

CalBench™

The complete calibration
laboratory in one test bench



50 | 
YEARS



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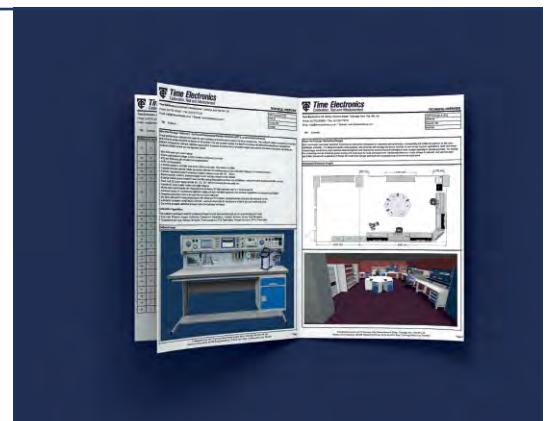
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About Time Electronics

Providing quality calibration solutions to industries worldwide



Company Profile

Established in 1967 Time Electronics Ltd is an UK based company that designs and manufactures calibration and metrology instruments. Our comprehensive range of products provides users with solutions for test and measurement applications within their respective industries. Models include decade boxes, electrical calibrators, digital multimeters, process calibrators, pressure testing instruments and calibration software. In addition we manufacture customised multifunction test benches, and design and supply turnkey calibration labs, electrical and instrument workshops, and engineer training centres.

During our 50 years of continuous development we have used innovative engineering to develop performance products for automated calibration applications. Our software driven solutions enable users to manage, automate, and optimise the calibration process. They increase efficiency and productivity, reduce testing times and provide customers with the features and capabilities to achieve compliance with quality standards.

Quality is an integral part of our company philosophy. In addition to building accurate and durable test instruments we provide extensive technical support. We focus on establishing strong business relationships based on customer satisfaction and commitment to providing quality products and services. This has given us a valuable reputation with organisations worldwide, and is one reason for our continued success in international markets. We have a global distribution network and are represented by companies with strong technical capabilities and skilled engineers. Time Electronics Ltd is accredited to ISO 9001:2008.

Company Details

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Time Electronics Product Range

Calibration Benches

Multi-purpose test benches covering electrical, pressure and process calibration work, R&M and service applications.

Laboratory Calibrators and Multimeters

High performance multifunction calibrators, electrical test calibrators and precision digital multimeters.

Portable Test Instruments

Handheld electrical and electronic calibrators, and sources. Portable process calibrators and temperature simulators.

Pressure Calibration Instruments

Pneumatic and hydraulic pressure calibrators, digital gauges, benchtop and handheld pumps.

Decade Boxes

Resistance, capacitance and inductance decade boxes for industry and education.

Calibration Software

Calibration software to automate and optimise the calibration process. Covering all aspects of calibration work and management.

Calibration Labs and Workshops

Turnkey design and supply service for customers requiring an efficient and ergonomic on-site calibration laboratory.



About CalBench

The complete calibration
laboratory in one test bench

- Introduction to CalBench
- CalBench Drawings and Dimensions
- The Types of CalBench
- Additional Consoles
- Under Worktop Fittings and Extras
- Perforated Panel Fittings
- Additional Fittings and Options





Introduction to CalBench

About the CalBench system, benefits and purposes



The Ultimate Multifunction Calibration Station

CalBench is a system that provides users with a compact working environment to cover multiple applications in test and measurement. It is ideal for companies looking to implement an ergonomic and organised calibration process, with a primary workstation covering the bulk of the testing workload. When utilised in workshops within industrial plants, CalBench provides a turnkey solution to enable users to achieve compliance with quality standards.

CalBench provides an integrated approach to housing master instruments as modules into a console mounted above the work bench. The system is a unified solution that replaces the requirement for multiple benchtop and portable test instruments. CalBenches are built to cover the parameters common to industrial sectors, primarily electrical, pressure, temperature, process and frequency.

Modules are the key components of CalBench, they fit into the consoles to cover required applications. Time Electronics have a comprehensive module range that features electrical and process calibrators, pressure controllers and digital gauges, power supplies, oscilloscopes and more. They are designed to optimise calibration work and increase output. This is possible by seamless integration of hardware and software to enable users to automate testing. With CalBench automation users can perform rapid calibration runs and achieve fast turnarounds of instruments and devices coming through the lab.

To complement CalBench, a wide range of accompanying instruments and equipment is available. Products include pressure pumps, dry block calibrators, R&M tools and service kits. Time Electronics also design and supply turnkey laboratories and industrial workshops for customers requiring state-of-the-art facilities for testing, calibration and maintenance.

CalBench Calibration Capabilities

Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

Temperature

Sensors, transmitters, indicators, RTDs, thermocouples, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

Electrical and Electronic

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, continuity testers, decade boxes, RCL meters, power meters, conductance meters, RCD/loop/earth/ground testers, insulation testers, multifunction installation testers, micro ohm meters, portable appliance testers, power supplies.

Frequency

Oscilloscopes, frequency meters, frequency counters, timer counters, current probes.

Dimensional and Mechanical

Torque wrenches, pulse tools, power tools, verniers, calipers, micrometers, depth gauges, plug gauges, analytical balances, scales, laboratory balances.

Where CalBenches are Used

CalBenches are commonly used in various industries and locations worldwide. They are ideal solutions for on-site facilities that perform routine calibration and testing of instrumentation, devices and test tools.

Common Industries

- Oil & Gas
- Petrochemical
- Process Control
- Power and Utilities
- Manufacturing
- Aviation
- Automotive
- Shipping
- Food and Beverage
- Research & Development
- Education

Typical Locations

- Processing Plants
- Offshore Platforms
- Refineries
- Factories
- Power Plants
- E&I Workshops
- Shipyards
- Aviation Labs
- Training Centres
- School & Universities
- Calibration Labs



CalBench: The Complete Solution

CalBench utilises the modules for the main calibration and testing workload. Accompanying products are used to supplement applications or perform specific tasks. Software compatibility of both modules and test instruments ensures a unified system, enabling users to automate calibration on CalBench or externally.

Modules

- Process Calibrators
- Electrical Calibrators
- Pressure Controllers
- Digital Pressure Gauges
- Digital Multimeters
- Function Generators
- Decade Boxes
- Frequency Counters
- Oscilloscopes
- Power Supplies

Accompanying Products

- Dry Block Calibrators
- Compressors
- Pressure Pumps
- UUT stands
- Soldering Stations
- Workshop Furniture
- Tools and Service Kits
- Adaptors, Accessories
- Field Calibrators
- Calibration Software



The Benefits of Using CalBench

CalBenches provide an ergonomic platform for a comprehensive calibration program. They are designed for flexibility and wide workload. The modules deliver precision and performance for their dedicated use, and accompanying products complete the package to ensure coverage of all end user requirements.

Automating test applications is a key benefit of CalBench. Control and readback functionality enables rapid calibration work to be performed. Software driven calibration allows users to control the process from start to finish, from scheduling to certificate issuance.

- Fully customised solution for end user requirements
- Wide selection of modules and extras to choose from
- Instant organisation of master instruments as modules
- Creates a compact working environment
- Calibrate and maintain a wide range of instruments and devices
- High performance system offering versatility and precision
- Automated calibration and testing

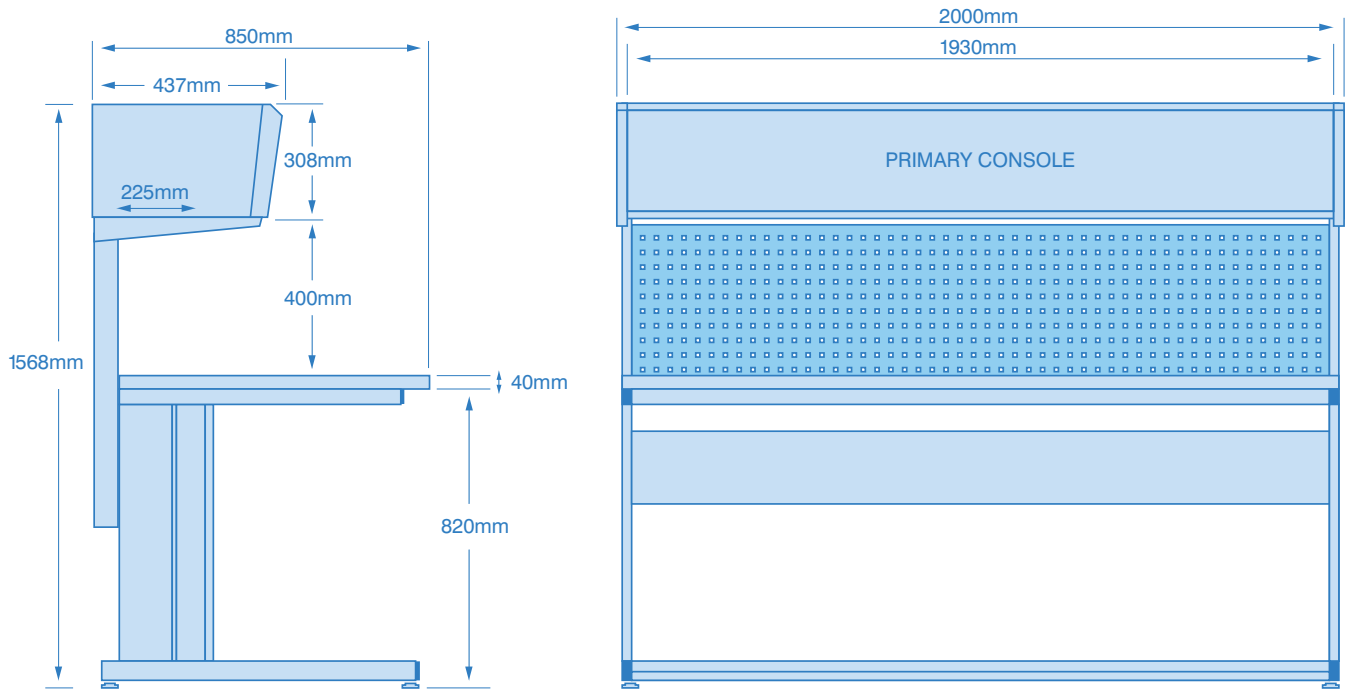




CalBench Drawings

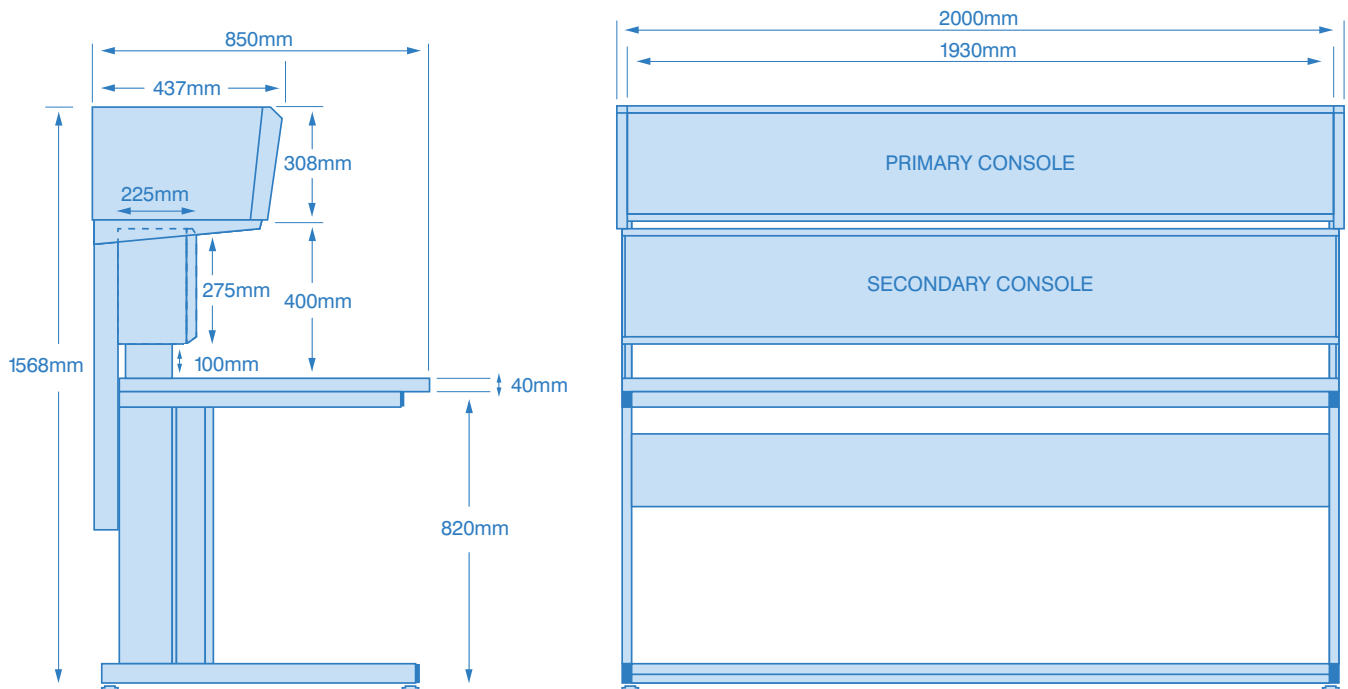
Dimensions and features of the 7080 and 7080-HD CalBenches

7080 CalBench



The 7080 is the standard cantilever style CalBench that provides a sleek design suitable for light engineering and calibration applications. It features a primary console for module housing, worktop and perforated panel.

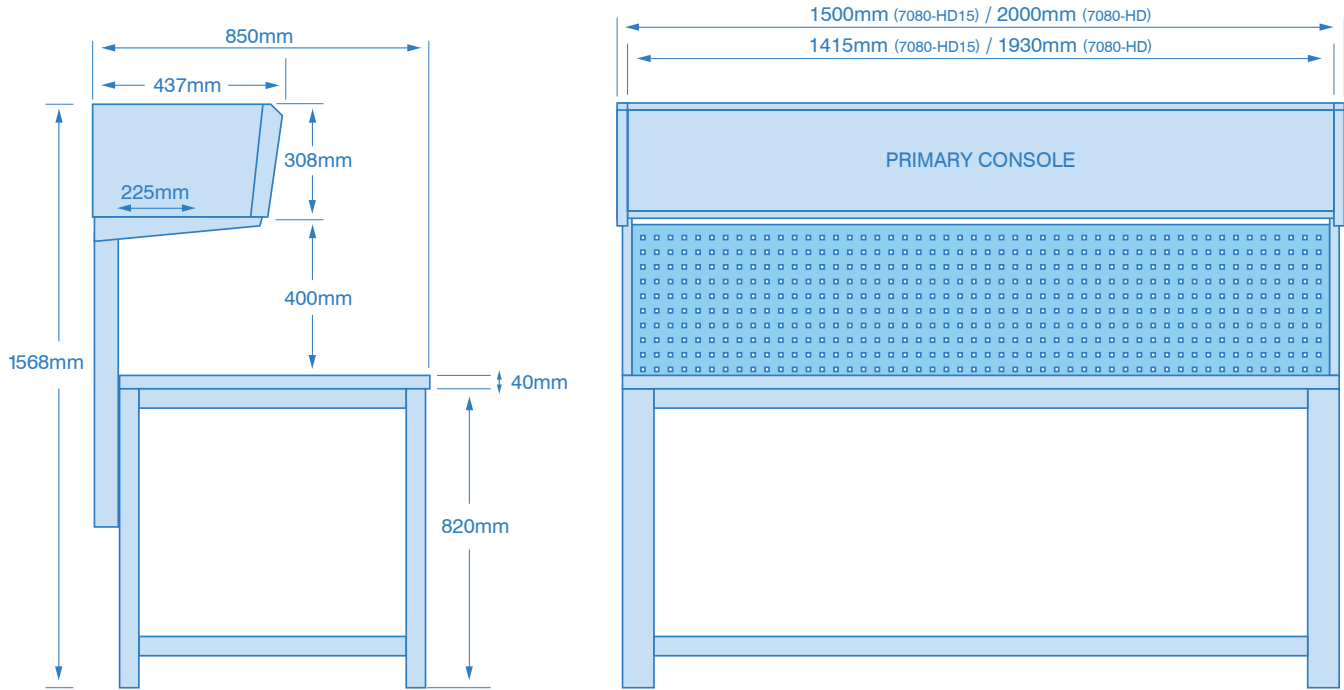
7080 CalBench (with 7081 Secondary Console)



The 7080 CalBench can be fitted with the 7081 secondary console. This unit provides additional housing for modules, positioned below the primary console. It provides increased functionality and features when required by end users.

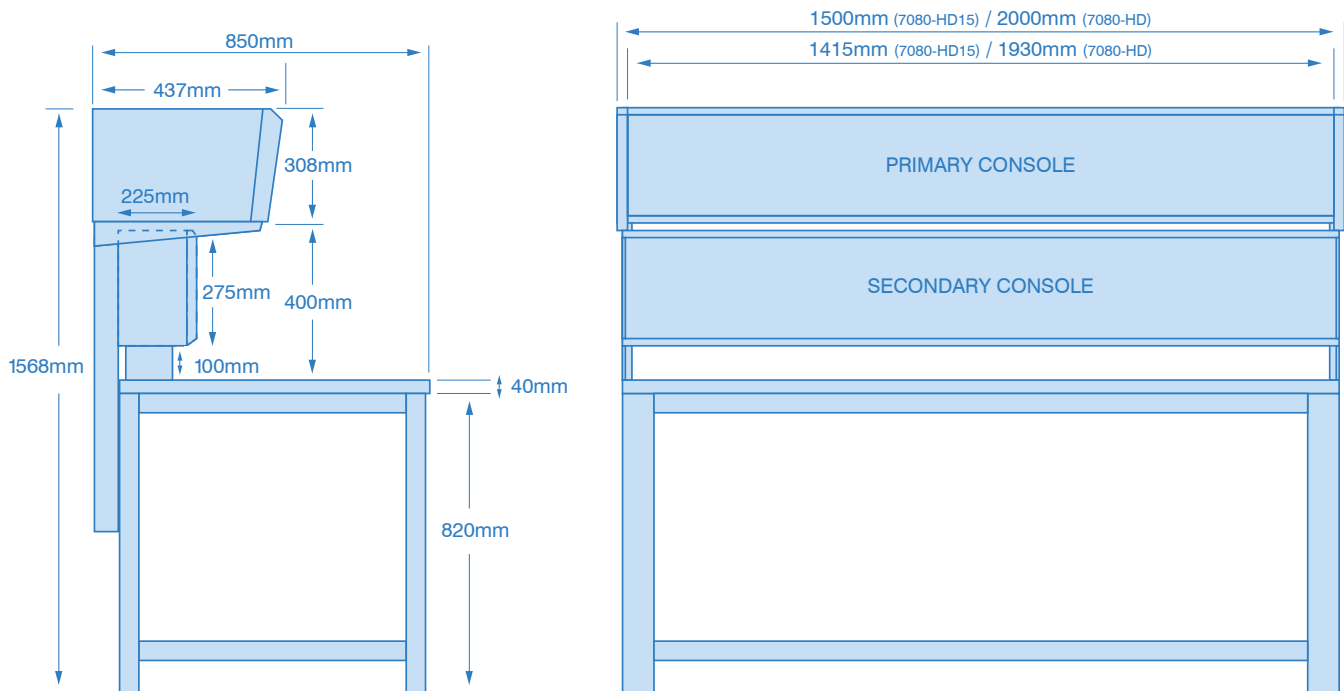


7080-HD & 7080-HD15 CalBenches



The 7080-HD & 7080-HD15 are framework style CalBenches that provide increased rigidity and load bearing, making them the optimal choice for industrial workshops requiring a heavy duty solution. Each one features a primary console, worktop and perforated panel.

7080-HD & 7080-HD15 CalBenches (with 7081/7081-15 Secondary Console)



Secondary consoles can be fitted to the 7080-HD & 7080-HD15 CalBenches when additional module capacity is required. With this option the perforated panel section is removed.



The Types of CalBench

Overview of the styles of CalBenches available



7080 CalBench

The 7080 CalBench is a cantilever style frame with worktop, perforated back panel, console support arms and primary console. This type of bench is suitable for calibration of handheld test tools and light engineering work. It provides an elegant yet industrial solution for the required workload and applications.

- Cantilever style frame
- Hard wearing light grey laminate worktop with shock proof edging
- Mild steel construction
- Bench frame finished with RAL7035 light grey
- Console height can be set at 1568mm or 1413mm
- Supplied with perforated panel section
- Console support arms and primary console included
- 7082 mains controller module fitted as standard
- Two front panel sockets on 7082 module (type selectable)
- Four under console sockets (type selectable)
- Under console LED lighting with on/off switch on 7082 module



7080-HD & 7080-HD15 Heavy Duty CalBenches

Two heavy duty versions of CalBench, available as a 2m or 1.5m wide system. Each bench is made from a robust, steel braced framework, ideal for industrial workshops. This provides a firm and solid base, making these benches suitable for process calibration work when UUT's are large or bulky.

- 7080-HD: Standard 2000mm wide Heavy Duty CalBench
- 7080-HD15: Compact 1500mm wide Heavy Duty CalBench
- Bench made from reinforced, steel section framework
- Heavy load bearing (up to 800kg U.D.L. capacity)
- Bench frame finished with RAL7035 light grey
- Hard wearing light grey laminate worktop with shock proof edging
- Console height can be set at 1568mm or 1413mm
- Supplied with perforated panel and console support arms
- Primary console with 7082 mains controller module fitted
- Two front panel sockets on 7082 module (type selectable)
- Four under console sockets (type selectable)
- Under console LED lighting with on/off switch on 7082 module



7080-CNR Corner CalBench

A corner CalBench that can be used to create an L-shaped work station by bridging two 7080 or 7080-HD CalBenches. The bench is heavy duty style with an angled corner console for housing modules.

The corner console positions between two standard consoles situated on either side. It creates a seamless, continuous system that provides an organised and ergonomic layout for applications.

- Corner CalBench for bridging two 7080 or 7080-HD benches
- 1200 x 1200mm with 800mm side edges, 530mm front edge
- Heavy duty steel section legs and one rear reinforcement leg
- Bench frame finished with RAL7035 light grey
- Hard wearing light grey laminate worktop with shock proof edging
- Console height can be set at 1568mm or 1413mm
- Supplied with perforated panel section
- Console support arms and corner primary console included
- 7082 mains controller module fitted as standard
- Two front panel sockets on 7082 module (type selectable)
- Four under console sockets and under console LED lighting



7081 and 7081-XD Secondary Consoles

The 7081 and 7081-XD are optional expansions to the CalBench system. They provide additional housing for modules, situated below the primary console.

The 7081 is 225mm deep and can be fitted with a select range of modules. The 7081-XD is 300mm deep and can house all modules.

- Consoles that position below the primary console
- Provides users with additional space for modules
- 2000mm wide with 1925mm of module space available
- 7081: 225mm deep to house select modules
- 7081-XD: 300mm deep to house all modules
- Reinforced steel design with braced mounting legs
- Can be made into full or part shelf versions
- Powered from the primary console
- Perforated panel is removed when secondary console is fitted



7060 Tabletop Mini Console

The 7060 is a 1000mm wide tabletop console designed for labs requiring a modular unit where space is limited or a mobile system is required. It can be supplied as a standalone unit ready for fitting or pre-mounted on a standard or mobile workbench.

A compact 150mm 7082 mains power module is fitted as standard. This allows a further 830mm of module space for calibrators, power supplies, and more. Multiple 7060's can be used side by side or mounted on top of each other.

- 1000mm wide tabletop console
- 465mm total depth with 110mm raised rear overhang section
- Overhang allows users to optimise worktop space
- 385mm total height (including legs)
- 110mm high reinforced mounting legs
- Houses all the CalBench module range
- Unit can be supplied for shelf mounting without lower leg section
- Combined solution with mobile work bench available
- Transit case available for mobility if required



Custom CalBenches

Time Electronics can design and supply fully customised CalBench consoles for required applications or locations. These include specialist consoles for vehicles, trailers, containers and ATE test rigs.

Each console is designed to customer requirements considering the environment or demands of the end user applications. They can be designed to fit in specific areas, reinforced for transportation, or feature brackets and fixings for wall mounting.

- Custom built consoles for end user requirements
- Made for specific areas or applications
- In-vehicle consoles, built for secure fixing during transport
- Automated test rig consoles
- Trailer CalBenches
- Mobile consoles for calibration and R&M
- House all the CalBench module range
- Wall mounting brackets for standard consoles
- Turnkey vehicle, trailer or container design and supply available





CalBench Under Worktop Fittings and Extras

Suspended drawer units, cabinets and extras for CalBench workstations



7121 2 Drawer Unit

A suspended two drawer unit that gives CalBench users a compact solution to document and small tool storage.

- Includes 2 x 75mm drawers - 50kg UDL per drawer
- Finished with RAL7035 light grey housing / RAL5010 blue drawer fronts
- Central locking system
- Each drawer has recessed handles for flush finish, with a trigger lock mechanism
- Each drawer unit comes lined with rubber matting as standard
- Dimensions: W500 x D550 x H250mm



7122 3 Drawer Unit

A suspended multi drawer unit with three drawers for storage and safe keeping of equipment, documents, and tools commonly used on the CalBench.

- Includes 3 x 125mm drawers - 50kg UDL per drawer
- Reinforced, welded steel housing
- Finished with RAL7035 light grey housing / RAL5010 blue drawer fronts
- Central locking system
- Each drawer has recessed handles for flush finish, with a trigger lock mechanism
- Each drawer unit comes lined with rubber matting as standard
- Dimensions: W500 x D550 x H250mm



7132 5 Drawer Unit

A suspended five drawer unit made from reinforced, welded steel that provides optimal storage capacity for tools, accessories and documents.

- Includes 3 x 75mm, 1 x 125mm, 1 x 175mm drawers - 50kg UDL per drawer
- Reinforced, welded steel housing
- Finished with RAL7035 light grey housing / RAL5010 blue drawer fronts
- Central locking system
- Each drawer has recessed handles for flush finish, with a trigger lock mechanism
- Each drawer unit comes lined with rubber matting as standard
- Dimensions: W500 x D550 x H600mm



7131 Combination Drawer and Cabinet Unit

A premium grade combination drawer and cabinet unit built for industrial use. The drawer is ideal for small tools and document storage, the cabinet section for larger equipment.

- 1 x 125mm drawer, 1 x 375mm door with 1 internal shelf.
- Reinforced, welded steel housing
- 50kg UDL drawer, lined with rubber matting as standard
- Finished with RAL7035 light grey housing / RAL5010 blue cabinet/drawer fronts
- Cabinet section includes 50kg UDL galvanised shelf adjustable on 25mm pitch
- Drawer has recessed handles for flush finish, with a trigger lock mechanism
- Dimensions: W500 x D550 x H600mm



7120 Cabinet Unit

A suspended cabinet for storage made from reinforced, welded steel housing to withstand the rigours of industrial use. A premium quality unit with locking system, finished in hard wearing epoxy polyester powdercoat with RAL7035 light grey housing and RAL5010 blue door.

- 575mm high door with locking system
- Reinforced, welded steel housing
- Includes 50kg UDL galvanised shelf adjustable on 25mm pitch
- Finished with RAL7035 light grey housing / RAL5010 blue door front
- Dimensions: W500 x D550 x H600mm

Divider Kits for Drawer Units

Kits that enable users to partition the inside of drawers of the 7121, 7122, 7131 and 7132 units. Sets are available for H75mm and H125/175mm drawers, enabling sectioning into 3, 6 or 9 compartments.

- Partitions drawer unit into sections
- Users can configure 3, 6 or 9 compartments depending on space requirement
- Suitable for storing components, tools and spare parts
- For use with 7121, 7122, 7131, 7132 drawer units



7123 PC or Dry Block Calibrator Holder

An under worktop fitting that enables users to house a PC or dry block calibrator, ergonomically positioned for easy access.

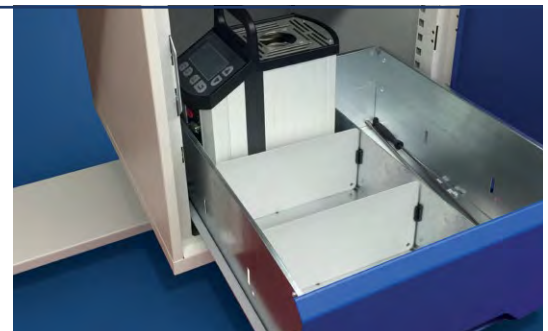
- Under worktop CPU / PC / dry block calibrator holder
- Robust steel design with RAL7035 light grey finish
- Fixes to leg and table frame of CalBench for reinforcement
- Houses the 7070, 7860, 7870 and 7880 series dry block calibrators
- Dimensions: W220 x D580 x H460mm



7135 Cabinet with Dry Block Calibrator Storage

A suspended cabinet with one door and internal extendable shelf to house up to three dry block calibrators (depending on models). Padding and partitioning provides space for the calibrators, with a side section suitable for sensors and inserts.

