

5790A

Automated AC Measurement Standard

Technical Data

Accuracy that's easy to use

The 5790A is a complete automated ac measurement standard designed for the most demanding calibration applications. It combines the accuracy you would expect from a thermal transfer standard with the ease of use of a digital multimeter. Absolute ac voltage measurement uncertainties are as low as ± 24 ppm (one year, $23\text{ }^{\circ}\text{C} \pm 5^{\circ}\text{C}$). The 5790A is designed to meet the complete ac voltage and wideband verification requirements of the Fluke 5700A, 5500A, and 5100 Series and other calibrators, amplifiers like the 5725A and 5205A, and transfer standards and ac voltmeters.

The 5790A covers an alternating voltage range of $700\text{ }\mu\text{V}$ to 1000 V , and a frequency range of 10 Hz to 1 MHz . A wideband voltage option extends frequency range to 30 MHz to meet the calibration requirements of the Fluke 5700A, and 5100 Series calibrators.

The 5790A is also compatible with Fluke A40 and A40A Current Shunts, which permit you to make ac/dc current transfer measurements up to 20 A .

The 5790A may be used alone or as a transfer standard with an external dc source. In either case the normally tedious switching and calculations are performed automatically by the 5790A, and the resulting ac/dc difference is displayed directly on the easy-to-read vacuum fluorescent display.



Precision you can depend on

The 5790A is based on the patented Fluke Solid-State Thermal RMS Sensor, which has been proven since 1979 in a variety of Fluke products like the 792A AC/DC Transfer Standard. The Fluke RMS Sensor is a true thermal converter, not an electronic converter that calculates the RMS value. Because its output voltage is 2 V rather than the 7 to 10 mV of traditional thermocouples, the RMS sensor exhibits excellent signal-to-noise characteristics and minimal reversal errors. With a higher output voltage, more accurate measurements can be made.

And because of its small size, the RMS sensor stabilizes quickly and operates over a wide temperature range.

The 5790A also features hermetically sealed thin-film resistor networks to minimize ac measurement errors and enhance temperature coefficient.

The RMS sensor and thin-film resistor networks are designed by Fluke to be rugged and reliable. Each is built to exacting standards by the Fluke Microelectronics Operation to maintain quality and consistency part after part.

Versatility that keeps you productive

When you first power up the 5790A, diagnostics verify the instrument's integrity.

The variety of input connections allows you to use the one that best suits your application. There are four sets of input terminals on the 5790A, two Type-N connectors and two sets of five-way binding posts. One Type-N and one set of binding posts are dedicated to the ac measurement and transfer modes. AC or dc voltages may be applied to either input connection over the 5790A's full range, allowing you to perform automated ac/dc transfer measurements. The 5790A determines automatically whether the applied voltage is ac or dc.

The second Type-N input connection supports the optional wideband mode, and the second set of binding posts are designed for Fluke A40 Series current shunts.

The input connection is selected with the touch of a key on the 5790A front panel. An LED indicates which selection is active.

Whether you are using the 5790A as a voltmeter or a transfer standard, input voltage and frequency are always indicated on the measurement display. In the transfer mode, the ac/dc or ac/ac difference is always indicated on the control display in ppm, %, volts or ratio.

The 5790A is a fully autoranging instrument and selects the best voltage range for the measurement you are making. You may also select and lock in ranges manually. Robust 1200V input protection is active on all voltage ranges.

Using the trigger keys, the 5790A can switch from continuous to single measurements of the input voltage, making it easy to take sample readings at predetermined intervals.

When using the 5790A in transfer mode, the reference voltage is stored automatically, and all ac/dc or ac/ac difference measurements are made relative to it. At any time, you can view the reference by pressing the VIEW REF key. You may also store the average of two voltages as a reference to eliminate dc reversal errors, for example.

The intuitive front panel layout of the 5790A makes manual operation fast and simple. Keys and selections are logically arranged and labelled. And messages and menus are displayed clearly on the 5790A's bright, vacuum fluorescent display.

The 5790A is at home in automated systems as well. IEEE-488 and RS-232 interfaces are included and all functions of the instruments can be controlled by a variety of host computers, including PCs. The 5790A can be integrated into automated systems operating under MET/CAL™ Calibration Software.

