 pcs - 1.2mm to 1.9mm x .1mm
- 8 pcs - 2mm to 9mm x 1mm
- 10 pcs - 10mm to 100mm x 10mm
- 300mm gauge block holder and cylindrical jaws for internal measurements
- 4 optical parallels (0 - 25mm, grade 1)
- Compact granite surface plate for precision depth measurements
- Supplied with gloves, oil, wipes, 2 compact carry cases and calibration certificate

EasyCal Calibration Software

The comprehensive solution to calibration work and management

Manage, Automate and Optimise the Calibration Process
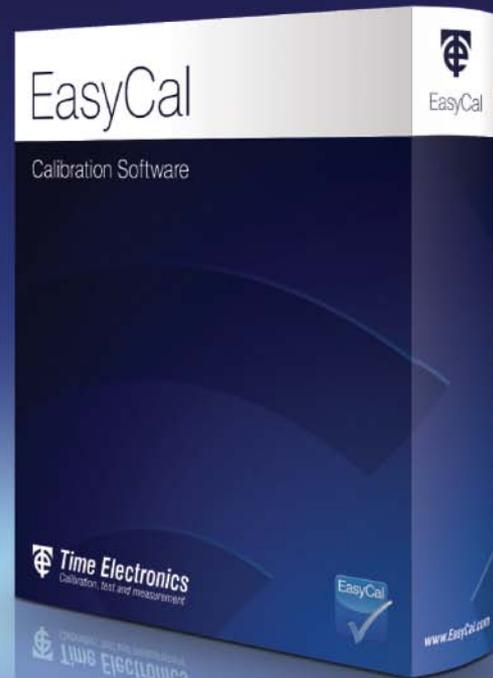
About Easycal

EasyCal is a complete software package with features covering all aspects of calibration work and management. It is designed to reduce workload, improve efficiency, and provide the essential platform for companies looking to create and sustain an effective calibration program. The comprehensive features simplify the administration process from reminder reports through to despatch. With a familiar and intuitive user interface all operators can quickly learn and navigate through the applications. This allows fast, straightforward implementation and integration of the software.

Communication and Control

EasyCal automates calibration runs by allowing the user to remotely control and communicate with compatible calibrators and DMMs. User friendly features and controls aid the process to further decrease calibration times. EasyCal can also read back values and data from compatible Time Electronics pressure and process instruments, and can be used with external instruments such as dry block calibrators.

For Multiple Industries and Disciplines

EasyCal is a versatile solution to multi-device calibration with the comprehensive functionality that is required across industries. It is globally used as the principal software in both calibration businesses and companies with on-site test facilities.

EasyCal is also designed for universal testing applications and can cover a wide range of disciplines. Users can calibrate and verify various instruments and devices: electrical and electronic; level, pressure, and flow; temperature and loop; mechanical and dimensional.

Features

- Communicate with calibrators, DMMs, bench modules
- Automated planning and scheduling
- For use with multiple devices and instruments
- Print/email/store certificates and reports
- Network compatible
- Produce calibration labels
- Quickly generate procedures using templates
- 1200+ pre-written test procedures included
- Calibration due reminder system
- E-mail reminder letters and lists
- Customise reports and certificates
- Create PDF reports and certificates (PDF engine)
- Print and read bar codes
- Universal instrument control
- HART and Foundation Fieldbus communication
- Secure user log in and electronic signatures
- Create uncertainty tables for laboratory & site
- WebCert feature for online certificates

Automating the Calibration Process with EasyCal

Reminder letters and emails are sent to owner	Unit for test is received and booked in	Unit is checked and workload is scheduled	Testing is done using TE calibrator and EasyCal	Results/reports are stored and printed	Certificate is issued and unit is returned

Pre-Cal — Cal — Post-Cal
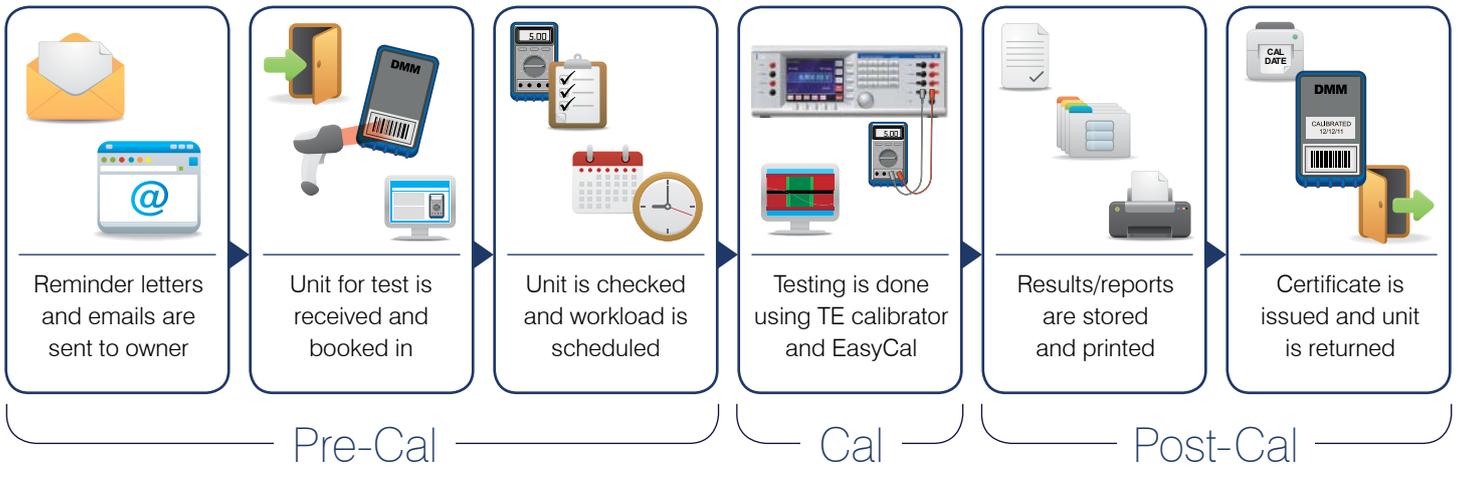
EasyCal: For the Calibration Process

Automating the calibration process brings important benefits and provides increased speed of calibration and consistency of results.

Pre-Calibration: The calibration management features of EasyCal make the planning and organisation of instrumentation calibration simple. A recall/reminder system informs the user of upcoming jobs, and search functions allow the user to quickly identify a unit for test.

Calibration: EasyCal controlled calibration significantly decreases testing times, meaning less instrument downtime and faster turnaround. This improves throughput meaning greater return on investment. EasyCal optimises the process by allowing the user to create procedures quickly and easily with the help of the included design wizards and pre-written templates.

Post Calibration: Easily produce calibration certificates and reports to ISO 9001, ISO 17025, and other quality standards. These can be printed, stored, or emailed as PDFs. EasyCal has a selection of preformatted certificate templates suitable for displaying typical calibration results.