- 575mm high door
- Internal extendable shelf with partitioning and padding for housing dry block calibrators
- Reinforced, welded steel housing
- Central locking system
- Finished with RAL7035 light grey housing / RAL5010 blue door front
- Dimensions: W500 x D550 x H600mm



7157 Articulating Keyboard Tray for CalBench

The 7157 is an ergonomic under worktop tray system that allows users to take their keyboard and mouse off the work surface. It is a suitable addition for end users that operate the CalBench in standing positions, with potentially bulk equipment being tested and placed on the worktop.

- Industrial grade articulating keyboard tray with easy-adjust arm and tilt knob
- Easy angle adjustment and locking mechanism
- Padded tray for situating keyboard and mouse
- Ergonomic positioning with slide away feature



TL09 CalBench Extension Trolley

A heavy duty mobile bench designed to attach to the CalBench system, providing extra worktop and storage capacity. It features a clamp mechanism for secure connection to the accompanying CalBench, making it suitable for temporary or permanent installation.

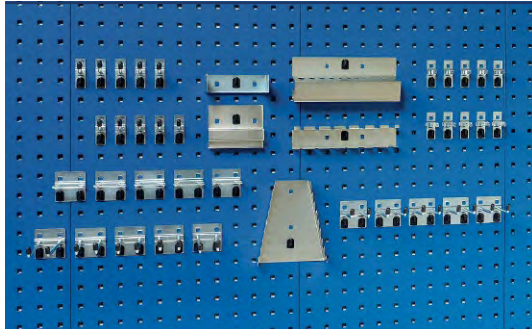
- CalBench mobile extension bench for added worktop and storage space
- Base shelf for instrument storage, suitable for dry block calibrators, pressure pumps etc.
- Durable grey laminate worktop (matches supplied CalBench top)
- Heavy duty, reinforced, steel section framework finished in RAL7035 light grey
- Lockable castor wheels and clamping mechanism for securing to CalBench
- Dimensions: W750 x D800 x H855mm





CalBench Perforated Panel Fittings

A selection of accessories to provide quick access storage on CalBench



7125, 7137, and 7138 Tool Hook/Holder Sets

Kits that feature a selection of hooks and holders for placing tools and extras on the perforated panel, supplied with fitting tool for easy fixing.

- 7125: 20 piece tool hook/holder kit
- 7137: 40 piece tool hook/holder kit
- 7138: 60 piece tool hook/holder kit
- Each kit contains single hooks, double hooks, and spring clips
- Includes spanner holder, saw holder, screwdriver holder, allen key holder, and drill holder
- Supplied with fitting tool for easy fixing to perfo
- Quick fix perfo lock for easy re-positioning



7139 and 7140 Shelves

Shelves that mount on the perforated panel to provide convenient storage area for tools and parts. Available in two widths depending upon user requirements.

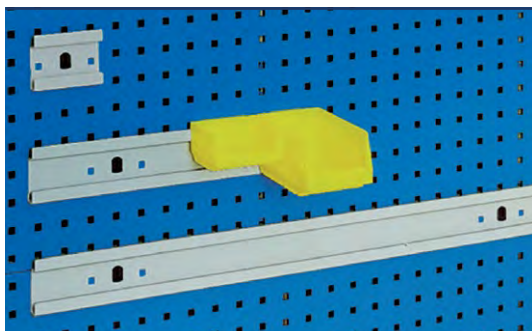
- 7139: Perfo shelf (W450 x D250 x H130mm)
- 7140: Perfo shelf (W900 x D250 x H130mm)
- RAL7035 light grey colour matches perfo panel
- Quick fix perfo lock for easy re-positioning
- Suitable for placing handheld test tools like meters, gauges, decade boxes
- Ideal for positioning EasyCal software accessories like label printer and bar code reader



P146 and P147 Storage Trays

Trays for the perforated panel that are suitable for components, fixings, fittings and tools. Available in two widths of 225mm or 440mm, each unit provides an effective method of storage for easy access of contents.

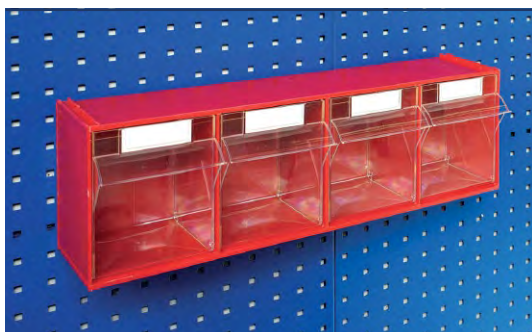
- 7139: Perfo storage tray (W225 x D175 x H65mm)
- 7140: Perfo storage tray (W440 x D175 x H65mm)
- Store components, tools and accessories
- RAL7035 light grey colour matches perfo panel
- Quick fix perfo lock for easy re-positioning



7141 and 7142 Storage Bin Strips

A steel mounting strip for parts bins allowing access to tools and components on the perfo panel. Each unit is supplied with accompanying bins.

- 7141: Storage bin strip (W450 x H75mm) with 4 x 1L bins (103 x 165 x 83mm each)
- 7142: Storage bin strip (W900 x H75mm) with 6 x 3.5L bins (145 x 240 x 125mm each)
- Bin strip RAL7035 light grey colour matches perfo panel, red colour bins
- Quick fix perfo lock for easy re-positioning
- Quality rigid bins with reinforced sides, manufactured from high density polyethylene
- Label supplied with each bin
- Additional bins sizes available upon request.



P149 - P153 Transparent Tilt Boxes

A range of transparent tilt boxes that fix to the perforated panel of CalBench, for storage and access to small parts and components. Ideal for R&M and R&D type workstations.

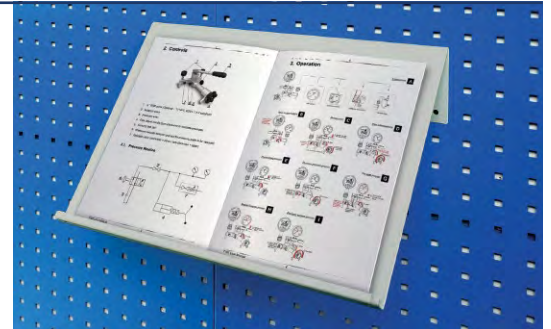
- P149: Transparent tilt boxes - 1 off (W600 x D68 x H78mm / 9 compartments)
- P150: Transparent tilt boxes - 1 off (W600 x D96 x H112mm / 6 compartments)
- P151: Transparent tilt boxes - 1 off (W600 x D142 x H168mm / 5 compartments)
- P152: Transparent tilt boxes - 1 off (W600 x D178 x H206mm / 4 compartments)
- P153: Transparent tilt boxes - 1 off (W600 x D210 x H242mm / 3 compartments)
- Supplied complete with labels, to allow users to identify the contents



7143 A3 Document Holder

A document holder that is ideal for placing user manuals of devices under test on the CalBench. A3 size and angled structure means that the literature is ergonomically positioned. The user has a clear and easily visible solution for reading and reference.

- Steel angled document holder
- W450 x H360mm
- Holds manuals, books, catalogues, certificates and documents
- RAL7035 light grey colour matches perfo panel
- Quick fix perfo lock for easy re-positioning



P148 A4 Document Holder

A holder that is ideal for placing signs, certificates and other documents relevant to the CalBench workspace. The unit is A4 portrait size and positions flat to the perforated panel with 2.5cm thickness making it non-intrusive to the table top area.

- Steel portrait A4 document holder
- Holds certificates, signs and documents
- RAL7035 light grey colour matches perfo panel
- Quick fix perfo lock for easy re-positioning
- A4 landscape version available upon request



7133 Magnet Set

A specially designed magnet set for use with the CalBench perfo panel, providing a solution to positioning documents and small tools. The set includes a selection of dual use round magnets that can be used to pin or hold as required. The hook magnets allow users to hang items easily and discreetly.

- 10 off 35mm diameter round magnets
- 10 off 12mm diameter hook type magnets
- Used for quick fixing documents and small tools



TL100 - TL103 Monitor Arms

Premium quality mounting arms that can be used on CalBenches. Each arm offers a solution to ergonomic positioning of monitors and displays, with adjustment to move the unit away from the workspace when not in use.

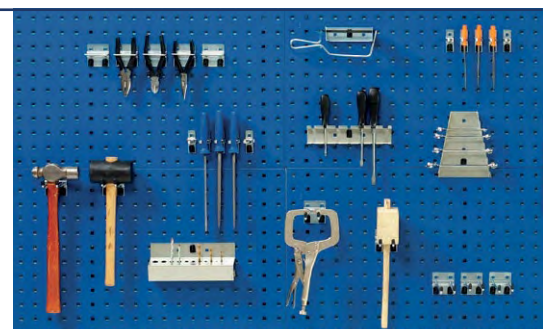
- Four available mounting arms, based on extension length requirement
- TL100 (XS): 105mm / TL103 (SL): 450mm / TL101 (M): 505mm / TL102 (XL): 705mm
- Includes QuickFix feature for monitor mounting
- Suitable for use with 17" touch screen monitor TL70
- Sturdy aluminum/ABS construction, supports loads up to 15kg (10kg on TL02)
- Swivel head with 105° horizontal range



Individual Perfo Components and Extras

In addition to the standard range shown, Time Electronics offer a wide selection of individual options for the perforated panel on CalBench. Also available are wall mounted perforated panels for fitting in workshops and laboratories.

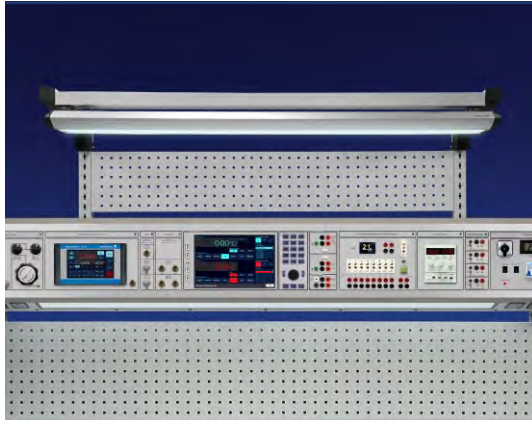
- Individual hooks, holders and clips
- Cable hooks, pipe brackets, power tool loop holders, tube/can holders
- Perfo mount power strips (socket type can be specified)
- Custom perfo mount brackets for test instruments and monitoring systems
- Perfo wall panels - see Laboratory Design and Supply Section





Additional CalBench Fittings and Options

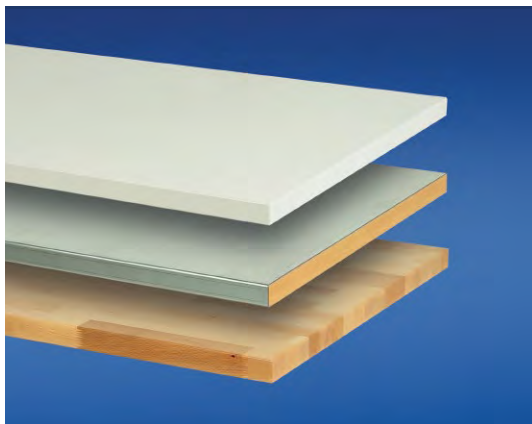
Overhead light kit, worktops, ESD options and operator chairs



OHL-2000 Overhead Light Kit

A framework kit that connects to the CalBench frame to bring a light rail across the worktop. A convenient addition to the system, ideal for customers that want to maximise visibility to the applications performed on the CalBench.

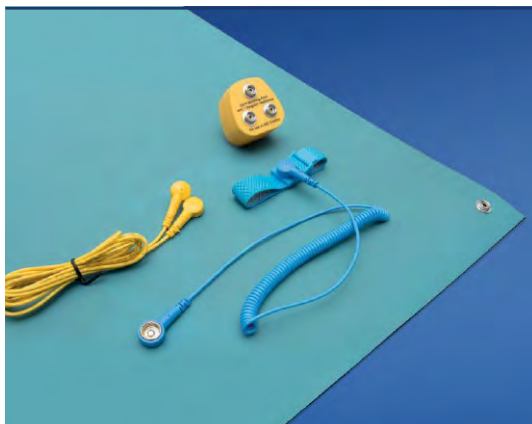
- Rear frame with mounting kit (1350mm wide)
- Top fix premium LED luminaire, 43W
- Luminaire features CDP screen, glare and flicker free
- Extra durable LED luminaire life of 50,000 hours
- Features a perforated panel for rigidity and additional storage use
- Light switch added to 7082 module when ordered



Worktop Options

A variety of worktop options are available for the CalBench system. The standard top is a quality hard wearing light grey laminate with shock proof edging and chipboard core. Each top offers high load bearing and surface resistance to water, oils and chemicals.

- Standard worktop: Light grey laminate with 2mm grey PVC shock proof edging
- Standard top thickness of 38mm with chipboard core
- ESD laminate version (option 7185) or integrated ESD resin bonded mat version
- Multiplex option: Resin bonded, hardwood beech ply with cross laminated construction
- Phenol option: Hardwood core impregnated with phenol resin and edges in hardwood
- Stainless Steel option: Particle board core with 1.2mm zinc coated steel cladding
- Beech option: Solid beech with polyurethane varnished surface
- Custom worktops available upon request



7186 ESD Workstation Kit for CalBench

The 7186 is a practical, easy to install ESD safe workstation kit. It has the equipment needed to build a static controlled workspace on the CalBench. Featuring high quality ESD items, this kit enables users to prevent any unnecessary damage to delicate electronic components or devices. It is suitable for repairs on electrical items such as PCBs, computer parts and other components.

- ESD workstation kit for CalBench
- ESD Matting (800 x 2000mm) with 10mm stud in each corner
- 1 x earth bonding plug, 3 x 10mm studs, 1 x 10mm fabric adjustable wrist strap
- 1 x 10mm coiled earth lead, 1 x 10mm straight lead, 1 x crocodile clip
- ESD protected area vinyl sign included



7128 and 7129 CalBench Operator Chairs

Operator chairs specifically for use with Time Electronics CalBench. Height adjustment is 500mm to 750mm to enable comfortable working on both a primary or secondary console. Each chair is extra heavy duty and suitable for both technical and office work.

- 7128: CalBench operator chair - Non ESD
- 7129: CalBench operator chair - ESD (conforms to EN 61340-5-1:2001)
- Gas lift adjustable height 500 to 750mm
- Castors for mobility
- Navy blue as standard, other colours upon request
- Extra padded seat and backrest
- Backrest adjustment, locked position or free floating
- Under bench footrests also available upon request



Modules

Integrated solutions for calibration,
testing & maintenance applications

- 7051 & 8060 Calibrator & Control Centre Modules
- Pressure Modules
- Process Modules
- Power Supply Modules
- Signal Generator & Frequency Counter Modules
- Oscilloscope and Multimeter Modules
- Electrical and Electronic Test Modules
- Soldering and Re-Work Modules
- Additional Modules





7051Plus Multifunction Calibrator and Control Centre

Universal calibration and system control



About The 7051Plus

A module that combines a high accuracy calibration source with a precision digital multimeter. It incorporates a wide range of internally fitted 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 specific 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 6½ digit multimeter measures DC voltage to 1000V, AC voltage to 750V, resistance to 100MΩ, and frequency to 300kHz.

Control Centre: A intuitive user interface with large 12.1" touch screen display. The control centre is a PC with a 64 bit dual core processor, running Windows 8.1. As standard it features the calibrator and multimeter control applications, with the wide range of functions easily selectable using mouse, keyboard or touch screen.

EasyCal: Enables automatic calibration to increase speed and efficiency of work. In addition EasyCal has features to manage and administrate both inventory and quality control. To complement the system a printer and connectivity kit is supplied as standard, 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.

Communication: Using EasyCal the operator can read back from compatible electrical, temperature, pressure, and loop modules within the bench. EasyCal can also be used with external instruments such as dry block calibrators and portable test instruments.

Features

- Integral multifunction calibrator and 6.5 digit multimeter
- Touch screen PC control centre with 12.1" display
- Source up to 1050V AC/DC voltage
- Source up to 22A AC/DC current
- Source resistance (up to 1GΩ), capacitance and inductance
- Oscilloscope calibration and optional power calibration
- Measure voltage, current, resistance, frequency
- Thermocouple and PT100 simulation and measurement
- EasyCal software, adaptors and accessories included
- Communicate with EasyCal compatible modules

Calibration Capabilities

- Multimeters, clamp meters, ohmmeters, AC/DC signal sources
- Decade boxes, data loggers, RCL meters
- Tachometers, oscilloscopes, frequency counters, timer counters
- Frequency meters, watt meters, power meters, current probes
- Thermocouples, RTDs, Thermometers, PRTs, thermistors
- Temperature indicators, recorders, controllers, switches
- Loop and process calibrators
- Pressure instruments using additional modules



Calibrator (Source)

Function	Range / Values	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 1MHz, sine-wave)	\pm 300ppm of setting
Current AC	10 μ A to 22A (20Hz to 1kHz, sine-wave)	\pm 0.05%
Clamp Meter Adaptor x50 turn	AC/DC Current up to 1100A (DC, 45 to 90Hz)	\pm 0.5%
Capacitance	1nF, 10nF, 100nF, 1 μ F, 10 μ F, 100 μ F (100V Max)	\pm 0.25%
Inductance	1mH, 1.9mH, 5mH, 10mH, 19mH, 50mH, 100mH, 190mH, 500mH, 1H, 10H	\pm 0.1%
Decade Resistance	1 Ω to 1G Ω (decade values)	\pm 20ppm of setting
Full Range Resistance	1 Ω to 120M Ω (variable)	\pm 100ppm of setting
Conductance	1s to 1ns (fixed values, decade steps)	\pm 20ppm of setting
Thermocouple Simulation	-270 to 1820°C (type J, K, R, T, S, B, E, N)	\pm 0.15°C
PT100 Simulation	-180 to 850°C	\pm 0.07°C

Oscilloscope Calibration

Amplitude	6mV to 200V and 6mV to 2V 50 Ω (Square-wave or DC)	\pm 0.05%
Frequency/Period	0.1Hz to 100MHz / 10ns to 10s (fixed values 1, 2, 5 sequence)	\pm 0.1ppm (0.1Hz to 10MHz / 100ns to 10s) \pm 20ppm (20, 50, 100MHz / 50, 20, & 10ns)
Duty Cycle	3 frequencies: 100Hz, 1kHz, 10kHz, settable from 0 to 100%	–
Fast-Rise	< 400ps. Bandwidth checking up to 400MHz	–
Option 9769: Scope 2.2GHz Sweep	100MHz to 2.2GHz levelled sine-wave (0.5, 1, 1.5V pk-pk)	Amplitude \pm 1%, Frequency \pm 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	\pm 90° / 0.00 to 1.00PF	\pm 0.3°

6.5 Digit Multimeter (measure)

Function	Range / Values	Best 1 Year Specification
Voltage DC	0 to 1000V	35ppm of rdg + 6ppm of rng
Current DC	0 to 3A	500ppm of rdg + 50ppm of rng
Voltage AC	0 to 750V	0.06% of rdg + 0.04% of rng
Current AC	0 to 3A	0.1% of rdg + 0.04% of rng
Resistance	0 to 100M Ω	100ppm of rdg + 50ppm of rng
Frequency	3Hz to 300kHz	0.01% of rdg
Thermocouple	-270 to 1800°C (Type J, K, R, T, S, B, E, N)	\pm 0.5°C
PT100	-180 to 850°C	\pm 0.08°C



7051Plus Specifications and Options

Control centre specifications, general specifications and options for the 7051Plus module

Control Centre Specifications and Details

Feature	Specifications
Processor	64 bit, dual core (or equivalent)
RAM	16GB
Hard Drive	120GB Solid State
Ports	Front: 4 x USB / Rear: 2 x USB, 2 x RS-232
Display	12.1" Touch Screen LCD
Operating System	Windows 10
Pre loaded Software Programs	7051 Manual Control Applications (Calibrator and Multimeter), EasyCal Software
Keypad Module Option	CCPAD: Control Centre numeric keypad module with jog dial For input/control of manual calibration applications & EasyCal software on the control centre.
Supplied Hardware/Accessories	USB keyboard and mouse, Inkjet Printer, Cal and ID Label Printer, DVD-RW, 4 port USB hub, Numeric key pad, USB memory stick, bar code reader, label printer
Control Centre Operated Module Options	Pressure: XTEG Gauge/Differential/Compound modules (EasyCal software compatible) Frequency: CCScope Oscilloscope Modules / CC-FRQC Frequency Counter Module
Modules with EasyCal Communication	7030B/8030B/8030B-H Pressure Controllers / MTEG/RMTEG Pressure Calibrators / 5065B & 5075B DMMs 7085A Temperature Distribution Module / 7002/7003/7004 Process Communicators / 8029 Electronic Load 5030B Electrical Tester Calibrator / 7033 LCR Meter / TTS-100M Torque Calibrator
External Products with EasyCal Communication	TEG Digital Pressure Gauges / Dry Block Calibrators / TTS-100 Torque Tester Calibrator
EasyCal Software Add-ons and Options	9779: Job and Address Label Printer / EC2FL/EC2WL: Additional User Licenses for separate PCs EAD: EasyAdmin Add-On / CREP: Crystal Reports Software

General Specifications

Environmental	Specifications/Details
Warm up	30 minutes to full accuracy
Settling Time	Less than 5 seconds
Temperature Performance	Operating: 5 to 45°C. Full Spec: 22°C +/- 3°C. Storage: -10°C 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	W425mm (507mm with CCPAD option), H201mm (primary console fitting only)

Supplied Adaptors and Test leads

Model Code	Details
9780	Clamp meter adaptor x50 turn - AC/DC current up to 1100A (DC, 45 to 90Hz)
9773	Optical tacho adaptor – 6 rpm (0.1Hz) - 600,000 rpm (10kHz)
7112	Transducer patch box - Provides convenient connection for transducers under test, with 250Ω resistor
9796	Premium test lead set 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 / Wall mount/perfo panel lead holder / Carry case

Benefits of the 7051Plus Module

A quick guide to the benefits of using the 7051Plus module in a CalBench



Control and Communication

The control centre provides users with a large 12.1" touch screen interface for manual operation or EasyCal driven calibration work. The CCPAD option enables a convenient method of data entry, deviation and navigation when using EasyCal. Operators can also use the supplied wireless keyboard and mouse on the desktop.

- 12.1" Touch screen control centre PC
- Manually operate the 7051 calibrator and multimeter functions
- EasyCal software for automation and management
- Control and readback from compatible modules
- Software applications for control centre operated modules like CCSCOPE oscilloscopes and CC-FRQ frequency counters
- CCPAD keypad & jog dial module for EasyCal input and operation

Electrical and Temperature

The 7051Plus provides the source and measure capabilities for electrical, electronic, temperature and frequency calibration work. EasyCal software communicates with the 7085A module to enable multi-channel measurement applications, allowing users to batch test temperature devices like thermocouples.

- 7051Plus used to source/measure electrical and process signals
- EasyCal driven calibration and communication
- 7085A interfaces with EasyCal for batch testing of thermocouples
- Power supply modules like 7052 supplement testing applications
- Control centre operated modules like CCSCOPE oscilloscopes come with dedicated software applications on the control centre
- Adaptors and accessories supplied for use with 7051Plus

Pressure

The control centre section of the 7051Plus communicates with pressure modules. EasyCal can drive pressure controllers and read back from regulated calibrators. XTEG modules are integrated pressure sensors, solely operated by the control centre via a virtual control software application or EasyCal software.

- EasyCal software drives pressure controller modules like 8030B
- Read back from RMTEG and MTEG pressure gauge modules
- XTEG sensor only modules with control centre user interface
- The 7051Plus provides precision mA measure for transmitters etc.
- Read back and control external instruments like digital pressure gauges, via RS-232 communication with the control centre

Adaptors and Accompanying Instruments

The 7051Plus is supplied with a selection of adaptors and accessories to aid usability and enable operators to perform specific applications. EasyCal peripherals such as printer kits are supplied for certificate printing and administration. Accompanying products include dry block calibrators that communicate with EasyCal on the control centre.

- 9780 clamp meter calibration adaptor (shown) supplied
- 9773 optical tacho adaptor included
- 7112 patch box for simple connection to transmitters under test
- EasyCal extras include printer kit, label printer and bar code reader
- Read back and control TE dry block calibrators using EasyCal, via RS-232 or USB communication with the control centre



8060 Precision Process Calibrator and Control Centre

For comprehensive calibration of process instrumentation



About the 8060

The 8060 is a multifunction process calibrator module that offers excellent workload coverage on the Time Electronics CalBench. The module has source and measure capabilities for mV, mA, ohms, frequency, and pulses. It also simulates and measures 13 thermocouples and 11 RTDs to enable calibration of transmitters and other temperature devices commonly used in the process industry. Further features include the integrated 24V loop power supply, pulse frequency output, cold junction compensation and HART communication for device readback and configuration.

Control Centre: The control centre is a PC with a 64 bit dual core processor, running Windows 8.1, with a 10.4" capacitive touch screen display. An optional PC upgrade with 12.1" display is available. The calibrator control software allows the functions to be easily selected using mouse, keyboard, or touch screen.

Advanced Measurement Option (AVM65): This option integrates a 6½ digit multimeter into the module, that measures DC voltage to 1000V, AC voltage to 750V, resistance to 100MΩ, and frequency to 300kHz. Operation is via the control centre, using the manual control application or EasyCal software (optional).

EasyCal Software: Enables automatic calibration to increase speed and efficiency of work. It has features to manage and administrate both inventory and quality control. Produce calibration certificates and reports to ISO 9001, ISO 17025, and other international quality standards. Using EasyCal the operator can also read back and control compatible modules and external instruments such as dry block calibrators and portable test instruments.

8060Plus: A package that includes various options to enhance the 8060. It incorporates the AVM65 advanced measurement option, upgraded control centre, EasyCal software, printer kit, label printer, bar code reader, premium test lead set and factory calibration certificate. The package is designed to provide the optimal platform for both calibration work and management. For enhanced usability the CCPAD control centre numeric keypad module is available.