Designed with your support requirements in mind

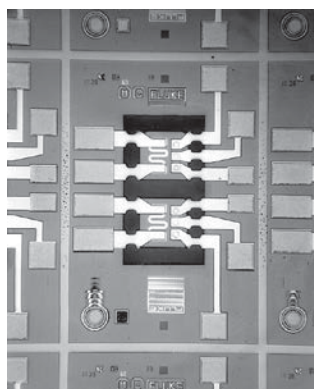
The 5790A provides a self-contained calibration procedure designed to simplify periodic performance verification. The operator is prompted on what actions to take. To minimize the equipment required, the 5790A is designed to be supported by the Fluke 792A AC/DC Transfer Standard.



The 5790A is designed to meet the ac verification requirements of the Fluke 5700A Calibrator. Automation using MET/CAL Calibration Software is fast and easy.



The 5790A is compatible with Fluke A40 and A40A Current Shunts to permit measurements to 20A.



The patented Fluke Solid-State RMS Sensor provides the 5790A with exceptional accuracy and stability, and fast settling time.



Traceability to national standards for the 5790A is supported through the Fluke 792A.

Specifications

Absolute Uncertainty Specifications

± 5 °C of Calibration Temperature

| Voltage Range | Frequency Range | Absolute Uncertainty | | | |
|---------------|------------------------------|-----------------------------------|--|------------|------------|
| | | AC/DC Transfer Mode ± ppm 2 Years | Measurement Mode ± (ppm of Reading + μV) | | |
| | | | 90 Days | 1 Year | 2 Years |
| 2.2 mV | 10 Hz - 20 Hz | | 1700 + 1.3 | 1700 + 1.3 | 1700 + 1.3 |
| | 20 Hz - 40 Hz | | 740 + 1.3 | 740 + 1.3 | 740 + 1.3 |
| | 40 Hz - 20 kHz | | 420 + 1.3 | 420 + 1.3 | 420 + 1.3 |
| | 20 kHz - 50 kHz | | 810 + 2.0 | 810 + 2.0 | 820 + 2.0 |
| | 50 kHz - 100 kHz | | 1200 + 2.5 | 1200 + 2.5 | 1200 + 2.5 |
| | 100 kHz - 300 kHz | | 2300 + 4.0 | 2300 + 4.0 | 2300 + 4.0 |
| | 300 kHz - 500 kHz | | 2400 + 6.0 | 2400 + 8.0 | 2600 + 8.0 |
| 7 mV | 10 Hz - 20 Hz | | 850 + 1.3 | 850 + 1.3 | 850 + 1.3 |
| | 20 Hz - 40 Hz | | 370 + 1.3 | 370 + 1.3 | 370 + 1.3 |
| | 40 Hz - 20 kHz | | 210 + 1.3 | 210 + 1.3 | 210 + 1.3 |
| | 20 kHz - 50 kHz | | 400 + 2.0 | 400 + 2.0 | 410 + 2.0 |