The Core Benefits of using EasyCal

Achieve compliance with quality standards

- Automated document control ensures conformity and quality
- Establish procedures to maintain repeatability and monitor quality
- Schedule and maintain calibration intervals.
- Evidence of traceability to national standards
- Record calibration environmental conditions
- Produce calibration labels, maintain calibration history
- Reduce possibilities for errors or omissions
- Electronic record retention ensures integrity for successful audits

## Create an efficient control and management system

- Reduce testing times
- Eliminate continual outsourcing calibration costs
- Full control over the calibration process
- Improve turnaround
- Quick and easy solution to instrument analysis when needed
- Internal scheduling for calibrations. No external factors
- Centralised document management
- On demand networked review of certificates and reports

EasyCal Calibration Software
Overview of applications and features
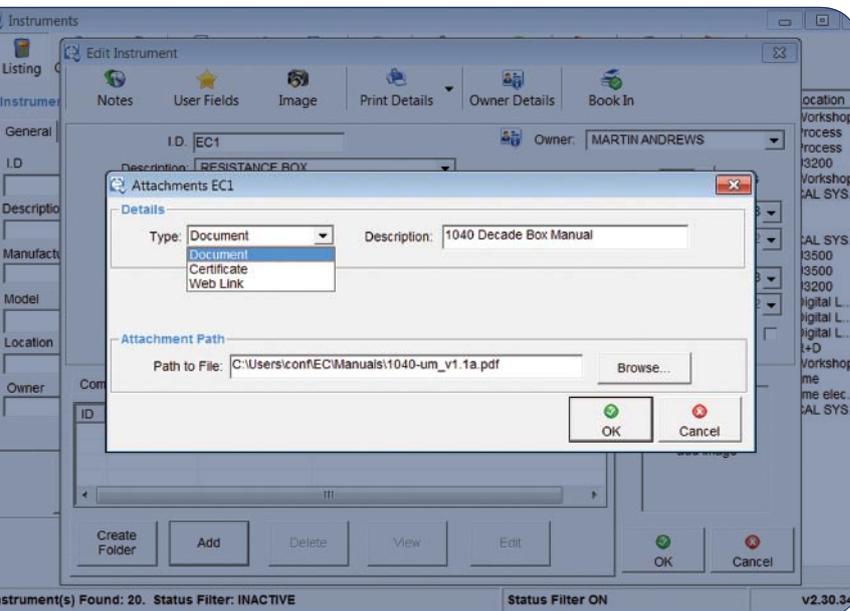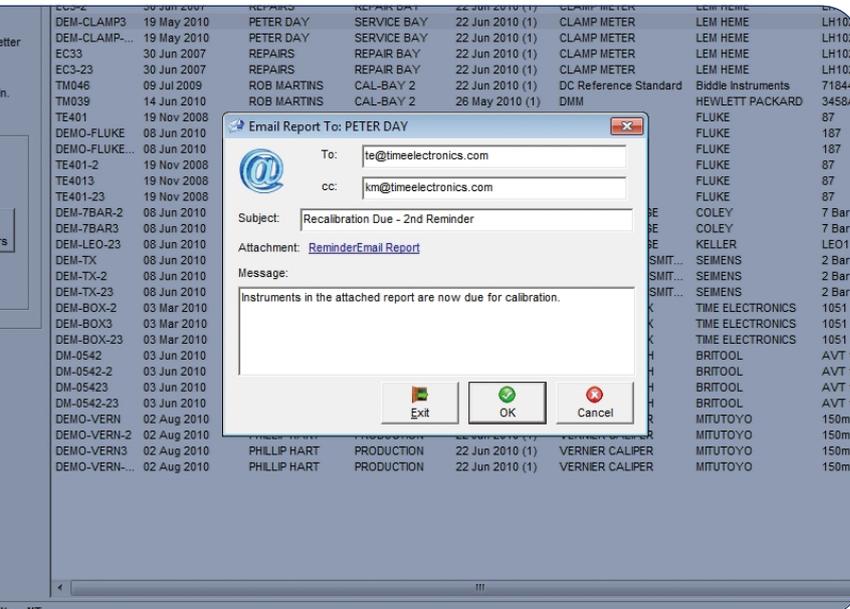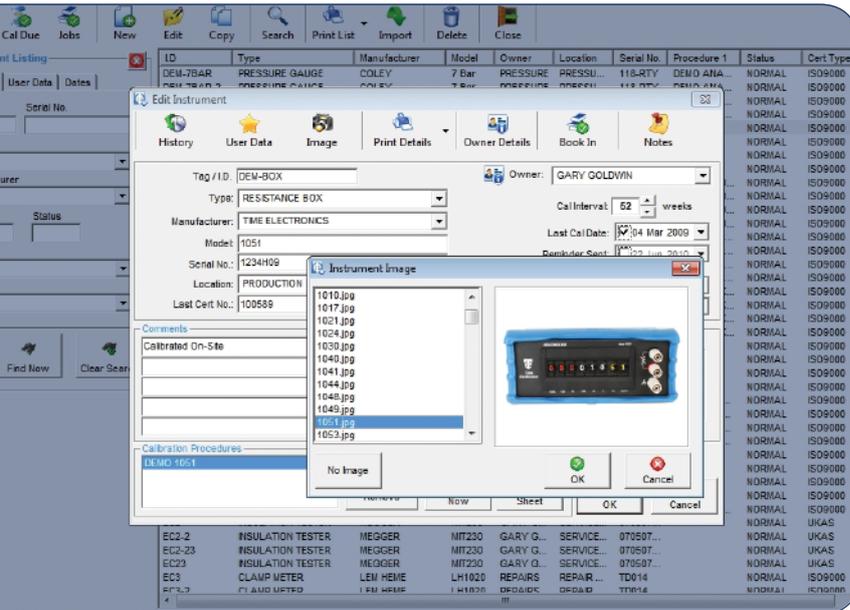
Inventory, Reminders, and Jobs

A comprehensive inventory database can be created and customised to company requirements. For internal calibration and quality management, departments and users can be specified. Alternatively EasyCal can be used as the controlling system for a calibration business based around customers and owners.

Search

A powerful search feature enables the user to enter specific criteria to quickly find the required data. When adding details the user is aided by drop-down lists, which automatically update when new information is added.

Input Fields

Used to add details such as ID and serial number, manufacturer and model, instrument status and service notes. In addition custom fields can be created to integrate with a company system. Images can be uploaded to provide further reference.

Instrument Recall and Reminder System

Instruments which are due for calibration are listed on screen. Reminder letters and lists can be printed or emailed directly to the customer or department. An advanced notice period can be set to bring forward the recall date allowing for response time.

Job Management

When a unit for test is booked in the job process starts. Specific information about the job is entered; such as 'service required', 'sub contracted' and 'accessories supplied'. A job sheet and label can be produced at this stage to accompany the instrument. As the job is put through the system these parameters can be updated, for example 'quote price', 'job status' and 'invoiced'.