Features

- Source mV, mA, resistance & frequency
- Measure mV, mA, resistance & frequency
- Thermocouple simulate and measure (13 types)
- RTD simulate and measure (11 types)
- Touch screen PC control centre (10.4" or 12.1" display)
- Integral 24V loop power supply
- Optional integral 6.5 digit multimeter
- HART communicator
- Optional EasyCal software for automated calibration
- Communicate with EasyCal compatible modules

Calibration Capabilities

- Temperature sensors, transmitters, indicators
- Thermocouples, RTDs
- Thermometers, PRTs, thermistors
- Recorders and controllers
- Loop and process calibrators
- Temperature switches
- Flow totalisers
- Pressure instruments using additional modules



Electrical Source

Range	Resolution	Accuracy
Voltage DC		
-10.000 to 75.000mV	1μV	0.02% RDG + 4.25μV
0 to 12.0000V	0.1mV	0.02% RDG + 0.6mV
Current DC		
0 to 22.000mA	1μA	0.02% RDG + 1.1μA
Resistance		
1 to 400.00Ω	10mΩ	0.02% RDG + 0.02Ω
1 to 4000.0Ω	100mΩ	0.03% RDG + 0.4Ω
Frequency		
0 to 50000.0 Hz	0.1 Hz	0.005% RDG + 1 Hz
Pulse		
0 to 999999	1	-
24V DC Supply		
24V	-	0.5V

Thermocouple Simulation and Measurement

Type	Range (°C)	Accuracy (°C)	
		Measure	Simulate
S IEC 584 (-50 to 1758°C)	-50 to 400	1.0	1.1
	400 to 1000	0.6	0.6
	1000 to 1768	0.7	0.8
R IEC 584 (-50 to 1758°C)	-50 to 200	1.4	1.4
	200 to 500	0.6	0.6
	500 to 1768	0.6	0.7
B IEC 584 (0 to 1820°C)	50 to 450	3.8	3.8
	450 to 800	0.9	0.9
	800 to 1820	0.6	0.7
K IEC 584 (-270 to 1372°C)	-250 to -200	1.0	1.1
	-200 to -100	0.4	0.5
	-100 to 600	0.3	0.3
N IEC 584 (-270 to 1300°C)	600 to 1372	0.4	0.5
	-250 to -200	1.5	1.6
	-200 to -100	0.5	0.6
E IEC 584 (-270 to 1000°C)	-100 to 1300	0.4	0.5
	-250 to -200	0.6	0.7
	-200 to -100	0.3	0.3
J IEC 584 (-270 to 1200°C)	-100 to 0	0.2	0.2
	0 to 700	0.2	0.3
	700 to 1000	0.2	0.4
T IEC 584 (-270 to 400°C)	-210 to -100	0.3	0.3
	-100 to 1200	0.3	0.4
	-250 to -200	0.8	0.9
C ASTM E988 (0 to 2315°C)	-200 to 0	0.4	0.4
	0 to 400	0.2	0.2
	0 to 1000	0.5	0.5
D ASTM E988 (0 to 2320°C)	1000 to 1800	0.7	0.9
	1800 to 2315	1.0	1.4
	0 to 100	0.5	0.5
G ASTM E1751 (0 to 2315°C)	100 to 1100	0.4	0.5
	1100 to 2000	0.6	0.9
	2000 to 2320	0.9	1.3
L DIN 43710 (-200 to 900°C)	0 to 200	2.4	2.4
	200 to 400	0.5	0.5
	400 to 1400	0.4	0.5
U DIN 43710 (-200 to 600°C)	1400 to 2315	0.7	1.0
	-200 to -100	0.2	0.3
	-100 to 400	0.2	0.2
	400 to 900	0.2	0.3
	-200 to 0	0.4	0.4
	0 to 600	0.2	0.3

Electrical Measurement

Range	Resolution	Accuracy
Voltage DC		
±75.0000mV	0.1μV	0.01% RDG + 3.75μV
±30.0000V	0.1mV	0.01% RDG + 1.5mV
Current DC		
±30.0000mA	0.1μA	0.01% RDG + 1.5μA
Resistance		
0 to 400.000Ω	1mΩ	2 wire/3 wire: 0.02% RDG + 0.02Ω 4 wire: 0.01 RDG + 0.02Ω
0 to 4000.00Ω	10mΩ	2 wire/3 wire: 0.02 RDG + 0.2Ω 4 wire: 0.01% RDG + 0.2Ω
Frequency		
0 to 50000.0 Hz	0.1 Hz	0.005% RDG + 1Hz
Pulse		
0 to 999999	1	-

RTD Simulation and Measurement

Type	Range (°C)	Accuracy (°C)		
		Measure		Simulate
		2W/3W	4W	
Pt10 (385) IEC 751 (-200 to 850°C)	-200 to 200	0.65	0.60	0.65
	200 to 600	0.82	0.72	0.82
	600 to 850	0.96	0.82	0.96
Pt100 (385) IEC 751 (-200 to 850°C)	-200 to 200	0.15	0.1	0.15
	200 to 600	0.26	0.16	0.26
	600 to 850	0.34	0.20	0.34
Pt100 (3916) JIS 1604 (-200 to 850°C)	-200 to 200	0.15	0.1	0.15
	200 to 600	0.26	0.16	0.26
	600 to 850	0.33	0.20	0.33
Pt200 (385) IEC 751 (-200 to 850°C)	-200 to 200	0.37	0.32	0.69
	200 to 600	0.51	0.41	0.92
	600 to 850	0.61	0.48	1.08
Pt500 (385) IEC 751 (-200 to 850°C)	-200 to 200	0.20	0.16	0.36
	200 to 600	0.32	0.22	0.54
	600 to 850	0.40	0.27	0.67
Pt1000 (385) IEC 751 (-200 to 850°C)	-200 to 200	0.1	0.05	0.25
	200 to 600	0.2	0.10	0.42
	600 to 850	0.27	0.14	0.54
Cu10 (427) Minco Application Aid #18 (-100 to 260°C)	-100 to 260	0.61	0.56	0.61
Cu50 (428) GOST 6651-94 (-50 to 150°C)	-50 to 150	0.17	0.13	0.17
Cu100 (428) GOST 6651-94 (-50 to 150°C)	-50 to 150	0.12	0.09	0.12
Ni120 (672) Edison curve #7 (-100 to 260°C)	-100 to 260	0.07	0.05	0.07
Ni100 (618) DIN 43760 (-100 to 260°C)	-100 to 260	0.08	0.06	0.08



8060 Options and Extras

Control centre specifications, general specifications and options for the 8060 module

Option AVM65: Integral 6.5 Digit Multimeter (included with 8060Plus version as standard)

Function	Range / Values	Best 1 Year Specification
Voltage DC	0 to 1000V	35ppm of rdg + 6ppm of rng
Current DC	0 to 3A	500ppm of rdg + 50ppm of rng
Voltage AC	0 to 750V	0.06% of rdg + 0.04% of rng
Current AC	0 to 3A	0.1% of rdg + 0.04% of rng
Resistance	0 to 100MΩ	100ppm of rdg + 50ppm of rng
Frequency	3Hz to 300kHz	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

Control Centre Specifications and Software Options

Feature	8060	8060Plus (upgraded version)
Processor	64 bit, dual core (or equivalent)	64 bit, dual core (or equivalent)
RAM	4GB	16GB
Hard Drive	60GB Solid State	120GB Solid State
Ports	Front: 4 x USB / Rear: 2 x USB, 2 x RS-232	Front: 4 x USB / Rear: 2 x USB, 2 x RS-232
Display	10.4" Touch Screen LCD	12.1" Touch Screen LCD
Operating System	Windows 10	Windows 10
Pre loaded Software Programs	8060 Manual Control Applications	8060 Manual Control Applications, EasyCal Software
Upgrade Option	CC12A: Control Centre as per 8060Plus listed spec	Upgraded to CC12A as standard
Keypad Module Option	CCPAD: Control Centre numeric keypad module with jog dial For input/control of manual calibration applications & EasyCal software on the control centre.	
Supplied Hardware/Accessories	USB keyboard and mouse	USB keyboard and mouse, Inkjet Printer, Cal and ID Label Printer, DVD-RW, 4 port USB hub, Numeric key pad, USB memory stick, bar code reader, label printer
Control Centre Operated Module Options	Pressure: XTEG Gauge/Differential/Compound modules (EasyCal software compatible) Frequency: CCScope Oscilloscope Modules / CC-FRQC Frequency Counter Module	
Modules with EasyCal Communication	7030B/8030B/8030B-H Pressure Controllers / MTEG/RMTEG Pressure Calibrators / 5065B & 5075B DMMs 7085A Temperature Distribution Module / 7002/7003/7004 Process Communicators / 8029 Electronic Load 5030B Electrical Tester Calibrator / 7033 LCR Meter / TTS-100M Torque Calibrator	
External Products with EasyCal Communication	TEG Digital Pressure Gauges / Dry Block Calibrators / TTS-100 Torque Tester Calibrator	
EasyCal Software Add-ons and Options	9779: Job and Address Label Printer / EC2FL/EC2WL: Additional User Licenses for separate PCs EAD: EasyAdmin Add-On / CREP: Crystal Reports Software	

Additional and General Specifications

Functions/Options/Environmental	Specifications/Details
HART Communication	Integral communicator to support HART devices for readback and configuration.
9796 Test Lead Set Option (supplied as standard with 8060Plus version)	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 / Wall mount/perfo panel lead holder / Carry case
Warm up	30 minutes to full accuracy
Settling Time	Less than 5 seconds
Temperature Performance	Operating: 5 to 45°C. Full Spec: 22°C +/- 3°C. Storage: -10°C 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	W410mm (492mm with CCPAD option), H201mm (primary or secondary console fitting)

Benefits of the 8060 and 8060Plus Modules

A quick guide to the benefits of using the 8060 modules in a CalBench



Control and Communication

The control centre provides users with a touch screen interface for manual operation or EasyCal driven calibration work. The CCPAD option enables a convenient method of data entry, deviation and navigation when using EasyCal. Operators can also use the supplied wireless keyboard and mouse on the desktop.

- 10.4" touch screen control centre PC (12.1" on 8060Plus)
- Manually operate the 8060 via control centre user interface
- EasyCal software for automation and management
- Control and readback from compatible modules
- Software applications for control centre operated modules like process communicators, oscilloscopes and others
- CCPAD keypad & jog dial module for EasyCal input and operation

Electrical and Temperature

The 8060 provides precision measurement and generation for process calibration work with electrical, temperature and frequency functions. The 8060Plus version integrates a 6.5 digit multimeter for advanced measurement capabilities. EasyCal communicates with the 7085A module and dry block calibrators to automate temperature calibration.

- 8060 generates, simulates & measures electrical & process signals
- 8060Plus features integral 6.5 digit multimeter
- EasyCal driven calibration and communication
- 7085A interfaces with EasyCal for batch testing of thermocouples
- Power supply modules like 7052 supplement testing applications
- Optional communicator module for Foundation Fieldbus (FF), operated via the control centre

Pressure

The control centre section of the 8060 communicates with pressure modules. EasyCal can drive pressure controllers and read back from regulated calibrators. XTEG modules are integrated pressure sensors, solely operated by the control centre via a virtual control software application or EasyCal software.

- EasyCal software drives pressure controller modules like 8030B
- Read back from RMTEG and MTEG pressure gauge modules
- XTEG sensor only modules with control centre user interface
- The 8060 provides precision mA measure for transmitters etc
- Read back and control external instruments like digital pressure gauges, via RS-232 communication with the control centre

About the 8060Plus

The 8060Plus is an advanced version of the module inclusive of options to provide an optimal solution. It features the integral multimeter and upgraded control centre. EasyCal software is included for automation and management, plus a selection of peripherals including printer kits for certificate printing and administration.

- Optimised 8060 with options for increased functionality and usability
- Includes advanced measurement (integral 6.5 digit multimeter)
- Upgraded control centre with 12.1" display, higher spec PC
- EasyCal calibration software supplied pre-loaded on control centre
- EasyCal extras include printer kit, label printer and bar code reader
- Premium test lead set supplied (option 9796)



Pressure Modules

Pressure controllers, calibrators and digital gauges



7030B Automatic Pressure Controller

A high speed pressure controller/calibrator suitable for wide workload calibration of pressure devices such as transmitters, sensors and gauges. The module provides precision, control and speed for low and mid range pneumatic testing applications.

- 3 possible configurations: -1 to 3bar, -1 to 10bar or -1 to 20bar
- Accuracy: 0.02% of full scale
- Gauge, compound or absolute pressure versions
- Control speed: < 10 seconds
- Control stability: 0.003% full scale
- Precision: 0.005% full scale
- Colour touch screen user interface
- EasyCal software compatible
- Barometric reference option for absolute pressure emulation



8030B Automatic Pressure Controller

A high performance pressure calibration module that is internally configured with up to three precision sensors to from vacuum to 225bar. EasyCal software compatible for automated control and readback.

- Ranges from vacuum to 225bar (3250psi)
- Multi sensor module for wide range coverage, configured as per customer requirements
- Gauge, compound or absolute pressure
- Up to 3 integral precision sensors plus barometric reference
- Control stability: 0.003% full scale (of active sensor)
- Precision: 0.005% full scale
- Accuracy: 0.01% full scale of active sensor (0.03% full scale on ranges below 300mbar)
- Barometric reference option for absolute pressure emulation
- Touch screen user interface or EasyCal software compatible for control centre operation



8030B-H Automatic Hydraulic Pressure Controller

A comprehensive solution for automatic hydraulic pressure calibration, consisting of a module that provides the user control interface, and a hydraulic pressure generation system that integrates under the rear of the CalBench. The output of the generation unit is connected to a manifold positioned on the benchtop, with a precision sensor providing 0.01% full scale accuracy for testing applications.

- 400bar, 600bar, 700bar & 1000bar versions
- Complete system with hydraulic pressure generator fitted under bench
- Pressure Media: Water as standard, oil optional
- Control stability: 0.003% full scale
- Precision: 0.005% full scale
- Accuracy: 0.01% full scale
- Touch screen user interface or EasyCal software compatible for control centre operation



8020 Precision Pressure Indicator

An indicator module that can be used with benchtop pressure pumps. Available as a pneumatic or hydraulic version with up to four precision sensors internally fitted to cover a wide range, with 0.01% full scale accuracy per sensor.

- Pressure ranges from vacuum up to 5000bar (70,000psi)
- Multi sensor module for wide range coverage, configured as per customer requirements
- Up to 4 integral precision sensors plus barometric reference
- Pneumatic or hydraulic versions, or combination unit for both
- Gauge, Absolute or Compound versions available
- Accuracy: 0.01% FS per sensor (0.03% FS below 300mbar, 0.05% FS above 1000bar)
- Barometric reference option for absolute pressure emulation
- Touch screen user interface or EasyCal software compatible for control centre operation



RMTEG Digital Pressure Gauge with Regulator

Regulated pressure modules that feature a precision digital gauge for workload pneumatic calibration with ranges up to 300bar. They are ideal for calibration and maintenance of pressure gauges, sensors, transmitters, transducers, switches, and more.

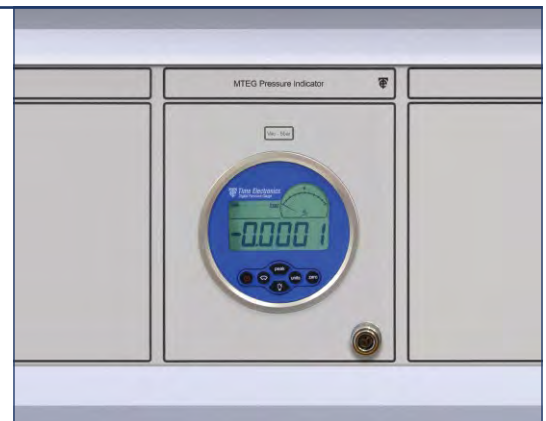
- Pressure ranges from vacuum up to 300bar (4350psi)
- 0.02% or 0.05% full scale accuracy available
- Pneumatic with regulator
- Gauge, Absolute or Compound versions available
- Dual function front panel pressure port for precision output or measurement
- 5 digit resolution
- 3 times per second measure speed
- Fully temperature compensated accuracy
- EasyCal software compatible



MTEG Digital Pressure Gauge

Digital pressure gauge modules that offer a high accuracy solution to pressure calibration with excellent resolution, stability and features to aid the testing process. Suitable for pneumatic and hydraulic calibration applications with an accompanying pump for input.

- Pressure ranges up to 700bar (10,000psi)
- 0.02% or 0.05% full scale accuracy available
- Gauge, Absolute or Compound versions
- 5 digit resolution
- 3 times per second measure speed
- Fully temperature compensated accuracy
- EasyCal software compatible
- Suitable for use with pneumatic and hydraulic benchtop pumps



XTEG Control Centre Pressure Gauges

Pressure measurement modules that are operated via a control centre application or EasyCal software. The internal sensors are high performance, providing accuracy, stability and excellent resolution for testing applications.

- Pressure ranges up to 700bar (10,000psi)
- 0.02% full scale accuracy
- Gauge, Absolute, Compound or Differential versions
- Supplied with pressure control centre application
- Up to 5 digit resolution
- Up to 3 ranges per module with individual measure ports
- Fully temperature compensated accuracy
- EasyCal software compatible
- Suitable for use with pneumatic and hydraulic benchtop pumps



7084 Regulated Output with Analogue Gauge

A regulated pressure output via a basic operation module. It can connect to accurate measurement modules to supplement a pressure source to an application. Or it is suitable for general purpose use with items like blow guns for instrument or device cleaning.

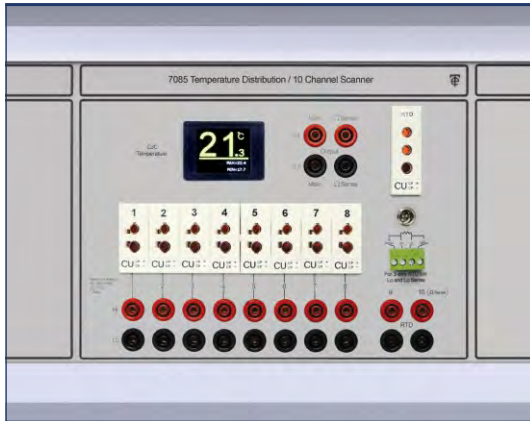
- Ranges available from vacuum to 200bar (2900psi)
- Pneumatic self-relieving regulator
- 63mm anti-shock analogue gauge
- Front panel output connection
- Needle isolation valve
- Simple operation
- Pneumatic input connection from rear of console





Process Modules

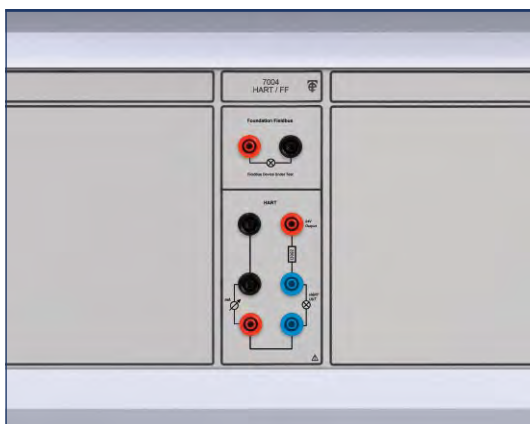
Modules for process loop and temperature applications



7085A Temperature Distribution

A temperature distribution module that allows users to quickly create multi-channel measurement applications. It is designed to switch 8 thermocouple inputs and 1 RTD reference to a common output. The module interfaces with EasyCal software and the multimeter section of the 7051, 8060 or 5065B modules.

- Cold junction temperature display
- Records min/max ambient temperatures
- Interfaces with 8060 or 7051 module and EasyCal software
- Can be used with the 5065B multimeter module and EasyCal software
- Clear visual display of temperature (LCD)
- Suitable for use with dry block calibrators
- Integral 10 channel scanner
- Benchtop version available (7085P)



7002, 7003, 7004 HART and Foundation Fieldbus Modules

Available as two independent modules or a combined Hart and Fieldbus unit as shown. Enables communication with Hart and Fieldbus devices, with an intuitive interface via EasyCal software. The 7002 module and HART section of the 7004 features an integrated 24V DC supply.

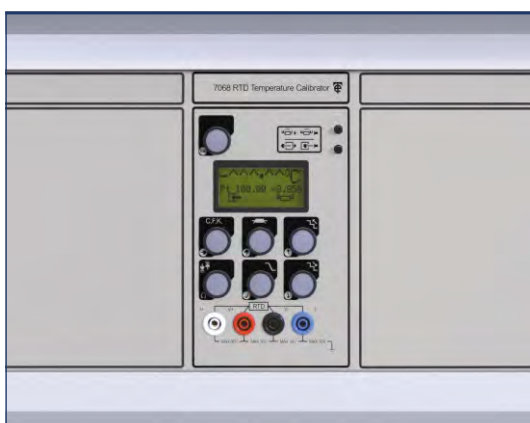
- EasyCal software communication programs for Hart and Foundation Fieldbus
- Provides monitoring of primary values and sensor outputs
- Integrated 24V DC supply on 7002 and HART section of 7004
- Provides conditioned power and network termination
- Device configuration and read back
- Combined module available with Hart and Fieldbus communication (7004)
- Suitable for use with 7051 and 8060 modules (8060 has HART as standard)



7001 PT100 Simulator

A precision simulator for PT100 0.3850 platinum resistance elements used for accurate temperature measurement. High performance metal film resistors are used throughout to ensure 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
- $^\circ\text{F}$ version available (-100 $^\circ\text{F}$ to 1000 $^\circ\text{F}$, $\pm 0.5^\circ\text{F}$ accuracy)



7068 RTD Temperature Calibrator

A calibrator for accurately simulating and measuring the most commonly used RTD probes. The 7068 is specifically designed to automate and to speed up the task of calibrating instrumentation used in the process control industry. It can also be used as a temperature reference for dry block and other precision temperature baths.

- Temperature: Accuracy 0.05 $^\circ\text{C}$ (0.09 $^\circ\text{F}$) / Resolution 0.01 $^\circ\text{C}$ (0.02 $^\circ\text{F}$)
- Resistance: Accuracy 0.03 Ω / Resolution 0.01 Ω
- 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

Decade Boxes

A selection of decade box modules can be fitted to the CalBench. These are based on the Time Electronics popular range of resistance, capacitance and inductance models. Resistance modules are suitable for RTD and PT100 applications. Each module features colour coded digits and universal 4mm safety terminals that can accept fixed shroud 4mm plugs, standard 4mm plugs, fork terminals and bare wires.

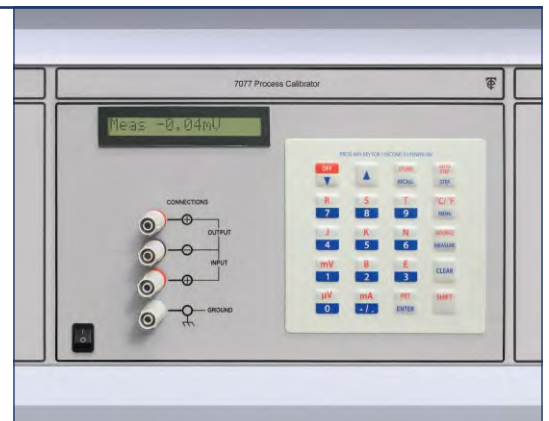
- 1040B: 8 Decade Wide Range Resistance Box (0 to 100M Ω / 1 Ω steps)
- 1051B: 8 Decade Low Ohm Resistance Box (0 to 1M Ω / 0.01 Ω steps)
- 1041B: 5 Decade Low Ohm Resistance Box (0 to 1k Ω / 0.01 Ω steps)
- 1070B: 5 Decade Capacitance Box (0 to 10 μ F / 100pF steps)
- 1071B: 7 Decade Capacitance Box (0 to 100 μ F / 10pF steps)
- 1053B: 4 Decade Inductance Box (0 to 10H / 1mH steps)



7077 Process Calibrator

A key-press operation module that combines source and measurement functions for thermocouples, RTDs, mV and mA. The 7077 features a memory storage function that holds frequently used values.

- Measures/simulates 8 thermocouple types, PT100-RTD, mV and mA
- Displays units in $^{\circ}$ C, $^{\circ}$ F, μ V/mV, or mA
- Accuracy: Source 0.02% of range, 0.5 $^{\circ}$ C. Measure 0.05% of range, 0.7 $^{\circ}$ C
- Automatic or manual cold junction compensation
- 10 point memory recall feature
- Inching and step functions with time configurable steps
- Process loops 4 to 20mA and 0 to 50mA
- 24V loop drive voltage



7069 Voltage/Current/Loop Calibrator

A voltage, current, and process loop calibrator for ideal for process control applications. The 7069 combines digital accuracy with simple analogue control and is well suited to plant operations such as powering control loops.

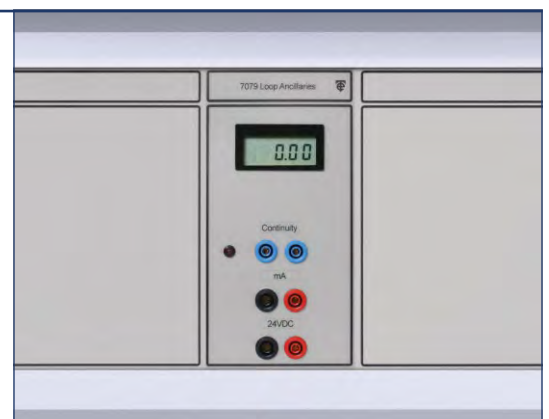
- Source/measure voltage and current
- 3 source ranges: 0 to 22mA and 0 to 22V
- 3 measure ranges: 0 to 70mA and 0 to 50V
- Accuracy 0.02% of range
- Transmitter simulator/sink loop control
- Output steps and ramps
- Fine adjustment (inching)



7079 Loop Ancillaries Calibrator

A simple operation module suitable for powering process instrumentation such as pressure transmitters that require an external loop supply (4-20mA). An RS-232 connection is available at the rear of the console enabling communication for data read back using EasyCal calibration software.

- Loop measure 0 to 199.99mA
- Continuity test (100 Ω threshold or below - audible/visual indication is given)
- 24V output for powering 4 - 20mA loops
- 4.5 digit display
- Overload protection to loop
- Supply line protection by F250mA fuse
- RS-232 connection - Allows read back with EasyCal software





AC Power Supply Modules

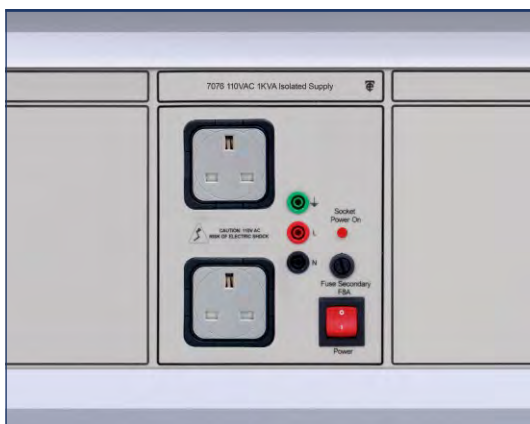
Fixed and adjustable AC power modules



7082 Mains Power Controller

Fitted as standard in the top right section of every CalBench primary console, the 7082 is a single-phase unit equipped with 2 sockets and digital voltage meter.

- Mains power on/off switch to provide isolation for the entire bench
- Lighting switch to provide separate control of the worktop lighting
- 16A overload protection for bench. Residual current protection 0.03A
- 2 front panel earthed sockets (4 under console earthed sockets)
- Digital mains voltage meter (0 to 300V)
- 2 filters (mains and lighting) fitted to attenuate mains spikes
- Cooling via 2 mains powered 80mm extraction fans fitted internally
- PE socket is provided for wrist bands, mats, etc
- All metallic parts of the bench are connected to mains earth
- User selectable socket types: UK, Euro Schuko, Indian Round Pin, US, etc



7076 Fixed 110V AC Power Supply

A 110V AC fixed power supply module that provides an isolated supply from the mains input of the CalBench. It offers a solution to users with 220V AC systems that require a separate 110V AC supply. Output is via two mains sockets or 4mm shrouded safety sockets, and socket types are user selectable.

- Isolated supply: 110V AC up to 8A
- Output connection via 2 mains output sockets or 4mm shrouded sockets
- Separate grounding socket
- Internal transformer rated at 1kV
- Overload protected by accessible fuses
- RCB protected via main 7082 console supply
- Independent power switch
- User selectable socket types: UK, Euro Schuko, Indian Round Pin, US, etc



7088D Adjustable AC Power Supply

The 7088D provides variable 50Hz AC power up to 10A. The module is simple operation and features two digital meters to monitor the output voltage and current that is available from the front panel socket.

- Variable output voltage from 0 to 110% above line input
- 0 to 265V 50Hz, 10A at 240V input or 0 to 121V 50Hz, 10A at 110V input
- Simple front panel analogue deviation control
- 0 to 10A output current
- Input fuse 10A slow blow
- Output circuit breaker: 10A (medium response time)
- Digital meters with 4 digit resolution & bar graph display
- Socket types selectable, includes 4mm shrouded sockets & PE socket



7046 and 7047 Variable AC/DC Power Supplies

The 7046 and 7047 are primarily variable AC power supply modules with the capability to provide DC power also. Both modules are highly versatile and incorporate various functions and features for increased usability.

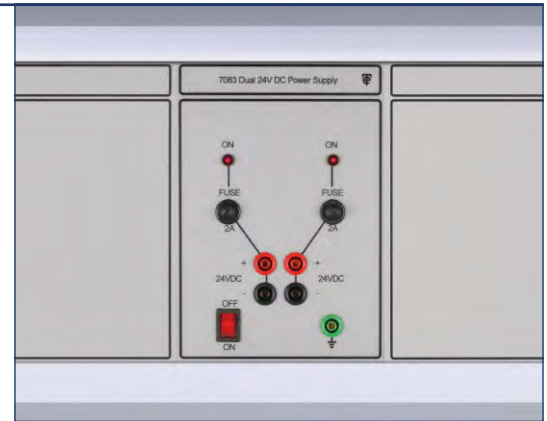
- 7046: AC 500VA, DC 400W
- 7047: AC 1000VA, DC 800W
- 1 to 270V AC output
- Output AC: 7046 = 5A, 7047 = 10A
- 1.4 to +/- 380V DC output
- Output DC: 7046 = 4A, 7047 = 8A
- Frequency 40 to 500Hz
- Measurement and memory functions



7083 Dual 24V DC Power Supply

A dual 24V DC power supply provides two independent 24V (2A) supplies. Both are floating with respect to each other, and ground. It is suitable for powering loop signal instrumentation and other equipment requiring 24V DC.