| | 50 kHz - 100 kHz | | 600 + 2.5 | 600 + 2.5 | 610 + 2.5 |
| | 100 kHz - 300 kHz | | 1200 + 4.0 | 1200 + 4.0 | 1200 + 4.0 |
| | 300 kHz - 500 kHz | | 1300 + 6.0 | 1300 + 8.0 | 1400 + 8.0 |
| 22 mV | 10 Hz - 20 Hz | | 290 + 1.3 | 290 + 1.3 | 290 + 1.3 |
| | 20 Hz - 40 Hz | | 180 + 1.3 | 190 + 1.3 | 190 + 1.3 |
| | 40 Hz - 20 kHz | | 110 + 1.3 | 110 + 1.3 | 110 + 1.3 |
| | 20 kHz - 50 kHz | | 210 + 2.0 | 210 + 2.0 | 210 + 2.0 |
| | 50 kHz - 100 kHz | | 310 + 2.5 | 310 + 2.5 | 310 + 2.5 |
| | 100 kHz - 300 kHz | | 810 + 4.0 | 810 + 4.0 | 820 + 4.0 |
| | 300 kHz - 500 kHz | | 860 + 6.0 | 890 + 8.0 | 1000 + 8.0 |
| 70 mV | 10 Hz - 20 Hz ^[1] | | 240 + 1.5 | 240 + 1.5 | 240 + 1.5 |
| | 20 Hz - 40 Hz | | 120 + 1.5 | 120 + 1.5 | 130 + 1.5 |
| | 40 Hz - 20 kHz | | 64 + 1.5 | 65 + 1.5 | 69 + 1.5 |
| | 20 kHz - 50 kHz | | 120 + 2.0 | 130 + 2.0 | 130 + 2.0 |
| | 50 kHz - 100 kHz | | 260 + 2.5 | 260 + 2.5 | 260 + 2.5 |
| | 100 kHz - 300 kHz | | 510 + 4.0 | 510 + 4.0 | 530 + 4.0 |
| | 300 kHz - 500 kHz | | 660 + 6.0 | 670 + 8.0 | 680 + 8.0 |
| 220 mV | 10 Hz - 20 Hz ^[1] | 210 | 210 + 1.5 | 210 + 1.5 | 210 + 1.5 |
| | 20 Hz - 40 Hz | 82 | 84 + 1.5 | 85 + 1.5 | 87 + 1.5 |
| | 40 Hz - 20 kHz | 34 | 37 + 1.5 | 38 + 1.5 | 43 + 1.5 |
| | 20 kHz - 50 kHz | 67 | 69 + 2.0 | 69 + 2.0 | 73 + 2.0 |
| | 50 kHz - 100 kHz | | 160 + 2.5 | 160 + 2.5 | 160 + 2.5 |
| | 100 kHz - 300 kHz | | 240 + 4.0 | 250 + 4.0 | 280 + 4.0 |
| | 300 kHz - 500 kHz | | 360 + 6.0 | 380 + 8.0 | 400 + 8.0 |
| 700 mV | 10 Hz - 20 Hz ^[1] | 210 | 210 + 1.5 | 210 + 1.5 | 210 + 1.5 |
| | 20 Hz - 40 Hz | 73 | 75 + 1.5 | 76 + 1.5 | 78 + 1.5 |
| | 40 Hz - 20 kHz | 27 | 31 + 1.5 | 33 + 1.5 | 38 + 1.5 |
| | 20 kHz - 50 kHz | 47 | 50 + 2.0 | 51 + 2.0 | 56 + 2.0 |
| | 50 kHz - 100 kHz | | 79 + 2.5 | 79 + 2.5 | 84 + 2.5 |
| | 100 kHz - 300 kHz | | 160 + 4.0 | 180 + 4.0 | 210 + 4.0 |
| | 300 kHz - 500 kHz | | 300 + 6.0 | 300 + 8.0 | 340 + 8.0 |
| | 500 kHz - 1 MHz | | 900 + 6.0 | 960 + 8.0 | 1200 + 8.0 |