Attachments

Create links to technical files, specifications, web pages, word documents, videos, and more. These can be set to automatically display prior to the calibration run.

Devices and Standards used for Calibration

Traceability information for instruments and standards that perform the calibration work is stored and maintained by EasyCal.

Uncertainties

Uncertainty tables for laboratory and site can be created for each calibrating instrument. These are then automatically processed and applied to certificates as required.

Procedure Writing and Editing

Creating and editing test procedures is made simple with an intuitive, user-friendly interface. Editing test information can be done by adding, inserting, or copy and pasting. EasyCal keeps track of each time a procedure is edited.

Procedure Library
A calibration library comprising of over 1200 procedures covering a wide variety of instruments and devices is included as standard.

Procedure Templates
Procedure templates for multimeters, clamp meters, decade boxes, insulation testers, and more can be used for creating any new procedures as required.
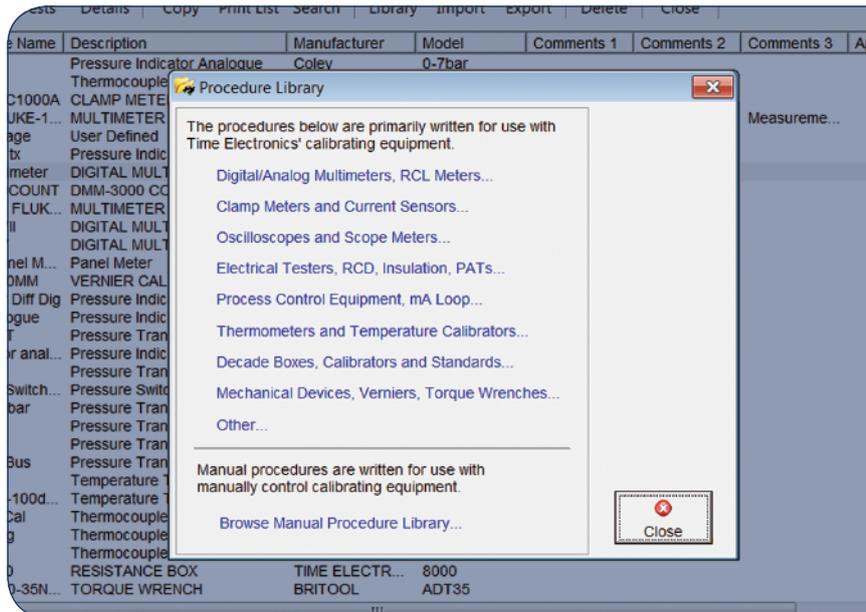
Fast Procedure Creation and Editing
Copy and paste multiple tests. Globally edit a group of tests. Colour coded listing helps sort and identify different test types.

Procedure Simulation
The Calibration Run Simulator enables a procedure to be tested without the need for a controlling instrument. To further assist with development of procedures a test can also be edited during the actual calibration run.

Format Certificates
Colour code and add borders to test group titles. Add column headers where a change of layout is required. A preview feature allows the user to check the certificate layout to determine if formatting is correct.
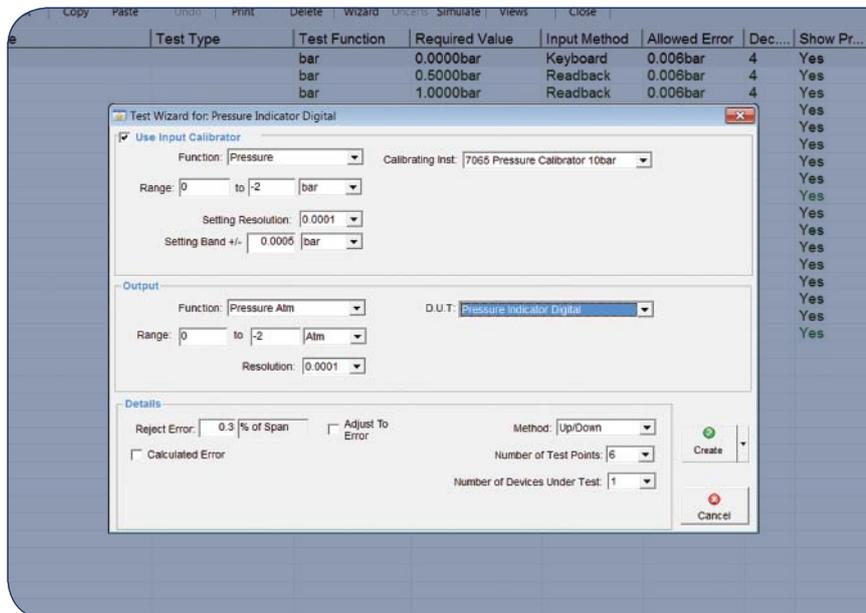
Conversion Tables
Conversion tables for thermocouples, RTDs, current transformers, and clamp meter adaptors are included. Alternatively user-defined tables can be created.

Remote Commands
For more complex instrument control, commands can be sent on a test-by-test basis or run as a script. Closed loop calibration is also achievable using the universal readback feature. This allows EasyCal to control third party calibration equipment and communicate with devices under test.

EasyCal Calibration Software

Overview of applications and features

Instrument and Device Calibration

Automated calibration run provides fast and accurate collection of data, whether using direct instrument control or manual entry. EasyCal guides the operator through the procedure using graphical test screens and user prompts.

Search

Selection of the device under test is quick and easy. With the use of a barcode scanner this selection becomes automatic.

Calibration Prompts

Text and graphical prompts aid the user with instrument range selection and connection. So even the most complex calibrations can be performed with relative ease.

Graphical Test Screen

The calibration run is made simple and efficient by a graphical user-interface, which increases speed of data entry. The colour coded indication bar displays the test limits. This allows the operator to easily identify out of tolerance results.

Test Control

At any stage during the calibration run a summary can be displayed, this includes both completed and remaining tests. Colour coding indicates tests passed or failed. The operator is able to move forward or backward through the procedure as required.

End of Calibration Run

Data for every test is stored, including a snap shot of the procedure used. If required calibration comments and service history can be updated. The operator is able to print the certificate, produce a calibration label and/or store the results to be issued as required.

Recovery Mode

If for any reason a calibration run is interrupted, recovery mode allows the user resume from the point of termination.

Calibration Test Forms

Alternatively 'calibration test forms' for hand written results are available. This data is then entered manually into EasyCal at a later date.

Certificates/Reports/Data Management

Produce, print, and store calibration certificates, reports, and labels. Simple search facilities enable the user to locate any data on demand. Keeping track of instrument history and servicing is made easy.

Certificate Templates

A range of pre-formatted templates are available for immediate use. A company logo can be added without the need for 3rd party software.