- 2 independent 24V (2A) floating supplies
- 4mm shrouded output sockets
- Suitable for powering loop instrumentation
- Voltage overload protection
- Current overload protection
- Ripple: Typically 240mV
- Regulation: Typically 2%
- Separate mains earth socket provided



8083 Quad 24V DC Power Supply

A quad DC power supply that provides four fixed independent floating supplies. The module has 2 x 24V DC supplies at 6A each, then 2 x 24V DC supplies with a 250Ω resistor on each for powering HART devices. Operation is simple with each supply having a dedicated control switch, fuse and power LED indicator. Output connections are industry standard 4mm shrouded sockets spaced at 19mm.

- 4 fixed independent floating supplies: 2 x 24V (6A), 2 x 24V with 250Ω resistor
- 4mm shrouded output sockets
- Suitable for powering loop instrumentation
- Suitable for powering HART devices
- Current overload protection
- Voltage overload protection
- Ripple and Noise: 50mV or 1% pk-pk



7087 Quad DC Power Supply

A quad DC power supply with four fixed independent floating supplies in one compact module, suitable for powering loop instrumentation under test. Operation is simple with each supply having a dedicated control switch, fuse and power LED indicator. Output connections are industry standard 4mm shrouded sockets spaced at 19mm.

- 4 fixed independent floating supplies: 6V (20A), 12V (10A), 24V (6A), 48V (3A)
- 4mm shrouded output sockets
- Suitable for powering loop instrumentation
- Ripple and Noise: 50mV or 1% pk-pk of VNOM, whichever is greater
- Current overload protection
- Voltage overload protection
- Supplies can be connected in series to obtain an alternative output voltage



7075 Fixed 110V DC Power Supply

The 7075 provides an isolated DC supply. Output can be pre-specified between 96 and 144 volts with a current capacity up to 7.5A. Output voltage and current are monitored on two analogue moving coil meters, access is from two 4mm shrouded sockets.

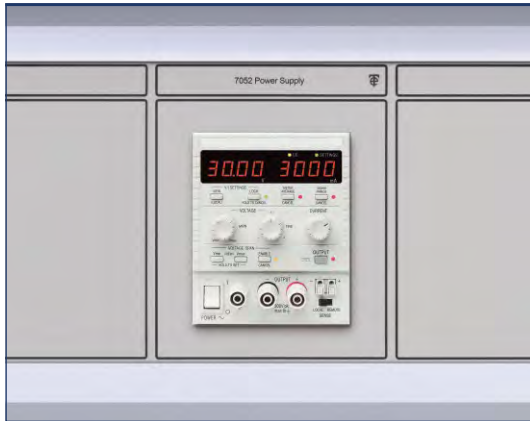
- 96V to 144V preset single fixed output
- Output Current 7.5A max (limit to 800 watts)
- 4mm shrouded output sockets
- Line regulation: $\pm 0.1\%$
- Load regulation: $\pm 0.5\%$
- Output accuracy: $\pm 1.5\%$ of reading
- Output ripple ($> 50\text{Hz}$): $< 50\text{mV rms}$
- Hold up time: $> 5\text{mS}$





Variable DC Power Supply Modules

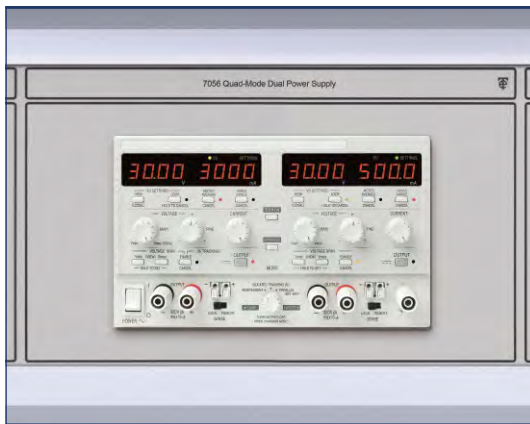
Adjustable DC supplies for supplementary power to applications



7052 Adjustable DC Power Supply

A high performance linear regulated DC power supply with true analog controls and digital functionality. The 7052 is a simple operation module, ideal for process CalBenches requiring variable DC voltages for powering instrumentation.

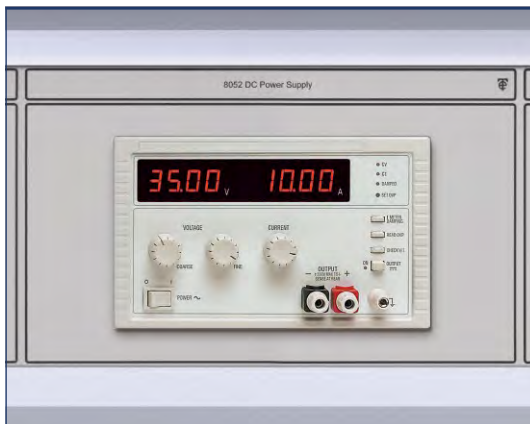
- 0 to 30V, 0.1mA to 3A (90W maximum)
- High accuracy four digit meters have a fixed resolution for consistent readings
- Low current range gives 0.1mA meter resolution and finer low current setting
- S-Lock function - instantly lock settings
- V-Span function - customise the voltage range
- Independent, isolated tracking, ratio tracking
- DC output switches and "view limits" button
- Safety binding post terminals
- Programmable version available (USB or RS-232) - 7052P



7056 Dual Adjustable DC Power Supply

A quad-mode dual output power supply with two identical outputs as per the 7052, with tracking and parallel modes. The module is simple operation, with comprehensive features and functionality that make it well suited to both process and electrical CalBenches.

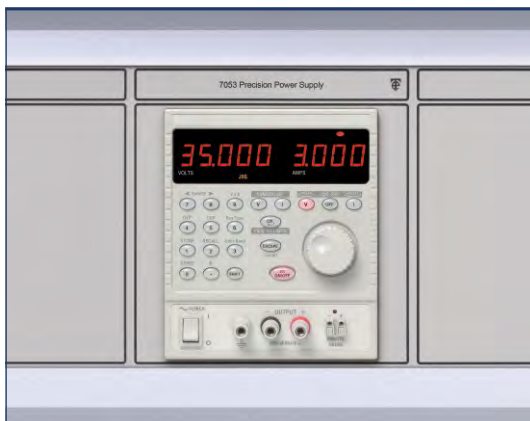
- Dual outputs of 0 to 30V, 0.1mA to 3A (90W maximum)
- Single output of 0 to 30V, 0.2mA to 6A (180W maximum)
- 4 modes: Independent, isolated tracking, isolated ratio tracking, & true parallel
- In parallel mode power is channelled to the Master output for supply up to 6A
- In tracking mode the outputs can be wired in series to generate 0 to 60V
- High accuracy four digit meters have a fixed resolution for consistent readings
- Low current range gives 0.1mA meter resolution and finer low current setting
- Safety binding post terminals
- Programmable version available (USB or RS-232) - 7056P



8052 High Power Adjustable DC Power Supply

A high power variable DC power supply module with conventional analogue controls for precision with simplicity. The coarse and fine voltage controls provide users with fast adjustment with high setting resolution at all levels.

- 0 to 35V, 0 to 10A (350W maximum)
- CV & CI operation with automatic crossover
- Very low noise, excellent transient response
- Comprehensive protection including variable OVP trip
- High setting resolution, remote sense terminals
- High accuracy digital meters, current meter damping
- Coarse and fine voltage controls provide fast setting with high setting resolution
- Safety binding post terminals
- Programmable version available (USB or RS-232) - 8052P



7053 Precision Adjustable DC Power Supply

A DC linear power supply with high accuracy, resolution, stability and noise. Multiple output ranges provide increased current capability at lower voltages. An advanced user interface enables rapid control and precise setting of ranges.

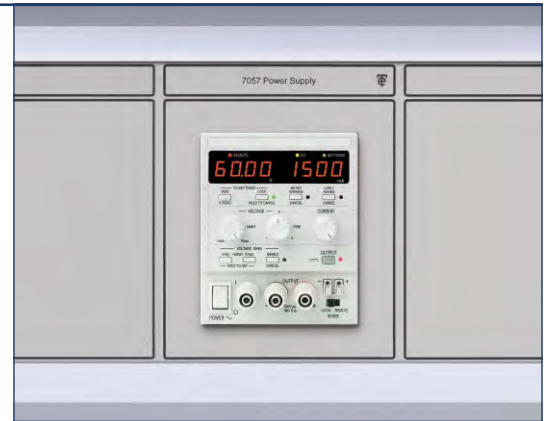
- Single Output, 3 ranges: 0 to 56V, 0 to 2A. 0 to 25V, 0 to 4A. 0 to 56V, 0 to 500mA
- 112W maximum output power
- 1mV setting resolution at all output voltages
- Setting by direct numeric entry or spin wheel
- Multiple non-volatile setting memories with preview
- OVP and OCP trips with alarm output
- Selectable remote sense terminals
- Programmable version available (USB, RS-232 or GPIB) - 7053P



7057 Adjustable DC Power Supply

An advanced linear regulated DC power supply with true analog controls for quick and intuitive adjustment of voltage and current. High resolution controls enable precise setting whilst accurate digital meters provide a clear display of readings.

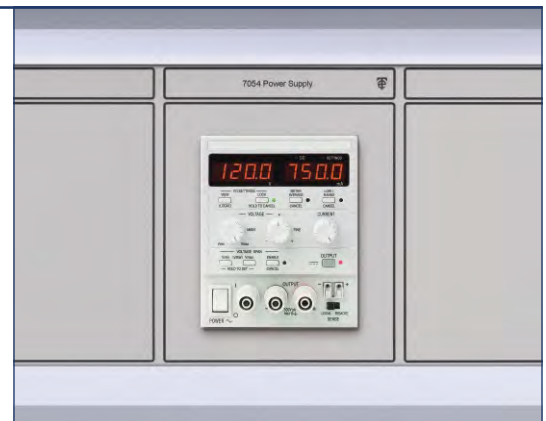
- 0 to 60V, 0.1mA to 1.5A (90W maximum)
- High accuracy four digit meters have a fixed resolution for consistent readings
- Low current range gives 0.1mA meter resolution and finer low current setting
- S-Lock function - instantly lock settings
- V-Span function - customise the voltage range
- Independent, isolated tracking, ratio tracking
- DC output switches and "view limits" button
- Safety binding post terminals
- Programmable version available (USB or RS-232) - 7057P



7054 High Voltage Adjustable DC Power Supply

A high voltage linear regulated DC power supply for up to 120V. The 7054 combines smart analog controls with digitally based convenience features, higher power density, and superior performance.

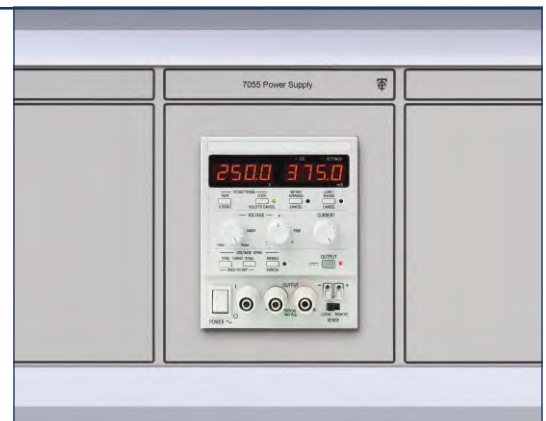
- 7054: 0 to 120V / 0.01mA to 750mA (90W maximum)
- High accuracy four digit meters have a fixed resolution for consistent readings
- Low current range gives 0.1mA meter resolution and finer low current setting
- S-Lock function - instantly lock settings
- V-Span function - customise the voltage range
- Isolated analog remote control of voltage and current
- Low current range and current meter averaging
- Programmable version available (USB or RS-232) - 7054P



7055 High Voltage Adjustable DC Power Supply

A DC power supply with high power density and smart analog controls for voltage up to 250V. The 7055 is a simple operation module with precise setting via coarse and fine adjustment controls.

- 0 to 250V / 0.01mA to 375mA (94W maximum)
- High accuracy four digit meters have a fixed resolution for consistent readings
- Low current range gives 0.1mA meter resolution and finer low current setting
- S-Lock function - instantly lock settings
- V-Span function - customise the voltage range
- Isolated analog remote control of voltage and current
- Low current range and current meter averaging
- Programmable version available (USB or RS-232) - 7055P



M-PSW Multi Range DC Power Supplies

M-PSW modules are single output multi-range programmable switching DC power supplies covering a power range up to 1080W. There are 15 available modules with the combination of 30V, 80V, 160V, 250V and 800V rated voltages, and 360W, 720W and 1080W maximum output powers.

- Voltage Ranges: 30V/80V/160V/250V/800V
- Output Power Rating: 360W/720W/1080W
- Constant Power Output
- C.V / C.C Priority
- Adjustable Slew Rate
- High Efficiency & High Power Density
- LAN, USB, Analog Control Interface





Function Generator Modules

Modules for frequency generation for R&M on the CalBench



7028 Function Generator

A simple operation DDS function generator that can generate waveforms between 0.001Hz and 10MHz with a resolution of six digits and accuracy better than 10ppm. Amplitude is variable between 5mV and 20V pk-pk from a source impedance of 50Ω or 600Ω. Waveform quality remains excellent over the full amplitude range.

- 0.001Hz to 10MHz frequency range
- 6 digits or 1mHz resolution
- 1ppm stability & 10ppm one year accuracy
- Storage for multiple instrument set-ups
- Internal phase continuous sweep, lin or log
- AM, FSK, gated and tone switching modes
- 5mV to 20V pk-pk from 50Ω or 600Ω
- Low distortion, high spectral purity sine waves



7029 and 7031 Function Generators

High performance DDS arbitrary/function generators that offer high quality standard waveforms, high speed arbitrary waveforms, and full pulse generator facilities.

- 1μHz to 50MHz (7031) or 25MHz (7029); 14 digits or 1μHz resolution
- 7029A and 7031A dual channel versions
- Sine, square, ramp, pulse, sin(x)/x, noise, exponential logarithmic rise waveforms
- True pulse generator with variable delay and variable rise/fall
- Arbitrary waveforms of up to 128K points at up to 125MS/s
- Waveform storage using USB flash drives
- Large graphic LCD with simultaneous text and waveform display
- Internal and external digital modulations including AM, FM, PM, PWM, and FSK
- 20mV to 20V pk-pk output from 50Ω; plus multifunction aux. out
- Programmable via USB interface



8023 Function Generator with Frequency Counter

A combined module including a precision DDS function generator that can generate waveforms between 0.001Hz and 10MHz, with six digit resolution and accuracy better than 10ppm. The frequency counter range is from 3Hz up to 120MHz with seven digit resolution, and the input sensitivity is better than 50mV rms.

- 0.001Hz to 10MHz frequency range using DDS
- 6 digits or 1mHz setting resolution
- 1ppm stability and < 10 ppm absolute accuracy for one year
- Sine, square and triangle waveforms
- Low distortion, high spectral purity sine waves
- Simultaneous display of frequency and amplitude/offset
- Seven digit 120MHz frequency counter
- Internal full range phase continuous sweep, linear or log



8026 and 8027 Function Generators with Frequency Counter

DDS function generators that provide a signal source for the output of sine, square (pulse), ramp (triangle), noise and arbitrary waveforms. Additionally both modules feature AM/FM/FSK modulation, sweep, and frequency counter functions, making them a comprehensive solution for repair and maintenance work.

- 8026: 0.1Hz to 12MHz / 8027: 25MHz
- Frequency Resolution : 0.1Hz in total range
- 1% ~ 99% adjustable duty cycle for Square Waveform
- Waveform parameter setting through numeric keypad entry & knob selection
- 3.5" LCD display
- AM/FM/FSK Modulation, Sweep, and Frequency Counter (150MHz) functions
- USB interface for remote control and waveform editing



CC-FRQC Control Centre Frequency Counter

A 6000MHz frequency counter that provides a compact 50mm wide module for connection, and a user interface via a dedicated software application that is operated on Control Centre module. The CC-FRQC offers wide range frequency measurement for electrical/electronic test work and basic R&M applications.

- Frequency counter for 1 to 6000MHz
- Integral to CalBench, operated via the control centre module
- Resolution: 1 to 40 MHz: 1Hz / 40 to 190 MHz : 10Hz / 190 to 6000 MHz: 100Hz
- Frequency Aging: ± 1.0 ppm/year (using internal reference)
- Sample time: 0.1 to 3 secs (software function set by user)
- Input Impedance: 50 Ω
- Simple operation via a software application with an intuitive user interface
- Can be added to the 7051 or 8060 modules that feature control centres as standard



7027 and 7027A Universal Frequency Counters

High performance, versatile universal frequency counter modules that offer period measurement, frequency ratio, pulse width and event counting.

- 7027: 0.001Hz to 3000MHz / 7027A: 0.001Hz to 6000MHz
- TCXO timebase with better than 1ppm stability
- Frequency, period, pulse width and totalise modes
- Reciprocal counting measurements
- High impedance measurement up to 125MHz
- Low pass filter, attenuator and trigger level control
- AC or DC coupling, 1M Ω /50 Ω selection, polarity invert
- Large 10 digit LCD display with annunciators
- Remote control and readback via USB interface



7048 Synthesised RF Signal Generator

A signal generator with the essential features required for most development, test and service work. The 7048 has high frequency accuracy and stability, wide dynamic range, low phase noise and leakage, and flexible modulation capabilities.

- 150kHz to 2000MHz frequency range
- 10Hz setability, ± 1 ppm frequency stability
- Locking to external frequency standard
- -127dBm to +7dBm amplitude, 0.1dB steps
- AM, FM and Phase modulation, internal or external
- 80 character back-lit LCD display
- Keyboard and rotary encoder control
- Full remote control via RS-232 interface



7058 RF Signal Generator

A precision RF signal generator with a maximum frequency of 6GHz. It is intended for CW (carrier wave) applications where modulation is not required. Low phase noise is matched by low leakage, low residual FM and spuri. The internal timebase has a 1ppm stability, and an external frequency reference can be used for higher precision.

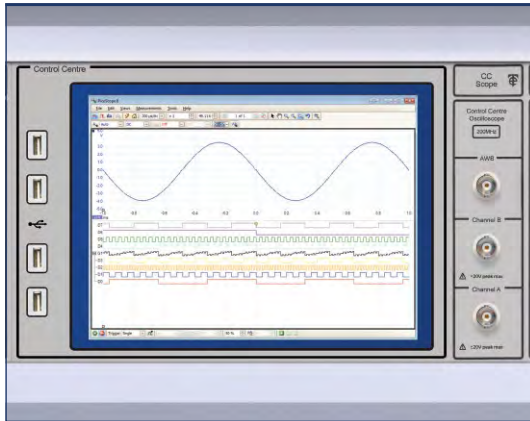
- 10MHz to 6000MHz frequency range
- 10Hz setability, ± 1 ppm frequency stability
- Locking to external frequency standard
- -110dBm to +7dBm amplitude, 0.1dB steps
- Custom level trim of up to 100 points
- 20 character x 4 row back-lit LCD display
- Fast full-range sweep using step or list modes
- Full remote control via RS-232 or USB





Oscilloscope and Digital Multimeter Modules

Scopes and DMMs for precision measurement applications and diagnostics

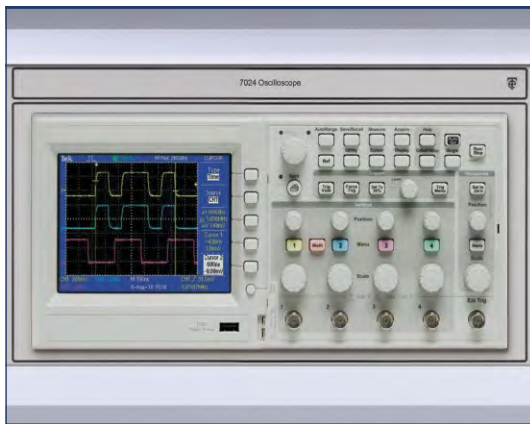


CCSCOPE Modules

The CCSCOPE range provides a convenient solution to housing oscilloscopes within the Time Electronics CalBench. The scope is housed internally and operated through dedicated software on the control centre PC. Input terminals are positioned on a separate module.

- Integrally fitted, operated via the control centre
- Internal arbitrary waveform generator
- Supplied with software
- Advanced digital triggers

Model	Bandwidth (-3dB)	Channels	Sample Rate	Function Generator
CCSCOPE-2205A	25MHz	2	200MS/s	100kHz
CCSCOPE-2206B	50 MHz	2	500MS/s	1MHz
CCSCOPE-2207B	70 MHz	2	1GS/s	1MHz
CCSCOPE-2208B	100MHz	2	1GS/s	1MHz

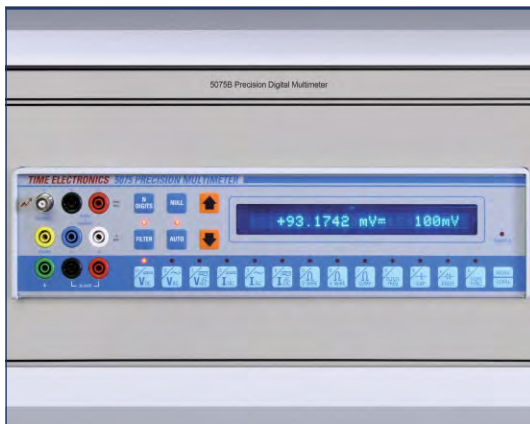


7021 - 7026 Oscilloscopes

Oscilloscope modules with standard features including USB connectivity, automated measurements, limit testing, data logging, and context-sensitive help.

- 5.7" LCD colour display
- External trigger output
- Autoset and signal auto-ranging
- Probe check wizard

Model	Bandwidth	Channels	Sample Rate/Ch	Record Length
7021	70MHz	2	1.0GS/s	2.5k points
7022	70MHz	4	1.0GS/s	2.5k points
7023	100MHz	4	2.0GS/s	2.5k points
7024	200MHz	4	2.0GS/s	2.5k points
7026	500MHz	4	5.0GS/s	10k points



5075B Digital Multimeter

A digital multimeter that combines high performance with simple operation. The 5075B 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
- EasyCal software compatible
- GPIB interface (USB adaptor available)



5065B Digital Multimeter

A versatile 6½ digit multimeter module with 19 measurement functions. Simple operation, stability, and high accuracy make the 5065B an ideal DMM for a variety of applications.

- 6½ digit resolution
- Accuracy 0.005% DC voltage
- RS-232 and USB interface
- Temperature measurements
- SCPI command set
- High sample rate
- EasyCal software compatible



5030B Electrical Tester Calibrator

A precision module designed to calibrate RCD, loop, insulation, earth testers and multifunction installation testers. The 5030B 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.

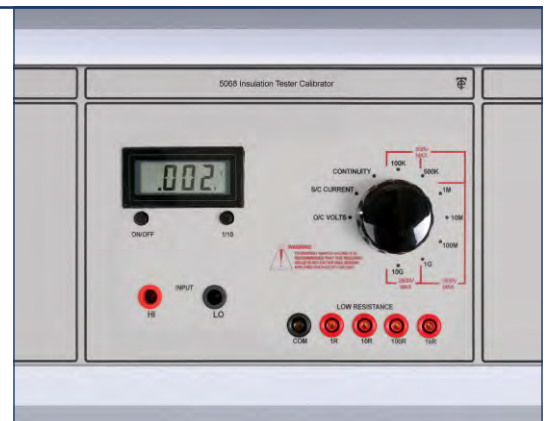
- RCD 3mA to 2500mA, 10ms to 2000ms
- Loop 50mΩ to 1.8kΩ
- Insulation up to 2GΩ / 1kV
- Continuity 0.1Ω to 10kΩ
- Fast and intuitive user interface
- Control via EasyCal software on control centre modules or external PC



5068B Insulation Tester/Megohmmeter Calibrator

A precision module suitable for calibrating general purpose insulation testers and megohmmeters with test voltages up to 2.5kV.

- Insulation resistance from 100KΩ to 10GΩ
- Low ohm verification at 1Ω, 10Ω, 100Ω, 1KΩ
- Accuracy: Resistance 1% of setting. Voltage and Current to 1% of reading
- Up to 2.5kV operation
- 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)
- For higher range up to 10kV the 5069 benchtop unit is available



8029 DC Electronic Load

The 8029 electronic load 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
- 400W continuous dissipation at 28°C / 360W continuous dissipation at 40°C
- High resolution and accuracy for level setting
- Built-in transient generator with variable slew
- Current monitor output for waveform viewing
- Variable drop-out voltage for battery testing
- Programmable via EasyCal software for automation



7033 Precision LCR Meter

An LCR Meter with a basic measurement accuracy of 0.05%, for use in applications that need both high stability and high accuracy test criteria. Frequency coverage from 12Hz to 100kHz provides versatile parameter-to-frequency measurements to the device under test.

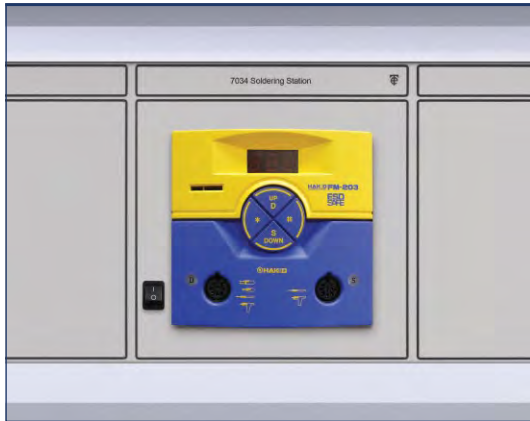
- Test frequency: 12 Hz to 200 kHz
- Continuously variable frequencies
- 0.05% accuracy
- 100 sets memory for save/recall of setup state
- R/Q, C/D, C/R, L/Q, Z/θ, L/R test modes
- Absolute value, Δvalue, & Δ% measure display
- 240 x 128 dot matrix LCD display
- RS-232C interface, connection to control centre modules or external PC





Soldering and Re-Work Modules

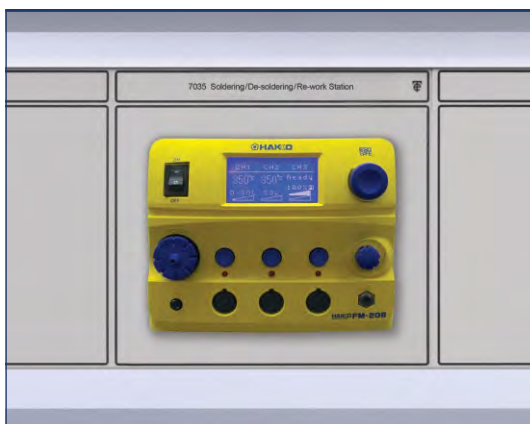
Modules for soldering, de-soldering and re-work applications



7034 High Performance Soldering Station

A high performance industrial station with features that provide quality and process control across a wide range of soldering applications. The station features a programmable sleep mode of 0 to 29 minutes or auto-power shut off at 30 minutes.

- 2 ports (additional hand pieces can be supplied)
- Digital Display for set up and operation
- °C or °F configuration
- LED in hand piece signals the operator when iron is hot
- Programmable sleep mode, from 0-29 minutes, extends tips life
- Temperature lock-out key
- ESD safe
- Auto shut off function
- Supplied complete with iron, tip, tip stand, iron holder with sponge



7035 Soldering, De-Soldering and Re-Work Station

An all-in-one industrial station module with features to improve quality and process control across a wide range of applications. The 7035 has three simultaneously powered ports for soldering, de-soldering and hot air re-work.

- Soldering, de-soldering and hot air rework system
- 3 simultaneous powered ports
- LCD display for set up and operation
- °C or °F configuration
- Manual or auto modes
- Built-in pump for vacuum and air flow (no external pressure source needed)
- Digital airflow indicator
- ESD safe
- Supplied complete with hand pieces, tip, nozzles and workstands



7036 Soldering/De-soldering Station

A soldering module designed for surface mount rework and soldering/de-soldering applications. The 7036 is an entry level station that gives the user the ability to remove most component types without damage to the circuit board or surrounding components.

- Temperature range: 65°C to 450°C (149°F to 842°F)
- °C or °F configuration
- Programmable (2 memory settings) with digital readout
- 12 de-soldering tools included with the kit
- 50W ESD-safe soldering iron and station
- Microprocessor control inside the soldering station
- Includes soldering iron stand and rework tool holder



Soldering Modules: Accompanying Tools & Accessories

A wide range of accessories and extras are available for use with soldering modules. These include additional soldering tips, nozzles, and spares for each module. Also available are benchtop fume extractors, magnifiers with lamps, circuit board holders, and microscopes for inspection, R&D work and electronics.