[1] For 9.5 to 10 Hz, the specifications is ± (1000 ppm of reading + 1.5 μV)

Absolute Uncertainty Specifications (cont.)

± 5 °C of Calibration Temperature

| Voltage Range | Frequency Range | Absolute Uncertainty | | | |
|---------------|------------------------------|--------------------------------------|-------------------------------------|--------|---------|
| | | AC/DC Transfer Mode ± ppm 2 Years | Measurement Mode ± (ppm of Reading) | | |
| | | | 90 Days | 1 Year | 2 Years |
| 2.2 V | 10 Hz - 20 Hz ^[2] | 200 | 200 | 200 | 200 |
| | 20 Hz - 40 Hz | 63 | 65 | 66 | 69 |
| | 40 Hz - 20 kHz | 18 | 22 | 24 | 29 |
| | 20 kHz - 50 kHz | 43 | 45 | 46 | 52 |
| | 50 kHz - 100 kHz | | 70 | 71 | 76 |
| | 100 kHz - 300 kHz | | 150 | 160 | 200 |
| | 300 kHz - 500 kHz | | 250 | 260 | 310 |
| | 500 kHz - 1 MHz | | 840 | 900 | 1200 |
| 7 V | 10 Hz - 20 Hz ^[2] | 200 | 200 | 200 | 200 |
| | 20 Hz - 40 Hz | 63 | 66 | 67 | 70 |
| | 40 Hz - 20 kHz | 18 | 22 | 24 | 29 |
| | 20 kHz - 50 kHz | 44 | 46 | 48 | 53 |
| | 50 kHz - 100 kHz | | 80 | 81 | 88 |
| | 100 kHz - 300 kHz | | 180 | 190 | 220 |
| | 300 kHz - 500 kHz | | 380 | 400 | 470 |
| | 500 kHz - 1 MHz | | 1100 | 1200 | 1500 |
| 22 V | 10 Hz - 20 Hz ^[2] | 200 | 200 | 200 | 200 |
| | 20 Hz - 40 Hz | 63 | 66 | 67 | 70 |
| | 40 Hz - 20 kHz | 21 | 25 | 27 | 31 |
| | 20 kHz - 50 kHz | 44 | 46 | 48 | 53 |
| | 50 kHz - 100 kHz | | 80 | 81 | 85 |
| | 100 kHz - 300 kHz | | 180 | 190 | 220 |
| | 300 kHz - 500 kHz | | 380 | 400 | 470 |
| | 500 kHz - 1 MHz | | 1100 | 1200 | 1500 |
| 70 V | 10 Hz - 20 Hz ^[2] | 200 | 200 | 200 | 200 |
| | 20 Hz - 40 Hz | 63 | 67 | 68 | 72 |
| | 40 Hz - 20 kHz | 25 | 30 | 32 | 39 |
| | 20 kHz - 50 kHz | 55 | 56 | 57 | 63 |
| | 50 kHz - 100 kHz | | 91 | 94 | 110 |
| | 100 kHz - 300 kHz | | 190 | 200 | 220 |
| | 300 kHz - 500 kHz | | 400 | 410 | 510 |
| | 500 kHz - 1 MHz | | 1100 | 1200 | 1500 |
| 220 V | 10 Hz - 20 Hz | 200 | 200 | 200 | 200 |
| | 20 Hz - 40 Hz | 63 | 67 | 68 | 72 |
| | 40 Hz - 20 kHz | 23 | 29 | 31 | 38 |
| | 20 kHz - 50 kHz | 63 | 67 | 69 | 77 |
| | 50 kHz - 100 kHz | | 96 | 98 | 110 |
| | 100 kHz - 300 kHz | | 210 | 210 | 260 |
| | 300 kHz - 500 kHz | | 440 | 500 | 700 |
| | 500 kHz - 1 MHz | | 1100 | 1200 | 1500 |
| 700 V | 10 Hz - 20 Hz | 200 | 200 | 200 | 200 |
| | 20 Hz - 40 Hz | 92 | 96 | 99 | 110 |
| | 40 Hz - 20 kHz | 36 | 39 | 41 | 47 |
| | 20 kHz - 50 kHz | | 120 | 130 | 150 |
| | 50 kHz - 100 kHz | | 400 | 500 | 850 |
| 1000 V | 10 Hz - 20 Hz | 200 | 200 | 200 | 200 |
| | 20 Hz - 40 Hz | 92 | 96 | 99 | 110 |
| | 40 Hz - 20 kHz | 33 | 37 | 38 | 44 |
| | 20 kHz - 50 kHz | | 120 | 130 | 150 |
| | 50 kHz - 100 kHz | | 400 | 500 | 850 |

[2] For 9.5 to 10 Hz, the specifications is ± (1000 ppm of reading)