Electronic Signatures

Password protected electronic signatures allow management to approve certificates. In addition a scanned image of the signature can automatically be inserted, eliminating the need to print certificates.
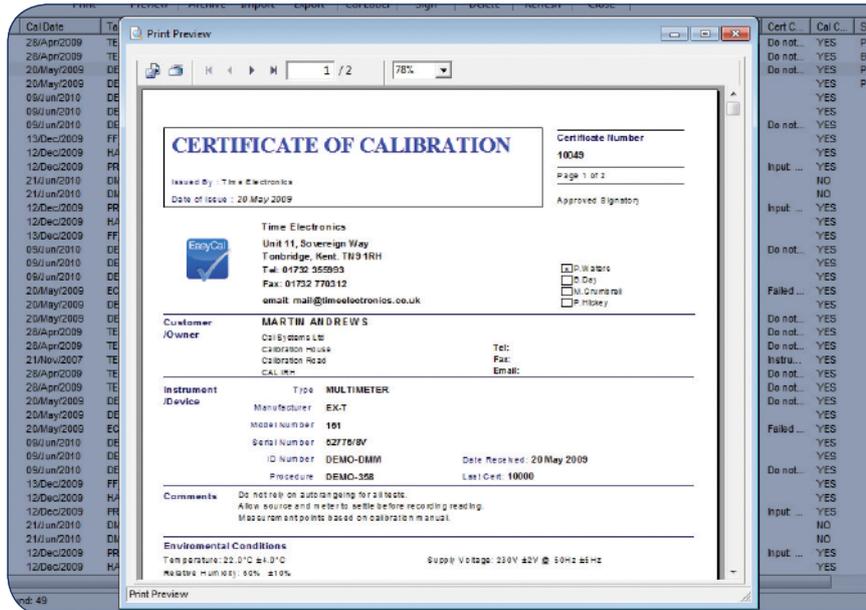
Built-in PDF Engine

Generate PDF reports and certificates ready for emailing and universal review.

Calibration Reports

Documented traceability provides a recorded audit trail. Reports showing calibration duration times can assist with costing and assessments.

Archive

The results database can be streamlined by using the archive feature. This improves data organisation and management. Archives are quickly retrieved, giving instant access to historical certificate data.
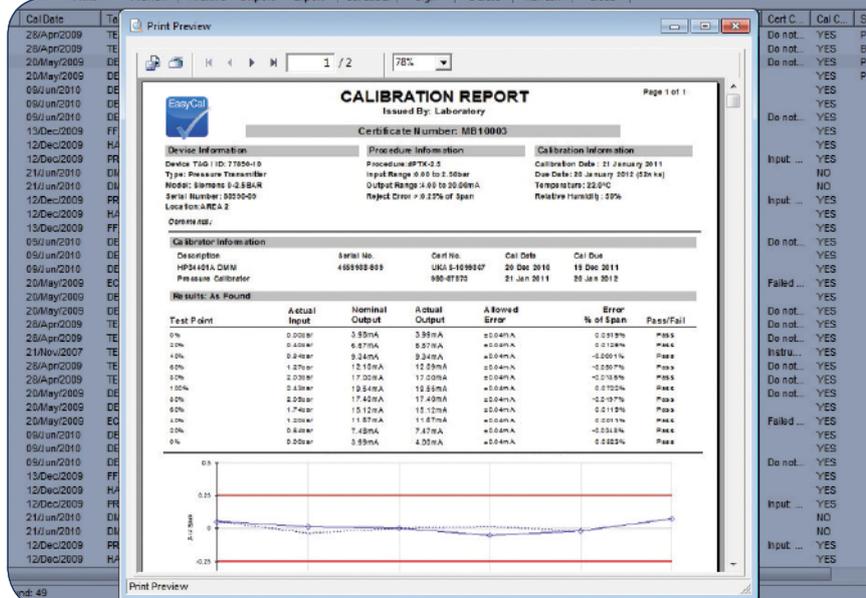
Import and Export

Exchange data from one system to another using the import/export feature. This method is ideal for site and field calibration work, where data is recorded externally then uploaded to the main database upon return.

Customise

Crystal Reports (optional) allows full modification of certificate, label, and report layouts. Design custom reports using queries, formulas, and running totals.
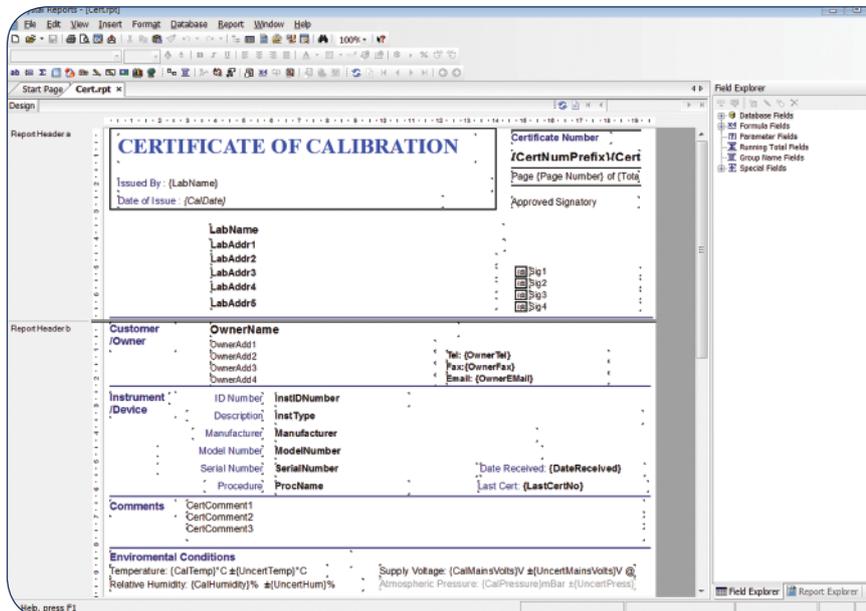
EasyCal Add-Ons and Accessories

Optional enhancements and extras for increased functionality
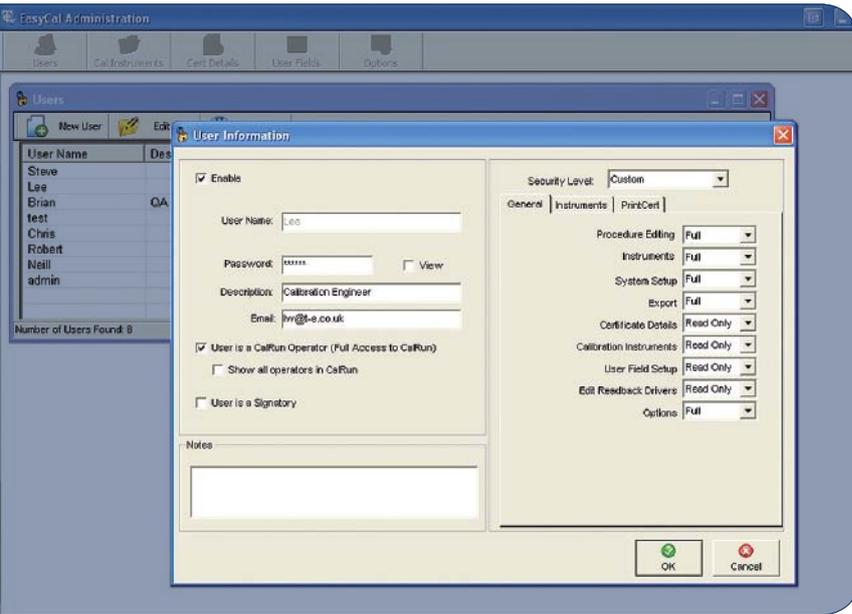
EasyAdmin

EasyAdmin is an add-on that provides increased security for EasyCal and it's users.