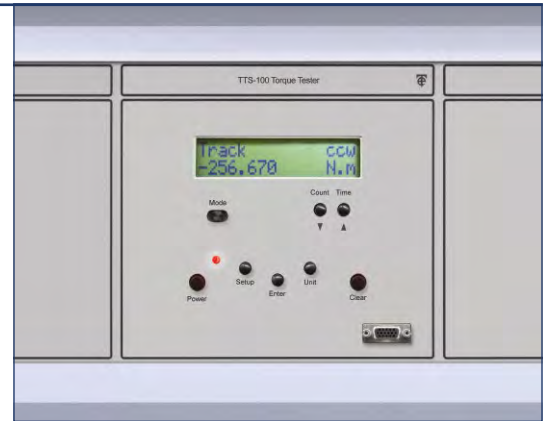
- 7146 solder tip set (individual tips and nozzles available upon request)
- 7147 benchtop fume extraction kit
- 7180 & 7180WC circuit board holders and electronic work centres
- 7181 magnifier with lamp, 7"/175mm diameter lens, 1.75x magnification
- MDM50 laboratory USB digital microscope with monitor
- 7158 compact mobile microscope



TTS-100M Torque Tester Module

A torque calibration module that offers a solution for torque measurement applications. The module provides an easy to use interface that connects to bench mounted torque transducers, to perform the calibration of a wide range of torque tools.

- Calibrate torque wrenches, pulse tools, hand screwdrivers, and power tools
- For use with bench mounted torque transducers and EasyCal software
- System Accuracy $\pm 0.5\%$ of reading from 10% to 100% of full scale
- Seven units of measurement: ozf.in, lbf.in, lbf.ft, cN.m, N.m, kgf.m, kgf.cm
- Selection of three operation modes: Peak, Track, First Peak
- Simple operation with easy to use menus and calibration prompts
- Auto filter frequency selection based upon tool type being used in Peak mode
- Large easy to read eight digit LCD display
- USB interface and EasyCal calibration software compatible



CC10 and CC12 Control Centre Modules

Individual control centres are also available for CalBenches without 7051 or 8060 modules. Each control centre module is a PC with capacitive touch screen that can connect internally to the compatible modules, or be used independently.

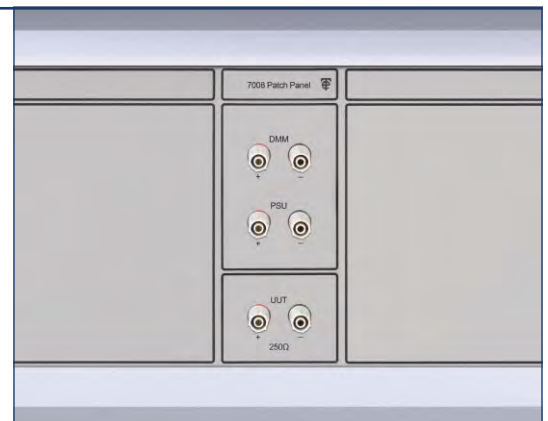
- CC10: Control Centre Module with integral PC and 10.4" touch screen
64 bit Dual Core processor, 4GB RAM, 60GB hard drive, Windows 8 OS
- CC12: Control Centre Module with upgraded integral PC and 12.1" touch screen
64 bit Dual Core processor, 16GB RAM, 120GB hard drive, Windows 8 OS
- Ports: Front panel: 4 x USB / Rear of console: 2 x USB and 2 x RS-232
- Connects internally to programmable CalBench modules
- EasyCal software and PC accessories optional
- CC12A: Control Centre - Upgrade of 7051/8060 PC section to CC12 specification



7008 Patch Panel Module with HART Resistor

A connectivity module that is designed to provide a convenient and easy method of connecting transducers under test. It is ideal for use with multifunction and process calibrator modules, supplementing power supplies and devices under test. The inter-connectivity it provides helps users maintain a tidy workspace on the bench.

- Provides convenient connection for transducers under test
- Connect DC supply modules to the 7008 to supplement power to the loop
- Connect transmitters to the 7008 and calibrator modules (source)
- Connect the 7008 to a multimeter or process module for measurement
- 250 Ω resistor
- Benchtop version 7112 available (supplied as standard with 7051)



8006 and 8007 Power Supplies with Solenoid Test

Power supplies with solenoid test functions that are simple operation, providing either momentary or continuous voltage output. The modules are used by connecting the solenoid to the terminals and using the push button momentary switch for pulse output to the solenoid. The rocker switch provided enables the module to act as a permanent power supply, with continuous voltage when set to always on.

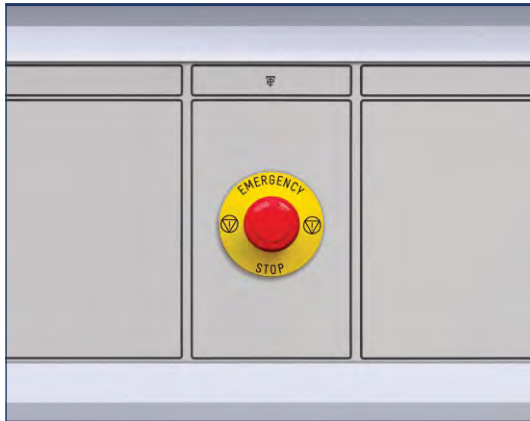
- 8006: 24V DC (2A) / 8007: 115V AC (2A)
- Simple operation using momentary switch
- Continuous output switch
- Easy to read bright LED display voltage meter
- 2A fuse accessible via front panel
- Universal 4mm safety binding terminals
- Other Voltages available upon request





Additional Modules

Emergency switches, sockets, shelves and custom solutions



8003 Emergency Stop Push Button Module

For additional safety, emergency stop switches and push buttons can be added to the CalBench consoles. A fast and simple method of shutting off the bench when required. The 8003 is the standard module, but customer specific types can be fitted upon request.

- Large push button switches with red/yellow colour for visibility
- Resetting design in off position for convenient usage
- High actuation force to prevent accidental activation
- Illuminated and non illuminated versions available
- Benchtop mounted version available



Socket Modules

Socket modules that provide users with extra outputs from the CalBench consoles. Various socket types can be fitted depending on end user location and preference. Additionally perfo mounted power strips and tabletop mounted angled power ducts can be ordered as part of the CalBench system.

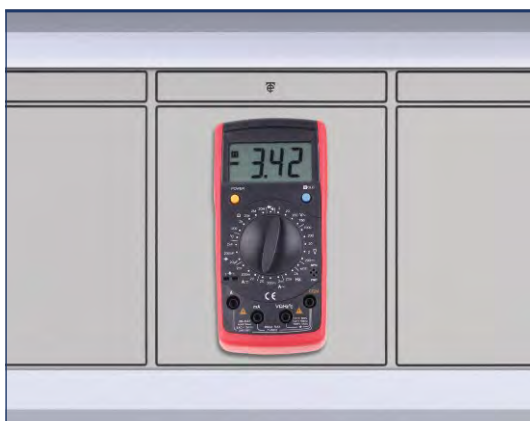
- Dual and quad socket modules
- Various types: UK 13A, Euro Schuko 16A, Indian Round Pin 15A, US 15A and others
- Available with on/off switches
- IP66 rated sockets with splash-proof plastic covers upon request
- Perforated panel mounted socket strips
- Tabletop mounted power ducts fitted at the base of perforated panel



Shelf Modules

Shelf modules can be utilised when there is available space in the primary or secondary consoles. A steel frame partitions the shelf from operational modules, and the available space can be used for pick up bins, tools and component storage.

- Shelf modules with steel frame section
- Built to size depending on space availability
- Suitable for housing storage bins
- Shelves are RAL7035 light grey colour matching CalBench consoles



Custom Design Modules

Specific devices and instruments can be custom fitted into the bench as per customer requirement. This allows the user to integrate a familiar instrument into the workstation. Additionally modules for communication and networking ports can be fitted to CalBench, providing necessary connectivity for PC's, phone lines and more.

- External instruments such as handheld multimeters, analysers, and more
- Fitted instruments can be configured to communicate with EasyCal software
- Portable instruments can be fitted to perforated back panel for easy removal
- Empty module space can be made into shelving for tool storage
- Connectivity modules with communication ports



Benchtop and Portable Equipment

Accompanying Instruments and equipment for testing applications and service work

- Pressure Pumps and Digital Gauges
- Pressure Calibration Accessories
- Line Pressure Tools and Equipment
- Dry Block Calibrators and Extras
- Process Calibration Instruments
- Additional Calibration Instruments
- Soldering Stations and Accessories
- Service Kits and Extras





Benchtop Pressure Calibration Pumps

Pressure pumps for input to calibrator and gauge modules



7190 and 7191 Low Range Pneumatic Calibration Pumps

Low range pressure pumps that provide precision and stability during low pressure applications. Adjustment resolution is up to 0.0001mbar (0.01Pa) and excellent stability is achieved by an isothermal bellows chamber that reduces the possible heat effects such as environmental temperature change.

- 7190: 0.4bar vacuum to 0.4bar pressure (6psi vacuum to 6psi pressure)
- 7191: 0.95bar vacuum to 4bar pressure (14psi vacuum to 60psi pressure)
- Fine Adjustment control: 0.0001mbar (0.01Pa)
- Easy to use with smooth pressure generation and high pressure stability
- Dual pressure source (double output manifold)
- 7190 – W165 x H145 x D245mm, weight 1.6kg
- 7191 – W275 x H145 x D260mm, weight 2.8kg



7193, 7193A and 7193B Pneumatic Calibration Pumps

Compact and easy to use pressure pumps that provide a highly stable dual pressure source ideal for reference calibration with accompanying precision modules or digital pressure gauges.

- 7193 Pneumatic Pump – 0.95bar vacuum to 40bar pressure (600psi)
- 7193A Pneumatic Pump – 0.95bar vacuum to 70bar pressure (1000psi)
- 7193B Hydraulic Pump – 0.95bar vacuum to 100bar pressure (1500psi)
- Easy to use with smooth pressure generation and high pressure stability
- Dual pressure source (double output manifold)
- High pressure resolution (0.1mbar)
- Fine pressure adjustment
- Dimensions / Weight: W198 x H140 x D315mm, weight 2.7kg



7194 and 7194A High Range Pneumatic Calibration Pumps

Benchtop pressure pumps that achieve high pressures with minimal effort. The long pump lever with ergonomic grip enables smooth generation to high output pressures. A high quality screw press is incorporated to allow fine adjustment settings within 0.1mbar (10Pa). The integrated dual manifold design enables simple and fast connections to both the CalBench module and device under test.

- 7194 Pneumatic Pump – 0.95bar vacuum to 140bar pressure (2000psi)
- 7194A Pneumatic Pump – 0.95bar vacuum to 200bar pressure (3000psi)
- Easy to use with smooth pressure generation and high pressure stability
- Dual pressure source (double output manifold)
- Fine pressure adjustment, resolution 0.1mbar
- Dimensions / Weight: W270 x H178 x D450mm / Weight 7.5kg



7195 and 7195A Hydraulic Pressure Calibration Pumps

Compact hydraulic pumps that generates vacuum to highly stable pressures with 0.001bar adjustment fineness. Two output ports enable simple connection to the UUT and pressure module during calibration.

- 7195: 0.85bar vacuum to 700bar (10,000psi)
- 7195A: 0 to 1,000bar (15,000psi)
- For use with oil or deionized water
- High pressure can be generated easily, increased and decreased smoothly
- Dual pressure source (double output manifold) with hand-tight quick connectors
- Ideal for use as gauge comparator with pressure module as reference
- Built-in isolation valve provides increased protection for the pump
- 7195 Dimensions / Weight: W198 x H140 x D290mm / Weight 3.2kg
- 7195A Dimensions / Weight: W215 x H162 x D345mm / Weight 3.2kg



7090 and 7095 Handheld Pressure Calibration Pumps

Pneumatic and hydraulic calibration pumps that combine high performance with durability. Features include contoured cushioned handles for comfort and dual o-rings on all pistons to ensure zero leakage. Designed for arduous use in the field, these pumps provide a solution to on site checking of various pressure devices.

- 7090 – Pneumatic pressure to 40bar (600psi), Vacuum to -950mbar
- 7095 – Hydraulic pressure to 700bar (10,000psi)
- Non-oil based lubricant used on all moving parts
- Both supplied as kits with carry case, hoses, and fittings
- 7090 – H200 x W125mm, weight 0.91kg
- 7095 – H240 x W125mm, weight 1.4kg
- Digital pressure gauges available



7117 and 7118 Portable Pressure Pumps

Pocket sized pumps that provide a simple and compact solution to field pressure generation. Each pump combines a smooth and controlled operation with rugged design, making them the ideal tool for site pressure testing work.

- 7118 – Pneumatic Pressure: 0 to 7bar (100psi)
- 7117 – Vacuum: 0 to 950mbar (28" Hg)
- Non-oil based lubricant used on all moving parts
- Dual o-rings on all pistons ensure no leakage
- 7118 – H220 x W40mm, weight 0.70kg
- 7117 – H220 x W40mm, weight 0.70kg
- Digital pressure gauges available



TE Gauge: Digital Pressure Gauges

A range of digital pressure gauges are available to accompany the CalBench system. Each gauge is robust design with simple controls and various features for excellent usability. Suitable for use in the lab or with handheld pumps in the field.

- Pressure 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
- Unique self-protection capability technology
- 3 times per second measure speed
- Fully temperature compensated accuracy
- RS-232 connection, EasyCal compatible for readback on control centre modules
- H178 x W112 x D45mm, weight 0.6kg



7078 Auto-Ranging Digital Pressure Gauge

A high performance digital pressure gauge that has the ability to auto-range and maintain a 0.1% of reading accuracy from vacuum to 200bar. The 7078 eliminates the need for multiple gauges to span many different ranges, solving the problem of over ranging errors.

- Vacuum to 200bar (3000psi), ideal for use with 7194A benchtop pump
- 0.1% of reading accuracy
- 9 engineering units – bar, psi, Hg, kPa, inHg, inH2O, Kg/cm2, mmHg, mbar
- High accuracy silicone piezo resistive sensors
- Reads both gauge and absolute pressure
- Easy to read backlit mono display with full 1 line alphanumerics
- Compact and robust with protective rubber housing
- H165 x W115 x D55mm, weight 0.88kg





Pressure Calibration Accessories and Extras

Manifolds, UUT stands and adaptor kits to aid calibration, and additional instruments



7198 Pressure Calibration Accessories Kit

A comprehensive set of pressure accessories to accompany pumps, gauges, and calibrators. The 7198 kit includes adaptors, fittings, connectors, and hoses to provide a quick solution to pressure component requirement in both the field and laboratory.

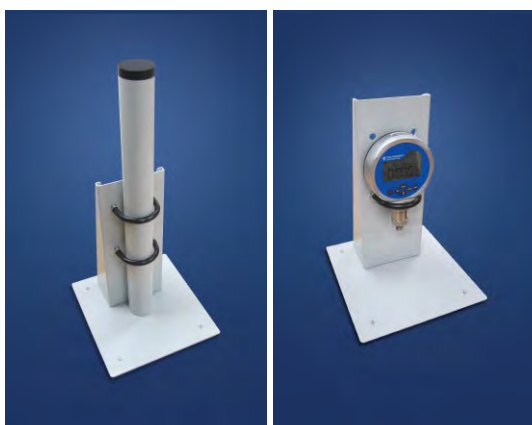
- Adaptors for metric, BSP parallel, taper threads, and NPT (male and female)
- Coupling connectors included allow any two adaptors to be connected together
- 1/4 BSP hose fittings for pushfit 4mm and 6mm external diameter hose
- Nylon hose set with quick release connectors for low pressure connections
- Additional 4mm and 6mm nylon hoses to build up custom lengths as required
- Minimes 1620 test point adaptors and micro bore hose for high pressure
- 10" adjustable spanner and PTFE tape
- Kit supplied in adaptor case with partitioned top section for hoses and extras
- Available as BSP version (7198) or NPT version (7198-NPT)



7161P and 7161H Pressure Calibration Manifolds

Benchtop pressure manifolds that provide four additional test ports during pressure calibration. The 7161P can be used for pneumatic pressure up to 200bar (3000psi), and the 7161H for hydraulic pressure up to 700bar (10,000 psi). They provide an ergonomic and simple set up for positioning pressure gauges, transmitters and other pressure devices for testing on the CalBench.

- 7161P: Pneumatic, for use from -1 to 200 bar (-15psi to 3000psi)
- 7161H: Hydraulic, for use from -1 to 700 bar (-15psi to 10,000psi)
- Connections: Finger-tight connectors (4 on top and 1 on base for input)
- Connection Type: 1/4" BSP as standard. 1/4" NPT, 1/2" NPT & M20 available
- Distance between quad ports: 205mm
- Dimensions: W265 x H163 x D335mm (including feet and ports)
- Weight: 5.88kg



TXG-STD Benchtop Stand for Transmitters and Gauges

A calibration accessory for mounting transmitters and gauges under test. It provides a sturdy base with clamping sections that hold the supplied tube for mounting transmitters. The tube is easily removed to provide a convenient method of holding pressure gauges, with supplied spring clips for securing larger gauges.

- Multi purpose instrument stand for easy mounting of transmitters and gauges
- Benchtop design with rubber feet and sturdy base
- Supplied with tube for transmitter mounting
- Mounting section for gauges, with rear spring clip fixings for securing larger units
- Designed for ergonomic use, with positioning of the device under test at eye level
- Transmitter mounting configuration: W240 x H530 x D260mm, 2.54kg
- Gauge mounting configuration: W240 x H340 x D260mm, 1.14kg



Additional Pressure Instruments: Dead Weight Testers

High accuracy and robust dead weight testers that are the primary standard for pressure calibration. Each model is supplied with software that allows the users to correct for the effects of environmental factors such as gravity and temperature and to determine the precise pressure generated by the dead weight testers.

Model	Type	Range	Standard Accuracy	Class 'A' Accuracy
7890	Hydraulic	1 to 700bar	0.015%	0.007%
7891	Hydraulic	1 to 1200bar	0.015%	0.007%
7892	Hydraulic	1 to 2600bar	0.02%	0.008%
7893	Pneumatic	1 to 120bar	0.015%	0.006%



7149 Electrical Vacuum Pump

An electrical pump that pulls 950mbar vacuum for use with regulated pressure modules in testing applications. A housing and connectivity option fits the 7149 in a sound proofed casing that ergonomically positions under the CalBench. With this option an on/off switch for the pump is added to the 7082 mains control module.

- Max vacuum: 950mbar (28.0"Hg)
- Free-air capacity: 0.85 cfm (24.0 L/min)
- Shaded-pole fan-cooled motor
- Thermal overload switch
- Heads connected in series for greater vacuum
- Wetted parts made of aluminum stainless steel
- Dimensions: L305 x W140 x H260mm
- 7149-HCO: Housing & connectivity option for the 7149 and CalBench (shown)



COMP24B Compressor

A compact high pressure compressor for supplying up to 26bar (400psi) to calibration benches and pressure instruments. It is ideal for the supply of regulated 20bar modules and the 7030B/8030B automatic pressure calibrator modules.

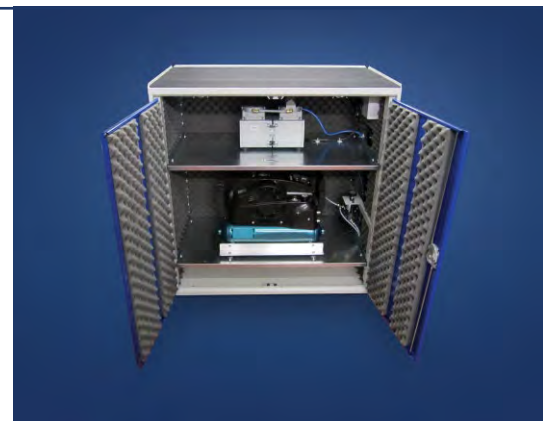
- Output Power: 2.5 hp
- Tank Capacity: 6.2 litres
- Max Pressure: 26 bar (400psi)
- Oil-less system
- Equipped with 4 discharge ports, for high and normal levels of pressure
- Dimensions/Weight: L476 x H375 x W507 mm / Weight: 36kg
- Can be mounted in low noise pressure cabinet, see model 7162A



7162A Self Sufficient Vacuum/Pressure Cabinet

A cabinet that houses an electrical vacuum pump and 25bar compressor for self sufficient pressure solution for CalBench modules 20bar and under. The cabinet is configured for CalBench module supply with regulation to the required pressures, and sound proofing features mean it can be located inside the lab or workshop.

- Internally fitted COMP24B pressure compressor
- Internally fitted 7149 electrical vacuum pump
- Max Pressure: 26 bar (400psi)
- Max vacuum: 950mbar (28.0"Hg)
- Heavy duty steel cabinet, with soundproofing foam lining
- Custom built with regulation to ordered CalBench pressure modules
- Dimensions: W1000 x H1000 x D550mm



7160 High Range Pressure Compressor

The 7160 is a high pressure compressor capable of generating up to 330bar and supplying the needs of the CalBench and other pressure devices. The compressor generates dry, clean air for testing requirements.

- Pre-set output: Between 200 and 330bar (set depending on range requirement)
- Compact stationary system
- 3 stage piston compressor
- 5 litre internal pressure reservoir
- Integral filter for clean, dry air
- Automatic condensation outlet feature
- Simple operation & minimal maintenance
- Dimensions/Weight: W940 x H400 x D630mm / Weight: 65kg
- Optional pressure distribution panel (7163) for regulation to module requirements





Dry Block Calibrators and Accessories

For automated calibration of temperature devices when used with CalBench modules



8070, 8071, 8072, 7073 Dry Block Calibrators

Precision compact dry block calibrators for calibration of RTDs, thermocouples, thermoswitches, thermistors, and other common temperature sensing devices.

- Interchangeable inserts
- Multi-hole insertion tubes
- MVI Mains Variance Immunity
- Multi information display
- Auto stepping
- EasyCal software compatible

Model	Temp Range	Accuracy	Stability	Immersion depth	Insert diameter
8070	-25 to 155°C	0.3°C	0.04°C	120mm	26mm
8071	28 to 350°C	0.45°C	0.05°C	115mm	26mm
8072	28 to 660°C	0.85°C	0.08°C	115mm	26mm
7073	300 to 1205°C	2.0°C	0.1°C	110mm	27mm



7860 and 7862 Dry Block Calibrators

The 7860 and 7862 offer enhanced specifications with the ease of operation and functionality. Models can be controlled via EasyCal for automated testing applications.

- Interchangeable inserts
- Multi-hole insertion tubes
- MVI Mains Variance Immunity
- Multi information display
- Auto stepping
- EasyCal software compatible

Model	Temp Range	Accuracy	Stability	Immersion depth	Insert diameter
7860	-23 to 155°C	0.18°C	0.01°C	160mm	20mm
7862	33 to 650°C	0.45°C	0.04°C	150mm	30mm



7870 and 7872 Dry Block Calibrators

This combination of models give coverage of a wide temperature range from -90 to +660°C. The 7870 is an efficient and stable unit with dual zone technology for fast and secure cooling and heating temperature changes.

- Interchangeable inserts
- Multi-hole insertion tubes
- MVI Mains Variance Immunity
- Stability indicator
- Auto stepping
- EasyCal software compatible

Model	Temp Range	Accuracy	Stability	Immersion depth	Insert diameter
7870	-90 to 125°C	0.30°C	0.03°C	190mm	30mm
7872	33 to 660°C	0.30°C	0.015°C	200mm	25mm



7880 and 7882 Dry Block Calibrators

The 7880 and 7882 are high performance dry block calibrators that offer users a range of functions and features combined with excellent specification. The 7880 is an ultra cooler model for applications down to -100°C.

- Interchangeable inserts
- Multi-hole insertion tubes
- MVI Mains Variance Immunity
- Stability indicator
- Auto stepping
- EasyCal software compatible

Model	Temp Range	Accuracy	Stability	Immersion depth	Insert diameter
7880	-100 to 155°C	0.30°C	0.03°C	190mm	30mm
7882	33 to 700°C	0.29°C	0.015°C	200mm	30mm

Dry Block Calibrator Inserts and Extras

Each dry block calibrator is supplied as standard with a pre-drilled multi hole insert and a blank insert. In addition to these Time Electronics offer a range of insert packs with various hole sizes.

- Each dry block calibrator supplied with a multi hole and blank insert as standard
- Insert pack options available for each model
- Metric and imperial types
- Custom hole size inserts
- Insulation plugs, cleaning brushes, thermal protection shields available upon request



7074 Infrared Temperature Calibrator

A compact instrument designed for rapid calibration of infrared thermometers. The unit features a 36mm black body target that provides the optimum reference point size for reliable calibration and verification applications. The target has an emissivity of 0.96 and a special coating that ensures the unit maintains secure and long term performance when used across temperatures.

- For calibrating IR thermometers
- 28 to 400°C (82 to 752°F)
- Simple operation and intuitive display
- 36mm black body target
- Accuracy $\pm 0.4\%$ rdg $\pm 1^\circ\text{C}$ incl. emissivity
- Feature include stability indicator and programmable auto stepping
- EasyCal software compatible



TERS PT100 Reference Sensors

Precision PT100 reference sensors suitable for use with dry block calibrators and measurement systems for reference calibration of common industrial temperature sensing devices. Each sensor is designed to deliver accuracy and maintain stability, ensuring minimal uncertainty and drift between calibration intervals.

- Precision PT100 sensors, suitable for use with dry block calibrators
- TERS155: -100 to 155°C (-148 to 311°F)
- TERS400: -40 to 400°C (-40 to 752°F)
- TERS650: -45 to 650°C (-50 to 1207°F)
- TERS650A: 90° angled, -40 to 650°C
- 0.05°C accuracy (0.03°C - TERS155)
- Readback via 7051, 8060, 5065, or can connect via the 7085A temperature module
- Supplied with ISO 17025 certificate and carry case



TERS-TC Type K and Type N Thermocouples

Calibrated thermocouples that can be used as a reference for temperature calibration. They are semi-rigid and features include insulated junction to prevent earth loops and a pot seal that allows the transition to 1 metre PVC insulated leads that are supplied as standard.

- Calibrated thermocouples, suitable for use with dry block calibrators
- TERS-TC-K-3-500: Class 2 K type (1100°C), L500mm / Dia 3mm / Iconel 600
- TERS-TC-K-6-300: Class 2 K type (1100°C), L300mm / Dia 6mm / 310 stainless steel
- TERS-TC-N-6-300: Class 1 N type (1250°C), L300mm / Dia 6mm / Microbell
- Insulated Junctions
- 1 metre PVC insulated leads
- Semi rigid type, industrial grade
- Supplied with ISO 17025 certificate with 3 point calibration





Process Calibration Instruments

Benchtop and portable test instruments for process calibration applications



TEG-223 Documenting Process Calibrator

A documenting process calibrator that offers excellent workload coverage in a compact handheld unit that is rugged and easily portable. The unit has source and measure capabilities for mV, mA, ohms, frequency, and pulses. It also simulates and measures 13 thermocouples and 11 RTDs and has HART communication.

- Source and measure mV, mA, resistance & frequency
- Thermocouple simulate & measure (13 types), RTD simulate & measure (11 types)
- Pressure measurement via modules, vacuum to 700bar
- 24V loop power supply and HART communication
- Simultaneous dual reading display
- RS-232 communication
- EasyCal software compatible
- H192 x W100 x D52mm, weight 0.7kg



HC-5150 Intrinsically Safe HART Communicator

A HART communicator with excellent functionality covering the requirements for a wide range of HART devices. The package includes docking station with universal power adaptor, HART lead kit, 250 ohm resistor, rechargeable battery pack, USB cable and SD card, soft carrying case, hand strap, user manual, and CD.

- Reads manufacturers' DDs in their native format, no translations needed
- HART modem communicates with any registered or unregistered HART device
- Enhanced 4.3" diagonal anti-glare touchscreen with color graphic display
- Full QWERTY keyboard for commissioning new transmitters
- On demand help menus and teachable device-specific short cuts
- More than twice the battery capacity of any handheld communicator
- Manage device information through PC connection
- Integrated multi-language support



7085P Benchtop Temperature Distribution Unit

A temperature distribution unit that allows users to quickly create multi-channel measurement applications. It is designed to switch 8 thermocouple inputs and 1 RTD reference to a common output. The 7085P interfaces with EasyCal software and the multimeter section of the 7051, 8060 or 5065B modules.

- Cold junction temperature display
- Records min/max ambient temperatures
- Integrates with 8060+ or 7051 module and EasyCal software
- Can be used with the 5065B multimeter module and EasyCal software
- Clear visual display of temperature (LCD)
- Suitable for use with dry block calibrators
- Also available: Module version (7085A)



Decade Boxes: 1067 Precision Resistance Box

Time Electronics have a wide range of decade boxes for resistance, capacitance, and inductance. The 1067 is suitable for simulating and calibrating PT100 sensors and temperature indicators/meters that use resistive sensors.