Relative Uncertainty Specifications

± 5 °C of Calibration Temperature

| Voltage Range | Frequency Range | Relative Uncertainty | | | |
|---------------|-------------------|--------------------------------------|---|------------|------------|
| | | AC/DC Transfer Mode ± ppm 2 Years | Measurement Mode ± (ppm of Reading + µV) | | |
| | | | 90 Days | 1 Year | 2 Years |
| 2.2 mV | 10 Hz - 20 Hz | | 100 + 1.3 | 110 + 1.3 | 110 + 1.3 |
| | 20 Hz - 40 Hz | | 54 + 1.3 | 64 + 1.3 | 68 + 1.3 |
| | 40 Hz - 20 kHz | | 44 + 1.3 | 57 + 1.3 | 61 + 1.3 |
| | 20 kHz - 50 kHz | | 57 + 2.0 | 67 + 2.0 | 110 + 2.0 |
| | 50 kHz - 100 kHz | | 79 + 2.5 | 86 + 2.5 | 120 + 2.5 |
| | 100 kHz - 300 kHz | | 190 + 4.0 | 230 + 4.0 | 390 + 4.0 |
| | 300 kHz - 500 kHz | | 590 + 6.0 | 720 + 8.0 | 1200 + 8.0 |
| | 500 kHz - 1 MHz | | 2200 + 6.0 | 2600 + 8.0 | 4400 + 8.0 |
| 7 mV | 10 Hz - 20 Hz | | 80 + 1.3 | 83 + 1.3 | 86 + 1.3 |
| | 20 Hz - 40 Hz | | 33 + 1.3 | 39 + 1.3 | 45 + 1.3 |
| | 40 Hz - 20 kHz | | 29 + 1.3 | 36 + 1.3 | 42 + 1.3 |
| | 20 kHz - 50 kHz | | 40 + 2.0 | 4 + 2.0 | 63 + 2.0 |
| | 50 kHz - 100 kHz | | 53 + 2.5 | 57 + 2.5 | 72 + 2.5 |
| | 100 kHz - 300 kHz | | 110 + 4.0 | 130 + 4.0 | 210 + 4.0 |
| | 300 kHz - 500 kHz | | 370 + 6.0 | 450 + 8.0 | 740 + 8.0 |
| | 500 kHz - 1 MHz | | 1600 + 6.0 | 2000 + 8.0 | 3400 + 8.0 |
| 22 mV | 10 Hz - 20 Hz | | 69 + 1.3 | 72 + 1.3 | 75 + 1.3 |
| | 20 Hz - 40 Hz | | 34 + 1.3 | 40 + 1.3 | 46 + 1.3 |
| | 40 Hz - 20 kHz | | 30 + 1.3 | 36 + 1.3 | 43 + 1.3 |
| | 20 kHz - 50 kHz | | 40 + 2.0 | 45 + 2.0 | 64 + 2.0 |
| | 50 kHz - 100 kHz | | 53 + 2.5 | 57 + 2.5 | 73 + 2.5 |
| | 100 kHz - 300 kHz | | 97 + 4.0 | 110 + 4.0 | 160 + 4.0 |
| | 300 kHz - 500 kHz | | 310 + 6.0 | 380 + 8.0 | 610 + 8.0 |
| | 500 kHz - 1 MHz | | 1200 + 6.0 | 1500 + 8.0 | 2500 + 8.0 |
| 70 mV | 10 Hz - 20 Hz | | 60 + 1.5 | 61 + 1.5 | 62 + 1.5 |
| | 20 Hz - 40 Hz | | 27 + 1.5 | 30 + 1.5 | 37 + 1.5 |
| | 40 Hz - 20 kHz | | 22 + 1.5 | 25 + 1.5 | 34 + 1.5 |
| | 20 kHz - 50 kHz | | 34 + 2.0 | 36 + 2.0 | 44 + 2.0 |
| | 50 kHz - 100 kHz | | 53 + 2.5 | 54 + 2.5 | 62 + 2.5 |
| | 100 kHz - 300 kHz | | 110 + 4.0 | 120 + 4.0 | 170 + 4.0 |
| | 300 kHz - 500 kHz | | 270 + 6.0 | 290 + 8.0 | 320 + 8.0 |
| | 500 kHz - 1 MHz | | 910 + 6.0 | 970 + 8.0 | 1200 + 8.0 |
| 220 mV | 10 Hz - 20 Hz | 55 | 60 + 1.5 | 61 + 1.5 | 62 + 1.5 |
| | 20 Hz - 40 Hz | 20 | 27 + 1.5 | 29 + 1.5 | 35 + 1.5 |
| | 40 Hz - 20 kHz | 17 | 22 + 1.5 | 24 + 1.5 | 31 + 1.5 |
| | 20 kHz - 50 kHz | 17 | 22 + 2.0 | 24 + 2.0 | 33 + 2.0 |
| | 50 kHz - 100 kHz | | 51 + 2.5 | 52 + 2.5 | 59 + 2.5 |
| | 100 kHz - 300 kHz | | 100 + 4.0 | 120 + 4.0 | 170 + 4.0 |
| | 300 kHz - 500 kHz | | 260 + 6.0 | 290 + 8.0 | 310 + 8.0 |
| | 500 kHz - 1 MHz | | 890 + 6.0 | 950 + 8.0 | 1200 + 8.0 |
| 700 mV | 10 Hz - 20 Hz | 55 | 60 + 1.5 | 61 + 1.5 | 62 + 1.5 |
| | 20 Hz - 40 Hz | 20 | 27 + 1.5 | 29 + 1.5 | 34 + 1.5 |
| | 40 Hz - 20 kHz | 15 | 22 + 1.5 | 24 + 1.5 | 31 + 1.5 |
| | 20 kHz - 50 kHz | 15 | 22 + 2.0 | 24 + 2.0 | 33 + 2.0 |
| | 50 kHz - 100 kHz | | 51 + 2.5 | 52 + 2.5 | 59 + 2.5 |
| | 100 kHz - 300 kHz | | 100 + 4.0 | 120 + 4.0 | 170 + 4.0 |
| | 300 kHz - 500 kHz | | 260 + 6.0 | 270 + 8.0 | 310 + 8.0 |
| | 500 kHz - 1 MHz | | 890 + 6.0 | 950 + 8.0 | 1200 + 8.0 |