User Rights: A master user sets the user rights for the relative staff and defines log in criteria.

Access Levels: Setting access levels within EasyCal to limit secondary users can be done, safe guarding sensitive information.

Administration: EasyAdmin provides an administration point for calibration instruments, certificate information and user fields.

Predefined Pick-Up Lists: For instrument manufacturers, sub contractors, customer details and other information. These can be created to make EasyCal data entry quick, easy and uniformed.
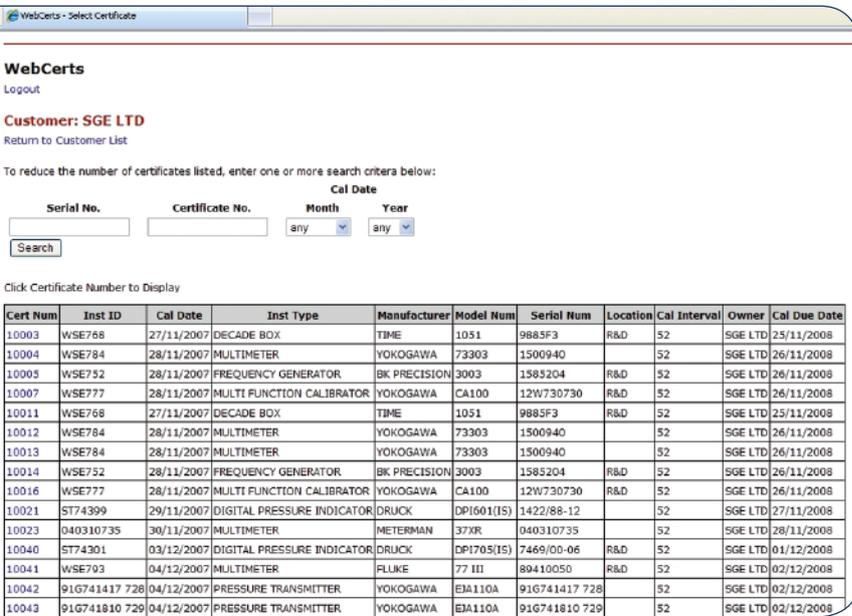
WebCerts

WebCerts is a web based application that enables EasyCal users to upload and retrieve certificates and reports online.

Simple Upload/Download: Uploading is incorporated into EasyCal by allowing the user to quickly and directly upload to their WebCert folders via FTP.

Secure User Log In: A security feature that allows users to access private folders with their relevant documentation. Ideal for companies with different sites or locations.

Search and Filter: Users can easily locate required data by using the filter tabs or the straightforward search fields.

Hosted Package: Time Electronics also offer a hosted WebCerts package where data is uploaded and stored on one of our designated WebCert servers. Retrieval and viewing of certificates is via the web based interface.
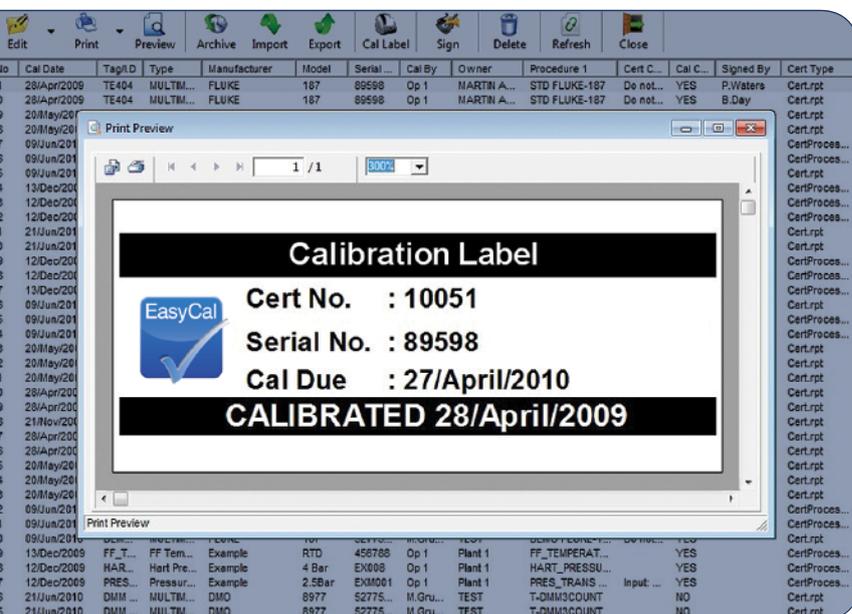
EasyCal Accessories

To complement and further optimise the calibration process Time Electronics offer a range of external options.

Printer and Connectivity Kit: Inkjet printer for calibration certificates and reports. Also includes a DVD-RW, 4 port USB hub, numeric key pad and USB memory stick.

Calibration and ID Label Printer: For printing labels to be placed on calibrated units. EasyCal has different layouts for required information to be shown.

Job and Address Label Printer: For printing information that accompanies a unit under test through the calibration process. Also for user tagging instruments.

Bar Code Reader: Enables fast identification of devices in the pre-calibration stage.

EasyCal to PC Communication Options: Interface cables and adaptors providing PC connectivity to Time Electronics calibrators or external instruments.

EasyCal Networking

With networking capabilities a multi-user system can be implemented

Networking with EasyCal

For multi-user systems EasyCal can be implemented as the universal software for administration, management, and control. With designated features for use in different workstations, EasyCal can provide a solution to calibration businesses with customers as well calibration departments within industrial plants.

Data can be shared and accessed on a central server, creating an organised and efficient networking set-up. EasyCal's pre-calibration features enable automated scheduling and also speed up the booking in process with quick instrument identification.

Calibration runs can be automated by using a compatible Time Electronics calibrator with EasyCal. Once calibration has been performed the data can be made available on the server to the necessary parties. Hard copy certificates and reports can be issued by authorised staff.