- Range 0 to 12k Ω in 10m Ω steps, accuracy \pm 0.01%
- Residual 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
- Temperature Coefficient: 10ppm/ $^{\circ}$ C (20ppm/ $^{\circ}$ C below 1 Ω)
- Dimensions / Weight: W355 x H63 x D89mm / 1.1kg
- Other resistance, capacitance, and inductance decade boxes available



7151 Vernier and Micrometer Calibration Kit

A comprehensive kit for dimensional calibration applications including verniers, calipers, micrometers, and depth gauges. The kit is supplied in two compact carry cases for storage and transport.

- 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 carry cases and calibration certificate



7179A and 7179B Test Weight Sets

Stainless steel F1 standard test weights for calibrating scales and balances. Each kit is supplied in a plastic carrying case with special gloves, tweezers and a dusting brush for care and maintenance.

- 7179A: F1 weight set 1g to 2000g (total weight: 6110g)
- 7179A weights: 1x1,2x2,1x5,1x10,2x20,1x50,1x100,2x200,1x500,1x1000,2x2000g
- 7179B: F1 weight set 1g to 5000g (total weight: 11110g)
- 7179B weights: 1x1,2x2,1x5,1x10,2x20,1x50,1x100,2x200,1x500,1x1000,2x2000,1x5000g
- Housed in plastic carry case
- Supplied with gloves, tweezers and dusting brush



TTS-100 Torque Wrench Calibration System

A torque calibration system that offers a solution for torque measurement applications. The unit provides an easy to use interface that connects to bench mounted torque transducers, to perform the calibration of a wide range of torque tools.

- Calibrate torque wrenches, pulse tools, hand screwdrivers, and power tools
- For use with bench mounted torque transducers and EasyCal software
- System Accuracy $\pm 0.5\%$ of reading from 10% to 100% of full scale
- Seven units of measurement: ozf.in, lbf.in, lbf.ft, cN.m, N.m, kgf.m, kgf.cm
- Selection of three operation modes: Peak, Track, First Peak
- Simple operation with easy to use menus and calibration prompts
- Auto filter frequency selection based upon tool type being used in Peak mode
- Large easy to read eight digit LCD display
- Compact, lightweight unit supplied with carry case



TE-TRQ-LB Loading Benches for Torque Calibration

A calibration system designed for accurate calibration of torque wrenches when used with the TTS-100 tester and accompanying TE-TRQ transducers. There are 3 available loading benches that cover up to 2700 Nm. The instrument ensures accurate torque calibration and pre-setting, independent of human influence or transducer side and end load factors.

- TE-TRQ-LB250F: Loading bench (max 339 Nm / 250 lbf.ft)
- TE-TRQ-LB750F: Loading bench (max 1017 Nm / 750 lbf.ft)
- TE-TRQ-LB2000F: Loading bench (max 2711 Nm / 2000 lbf.ft)
- Bench mounted solution for accurate calibration of torque wrenches
- Use with TTS-100 system & TE-TRQ transducers
- Drive system assures the load application
- Eliminates operator induced test errors
- Easily adjustable for different sized wrenches





Soldering Equipment and Accessories

Soldering stations, circuit board holders, magnifying lamps, and microscopes



7144 Benchtop Soldering Station

A lead free, ESD safe soldering station for laboratory and workshop use. The unit features superior heat transfer and thermal recovery, and both station and supplied iron have a temperature range from 200 to 450°C. The included 70W hand piece uses quick-change composite tips, with a 1.6mm tip supplied as standard.

- Lead free ESD safe soldering station
- Lockout key card prevents accidental temperature settings
- 70W soldering iron with soft ergonomic grip
- Programmable sleep mode, from 0-29 minutes, extends tips life
- Supplied with standard solder tip, soldering tip holder, sponge, heat resistant pad
- Auto shut off function
- Supplied complete with iron, tip, tip stand, iron holder with sponge



7145 Soldering, De-Soldering and Re-Work Station

An all-in-one industrial station equivalent to the 7035 module, with features to improve quality and process control across a wide range of applications. The 7145 has three simultaneously powered ports for soldering, de-soldering and hot air re-work.

- Soldering, de-soldering and hot air rework system
- 3 simultaneous powered ports
- LCD display for set up and operation
- °C or °F configuration
- Manual or auto modes
- Built-in pump for vacuum and air flow (no external pressure source needed)
- Digital airflow indicator
- ESD safe
- Supplied complete with hand pieces, tip, nozzles and workstands



7147 Benchtop Fume Extraction Kit

A single user benchtop fume extractor for use with soldering station modules and stand alone solder stations that are supplied with the CalBench.

- Portable, single user fume extraction system
- Low noise unit
- No external ducting or compressor needed
- Unit easily fits on any bench-top or under-bench
- 12" wide (300mm) plenum
- Innovative adaptor transforms the plenum into an arm
- Powerful 85m³/hr-airflow rate
- Immediate extraction of fumes, particles and vapors
- Two filtration configurations: Heavy duty and Light duty
- LED indicates when the filters are blocked and require replacing



7180 and 7180WC Circuit Board Holders/Work Centres

Circuit board holders that provide a solution to securing and positioning boards during soldering or inspection. The 7180WC is a combination unit with a circuit board holder and base, parts tray, base mount, soldering iron holder, controlled feed, solder/wire holder, and two nib sponges with self-purging slits.

- 7180: Circuit Board Holder (shown)
- 7180WC: Circuit Board Holder and Electronic Work Centre
- Features rotating adjustment positions at the head
- Six lock positions in the vertical plane, and variable height adjustment
- Hold circuit boards up to 12" (304.8mm) wide and up to 0.156" (4mm) thick
- Arms move independently and feature "V" shaped grooves.
- Notches positioned laterally to enable small electronic parts to be held
- 7180WC includes parts tray, iron holder, controlled-feed, wire holder, & 2 nib sponges

7181 Magnifying Lamp

A versatile magnifying lamp with ultra-slim styling, high light output, and extra large lens. The standard model is supplied with a 7"/175mm diameter lens providing 1.75x magnification. The 7181 is ideal for electronic circuitry and soldering work, and can accompany the 7180 and 7180WC circuit board holders.

- 175mm diameter, 1.75x magnifying lens
- 28W natural daylight colour matching tube (120W equivalent)
- Table clamp as standard
- Optional table base
- Additional lenses available (2.25x Lens, 125mm/5" and 4.75x, 40mm/1½")
- Optional floor stand



TL90 and TL91 Magnifying Lamps

The TL90 and TL91 are high performance magnifying lights that utilise 48 premium LEDs to illuminate a 6" wide-angle, distortion-free lens. Innovative balanced-arm technology allows for easy adjustment and precise positioning.

- 48 premium LEDs
- 6" diameter wide-angle, scratch-resistant glass lens
- Spring-balanced arm for easy adjustments
- 3.5d+8d magnification (add-on lens included with both models)
- TL90: 31" arm length / TL91: 39" arm length
- 40% energy savings compared to fluorescents
- 50,000 hours maintenance-free LED life
- 100% to 10% dimming by touch
- ETL/cETL approved



MDM50 Laboratory USB Digital Microscope with Monitor

A unit that combines the functionality of a traditional laboratory microscope with the advantages of newer USB digital microscope technology. Magnification ranges between 20x and 500x in intervals and resolution can be selected from 12MP, 8MP (interpolated) or 5MP and 3MP (optical), depending on quality required.

- 20x to 500x maximum magnification
- 5.0 megapixel camera (12 megapixel interpolated)
- 3.5 inch TFT colour screen shows live or stored images and videos
- Standalone mode with MicroSD card storage and li-ion battery - no PC needed
- AV output for live demonstrations on televisions and projectors
- Battery operated (mains adaptor available)
- Dimensions / Weight: 103 x 146 x 230mm / 757g



7158 Portable Microscope

A lightweight powerful and compact mobile microscope. This palm-size microscope does not require any additional monitors to view objects, giving the freedom to take it anywhere you need magnification. With a full colour 2.8" (71mm) TFT display users can view images in high magnification 10 to 200x, take standard photos, record videos, and output on a PC. It can also be used as a web camera.

- Compact, lightweight portable unit (121 x 56 x 26mm, 130g)
- Magnification: 10x to 200x
- Optical zoom: 10x to 40x / Digital zoom: 5x
- Built-in 2.8" full colour TFT LCD Screen
- Built-in LED illumination
- Allows you to take photos and videos
- Software with measurement function





Service Kits and Extras

Kits for service work and additional maintenance extras



7183 Electronics Service Case

A comprehensive selection of tools for electrical and electronic service work. Including 82 tools and supplied in a rugged case it is an excellent solution for use in the workshop, lab or field.

- Dust and rain proof
- Soaring, scratch-and-slip proof
- Deep drawn housing
- Shock resistant
- Sturdy aluminum frame
- 82 special tools
- 3 removable tool boards
- Double bag on the back
- Trunk floor equipped with sturdy removable partitions



GTK1105 Gauge Repair Tool Kit

A practical selection of tools for gauge repair and maintenance. The GTK1105 includes a hand jack set, screw driver, five reamers, pin vise holder, wiggler and tweezer. Housed inside a compact, folding carry case that makes it easily transportable for both workshop or field service work. The kit is an ideal accompanying product for pressure calibration benches, when gauge repair or maintenance is required before or after calibration.

- Practical, compact gauge repair tool kit
- Hand jack set, screw driver, five reamers, pin vise holder, wiggler and tweezer
- Supplied in carrying case
- Suitable accessory for process and pressure CalBenches



8002 CalBench Environmental Monitoring System

The 8002 is a dedicated environmental monitoring system for use in workshops and laboratories where CalBenches are utilised. It is designed to measure temperature, relative humidity and barometric pressure. The unit is supplied as a mountable system for the CalBench perforated panel, but acts as an integrated solution with communication to the control centre module or external PC to obtain readings.

- Environmental monitoring system for CalBench
- Measures temperature, humidity and barometric pressure
- Mounts on the CalBench perforated panel
- Connects to Control Centre module for data logging
- Supplied with logging software and EasyCal compatible
- Allows users to place environmental information on calibration certificates



Additional Equipment and Options

Various workshop equipment, test tools and kits can be supplied as per user requirement. Other products in the CalBench range include vices, ESD equipment, tool kits and laboratory furniture and fittings.

- Wide range of solutions based on end user requirements
- ESD workstation kits for CalBench
- ION-B benchtop ionising air blower
- ICTL16 handheld linear IC tester
- ICTD40 handheld 40 pin digital IC tester (shown)
- 7150 heavy duty vice with turntable
- Workshop furniture and fittings (see lab design and supply section)



Calibration Software

EasyCal: The comprehensive solution to calibration work and management

Introduction to EasyCal
Automating the Calibration Process
The Benefits of Using EasyCal
Overview of Applications and Features
EasyCal Networking





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 is supplied as standard with the 7051 and 8060 control centre modules or can be installed and used on separate computers in the test facility. User friendly features and controls aid the process to decrease calibration times. EasyCal can also read back values and data from compatible pressure, process and electrical modules, 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.

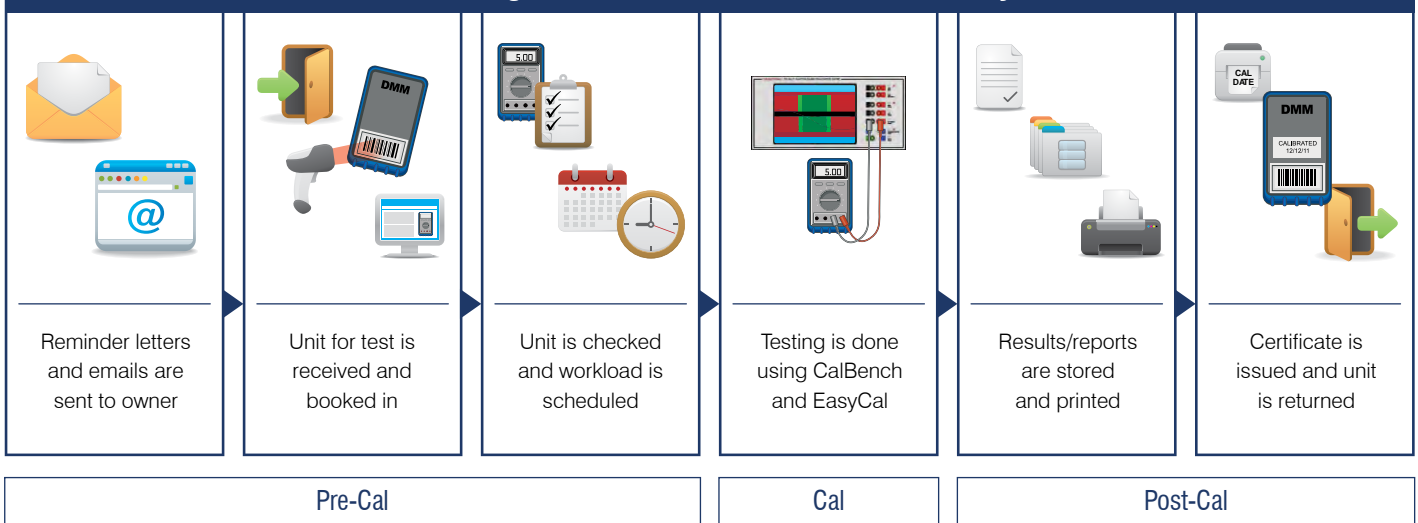
EasyCal is also designed for universal testing applications and can cover a wide range of disciplines. Users can calibrate and verify various instruments and devices: electrical and electronic; level, pressure, and flow; temperature and loop; mechanical and dimensional.

Features

- Supplied as standard with the 7051, 7051+ and 8060+ modules
- Communicate with compatible CalBench 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 and wizards
- 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



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 organization 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 pre formatted 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

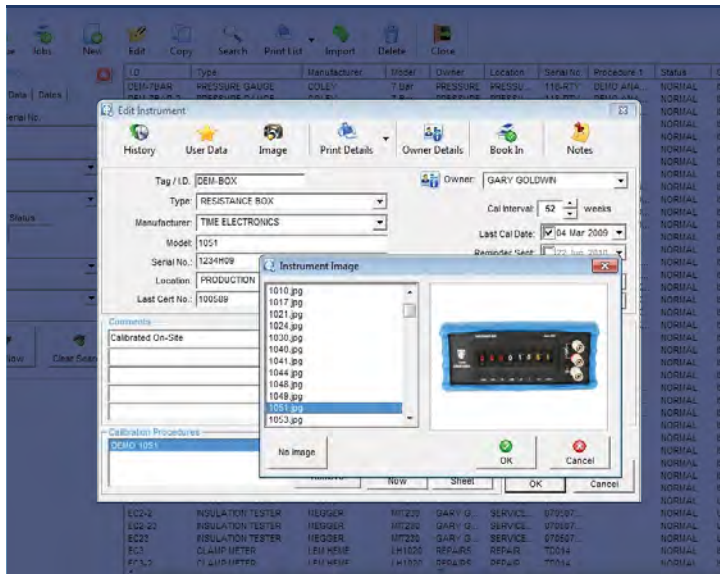
Create an efficient control and management system

- 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

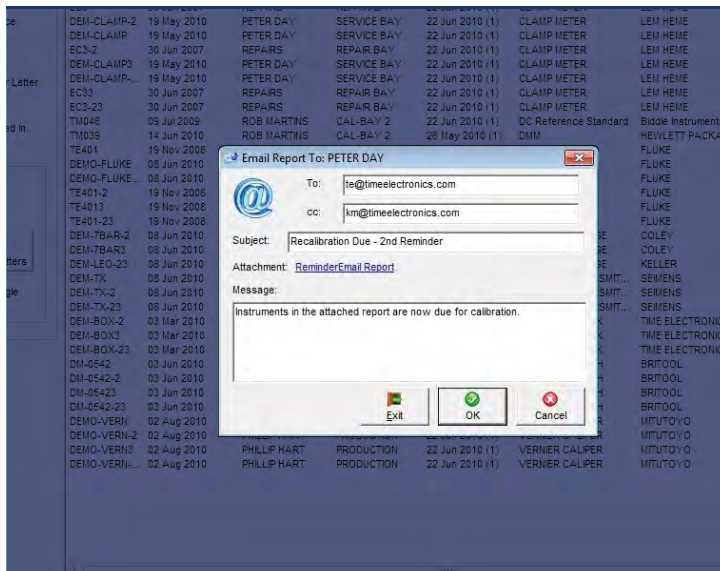
A comprehensive inventory database can be created and customised to company requirements. For internal calibration and quality management, departments and users can be specified. Alternatively EasyCal can be used as the controlling system for a calibration business based around customers and owners.

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.

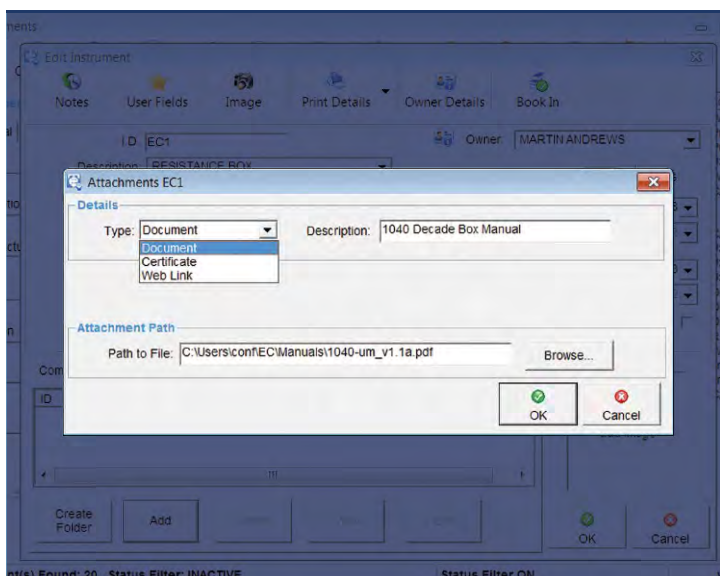


Instrument Recall and Reminder System

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'.



Document Links and 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

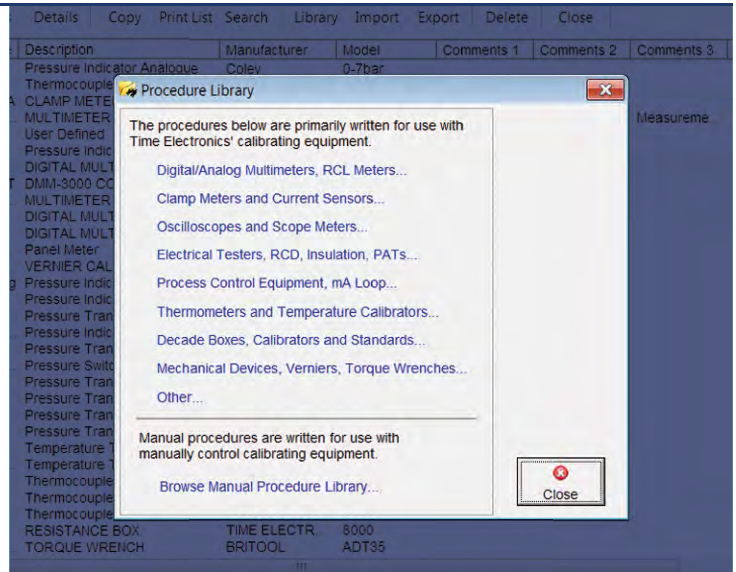
Creating and editing test procedures is made simple with an intuitive, user-friendly interface. Editing test information can be done by adding, inserting, or copy and pasting. EasyCal keeps track of each time a procedure is edited.

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

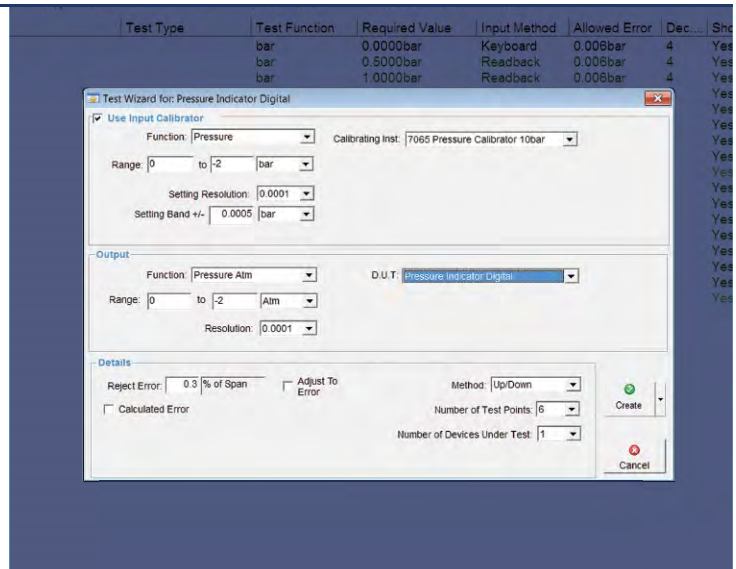
Copy and paste multiple tests. Globally edit a group of tests. Colour coded listing helps sort and identify different test types.

Test Wizards

EasyCal features intuitive wizards for calibrating typical process devices such as transmitters, sensors, and pressure gauges. They provide users with a fast method to create procedures. Basic criteria about a device is entered, then the wizard creates a set of tests based on this information.

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

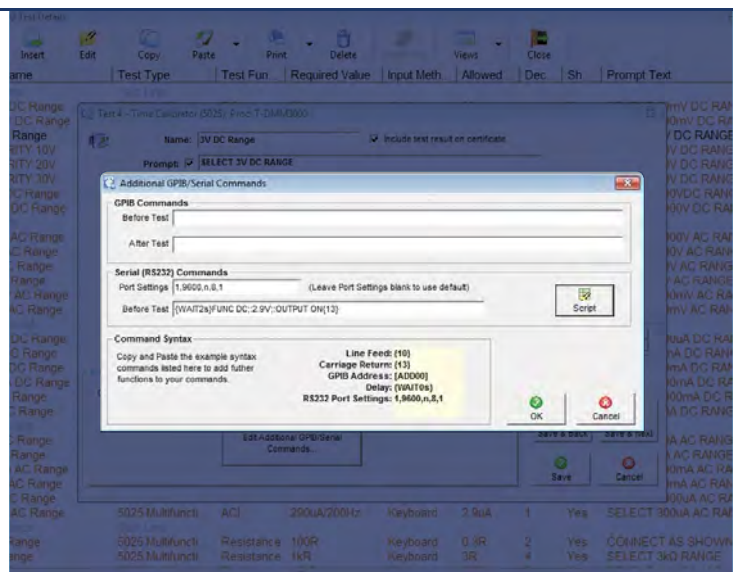
Colour code and add borders to test group titles. Add column headers where a change of layout is required. A preview feature allows the user to check the certificate layout to determine if formatting is correct.

Conversion Tables

Conversion tables for thermocouples, RTDs, current transformers, and clamp meter adaptors are included. Alternatively user-defined tables can be created.

Remote Commands

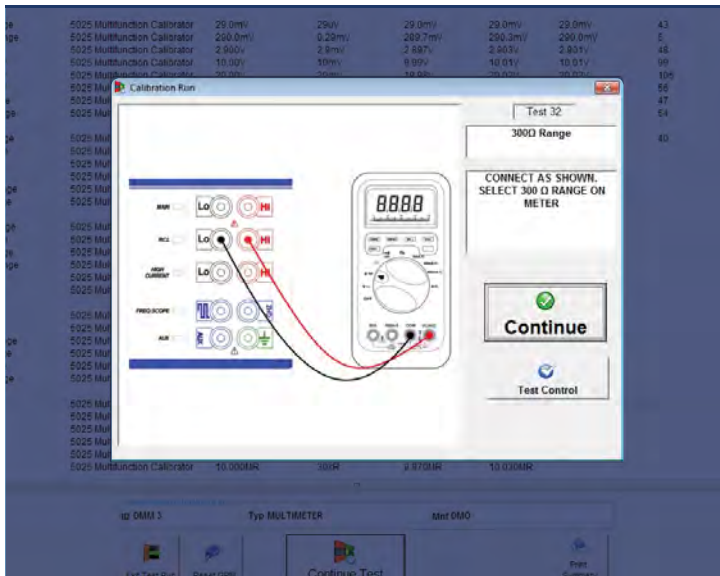
For more complex instrument control, commands can be sent on a test-by-test basis or run as a script. Closed loop calibration is also achievable using the universal readback feature. This allows EasyCal to control third party calibration equipment and communicate with devices under test.





EasyCal Calibration Software

Overview of applications and features



Instrument and Device Calibration

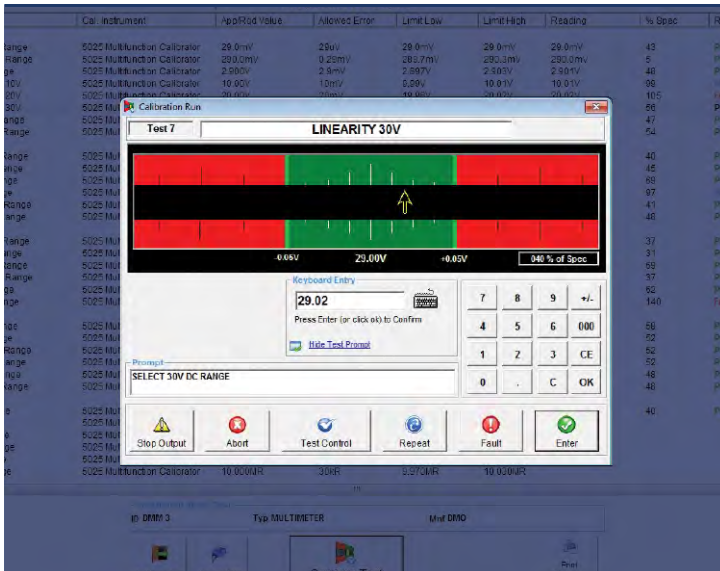
Automated calibration run provides fast and accurate collection of data, whether using direct instrument control or manual entry. EasyCal guides the operator through the procedure using graphical test screens and user prompts.

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.

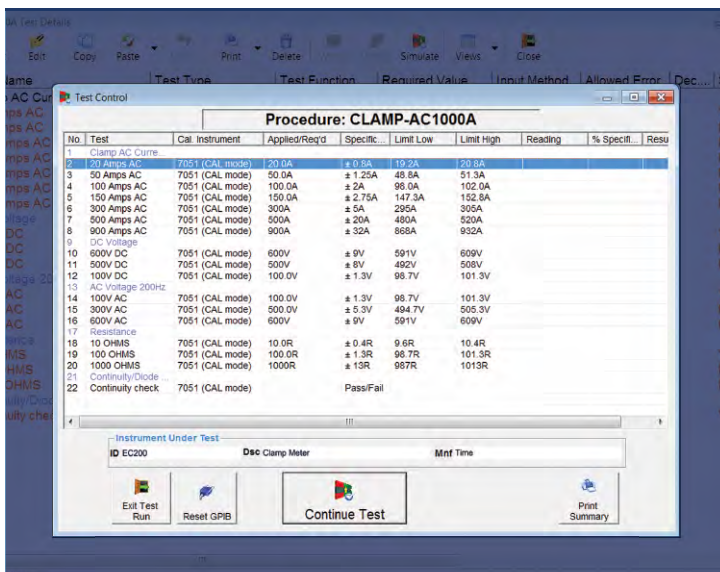


Graphical Test Screen

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, EasyCal's recovery mode feature allows the user resume the test run 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

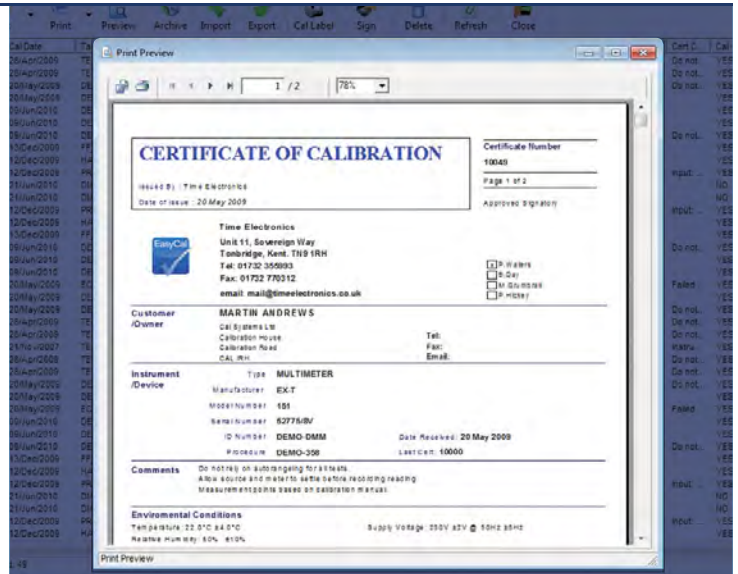
Produce, print, and store calibration certificates, reports, and labels. Simple search facilities enable the user to locate any data on demand. Keeping track of instrument history and servicing is made easy.