Relative Uncertainty Specifications (cont.)

± 5 °C of Calibration Temperature

| Voltage Range | Frequency Range | Relative Uncertainty | | | |
|---------------|-------------------|--------------------------------------|---|--------|---------|
| | | AC/DC Transfer Mode ± ppm 2 Years | Measurement Mode ± (ppm of Reading + μV) | | |
| | | | 90 Days | 1 Year | 2 Years |
| 2.2 V | 10 Hz - 20 Hz | 55 | 60 | 61 | 62 |
| | 20 Hz - 40 Hz | 19 | 26 | 28 | 34 |
| | 40 Hz - 20 kHz | 15 | 20 | 22 | 27 |
| | 20 kHz - 50 kHz | 15 | 21 | 23 | 33 |
| | 50 kHz - 100 kHz | | 49 | 50 | 57 |
| | 100 kHz - 300 kHz | | 92 | 110 | 160 |
| | 300 kHz - 500 kHz | | 220 | 230 | 280 |
| | 500 kHz - 1 MHz | | 830 | 890 | 1200 |
| 7 V | 10 Hz - 20 Hz | 55 | 60 | 61 | 62 |
| | 20 Hz - 40 Hz | 19 | 27 | 29 | 36 |
| | 40 Hz - 20 kHz | 15 | 20 | 22 | 27 |
| | 20 kHz - 50 kHz | 18 | 23 | 26 | 35 |
| | 50 kHz - 100 kHz | | 62 | 64 | 73 |
| | 100 kHz - 300 kHz | | 140 | 150 | 180 |
| | 300 kHz - 500 kHz | | 360 | 380 | 450 |
| | 500 kHz - 1 MHz | | 1100 | 1200 | 1500 |
| 22 V | 10 Hz - 20 Hz | 55 | 60 | 61 | 62 |
| | 20 Hz - 40 Hz | 19 | 28 | 30 | 37 |
| | 40 Hz - 20 kHz | 15 | 20 | 22 | 27 |
| | 20 kHz - 50 kHz | 18 | 23 | 26 | 35 |
| | 50 kHz - 100 kHz | | 62 | 64 | 69 |
| | 100 kHz - 300 kHz | | 140 | 150 | 180 |
| | 300 kHz - 500 kHz | | 360 | 380 | 450 |
| | 500 kHz - 1 MHz | | 1100 | 1200 | 1500 |
| 70 V | 10 Hz - 20 Hz | 55 | 60 | 62 | 63 |
| | 20 Hz - 40 Hz | 19 | 29 | 31 | 39 |
| | 40 Hz - 20 kHz | 15 | 23 | 25 | 34 |
| | 20 kHz - 50 kHz | 22 | 25 | 27 | 39 |
| | 50 kHz - 100 kHz | | 64 | 68 | 85 |
| | 100 kHz - 300 kHz | | 140 | 150 | 180 |
| | 300 kHz - 500 kHz | | 370 | 390 | 490 |
| | 500 kHz - 1 MHz | | 1100 | 1200 | 1500 |
| 220 V | 10 Hz - 20 Hz | 55 | 61 | 62 | 64 |
| | 20 Hz - 40 Hz | 19 | 30 | 32 | 40 |
| | 40 Hz - 20 kHz | 15 | 23 | 25 | 34 |
| | 20 kHz - 50 kHz | 24 | 30 | 34 | 49 |
| | 50 kHz - 100 kHz | | 66 | 69 | 83 |
| | 100 kHz - 300 kHz | | 160 | 170 | 220 |
| | 300 kHz - 500 kHz | | 410 | 480 | 680 |
| | 500 kHz - 1 MHz | | | | |
| 700 V | 10 Hz - 20 Hz | 55 | 62 | 63 | 65 |
| | 20 Hz - 40 Hz | 19 | 31 | 33 | 41 |
| | 40 Hz - 20 kHz | 19 | 24 | 25 | 31 |
| | 20 kHz - 50 kHz | | 100 | 110 | 140 |
| | 50 kHz - 100 kHz | | 390 | 500 | 850 |
| | 100 kHz - 300 kHz | | | | |
| 1000 V | 10 Hz - 20 Hz | 55 | 62 | 63 | 65 |
| | 20 Hz - 40 Hz | 19 | 31 | 33 | 41 |
| | 40 Hz - 20 kHz | 19 | 24 | 25 | 31 |
| | 20 kHz - 50 kHz | | 100 | 110 | 140 |
| | 50 kHz - 100 kHz | | 390 | 500 | 850 |
| | 100 kHz - 300 kHz | | | | |