Enhanced security features can be added for increased protection, allowing a master user to control access rights to data and applications. Also available is an online application enabling users to upload and retrieve certificates.
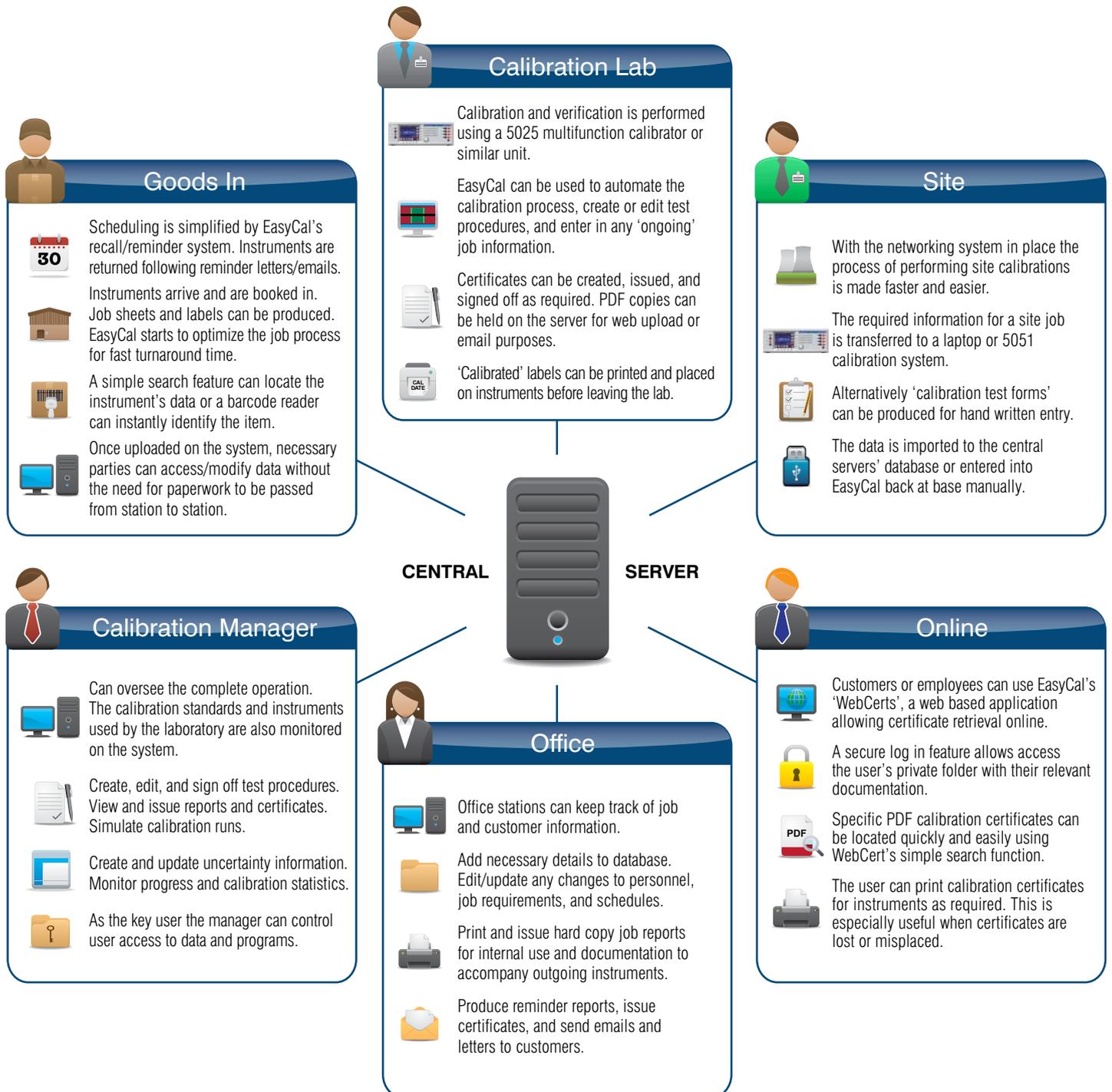
Goods In

Scheduling is simplified by EasyCal's recall/reminder system. Instruments are returned following reminder letters/emails.

Instruments arrive and are booked in. Job sheets and labels can be produced. EasyCal starts to optimize the job process for fast turnaround time.

A simple search feature can locate the instrument's data or a barcode reader can instantly identify the item.

Once uploaded on the system, necessary parties can access/modify data without the need for paperwork to be passed from station to station.

Calibration Lab

Calibration and verification is performed using a 5025 multifunction calibrator or similar unit.

EasyCal can be used to automate the calibration process, create or edit test procedures, and enter in any 'ongoing' job information.

Certificates can be created, issued, and signed off as required. PDF copies can be held on the server for web upload or email purposes.

'Calibrated' labels can be printed and placed on instruments before leaving the lab.

Site

With the networking system in place the process of performing site calibrations is made faster and easier.

The required information for a site job is transferred to a laptop or 5051 calibration system.

Alternatively 'calibration test forms' can be produced for hand written entry.

The data is imported to the central servers' database or entered into EasyCal back at base manually.

Calibration Manager

Can oversee the complete operation. The calibration standards and instruments used by the laboratory are also monitored on the system.

Create, edit, and sign off test procedures. View and issue reports and certificates. Simulate calibration runs.

Create and update uncertainty information. Monitor progress and calibration statistics.

As the key user the manager can control user access to data and programs.

Office

Office stations can keep track of job and customer information.

Add necessary details to database. Edit/update any changes to personnel, job requirements, and schedules.

Print and issue hard copy job reports for internal use and documentation to accompany outgoing instruments.

Produce reminder reports, issue certificates, and send emails and letters to customers.

Online

Customers or employees can use EasyCal's 'WebCerts', a web based application allowing certificate retrieval online.

A secure log in feature allows access the user's private folder with their relevant documentation.

Specific PDF calibration certificates can be located quickly and easily using WebCert's simple search function.

The user can print calibration certificates for instruments as required. This is especially useful when certificates are lost or misplaced.

CENTRAL **SERVER**

CERTIFICATE OF CALIBRATION

Issued By : Time Electronics

Date of Issue : *20 May 2009*

Certificate Number

DM10005

Page 1 of 3

Approved Signatory

. . . .

☐ Sig 1
☐ Sig 2
☐ Sig 3

Time Electronics

Unit 11

Sovereign Way

Tonbridge, Kent. TN9 1RH

Tel: 01732 355993 Fax: 01732 770312

email: mail@timeelectronics.co.uk

Customer /Owner	**Cal Systems**
	Cal House
	Unit 34 Lock Drive **Tel: 01732 355559**
	Sevenoaks **Fax:**
	Kent **Email: mail@t-e.co.uk**

Instrument /Device		
Type	**Process Calibrator**	
Manufacturer	**Fluke**	
Model Number	**725**	
Serial Number	**419456**	
ID Number	**EC4**	Date Received: **20 May 2009**
Procedure	**FLUKE-725-AUTO**	Last Cert: **10034**

Comments   Failed on 3.2kOhm Measure

Enviromental Conditions

Temperature: 22.0°C ±4.0°C

Relative Humidity: 50% ±10%

Supply Voltage: 230V ±2V @ 50Hz ±5Hz

Traceability Information

Instrument Description	Serial No	Cert No	Cal Date	Cal Due
5025 Multifunction Calibrator	**1089G08**	**UKAS-90897**	**08 May 2009**	**07 May 2010**