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

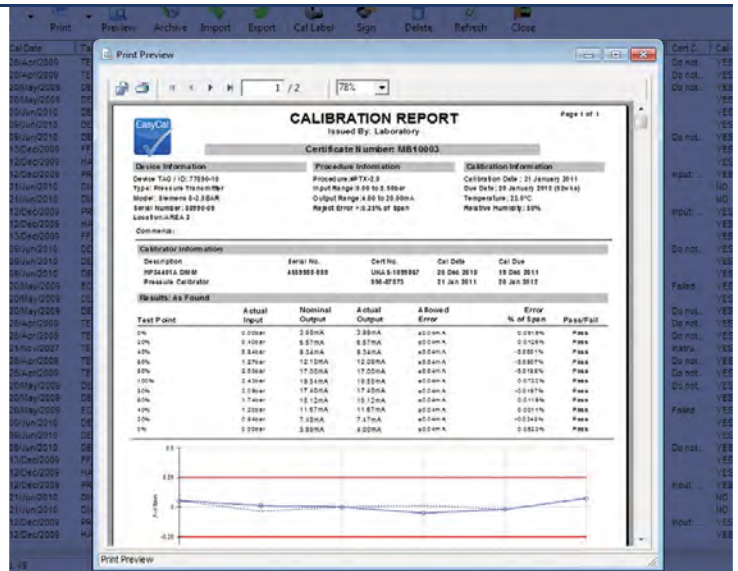
Generate PDF reports and certificates ready for emailing and universal review.

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.

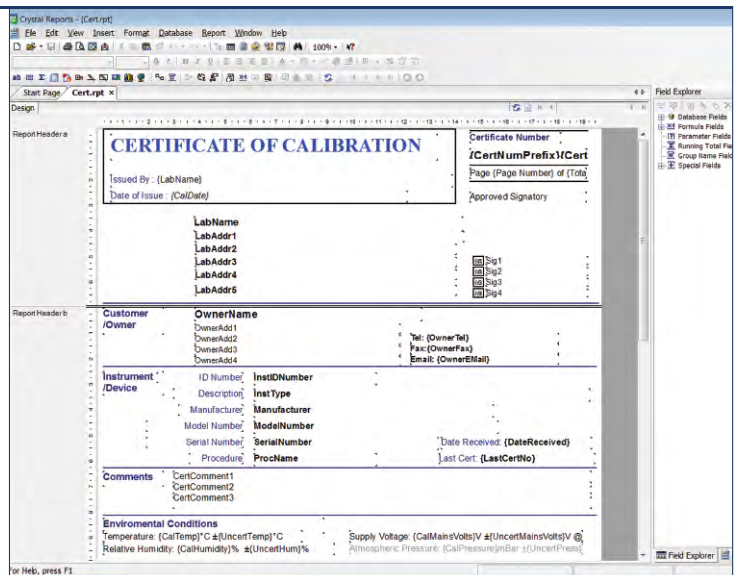
Customise

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

Add-Ons

EasyAdmin: An optional add-on that enables advanced security for EasyCal via user rights and access levels. It provides a central administration point for calibration instruments, certificate information and user fields.

WebCerts: A web based application that enables users to upload & retrieve certificates and reports online. A secure log in feature allows access the user's private folder, storing their relevant documentation.





EasyCal Networking

With networking capabilities a multi-user system can be implemented

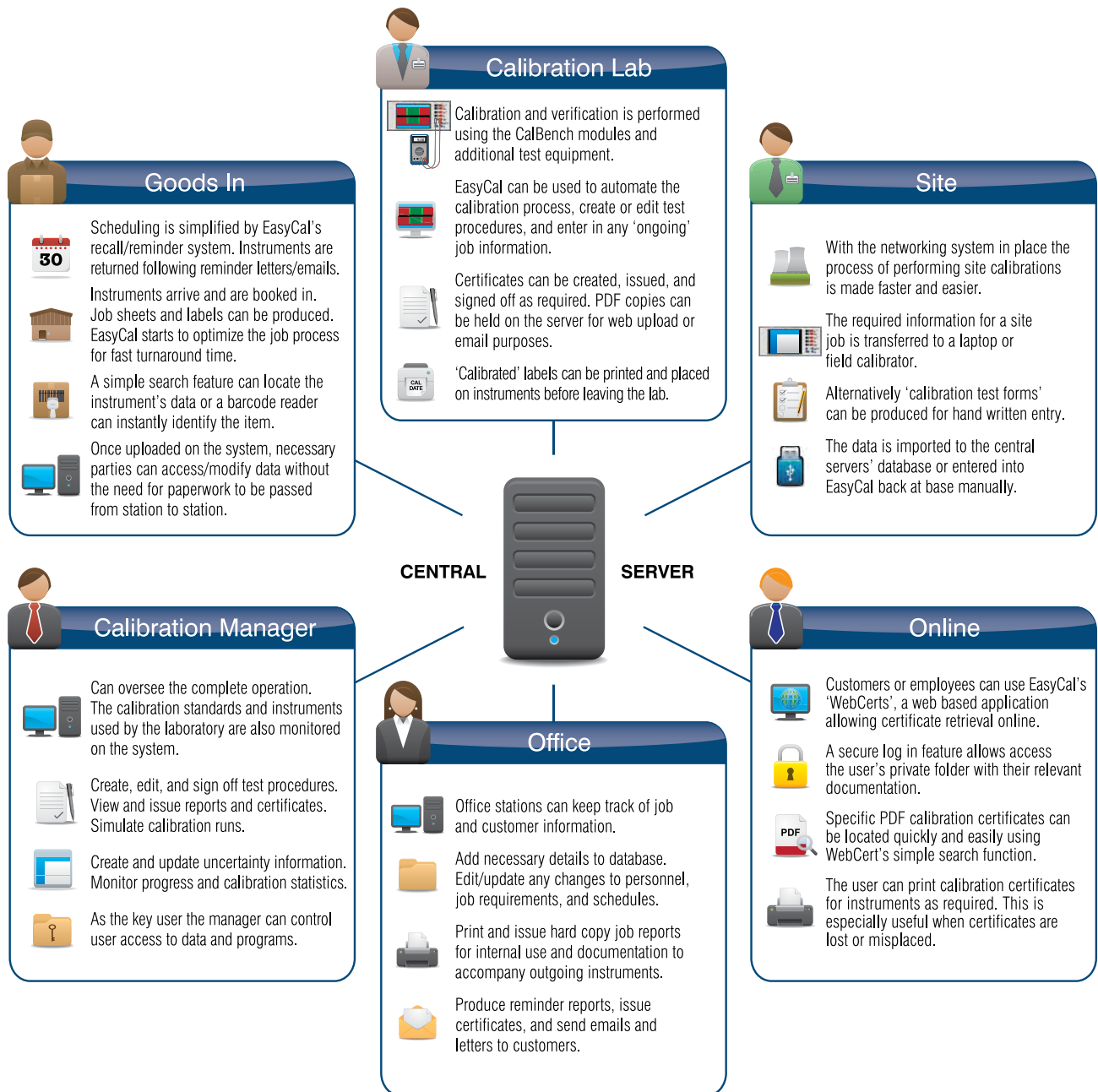
Networking with EasyCal

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.





Laboratory Design and Supply

World class turnkey calibration
laboratories and industrial workshops

Introduction to Lab Design and Supply

Scope of Supply

Work Benches

Bench Fittings, Drawers and Cabinets

Mobile Benches and Cabinets

Storage Solutions

Additional Furniture and Options





Laboratory Design and Supply

Turnkey laboratories and workshops for industrial calibration



The Turnkey Solution to Calibration and Maintenance

Time Electronics provide a turnkey design and supply service for customers requiring an efficient and ergonomic on-site calibration laboratory. Each solution is configured and created virtually, then supplied complete including all specified test instruments, tools, and furniture. CalBenches typically feature as the primary workstations of the laboratory or workshop, for the main testing and verification workload, R&M and service applications.

The process starts by understanding end user requirements and applications. From this information the design team will firstly configure the suitable CalBench package including supporting instruments for customer specific needs. Once the technical details are finalised we look at the optimal layout for performing the required workload. We consider all aspects, including workflow, types of applications, number of engineers, and storage requirements.

Following this we take the workspace dimensions and the virtual design stage begins. Using custom software we create a detailed overview of the laboratory or workshop. This includes the necessary calibration equipment, work benches, storage units, and extras. We then generate 3D images and videos to allow the end users to visualise the concept and experience their new working environment.

Each facility we design has a core focus on optimising the calibration process. This is accomplished by a dual approach using hardware and software. CalBench modules and accompanying test instruments provide the functions to perform calibration, whilst EasyCal software is the controlling platform for all work and management.

Software is a critical aspect of each lab because it enables operators to schedule workload, organise jobs, maintain instrument and procedure databases, and print & store information. It also provides users with the capability to automate calibration work. This brings key benefits to a company or plant, because faster turnarounds mean minimal downtime of instrumentation and test tools.

Steps to a World Class Calibration Facility

Consultancy

We will consult on projects from early stage development and planning, to workshop renovations and upgrades. We guide and educate customers on all available technical solutions, as well as optimal layouts for various applications.

Technical Assessment and Specifications

A review of the workload requirements. We assess the calibration coverage plus other applications to be performed. From this we establish the systems to incorporate in the design, from modules in CalBenches to equipment required for use in the field.

Workflow Optimisation

We look at how the facility will be used, to configure the most efficient and ergonomic layout and maximum functionality.

The Design

We create a comprehensive design to enable end users to visualise the lab, with 3D concepts and scaled drawings.

Project Information and Scope of Supply

A complete technical proposal is issued to each customer, showing the design and detailed specifications for all items in the package.

Implementation

After supply we support customers with our worldwide travel team that perform on-site installations, commissioning and training.



Workshops and Laboratories

State-of-the-art, premium grade instrument and electrical workshops for industrial plants and facilities. Design layouts are fully customised to end user requirements and incorporate high performance CalBenches for calibration, testing, R&M and other applications. Each workshop is designed to be a durable, long lasting solution, built to withstand arduous use in demanding environments.

- Instrument and electrical workshops for industrial plants
- CalBenches provide the focal point for test and measurement
- Turnkey design to optimise workflow and streamline applications
- Heavy duty solutions and workshop furniture, built to last
- Fully customisable based on end user requirements
- Incorporate task specific furniture, tools and machinery
- Smart storage solutions for tools and equipment
- Versatile and flexible for various applications
- Installation, commissioning and training available



Classrooms and Training Institutes

Time Electronics work with educational institutes worldwide to provide multi purpose calibration benches and classrooms for engineer training. CalBenches are the optimal solution for teaching environments where students can learn about calibration methods and principles. They are also utilised in schools and universities for electronics and electrical engineering.

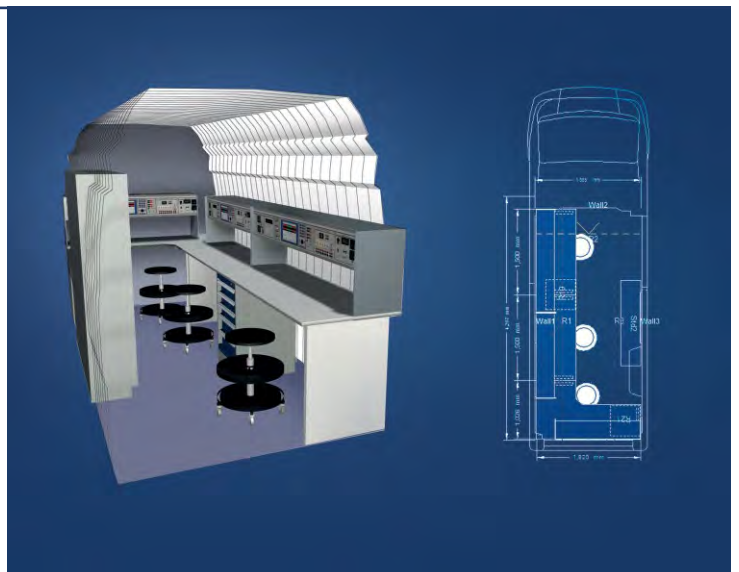
- Design and supply of classrooms for engineer training
- Integration of technical and educational solutions
- Multi CalBench layouts, custom consoles and work benches
- CalBenches for process training, electrical engineering & more
- Teach the practicals and principles of calibration
- Teach the importance of calibration, quality control & management
- Practice different methods of calibration such as manual and software driven
- Teach the processes involved in both lab and field calibration
- CalBench modules provide a simple user interface, with easy to use controls and functions



Mobile Calibration Solutions

Time Electronics provide innovative solutions for mobile calibration. The concept is a turnkey approach that enables users to perform on-site calibration services in a fully equipped mobile laboratory, featuring automated master calibration systems. The interior of each vehicle is designed as a comprehensive workspace, utilising custom built consoles, accompanying instruments and smart storage units.

- Mobile calibration in vans and expanding trailers
- Complete design and supply of vehicles, or interior solutions supplied for customer fitting
- Full in-vehicle calibration capabilities for electrical, temperature, pressure, torque etc
- Custom consoles for van fitting with reinforcement features and fixings for transport
- Large scale expanding trailers with up to eight 2m CalBenches
- Vehicles fully equipped, including professional storage solutions





Work Benches

The various styles of work benches in the range



Framework Benches

Heavy duty, robust steel braced framework benches suitable for industrial workshops and laboratories. Supplied with a high quality worktop each bench is suitable for a range of applications including mechanical and electrical work, R&M, manufacturing, calibration, and general purpose use.

- TL15 Bench: W1500 x D800 x H855mm
- TL16 Bench: W2000 x D800 x H855mm
- Hard wearing light grey laminate worktop with shock proof edging
- Reinforced, steel section framework for heavy load bearing (up to 800kg U.D.L. capacity)
- Bench frame finished with RAL7035 light grey
- Optional drawers and cabinets for under-bench fitting, tabletop power ducts and shelves
- Other bench sizes available upon request



TL20 Multi Purpose Corner Bench

A multi-purpose industrial grade corner bench with mounted rear frame section, providing an ergonomic workspace and storage area in workshops and laboratories. The unit has been specifically designed for use in TE labs where engineers utilise dedicated areas for their respective applications.

- Corner bench for suitable for bridging two workstations or CalBenches
- 1200 x 1200mm with 800mm side edges, 530mm front edge
- Heavy duty steel section legs and one rear reinforcement leg
- Hard wearing light grey laminate worktop with shock proof edging
- Benchtop rear mounting frame with perforated panels and two shelves
- Table mounted sloping steel power duct with 8 sockets (UK type or other upon request)
- 20 piece tool hook kit for perfo panels supplied
- Bench frame finished with RAL7035 light grey



Pedestal Work Benches

Pedestal benches are combination units that utilise floor standing cabinets and drawers as part of the framework. Versions are available with two cabinets at each end of the bench, or as a single cabinet with end frame leg (as shown).

- Pedestal benches with dual cabinets/drawers at each end
- Pedestal benches with cabinets/drawers plus heavy duty end frame leg (as shown)
- Available in different widths and sizes, typically designed to meet space requirements
- Variety of floor standing cabinet and drawer units to choose from
- Hard wearing light grey laminate worktop with shock proof edging
- Cabinets and drawers have RAL7035 light grey housing and RAL5010 blue door fronts
- Bench end frame legs finished with RAL7035 light grey



TL250 Hexagonal Communal Workstation

A heavy duty workstation with stainless steel top, four fixed vices, and six under bench multi-drawer/cabinet units. A suitable unit for teamwork applications, heavy engineering such as overhauling or inspection and maintenance of large control valves.

- Communal work station for mechanical and heavy engineering
- Hexagonal 304 stainless steel, ultra heavy duty worktop
- Top supplied in two pieces, with rolled edges, corners welded & polished
- Six drawer/cabinet units: 2 x H75mm. 1 x H125mm drawer, 1 x H375mm cupboard
- 4 cast iron vices mounted ergonomically - 2 x 100mm (4"), 2 x 150mm (6") jaw widths
- Vices have swivel bases, chrome plated to resist corrosion, roll formed screw threads
- 80mm diameter central reinforcement leg
- Dimensions: 2500 x 2165 x 790mm



CalBench Style Perfo and Shelf Option

A shelving and perforated panel option that uses the CalBench console mounting arms. The arms fix to the rear of a 2000mm or 1500mm wide framework bench and a 450mm deep reinforced shelf runs across the top section.

- Combination kits with perforated panel, mounting arms and shelf
- Kits that fit to either 2000mm or 1500mm wide work benches
- Shelf (D450mm x H27mm) mounted on support arms, at 400mm above the worktop
- Hard wearing light grey laminate shelf with shock proof edging
- Two reinforced steel braces running inside the shelving to stop bowing
- Suitable for customers planning to add CalBench consoles in future
- Shelf can hold 7060 mini consoles, and large test instruments
- Custom shelf type available upon request (stainless steel, beech, lino etc)



Tabletop Shelves and Power Ducts

Benchtop units that are typically fitted together as convenient shelf and power distribution solution. The shelf is 300mm deep, adjustable height and suitable for placing instruments and devices used in the workshop. The power ducts position centrally under the shelves when supplied, and can be fixed into the worktop or free standing with rubber feet.

- TL37: Adjustable height rear shelf, table mounted (W2000 x D300 x H230 - 345mm)
- TL38: Adjustable height rear shelf, table mounted (W1500 x D300 x H230 - 345mm)
- Robust steel shelf, 40mm upstand to the sides and rear, inlaid rubber mat
- Angled steel power ducts, H95 x D95mm - 4, 6, 8 and 10 socket versions
- TL26: 8 sockets - W762mm / TL27: 6 sockets - W586mm / TL28: 4 sockets - W410mm
- Power ducts feature shrouded mains on/off switch and grounding cable
- Light grey RAL7035 paint finish on shelves and power ducts, matching benches



Suspended Drawers, Cabinets and Holders

A selection of drawers, cabinets and holders are available for under bench fitting. These units are the same as shown in the CalBench fittings section, and fix to the TE Lab industrial framework benches in the same style.

- 7120: Cabinet with 1 door and 1 x shelf (W500 x D550 x H600mm)
- 7121: 2 drawer Unit (W500 x D550 x H250mm)
- 7122: 3 drawer Unit (W500 x D550 x H450mm)
- 7131: Combination 1 drawer + Cabinet Unit (W500 x D550 x H600mm)
- 7132: 5 drawer Unit (W500 x D550 x H600mm)
- 7123: CPU/Dry Block Calibrator Holder (W220 x D580 x H460mm)
- Units made from reinforced, welded steel housing
- Finished with RAL7035 light grey housing, drawers have RAL5010 blue fronts
- Central locking system on cabinets and drawer units



Floor Standing Drawers and Cabinets

A range of floor standing cabinets and drawers that can be used with pedestal benches, stand alone or as bridging units between two workstations. Each model is a robust steel design with a base plinth to enable easy access to bottom drawers or cupboards. These units are designed to match the height of CalBenches and TE Lab work benches.

- Range of models - 500, 750 and 1000mm wide / Depth 550mm / Height 815mm
- Cabinets with 5 or 7 drawers, full cupboards, or combination drawer/cupboard units
- Industrial grade reinforced, welded steel housing
- Finished with RAL7035 light grey housing / RAL5010 blue drawer fronts
- Central locking systems
- Each drawer has recessed handles for flush finish, with a trigger lock mechanism
- Each drawer comes lined with rubber matting as standard
- Supplied with 65mm base plinth to enable flush under bench fixing





Mobile Benches and Cabinets

Solutions for mobile storage and workstations



TL14 Mobile Workbench with Worktop

A mobile workbench of durable steel construction enabling heavy duty workload in labs and workshops. Well suited to mobile applications and transportation of bulky equipment, or situating large test instruments and benchtop consoles like the 7060 mini bench.

- Robust mobile workbench (L1500 x D800 x H940mm)
- 1500mm durable grey laminate worktop
- Reinforced, steel section framework for heavy load bearing
- Finished with RAL7035 light grey
- Base shelf section for storage
- Rubber tyred castors with swivel and brake mechanisms
- Suitable for use with 7060 mini console mounted on top for mobile calibration



TL10 Mobile Storage Trolley

An industrial trolley built for practical and easy mobility of equipment in the workshop. The unit is made of steel with three shelf sections lined with a rubber matting. The middle shelf can be set at different levels as per user requirement. The unit is a robust and simple solution for workshops and labs.

- Mobile trolley (W650 x D450 x H775mm)
- 4 swivel castors and 2 brakes
- Push-pull handle
- Adjustable middle shelf, can be set to accommodate different sized items
- Robust mild steel construction, industrial grade
- Light grey RAL7035 paint finish
- Each shelf lined with rubber matting



TL11, TL12 and TL13 Mobile Cabinets with Drawers

Mobile cabinets made from reinforced, welded steel housing for long service life in tough industrial environments. An ideal solution for moving tools and equipment around the workshop for required applications.

- Mobile cabinets with drawers, various sizes for use in the workshop
- TL11: W500 x D550 x H750 mm, with 3 x 175mm drawers, top tray and mat
- TL12: W750 x D550 x H925mm, 4 x 175mm drawers, top tray and rubber mat
- TL13: W1000 x D550 x H925mm, 4 x 175mm drawers, top tray and rubber mat
- Made from welded steel with RAL7035 light grey housing / RAL5010 blue drawer fronts
- Central locking system
- Drawers have recessed handles for flush finish, rubber lining and trigger lock mechanism
- Rubber tyred castors with swivel and brake mechanisms - 200kg total weight capacity



Additional Mobile Units

In addition to the standard models shown above, various other mobile units are available. These include cabinets, benches, maintenance trolleys and mobile perfo panel racks. Custom units can be built to house line pressure solutions like pumps and compressors, and consoles can be mounted to create mobile calibration systems.

- Maintenance trolleys featuring drawers, cabinets and worktops
- Cupboard trolley versions for large equipment storage and mobility
- 1500mm and 2000mm wide storage benches with multi drawer and cupboards
- Perfo panel trolleys for mobile quick access tool storage
- Mobile louvre panel racks that house storage bins for components and parts
- Fully bespoke solutions with integrated systems for calibration and line pressure
- TL09 CalBench extension trolley with clamping mechanism (see CalBench fittings)



Storage Cupboards

Heavy duty cupboards for storing equipment and tools in the workshop. Made of robust steel with RAL7035 light grey housing and RAL5010 blue fronts. Internal galvanised shelves are durable and scuff resistant, with 50kg U.D.L. capacity, adjustable on a 25mm pitch.

- TL56: W1000 x D550 x H2000mm, with 4 shelves
- TL57: W1000 x D550 x H2000mm, with 6 shelves and 21 x No. 5 storage bins
- TL58: W1000 x D550 x H2000mm, with 4 shelves and 3 drawers (1x75, 1x125, 1x175mm)
- Reinforced, welded steel housing
- Finished with RAL7035 light grey housing / RAL5010 blue drawer fronts
- Internal galvanised shelves are durable & scuff resistant, with 50kg U.D.L. capacity
- Shelf positioning adjustable on a 25mm pitch for different heights of storage
- Central locking: Zinc plated locking bars and cam provide secure three point locking
- Cupboards of different sizes and shelf/drawer layout available upon request



Industrial Racking

Time Electronics offer a range of heavy duty racking for workshops, stores and warehouses. Various widths and depths are available, and each unit features five melamine shelves as standard. The framework is made from 2mm thick premium quality steel, finished in a hard wearing blue powder coating.

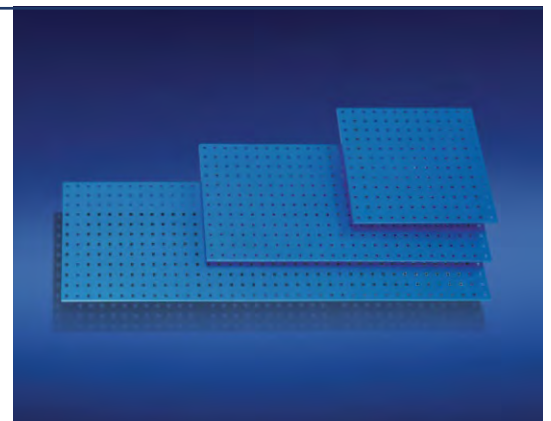
- Premium quality racking, 1980mm high units with various widths and depths
- 915 / 1220 / 1525 / 1830 / 2134 / 2440mm widths available
- 380 / 455 / 610 / 760 / 915 / 1220mm depths available
- 2mm thick European structural quality steel, hard wearing blue powder coated finish
- 5 white melamine shelves (galvanized steel panels available upon request)
- Ideal for workshop, stores room, warehouse, archive and factory
- Simple to construct with assembly tools supplied
- Complete with rubber feet and top caps for protection



Wall Mounted Perfo Panels

Wall mountable perforated panels for use with a range of fixing accessories. They enable easy positioning and storage of hand tools and consumables. Standard units are supplied as kits including hook sets for quick access mounting of tools and extras.

- Industrial grade steel perforated panels with rear reinforcement strips for rigidity
- TL59: 2 perfo wall panels (H457 x W495 mm each) and 15 piece tool hook kit
- TL60: 2 perfo wall panels (H457 x W990 mm each) and 20 piece tool hook kit
- TL61: 4 perfo wall panels (H457 x W990 mm each) and 40 piece tool hook kit
- TL86: 4 perfo wall panels (H457 x W1486mm each) and 60 piece tool hook kit
- TL79: 1 perfo wall panel (H457 x W1981 mm each) and 40 piece tool hook kit
- RAL5010 blue powdercoat finish
- Additional extras include shelves, bin rails, holders, magnet sets & monitor mounts



Wall Mounted Louvre Panels and Storage Bins

Wall mountable louvre panels supplied with plastic bins to hold small tools and parts used in the workshop. These kits provide a convenient, organised solution with the hook-on bins ideal for high capacity component storage.

- Industrial grade steel louvre panels with rear reinforcement strips for rigidity
- TL62: 2 louvre wall panels (H457 x W495mm each) with bins
32 x No.2 storage bins (W103 x D165 x H83 mm each / 1 litre capacity)
- TL63: 2 louvre wall panels (H457 x W990mm each) with bins
18 x No.3 storage bins (W145 x D240 x H125 mm each / 3.5 litre capacity)
8 x No.4 storage bins (W207 x D345 x H165 mm each / 10 litre capacity)
- Louvre panels with RAL5010 blue powdercoat finish
- Other panels and bin sizes available





Additional Furniture and Options

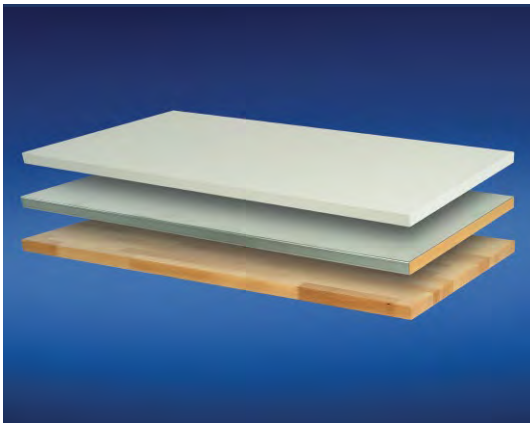
Seating options, worktops, and tool chests



Tool Chests

A range of steel tool chests are available. They are heavy duty construction to deal with the rigours of on-site use. In addition to the standard range shown, aluminium transit cases and fully equipped multi purpose tool sets can be supplied.

- Industrial steel tool chests of varying sizes, capacity and weight
- Phosphated sheet steel construction with wrap over, shower resistant lid
- Hasp and staple clasps, padlockable for security
- Removable parts tray for smaller items
- Double grab handles
- Hardboard lined to prevent damage to tool chest
- Durable epoxy powder coat finish, RAL5010 blue only
- Tools and equipment supplied separately, combination kits available upon request



Worktop Options

A variety of worktop options are available for the TE Lab range. Standard tops are quality hard wearing light grey laminate with shock proof edging and chipboard core. Each top offers high load bearing and surface resistance to water, oils and chemicals.

- Standard worktops: Light grey laminate with 2mm grey PVC shock proof edging
- Standard top thickness of 38mm with chipboard core
- ESD laminate versions or integrated ESD resin bonded mat version
- Multiplex option: Resin bonded, hardwood beech ply with cross laminated construction
- Phenol option: Hardwood core impregnated with phenol resin and edges in hardwood
- Stainless Steel option: Particle board core with 1.2mm zinc coated steel cladding
- Beech option: Solid beech with polyurethane varnished surface
- Custom worktops available upon request



Seating Options

For TE Lab the seating options include the standard CalBench operator chairs, fabric and vinyl work chairs and stools. Each chair or stool is robust and heavy duty, suitable for engineering or office work.