Secondary Performance and Operating Characteristics

| Voltage Range | Frequency Range | 24 Hour AC Stability ± 1 °C Slow Filter Peak-Peak ± μV | Temperature Coefficient ^[1] | | Input Resistance ^[2] |
|-----------------|-------------------|--|--|---------------------------------|---------------------------------|
| | | | 10 °C to 40 °C | 0 °C to 10 °C 40 °C to 50 °C | |
| | | | ppm / °C | | |
| 2.2 mV | 10 Hz - 20 Hz | 0.4 | 50 | 50 | > 10 MΩ |
| | 20 Hz - 40 Hz | 0.4 | 50 | 50 | |
| | 40 Hz - 20 kHz | 0.4 | 50 | 50 | |
| | 20 kHz - 50 kHz | 0.4 | 50 | 50 | |
| | 50 kHz - 100 kHz | 0.8 | 75 | 75 | |
| | 100 kHz - 300 kHz | 1.5 | 100 | 100 | |
| | 300 kHz - 500 kHz | 3.0 | 150 | 150 | |
| 500 kHz - 1 MHz | 4.5 | 200 | 200 | | |
| 7 mV | 10 Hz - 20 Hz | 0.4 | 15 | 15 | > 10 MΩ |
| | 20 Hz - 40 Hz | 0.4 | 15 | 15 | |
| | 40 Hz - 20 kHz | 0.4 | 15 | 15 | |
| | 20 kHz - 50 kHz | 0.4 | 15 | 15 | |
| | 50 kHz - 100 kHz | 0.8 | 25 | 25 | |
| | 100 kHz - 300 kHz | 1.5 | 60 | 60 | |
| | 300 kHz - 500 kHz | 3.0 | 80 | 80 | |
| 500 kHz - 1 MHz | 4.5 | 125 | 125 | | |
| 22 mV | 10 Hz - 20 Hz | 0.4 | 5 | 5 | > 10 MΩ |
| | 20 Hz - 40 Hz | 0.4 | 5 | 5 | |
| | 40 Hz - 20 kHz | 0.4 | 5 | 5 | |
| | 20 kHz - 50 kHz | 0.4 | 5 | 5 | |
| | 50 kHz - 100 kHz | 0.8 | 8 | 8 | |
| | 100 kHz - 300 kHz | 1.5 | 10 | 10 | |
| | 300 kHz - 500 kHz | 3.0 | 40 | 40 | |
| 500 kHz - 1 MHz | 4.5 | 100 | 100 | | |
| | | ± (ppm of Reading) | | | |
| 70 mV | 10 Hz - 20 Hz | 18 | 5 | 5 | > 10 MΩ |
| | 20 Hz - 40 Hz | 18 | 5 | 5 | |
| | 40 Hz - 20 kHz | 18 | 5 | 5 | |
| | 20 kHz - 50 kHz | 18 | 5 | 5 | |
| | 50 kHz - 100 kHz | 24 | 8 | 8 | |
| | 100 kHz - 300 kHz | 24 | 10 | 10 | |
| | 300 kHz - 500 kHz | 48 | 30 | 30 | |
| 500 kHz - 1 MHz | 150 | 75 | 75 | | |
| 220 mV | 10 Hz - 20 Hz | 12 | 1.5 | 3.0 | > 10 MΩ |
| | 20 Hz - 40 Hz | 8 | 1.5 | 3.0 | |
| | 40 Hz - 20 kHz | 8 | 1.5 | 3.0 | |
| | 20 kHz - 50 kHz | 8 | 2.0 | 3.0 | |
| | 50 kHz - 100 kHz | 18 | 5.0 | 8.0 | |
| | 100 kHz - 300 kHz | 24 | 10.0 | 10.0 | |
| | 300 kHz - 500 kHz | 36 | 20.0 | 20.0 | |
| 500 kHz - 1 MHz | 120 | 50.0 | 50.0 | | |