AC Current: 0pA-200uA=0.07%+300nA|200uA-2mA=0.05%+300nA|2mA-20mA=0.05%+3uA|20mA-200mA=0.05%+30uA|200mA-2A=0.1%+0.5mA|2A-20A=0.2%+5mA|
AC Voltage: 1mV-20mV=0.05%+250uV|20mV-200mV=0.04%+150uV (45Hz-10kHz)|200mV-2V=0.03%+250uV (45Hz-10kHz)|2V-20V=0.03%+3mV (45Hz-10kHz)|20V-200V=0.06%+20mV|200V-1.05kV=0.08%+90mV|
DC Current: 0pA-200uA=150ppm+15nA|200uA-2mA=100ppm+40nA|2mA-20mA=80ppm+200nA|20mA-200mA=80ppm+3uA|200mA-2A=250ppm+40uA|2A-20A=600ppm+2mA|
DC Voltage: 0pV-20mV=100ppm+4uV|20mV-200mV=30ppm+6uV|200mV-2V=15ppm+20uV|2V-20V=15ppm+150uV|20V-200V=30ppm+6mV|200V-1.05kV=50ppm+30mV|
Resistance: 0pR-100Ω=0.01%+7mΩ|100Ω-1kΩ=0.01%+5mΩ|1kΩ-10kΩ=0.02%+20mΩ|10kΩ-100kΩ=0.01%+1Ω|100kΩ-1MΩ=0.01%+10Ω|1MΩ-10MΩ=0.02%+100mΩ|10MΩ-120MΩ=0.1%+1kΩ|

Instrument Description	Serial No	Cert No	Cal Date	Cal Due
5075 Digital Multimeter	**1099C4**	**39803**	**19 May 2009**	**18 May 2010**

AC Current: 0pA-200uA=0.07%+300nA|200uA-2mA=0.05%+300nA|2mA-20mA=0.05%+3uA|20mA-200mA=0.05%+30uA|200mA-2A=0.1%+0.5mA|2A-20A=0.2%+5mA|
AC Voltage: 1mV-20mV=0.05%+250uV|20mV-200mV=0.04%+150uV (45Hz-10kHz)|200mV-2V=0.03%+250uV (45Hz-10kHz)|2V-20V=0.03%+3mV (45Hz-10kHz)|20V-200V=0.06%+20mV|200V-1.05kV=0.08%+90mV|
DC Current: 0pA-200uA=150ppm+15nA|200uA-2mA=100ppm+40nA|2mA-20mA=80ppm+200nA|20mA-200mA=80ppm+3uA|200mA-2A=250ppm+40uA|2A-20A=600ppm+2mA|
DC Voltage: 0pV-20mV=100ppm+4uV|20mV-200mV=30ppm+6uV|200mV-2V=15ppm+20uV|2V-20V=15ppm+150uV|20V-200V=30ppm+6mV|200V-1.05kV=50ppm+30mV|
Resistance: 0pR-100Ω=0.01%+7mΩ|100Ω-1kΩ=0.01%+5mΩ|1kΩ-10kΩ=0.02%+20mΩ|10kΩ-100kΩ=0.01%+1Ω|100kΩ-1MΩ=0.01%+10Ω|1MΩ-10MΩ=0.02%+100mΩ|10MΩ-120MΩ=0.1%+1kΩ|

Calibrated by: **Robert Martins**   Date of Calibration: **20 May 2009**   Calibration Due: **19 May 2010**

Cert.rpt v8.0   This certificate has been produced by EasyCal Calibration Software from Time Electronics Ltd

CERTIFICATE OF CALIBRATION

Issued By : Time Electronics

Date of Issue : *20 May 2009*

Certificate Number

DM10005

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Test Name	Rqd Value	Actual Value	Allowed Error	% of Spec	Pass/Fail
UPPER DISPLAY					
Voltage Measure					
0V DC	0.000V	0.000V	±0.002V	0%	Pass
15V DC	15.000V	14.997V	±0.005V	-60%	Pass
20V DC	20.000V	19.997V	±0.006V	-50%	Pass
30V DC	30.000V	29.997V	±0.008V	-38%	Pass
mA Measure					
4mA	4.000mA	4.000mA	±0.003mA	0%	Pass
12mA	12.000mA	11.999mA	±0.005mA	-20%	Pass
24mA	24.000mA	23.994mA	±0.007mA	-86%	Pass
LOWER DISPLAY					
mV/TC Measure					
0mV DC	0.00mV	0.01mV	±0.02mV	50%	Pass
45mV DC	45.00mV	45.00mV	±0.03mV	0%	Pass
90mV DC	90.00mV	89.99mV	±0.04mV	-25%	Pass
Voltage Measure					
0V DC	0.000V	0.000V	±0.002V	0%	Pass
10V DC	10.000V	9.999V	±0.004V	-25%	Pass
20V DC	20.000V	19.998V	±0.006V	-33%	Pass
Freqency Measure					
10kHz	10.00kHz	10.00kHz	±0.02kHz	0%	Pass
mA Measure					
4mA	4.000mA	4.000mA	±0.003mA	0%	Pass
12mA	12.000mA	12.000mA	±0.005mA	0%	Pass
24mA	24.000mA	23.997mA	±0.007mA	-43%	Pass
Thermocouple Measure					
CJC Value	25.00°C	23.40°C	±5°C	-32%	Pass
0°C	0.00°C	-0.20°C	±0.7°C	-29%	Pass
Resistance 4 Wire Measure					
15Ω	15.00Ω	15.00Ω	±0.1Ω	0%	Pass
350Ω	350.00Ω	349.90Ω	±0.1Ω	-100%	Marginal
500Ω	500.0Ω	500.0Ω	±0.5Ω	0%	Pass
1500Ω	1500.0Ω	1499.8Ω	±0.5Ω	-40%	Pass
3200Ω	3200.0Ω	3198.7Ω	±1Ω	-130%	Fail
Resistance/RTD 3 Wire Measure					
350Ω	350.00Ω	350.02Ω	±0.1Ω	20%	Pass

CERTIFICATE OF CALIBRATION

Issued By : Time Electronics

Date of Issue : *20 May 2009*

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Test Name	Rqd Value	Actual Value	Allowed Error	% of Spec	Pass/Fail
Voltage Source					
0V	0.0000V	0.0000V	±0.002V	1%	Pass
5V	5.0000V	5.0001V	±0.003V	5%	Pass
10V	10.0000V	10.0005V	±0.004V	12%	Pass
mV Source					
0mV	0.000mV	0.002mV	±0.02mV	10%	Pass
45mV	45.000mV	44.996mV	±0.03mV	-14%	Pass
100mV	100.000mV	99.997mV	±0.04mV	-8%	Pass
Frequency Source					
10kHz	10.0000kHz	10.0000kHz	±0.025kHz	0%	Pass
mA Source					
4mA	4.0000mA	4.0004mA	±0.0028mA	13%	Pass
12mA	12.0000mA	11.9996mA	±0.0044mA	-9%	Pass
24mA	24.0000mA	23.9989mA	±0.0068mA	-16%	Pass
Ohms Source					
15Ω	15.0Ω	15.0Ω	±0.1Ω	15%	Pass
360Ω	360.0Ω	360.0Ω	±0.1Ω	23%	Pass
500Ω	500.0Ω	500.2Ω	±0.5Ω	30%	Pass
Thermocouple Source					
Cold Junction Value	-25.00°C	-23.83°C	±5°C	-23%	Pass
0°C	0.00°C	0.12°C	±0.7°C	17%	Pass
180°C	180.00°C	180.19°C	±0.7°C	28%	Pass
-180°C	-180.00°C	-179.46°C	±0.7°C	-77%	Pass