- 7128 and 7129 CalBench operator chairs
- Gas lift adjustable height models
- Fixed position stools and chairs, or with castors for mobility
- Fabric chairs have cushioned blue seat and backrest for good all round comfort
- Durable vinyl chairs have contoured seat and back squabs increasing comfort
- Backrest tilt, height and angle adjustments, locking features
- Under bench footrests also available upon request



Colours and Customisation

Time Electronics can provide fully customised solutions for premium workshops and laboratories. We work with our customers to create tailored and specific workspaces, built for end user applications. Colour schemes, branding and custom furniture configurations provide a professional appearance, suitable for centres of excellence and high level training centres.

- Custom configurations for drawer units, cabinets, cupboards, work benches etc
- Company branded furniture for labs and workshops
- Colour options for drawers, cabinets and cupboards
- Logo printed flooring, mats and tiles
- Integration of existing equipment and tools into new build workshops
- Branded whiteboards, notice boards - suitable for workshops and classrooms



Example CalBenches

An overview of some configured CalBench solutions for industrial calibration

- Wide Workload CalBench
- Process and Pressure CalBench
- Electrical CalBench
- Repair and Maintenance CalBench





CBP-WW1: Wide Workload CalBench

A pre-configured CalBench for electrical, temperature and pressure calibration



About the Wide Workload CalBench

The CBP-WW1 is a CalBench package designed to provide users with a turnkey solution to calibrate instruments and devices used across industries. It offers a selection of features and functions to enable automated calibration using EasyCal software on the 7051Plus multifunction calibrator and control centre module.

- Multi instrument and device testing
- Multifunction calibrator module with 6.5 digit DMM and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- RTD and thermocouple simulation and measurement
- Automatic pressure controller module for calibration from vacuum to 20bar
- Regulated pressure calibration module for vacuum to 200bar
- Precision pressure measurement modules for 2bar, 100bar and 700bar
- Benchtop pumps, pressure adaptor kit and electrical vacuum pump included
- Fixed and variable DC power supply modules for powering devices under test
- Control centre operated 100MHz oscilloscope
- Temperature interface module for batch thermocouple calibration
- Dry block calibrators for temperature sourcing, automatic control via EasyCal
- Automated calibration using EasyCal software with printers and extras supplied

Calibration Capabilities

Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

Temperature

Temperature sensors, indicators, thermocouple and RTD transmitters, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

Electrical / Frequency

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, ohmmeters, decade boxes, RCL meters, conductance meters, inductance meters, oscilloscopes, frequency meters, frequency counters, timer counters.



Wide Workload CalBench: Items in Package

The modules and items in the CBP-WW1 Wide Workload CalBench package



Item #	QTY	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W2000 x D850 x H1568) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W450 x D250 x H130mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7132	5 Drawer Unit (W500 x D550 x H600mm)	For storage of equipment, tools, documents etc.
6	3	7134	Slotted Divider Kit for drawers inside 7132	Partitions the drawer units for parts and components.
7	1	7123	CPU/Dry Block Calibrator Holder	For storing dry block calibrators when not in use.
8	1	7051+	Multifunction Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure electrical, electronic, frequency, temperature. Enables users to calibrate process and electrical instruments like sensors, multimeters, clamp meters, scopes and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
10	1	8030B/G20b/CV2b/ BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 20bar, 0.01% FS accuracy Sensor 2: Vacuum to 2bar, 0.01% FS accuracy Sensor 3: Barometric Reference	For automated pressure calibration. 20bar range for workload pneumatic testing of gauges, transmitters etc. Ranges can be modified as per customer requirements.
11	1	RMTEG-G200b/0.02	TE Digital Pressure Gauge Module with Regulator 0 to 200bar, 0.02% FS accuracy	For high range pneumatic calibration work, with a line supply typically from a gas cylinder to enable regulator adjustment.
12	1	XTEG-G700b/0.02/M	Gauge Pressure Measurement Module 0 to 700bar, 0.02% FS accuracy	For hydraulic calibration with accompanying pump.
13	1	XTEG-G100b/0.02/M	Gauge Pressure Measurement Module 0 to 100bar, 0.02% FS accuracy	For mid/high range pneumatic calibration work. Used with 7194A pump or T-piece method from RMTEG-G200b/0.02.
14	1	XTEG-CV2b/0.02/M	Compound Pressure Measurement Module -1 to 2bar, 0.02% FS accuracy	For low range pressure calibration. Used with 7194A pump or T-piece method from 7030B module.
15	1	7085A	Auto Switching Temperature Distribution Module	Connection module to enable batch testing of temperature devices like thermocouples.
16	1	7053	56V DC 4A Adjustable Power Supply Module - Digital	A variable DC supply to supplement various applications.
17	1	7087	Quad DC Power Supply Module 6V (20A), 12V (10A), 24V (6A), 48V (3A)	Provides a DC power supply to various loop instrumentation under test.
18	1	CCSCOPE-2208B	Integral Oscilloscope with Connection Module 100MHz, 2 channel, operation via control centre	For basic R&M applications, fault finding and diagnostic work.
19	1	7149	Electrical Vacuum Pump	Provides a vacuum for pressure modules.
20	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench.
21	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700bar	Provides hydraulic pressure to 700bar XTEG module.
22	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200bar	Pressure generation to 200bar, suitable for use with pressure modules when compressed air source is not available.
23	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses	Provides all the required pressure connections and fittings for modules and pumps to UUT's.
24	1	TXG-STD	Benchtop Transmitter and Gauge Stand	For positioning UUT's on CalBench worktop.
25	1	8072	Dry Block Calibrator (28 to 660°C) with metric multi hole insert (1x3,2x4,1x5,1x6,1x9mm), blank insert, EasyCal software driver	Temperature source for the calibration of probes, RTDs, and more. Automated operation with 7051+, EasyCal and 7085A.
26	1	8072-METP	Pack of 16 Metric Inserts for 8072 - 3mm to 20mm holes	Inserts for use with different probe sizes, used with 8072.
27	1	7073	Dry Block Calibrator (300 to 1205°C) with metric multi hole insert (3,4,6mm), blank insert, EasyCal software driver	Temperature source for the calibration of thermocouples. Automated operation with 7051+, EasyCal and 7085A.
28	1	7073-METP	Pack of 10 Metric Inserts for 7073 - 3,4,5,6,7,8,9,10,11,12mm	Inserts for use with different probe sizes, used with 7073.
29	1	CERTS	Traceable Calibration Certificates - for all test modules and additional test equipment	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



CBP-PROC1: Process CalBench

A pre-configured CalBench for the calibration of process and pressure instrumentation



About the Process CalBench

The CBP-PROC1 CalBench is a package that provides users with the capabilities to perform rapid calibration of process and pressure instrumentation. It is an ideal solution for instrument workshops that require a high performance workstation as the platform for calibration of plant devices and instruments.

- Dedicated process instrumentation calibration bench
- Process calibrator module with 6.5 digit DMM and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- RTD and thermocouple simulation and measurement
- HART communication
- Automatic pressure controller module for calibration from vacuum to 20bar
- Regulated pressure calibration module for vacuum to 200bar
- Precision pressure measurement modules for pneumatic, hydraulic, & differential
- Benchtop pumps, pressure adaptor kit and electrical vacuum pump included
- Fixed and variable DC power supply modules for powering devices under test
- Temperature interface module for batch thermocouple calibration
- Dry block calibrators for temperature sourcing, automatic control via EasyCal
- Automated calibration using EasyCal software with printers and extras supplied

Calibration Capabilities

Pressure

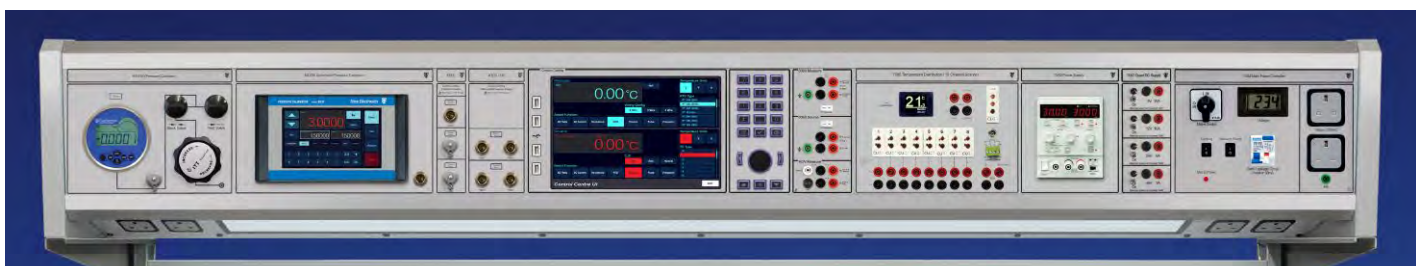
Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

Temperature

Temperature sensors, indicators, thermocouple and RTD transmitters, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

Electrical and Process

Calibrators, mV/mA meters, decade boxes, flow totalizers, DP flow transmitters, pulse meters, tachometers, counters.



Process CalBench: Items in Package

The modules and items in the CBP-PROC1 Process CalBench package



Item #	QTY	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W2000 x D850 x H1568) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W450 x D250 x H130mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7132	5 Drawer Unit (W500 x D550 x H600mm)	For storage of equipment, tools, documents etc.
6	3	7134	Slotted Divider Kit for drawers inside 7132	Partitions the drawer units for parts and components.
7	1	7123	CPU/Dry Block Calibrator Holder	For storing dry block calibrators when not in use.
8	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters, RTDs, thermocouples and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
10	1	8030B/G20b/CV2b/ BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 20bar, 0.01% FS accuracy Sensor 2: Vacuum to 2bar, 0.01% FS accuracy Sensor 3: Barometric Reference	For automated pressure calibration. 20bar range for workload pneumatic testing of gauges, transmitters etc. Ranges can be modified as per customer requirements.
11	1	RMTEG-G200b/0.02	TE Digital Pressure Gauge Module with Regulator 0 to 200bar, 0.02% FS accuracy	For high range pneumatic calibration work, with a line supply typically from a gas cylinder to enable regulator adjustment.
12	1	XTEG-G700b/0.02/M	Gauge Pressure Measurement Module 0 to 700bar, 0.02% FS accuracy	For hydraulic calibration with accompanying pump.
13	1	XTEG-G100b/0.02/M	Gauge Pressure Measurement Module 0 to 100bar, 0.02% FS accuracy	For mid/high range pneumatic calibration work. Used with 7194A pump or T-piece method from RMTEG-G200b/0.02.
14	1	XTEG-CV2b/0.02/M	Compound Pressure Measurement Module -1 to 2bar, 0.02% FS accuracy	For low range pressure calibration. Used with 7191 pump or T-piece method from 7030B module.
15	1	XTEG-DP700mb/0.02/M	Differential Pressure Measurement Module 0 to +/-700mbar, 0.02% accuracy	For differential pressure calibration of transmitters etc. Used with 7191 pneumatic pump for fine control input.
16	1	XTEG-DP200mb/0.05/M	Differential Pressure Measurement Module 0 to +/-200mbar, 0.05% accuracy	For low range differential pressure calibration of transmitters etc. Used with 7191 pneumatic pump for fine control input.
17	1	7085A	Auto Switching Temperature Distribution Module	Connection module to enable batch testing of temperature devices like thermocouples.
18	1	7052	30V DC 3A Adjustable Power Supply Module - Digital	A variable DC supply to supplement various applications.
19	1	7087	Quad DC Power Supply Module 6V (20A), 12V (10A), 24V (6A), 48V (3A)	Provides a DC power supply to various loop instrumentation under test.
20	1	7149	Electrical Vacuum Pump	Provides a vacuum for pressure modules.
21	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench.
22	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700bar	Provides hydraulic pressure to 700bar XTEG module.
23	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200bar	Pressure generation to 200bar, suitable for use with pressure modules when compressed air source is not available.
24	1	7191	Pneumatic Benchtop Pump Vacuum to 4bar	Enables precise, fine control input of low pressure for pneumatic work. Suitable for use with XTEG measurement modules.
25	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses	Provides all the required pressure connections and fittings for modules and pumps to UUT's.
26	1	TXG-STD	Benchtop Transmitter and Gauge Stand	For positioning UUT's on CalBench worktop.
27	1	8072	Dry Block Calibrator (28 to 660°C) with metric multi hole insert (1x3,2x4,1x5,1x6,1x9mm), blank insert, EasyCal software driver	Temperature source for the calibration of probes, RTDs, and more. Automated operation with 8060+, EasyCal and 7085A.
28	1	8072-METP	Pack of 16 Metric Inserts for 8072 - 3mm to 20mm holes	Inserts for use with different probe sizes, used with 8072.
29	1	7073	Dry Block Calibrator (300 to 1205°C) with metric multi hole insert (3,4,6mm), blank insert, EasyCal software driver	Temperature source for the calibration of thermocouples. Automated operation with 8060+, EasyCal and 7085A.
30	1	7073-METP	Pack of 10 Metric Inserts for 7073 - 3,4,5,6,7,8,9,10,11,12mm	Inserts for use with different probe sizes, used with 7073.
31	1	CERTS	Traceable Calibration Certificates - for all test modules and additional test equipment	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



CBP-ELEC1: Electrical CalBench

A pre-configured CalBench for electrical, electronic, frequency and temperature calibration



About the Electrical CalBench

A CalBench package that provides users with modules and extras for the calibration of electrical and electronic test tools, instruments and devices. It allows users to test and maintain a wide range of instruments commonly used by engineers in industrial plants, with a high level of automation to ensure rapid turnarounds.

- Comprehensive calibration of electrical and electronic test tools
- Multifunction calibrator module with 6.5 digit DMM and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- Oscilloscope calibration with 2.2GHz levelled sine wave generation
- RTD and thermocouple simulation and measurement
- Electrical tester calibrator module for RCD, loop, and insulation
- Benchtop insulation tester calibrator for increased range coverage
- 50MHz function generator module for test and repair work
- Variable AC and DC power supply modules for functional testing of equipment
- Control centre operated 100MHz oscilloscope and 6GHz frequency counter
- Automated calibration using EasyCal software with printers and extras supplied
- Extras include solder and re-work station, service kit and ESD workstation kit

Calibration Capabilities

Electrical and Electronic

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, ohmmeters, decade boxes, RCL meters, watt meters, conductance meters, inductance meters, continuity testers.

Electrical Test and Frequency

RCD testers, loop testers, earth ground testers, insulation testers, multifunction installation testers, micro ohm meters, portable appliance testers, oscilloscopes, frequency meters, frequency counters, timer counters.

Temperature

Sensors, transmitters, indicators, RTDs, thermocouples, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

Note: A dry block calibrator is required for temperature sourcing on certain applications



Electrical CalBench: Items in Package

The modules and items in the CBP-ELEC1 Electrical CalBench package



Item #	QTY	Code	Basic Description	Basic Purpose
1	1	7080	CalBench Cantilever Version (W2000 x D850 x H1568) Cantilever bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W450 x D250 x H130mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7141	Perfo Panel Option: Storage Bin Strip (W450 x H75mm). Supplied with 4 x 1L bins	For storage of components and small tools.
6	1	7122	3 Drawer Unit (W500 x D550 x H450mm)	For storage of equipment, tools, documents etc.
7	3	7134	Slotted Divider Kit for drawers inside 7122	Partitions the drawer units for parts and components.
8	1	7051+	Multifunction Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure electrical, electronic, frequency, temperature. Enables users to calibrate process and electrical instruments like sensors, multimeters, clamp meters, scopes and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	9769	7051 Internal Option: 2.2GHz Levelled Sine Generator	An internally fitted option that enables the calibrator to output a pure sine wave up to 2.2GHz, for calibration of oscilloscopes.
10	1	5030B	Electrical Tester Calibrator Module	Calibrate RCD, loop, insulation, earth testers and multifunction installation testers.
11	1	CCSCOPE-2208B	Integral Oscilloscope with Connection Module 100MHz, 2 channel, operation via control centre	For basic R&M applications, fault finding and diagnostic work.
12	1	CC-FRQC	Integral Frequency Counter with Connection Module 6000MHz, operation via control centre	For frequency measurement applications in fault diagnostics and repair work.
13	1	7031	50MHz Function/Arbitrary/Pulse Generator	Used to generate different types of electrical waveforms over the frequency range, for test and repair applications.
14	1	7088D	Adjustable AC Supply Module with Digital Displays Variable output voltage from 0 to 110% above line input. 0 to 265V 50Hz, 10A at 240V. 0 to 121V 50Hz, 10A at 110V.	Provides variable 50Hz AC power up to 10A with two digital meters monitoring the output voltage and current. For general purpose use and R&M applications.
15	1	7053	56V DC 4A Adjustable Power Supply Module - Digital	A variable DC supply to supplement various applications.
16	1	5069	Benchtop Insulation Tester Calibrator Decade resistance 100k Ohm - 100G Ohm	For calibrating insulation testers and megohmmeters with test voltages up to 9kV.
17	1	7145	High Performance Soldering/De-soldering/Rework Station Includes soldering iron, de-soldering tool & hot air rework tool, standard tips and nozzles	High quality soldering, for electronics, components etc. A comprehensive unit that features a built-in pump for vacuum and air flow, and three simultaneously powered ports.
18	1	7146	Extra solder tips (6 piece set)	A selection of soldering tips for use with the 7145 unit.
19	1	TL90	High Performance Magnification and Inspection Light	A magnifier with 48 premium LEDs to illuminate a 6" wide-angle, distortion-free lens. For inspection of circuit boards etc.
20	1	7183	Electronic service case (82 tools)	A comprehensive selection of tools for electrical and electronic service work.
21	1	7186	ESD Workstation Kit for CalBench Benchtop mat, signage, bonding plugs, wrist strap & leads	An antistatic mat to cover the benchtop when needed. A kit to eliminate static electricity and prevent ESD damage.
22	1	CERTS	Traceable Calibration Certificates - for all test modules and additional test equipment	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



CBP-RM1: Repair and Maintenance CalBench

A pre-configured CalBench for R&M applications



About the R&M CalBench

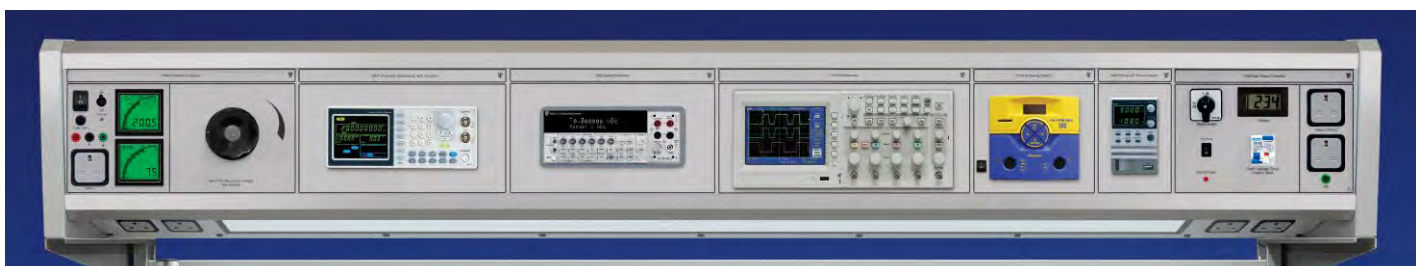
The CBP-RM1 is a package featuring a multi-purpose CalBench with various extras for common repair and maintenance applications. It is an excellent system for electrical workshops that need a solution to fast and efficient instrument and device diagnostics.

This package creates a highly organised workspace with familiar test and measurement instruments integrated into the console of the CalBench. Modules include variable AC and DC power supplies, an oscilloscope, function generator and digital multimeter. This module selection provides engineers with a range of features and functions to perform service work where signal generation and analysis is required.

Additionally a soldering station module allows users to perform basic repairs of devices and work on electrical components. Accessories that complement the module include a fume extractor, magnifying lamp and circuit board holder.

Features

- CalBench for R&M, diagnostics, fault finding and analysis
- Suitable for electrical workshops in process and power plants
- Modules to help users investigate behaviours of instruments
- Oscilloscope and digital multimeter modules
- Variable AC and DC power supply modules
- Function generator with frequency counter module
- Solder station module with accompanying benchtop extras
- PC housed under worktop with monitor mounted to perforated panel
- Antistatic mat included (ESD type worktop optional)
- Comprehensive kit of electronics service tools included



Repair and Maintenance CalBench: Items in Package

The modules and items in the CBP-RM1 Repair and Maintenance CalBench package



Item #	QTY	Code	Basic Description	Basic Purpose
1	1	7080	CalBench Cantilever Version (W2000 x D850 x H1568) Cantilever bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W450 x D250 x H130mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7141	Perfo Panel Option: Storage Bin Strip (W450 x H75mm). Supplied with 4 x 1L bins	For storage of components and small tools.
6	1	7131	Combination 1 Drawer + Cabinet Unit (W500 x D550 x H600mm)	For storage of equipment, tools, documents etc.
7	1	7123	Under Bench CPU Holder	For housing computer (CBPC) under worktop.
8	1	5065B	6.5 Digital Multimeter Module AC/DC voltage, AC/DC current, 2/4 wire resistance, frequency, period, diode, continuity, thermocouples and RTD	A versatile 6½ digit multimeter module with 19 measurement functions. Simple operation, stability, and high accuracy make the 5065B an ideal DMM for a variety of applications.
9	1	7024	Digital Oscilloscope Module 200MHz, 4 channel, colour LCD display	High performance scope ideal for maintenance of electronic equipment and general purpose laboratory work.
10	1	8027	25MHz Arbitrary DDS Function Generator Module With counter, sweep, AM, FM and FSK modulation	Used to generate different types of electrical waveforms over the frequency range, and frequency measurement for fault diagnostics and repair work.
11	1	7088D	Adjustable AC Supply Module with Digital Displays Variable output voltage from 0 to 110% above line input. 0 to 265V 50Hz, 10A at 240V. 0 to 121V 50Hz, 10A at 110V.	Provides variable 50Hz AC power up to 10A with two digital meters monitoring the output voltage and current. For general purpose use and R&M applications.
12	1	M-PSW160-7.2	Multi-Range DC Power Supply Module 0 ~ 160V, 0 ~ 7.2A, 360W	A regulated DC supply for inputting stable voltages, for bench testing of devices and circuits.
13	1	7034	Digital Soldering Station Module Includes soldering iron, standard tip and holder	High quality soldering, for electronics, components etc.
14	1	7146	Extra Solder Tips (6 piece set)	A selection of soldering tips for use with the 7034 module.
15	1	7147	Benchtop Fume Extraction Kit	Fume extractor for use with 7034 soldering module
16	1	TL90	High Performance Magnification and Inspection Light	A magnifier with 48 premium LEDs to illuminate a 6" wide-angle, distortion-free lens. For inspection of circuit boards etc.
17	1	7180	Circuit Board Holder	For holding circuit boards with quick and easy rotation and component insertion/soldering.
18	1	7183	Electronic Service Case (82 tools)	A comprehensive selection of tools for electrical and electronic service work.
19	1	7186	ESD Workstation Kit for CalBench Benchtop mat, signage, bonding plugs, wrist strap & leads	An antistatic mat to cover the benchtop when needed. A kit to eliminate static electricity and prevent ESD damage.
20	1	CBPC	CalBench PC Workstation Includes high performance PC, TL70 17" touch screen monitor, TL102 mounting arm, keyboard and mouse	Enable users to access necessary programs and data. An ergonomic mounting arm fixes the monitor to the CalBench perfo panel enabling it to be positioned away from the tabletop when not in use. The PC is housed in the 7123 under worktop holder.
21	1	CERTS	Traceable Calibration Certificates - for all test modules and additional test equipment	Certifies all measurement modules and additional instruments have been tested in the TE factory to international standards.



Pre-Sales Services - CalBench Configuration Consultancy

A step by step guide on how to create the best CalBench for your applications

CalBench



Step 1: Contact the CalBench Sales Team

Get in contact with us to discuss your requirements. We have a team of experts who will be able to run through the available options and explain the features and functions available.

- Email sales@calbench.com, call Time Electronics, or an authorised distributor.
- Let us know your location and industry, and relevant background information.
- Tell us about your existing set up and what you want to achieve with your CalBench.
- Look at the example CalBenches for a quick guide to common configurations.
- If applicable to your requirement we can base the configuration on an example CalBench and modify if needed.
- Provide the information based on steps 2 to 4.

Perfo Options

Bench Fittings



Step 2: The CalBench Type, Fittings and Extras

Review the various options in Section 1 of this catalogue. The CalBench sales team can advise on suitable solutions based on your industry and type of work you will be using the CalBench to perform.

- Choose the 7080 cantilever CalBench or 7080-HD heavy duty framework CalBench.
- If it is a multiple CalBench requirement then decide if the 7080-CNR corner bench is an option to bridge the two main CalBenches and form an L-shaped workstation.
- Select the under worktop fittings that are appropriate based on storage needs.
- Choose the perforated panel options best suited, for your quick access storage.
- If a complete workshop or lab design requirement, then send us the dimensions.

Modules



Step 3: Module Requirements

Selecting the correct modules for your applications is the most critical part of the process. See Section 2 for available modules, or we will advise you based on various criteria below.

- What are the general requirements for the CalBench, i.e. calibration, training, R&M etc.
- Do you want to automate calibration and testing applications.
- What are the parameters you want to cover, i.e. electrical, temperature, pressure etc.
- What instruments and devices do you want to calibrate.
- Range coverage: For parameters like pressure and temperature what are the min & max ranges, plus the most common range. For pressure what types are required.
- If available, the models or information on the UUT's you plan to calibrate.

Accompanying Products



Step 4: Accompanying Instruments Requirements

Accompanying products are required to supplement applications on the CalBench. Typically these would be for pressure and temperature, or items used for service work in the laboratory/workshop, and for field applications.

- Line pressure: What is required and what is readily available on-site.
- Manual pressure generation: Pumps and extras for inputting pressure to modules.
- Dry block calibrators: A typical requirement, selecting the models needed based on temperature range coverage, i.e. for RTDs and thermocouples.
- R&M products such as soldering stations and extras that may be needed.
- Determine what other products are needed for lab and/or field applications.

Documentation



Step 5: Receive Detailed Information About Your CalBench

Once the configuration of the CalBench and additional items have been confirmed, the CalBench team or distributor will provide detailed documentation.

- Technical proposal with an overview of all items in the package.
- Full project file with individual data sheets, specifications and relevant literature
- Concept images of the CalBench or CalBenches
- If a lab design an overview and concept images of the work space
- Pricing, delivery and ordering information
- Information on services like installation and training. Both on-site and UK based training programs are available.



On-Site Services

Installation, Commissioning, Training

A travelling engineer will visit the customer's facility to install and commission the CalBench, supporting instruments, and laboratory furniture. Our team can perform site visits worldwide and are qualified to work on offshore platforms, power and processing plants, and refineries.

Training is most often included with the CalBench or lab installation, or can be scheduled for a later date. A qualified CalBench engineer will educate users on how to set up their system, to operate modules and additional test instruments. They will also simulate the calibration process by demonstrating tests on actual devices at the site, as well as consulting on best practice calibration.

Calibration and Maintenance

A technician can visit the test facility annually to perform calibration of the CalBench and additional test equipment. This can be scheduled before or after installation and can include additional training if required.



Factory Acceptance Testing & Training in UK

Factory Acceptance Testing

Factory acceptance testing can be undertaken by the end user or their designated inspection company. A full program is provided to cover the visual and functional checks of the CalBench and other equipment for supply.

UK Based Training

Customers can visit Time Electronics UK and receive training on their ordered system prior to shipment. We will schedule and arrange all aspects of the visit, including local transport and accommodation. The factory is based in Tonbridge, situated in the south east of England, approximately thirty miles from London.



Remote Training and Support

Online EasyCal Training

Using remote desktop sharing we can help customers understand and utilise EasyCal software for calibration work and management. We can provide basic tutorials or troubleshoot specific applications relative to end user requirements.

EasySupport for CalBench

CalBenches that features a control centre modules come supplied with the Time Electronics EasySupport program. This application enables users to communicate directly with the factory, allowing the CalBench technical support team to log in and control the customer's system remotely.

This is an extremely useful tool for both support and training. The UK based team can run diagnostics and functional checks as required, and help customers resolve software issues. Customers can contact the support team by phone or via the Time Electronics website to schedule sessions.





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Calibration, Test and Measurement

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