



Description

The 5025E Series 2 model is a multi-product calibrator that provides a versatile and efficient solution for wide workload coverage. Calibrate various types of electrical test tools and electronic measuring devices with a calibrator that meets both technical and budgetary requirements.

Functions include AC/DC voltage and current, digital frequency, variable resistance, conductance, capacitance, thermocouple and Pt100 simulation. AC and DC power calibration via simultaneous voltage and current output, with adjustable phase, and frequency to 500 Hz. An oscilloscope calibration option enables generation of levelled sine-waves up to 2.2 GHz.

Clamp meter calibration is simplified by additional TurnCoil ranges for DC and AC current, designed for use with the 9780 adaptor. Further options include an optical tachometer calibration adaptor, 100 A AC current transformer, and a power amplifier that increases the AC/DC voltage output drive capabilities to 100 mA. Accessories include test lead sets, carry case options, and calibration software for automation.

Calibration capabilities

The 5025E-S2 can calibrate various instruments and devices including:

- Analogue and digital multimeters, panel meters, process meters
- Clamp meters (with clamp coil option 9780)
- Power meters, watt meters
- Tachometers, chart recorders, data loggers
- Thermocouple and Pt100 meters, electronic thermometers
- Oscilloscopes and timer counters (with SCP option)

Simple operation

Front panel operation is easy and intuitive. Quickly select functions and ranges, set output values and increment digits up/down via the keypad. A deviation control feature enables the user to finely adjust the output value as a percentage ($\pm 9.999\%$). All information is shown on a clear, easy to read alphanumeric display.

Virtual control software

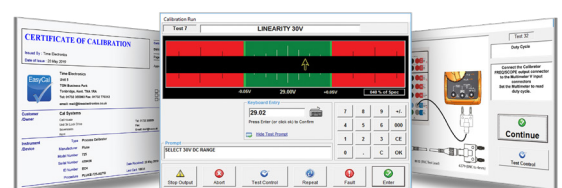
The 5025E-S2 is supplied as standard with Time Electronics' windows based Virtual Control Software. It allows quick and direct input of any value required. The remote SCPI command is displayed to help users develop custom applications.

Features

- 0 to 1050 V AC/DC voltage
- 0 to 22 A AC/DC current
- 1 Ω to 1.1 G Ω variable resistance
- Thermocouple and Pt100 simulation
- Power calibration
- Capacitance
- Optional oscilloscope calibration
- Clamp meter calibration
- RS-232, USB, and GPIB interfaces
- PC Virtual Control Software included
- Supplied with test lead set
- EasyCal software compatible

EasyCal Calibration Software

The 5025E can be controlled via Time Electronics EasyCal software to automate the calibration process. This provides increased speed of calibration and consistency of results. Produce traceable calibration certificates and test reports for quality standards with additional uncertainty information for ISO 17025 conformance.





Technical Specifications (for full technical data see extended specifications sheet)

| Function | Range / Values | Best 1 year Specification |
|----------------------------------|--|--|
| Voltage DC | 0 to \pm 1050 V | \pm 40 ppm of setting |
| Current DC | 0 to \pm 22 A 1100 A with clamp meter adaptor (option 9780) | \pm 120 ppm of setting |
| Voltage AC | 2 mV to 1050 V / 20 Hz to 1 MHz sine-wave | \pm 0.05 % of setting |
| Current AC | 10 μ A to 22 A / 20 Hz to 5 kHz sine-wave 100 A with current transformer (option 9790) 1100 A with clamp meter adaptor (option 9780) | \pm 0.07 % of setting |
| Digital frequency | 0.1 Hz to 10 MHz | \pm 20 ppm of setting |
| Digital period | 100 ns to 10 s (fixed values 1, 2, 5 sequence) | \pm 20 ppm of setting |
| Conductance | 100 mS to 1 nS (decade values) | \pm 100 ppm of setting |
| Variable resistance | 1 Ω to 1.1 G Ω | \pm 100 ppm of setting |
| RTD simulation | -180 to 850 °C. Type Pt100, Pt200, Pt500, Pt1000 | \pm 0.03 °C |
| Thermocouple simulation | -210 to 2315 °C. Type J, K, R, T, S, B, E, N, C, L, U | \pm 0.05 °C |
| Capacitance | 1nF, 10nF, 20nF, 50nF, 100nF, 200nF, 500nF, 1 μ F, 10 μ F, 20 μ F, 50 μ F, 100 μ F | \pm 0.2 % of setting |
| Power | 22 A, 1050 V, 23 kW, 40 to 500 Hz | ACV: 0.05 %, DCV: 0.01 %. ACI: 0.1%, DCI: 0.05 % |
| Phase / Power factor | \pm 90° / 0.00 to 1.00 PF | \pm 0.25° |
| Option 9780: Clamp meter adaptor | AC/DC Current up to 1100 A (DC, 45 to 90 Hz) | \pm 0.5 % |

Oscilloscope Calibration (5025E-S2/SCP)

| | | |
|--|---|---|
| Amplitude | 2 mV to 200 V (1 M Ω) and 1 mV to 2 V 50 Ω (Square-wave or DC) | \pm 0.05 % |
| Frequency (fixed values 1, 2, 5 sequence) | 0.1 Hz to 10 MHz 20 MHz, 50 MHz, 100 MHz | \pm 0.1 ppm \pm 20 ppm |
| Period (fixed values 1, 2, 5 sequence) | 10 s to 100 ns 50 ns, 20 ns, 10 ns | \pm 0.1 ppm \pm 20 ppm |
| Duty cycle | 3 frequencies: 100 Hz, 1 kHz, 10 kHz, settable from 0 to 100 % | - |
| Fast-rise | < 400 ps. Bandwidth checking up to 400 MHz | - |
| Levelled Sine wave | 50 MHz to 2.2 GHz levelled sine-wave (0.5, 1, 1.5 V pk-pk) | Amplitude \pm 0.5 %, Frequency \pm 50 ppm |