5025 Series

5025E	
5025E	**Entry Level Multifunction Calibrator (40ppm)** AC/DC 1kV/22A. Decade Resistance to 1G ohm, Simulated Resistance 40 ohm to 40k Ohm, Thermocouple Simulation (J,K,R,T,S,B,E,N), Conductance, PT100 Simulation, Capacitance, 10MHz Frequency, Basic Test Lead Set, Virtual Control Software.

5025E Internal Options	
9702	**5025E Enhanced Performance Pack** Full range variable resistance, extended temperature functions, extended capacitance, and increased ACV frequency bandwidth.
9797	Power Calibration (0 - 20KW AC and DC)
9770	Oscilloscope Calibration (1mV - 200V, 0.1Hz - 100MHz / Bandwidth checking to 400MHz)
9783	Oven-Controlled Frequency Reference (for timer/counters, increases accuracy to 0.1ppm from 0.1Hz to 10MHz). Option 9770 must be fitted.
9769	Oscilloscope Calibration 2.2GHz Levelled Sine Generator

5025C	
5025C	**Multifunction Calibrator (15ppm)** AC/DC 1kV/22A. Decade Resistance to 1G ohm, Simulated Resistance 10 ohm to 40M ohm, Thermocouple Simulation (J,K,R,T,S,B,E,N), Conductance, PT100 Simulation, Capacitance, 10MHz Frequency, Basic Test Lead Set, Virtual Control Software.

5025C Internal Options	
9701	**5025C Enhanced Performance Pack** Full range variable resistance, extended temperature functions, extended capacitance, inductance, additional precision high DCV ranges and increased ACV frequency bandwidth.
9797	Power Calibration (0 - 20KW AC and DC)
9770	Oscilloscope Calibration (1mV - 200V, 0.1Hz - 100MHz / Bandwidth checking to 400MHz)
9783	Oven-Controlled Frequency Reference (for timer/counters, increases accuracy to 0.1ppm from 0.1Hz to 10MHz). Option 9770 must be fitted.
9769	Oscilloscope Calibration 2.2GHz Levelled Sine Generator

5025 Series External Adaptors, Accessories and Calibration Certificates (all codes applicable to 5025E and 5025C)	
9762	Rubidium High Stability Frequency Reference (9770 internal scope option must be fitted)
9764	Current Probe Calibration Adaptor (9770 internal scope option must also be fitted)
9773	Optical Tacho Adaptor
9780	Clamp Meter Adaptor (1 & 50 turn coil)
9790	100 Amp AC Current Transformer
9760	Power Amplifier (60V AC, 90V DC - 100mA)
9766	External Low Noise Attenuator 1000:1
9767	External Low Noise Attenuator 100:1
9085	Soft Carry Case
9059	Hard Transit Case
9728	19" Universal Rack Mount Kit
9796	Premium Test Lead Set (basic test lead set supplied with both models)
ECFLA	EasyCal Calibration Software - for further options/acessories see page 20
C159	Factory Calibration Certificate (NPL traceable) for **5025E**
C103	UKAS Calibration Certificate (ISO 17025) for **5025E**
C113	Extended UKAS Calibration Certificate (ISO 17025) for **5025E**
C220	Factory Calibration Certificate (NPL traceable) for **5025C**
C225	UKAS Calibration Certificate (ISO 17025) for **5025C**
EW01	5025E/5025C Extended Warranty - 3 years total covering parts and labour.

EasyCal Licenses, Add-Ons, and Accessories

Primary Licenses	
ECFL	EasyCal Full License (stand alone, when purchased individually)
ECFLA	EasyCal Full License (discounted price when purchased with compatible calibrator/DMM)
Extra User Licenses	
EC2FL	EasyCal Additional Full License (secondary user)
EC2WL	EasyCal Work Station License (full management/scheduling, no calibration run)
EasyCal Add-Ons	
EAD2	EasyAdmin - 2 Users: Security add-on that enables setting of user rights and access levels. For installations of 2 users or less.
EAD5	EasyAdmin - 5 Users: Security add-on that enables setting of user rights and access levels. For installations of 5 users or less.
EAD10	EasyAdmin - 10 Users: Security add-on that enables setting of user rights and access levels. For installations of 10 users or less.
EAD10+	Additional users of EasyAdmin beyond 10 users
EWC	WebCerts: Online application enabling upload and retrieval of certificates and reports
EWCTE	WebCerts - Hosted by Time Electronics: Online application enabling upload and retrieval of certificates and reports.
CREP	Crystal Reports Sofware: Edit and format certificate styles
EasyCal Accessories	
9795	Printer and Connectivity Kit
9777	Bar Code Reader
9778	Cal and ID Label Printer
9779	Job and Address Label Printer
Calibrator to PC Communication Options	
9588	RS-232 Cable (supplied as standard with 5025E and 5025C)
9597	GPIB Cable
9794	GPIB to USB Interface Adaptor
9765	RS-232 to USB Interface Adaptor (supplied as standard with 5025E and 5025C)
9763	USB to 4 x RS232 Interface Adaptor
9743	PCI to GPIB Interface Card for PC

Accompanying Calibration Instruments (shown on page 7 and 8)

Additional Instruments for expanding your calibration capabilities	
5030	Electrical Tester Calibrator
5069	Insulation Tester Calibration System
5070	Micro-Ohmmeter and Ductor Tester Calibrator
5080	Portable Appliance Tester Calibrator (PatCal)
5065	Benchtop 6.5 Digit Multimeter
9758	DC Electronic Load
PRESSURE	Lab Pumps: 7193 Pneumatic Pump (vac to 40bar) • 7194 Pneumatic Pump (vac to 100bar) • 7195 Hydraulic Pump (vac to 600bar) Digital Gauges: 7091 (Vac to 40bar) • 7094 (0 to 100bar) • 7096 (0 to 700bar). Accuracy 0.2% of FS (0.1, 0.05 and 0.025% available)
7151	Vernier and Micrometer Calibration Kit (Dimensional calibration)

For full listings on additional products and options please visit www.timeelectronics.com.
Please visit www.tegauge.com for full listings of available pressure pumps and digital gauges.

Time Electronics
Calibration, Test and Measurement

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