External Options

| | |
|-------------------------------|---|
| External Adaptors/Instruments | 9780: Clamp meter adaptor (1 and 50 turn coil) • 9773: Optical tacho adaptor • 9790: 100 Amp AC current transformer 9760: Power amplifier (60 V AC, 90 V DC, 100 mA) • 9762: Rubidium high stability frequency reference 9764: Current probe calibration adaptor • 9766: Low noise attenuator (1000:1) • 9767: Low noise attenuator (100:1) |
| Accessories | 9085: Soft carry case • 9059: Hard transit case • 9728: 19" Universal rack mount kit • 9796: Premium test lead set |
| EasyCal Software | ECFLA: EasyCal full license • 9777: Bar code reader • 9779: Job and address label printer EC2FL/EC2WL: Additional user licenses • EAD: EasyAdmin add-on • EWC: WebCerts • CREP: Crystal Reports software |

General Specifications

Mains voltage..... 100 to 260 V AC 50/60 Hz.
Fuse ratings3.15 A anti-surge.
Power consumption 120 W typical, 200 W maximum.
Temperature performance Operating: 10 to 40 °C. Storage: -10 to 50 °C.
Operating humidity..... < 80 % non condensing.
Altitude 0 to 3 km. Non operating: 3 to 12 km.
Warm up30 minutes to full accuracy.
Interfaces.....RS-232, GPIB and USB (via RS-232 adaptor). Command set: Standard SCPI.
Dimensions / Weight.....W 447 x H 152 x D 470 mm. Weight: 16.5 kg.
Supplied accessories..... Test lead set, PC virtual control software, RS-232 cable, RS-232 to USB adaptor, user manual.

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



Ordering Information

| Code | Description |
|--|---|
| 5025E-S2 | 5025E Series 2 Multifunction Calibrator AC/DC 1050 V / 22 A, variable resistance 1 Ω to 1.1 G Ω , Pt100 simulation, thermocouple simulation, conductance, capacitance, power calibration, 10 MHz digital frequency. Supplied with test lead set, virtual control software, traceable calibration certificate. |
| 5025E-S2/ACRD | 5025E Series 2 Multifunction Calibrator with accredited calibration AC/DC 1050 V / 22 A, variable resistance 1 Ω to 1.1 G Ω , Pt100 simulation, thermocouple simulation, conductance, capacitance, power calibration, 10 MHz digital frequency. Supplied with test lead set, virtual control software, virtual control software, accredited calibration certificate (ISO 17025). |
| 5025E-S2/SCP | 5025E Series 2 Multifunction Calibrator with oscilloscope calibration option AC/DC 1050 V / 22 A, variable resistance 1 Ω to 1.1 G Ω , Pt100 simulation, thermocouple simulation, conductance, capacitance, power calibration, 10 MHz digital frequency, 2.2 GHz oscilloscope calibration option fitted. Supplied with test lead set, virtual control software, traceable calibration certificate. |
| 5025E-S2/SCP/ACRD | 5025E Series 2 Multifunction Calibrator with oscilloscope calibration option and accredited calibration AC/DC 1050 V / 22 A, variable resistance 1 Ω to 1.1 G Ω , Pt100 simulation, thermocouple simulation, conductance, capacitance, power calibration, 10 MHz digital frequency, 2.2 GHz oscilloscope calibration option fitted. Supplied with test lead set, virtual control software, accredited calibration certificate (ISO 17025). |
| Adaptors, accessories and options | |
| 9762 | Rubidium high stability frequency reference (for use with 5025E-S2/SCP models) |
| 9764 | Current probe calibration adaptor (for use with 5025E-S2/SCP models) |
| 9773 | Optical tacho adaptor |
| 9780 | Clamp meter adaptor (1 and 50 turn coil) |
| 9790 | 100 Amp AC current transformer |
| 9760 | Power amplifier (60 V AC, 90 V DC, 100 mA) |
| 9766 | External low noise attenuator 1000:1 |
| 9767 | External low noise attenuator 100:1 |
| 9085 | Soft carry case |
| 9059 | Hard transit case |
| 9728 | 19 " universal rack mount kit |
| 9796 | Premium test lead set (basic test lead set supplied as standard) |
| EW01 | Extended warranty - 3 years total covering parts and labour. |
| EasyCal software licenses | |
| ECFLA | EasyCal full license (discounted price when purchased with 5025E) |
| EC2FL | EasyCal additional full license (secondary user) |
| EC2WL | EasyCal work station license (full management/scheduling, no calibration run) |
| EasyCal accessories | |
| 9795 | Printer and connectivity kit |
| 9777 | Bar code reader |
| 9778 | Cal and ID label printer |
| 9779 | Job and address label printer |
| CREP | Crystal Reports Software: For detailed editing and formatting of certificate styles |
| 9597 | GPIB cable |
| 9743 | PCI to GPIB interface card for PC |

For full listings of EasyCal software and options please see the EasyCal brochure for information.