Secondary Performance and Operating Characteristics (cont.)

| Voltage Range | Frequency Range | 24 Hour AC Stability ± 1 °C Slow Filter ± (ppm of Reading) | Temperature Coefficient ^[1] | | Input Resistance ^[2] |
|---------------|-------------------|--|--|---------------------------------|---------------------------------|
| | | | 10 °C to 40 °C | 0 °C to 10 °C 40 °C to 50 °C | |
| | | | ppm / °C | | |
| 700 mV | 10 Hz - 20 Hz | 8 | 1.5 | 3.0 | >10 MΩ |
| | 20 Hz - 40 Hz | 6 | 1.5 | 3.0 | |
| | 40 Hz - 20 kHz | 6 | 1.5 | 3.0 | |
| | 20 kHz - 50 kHz | 6 | 2.0 | 3.0 | |
| | 50 kHz - 100 kHz | 12 | 5.0 | 8.0 | |
| | 100 kHz - 300 kHz | 18 | 10.0 | 10.0 | |
| | 300 kHz - 500 kHz | 36 | 20.0 | 20.0 | |
| | 500 kHz - 1 MHz | 96 | 50.0 | 50.0 | |
| 2.2 V | 10 Hz - 20 Hz | 8 | 1.5 | 3.0 | >10 MΩ |
| | 20 Hz - 40 Hz | 5 | 1.5 | 3.0 | |
| | 40 Hz - 20 kHz | 5 | 1.5 | 3.0 | |
| | 20 kHz - 50 kHz | 5 | 2.0 | 3.0 | |
| | 50 kHz - 100 kHz | 10 | 5.0 | 8.0 | |
| | 100 kHz - 300 kHz | 18 | 10.0 | 10.0 | |
| | 300 kHz - 500 kHz | 30 | 20.0 | 20.0 | |
| | 500 kHz - 1 MHz | 90 | 50.0 | 50.0 | |
| 7 V | 10 Hz - 20 Hz | 8 | 1.5 | 3.0 | 50 kΩ |
| | 20 Hz - 40 Hz | 5 | 1.5 | 3.0 | |
| | 40 Hz - 20 kHz | 5 | 1.5 | 3.0 | |
| | 20 kHz - 50 kHz | 5 | 2.0 | 3.0 | |
| | 50 kHz - 100 kHz | 10 | 5.0 | 8.0 | |
| | 100 kHz - 300 kHz | 18 | 15.0 | 15.0 | |
| | 300 kHz - 500 kHz | 30 | 30.0 | 30.0 | |
| | 500 kHz - 1 MHz | 90 | 65.0 | 65.0 | |
| 22 V | 10 Hz - 20 Hz | 8 | 1.5 | 3.0 | 50 kΩ |
| | 20 Hz - 40 Hz | 5 | 1.5 | 3.0 | |
| | 40 Hz - 20 kHz | 5 | 1.5 | 3.0 | |
| | 20 kHz - 50 kHz | 5 | 2.0 | 3.0 | |
| | 50 kHz - 100 kHz | 10 | 5.0 | 8.0 | |
| | 100 kHz - 300 kHz | 18 | 15.0 | 15.0 | |
| | 300 kHz - 500 kHz | 30 | 30.0 | 30.0 | |
| | 500 kHz - 1 MHz | 90 | 65.0 | 65.0 | |
| 70 V | 10 Hz - 20 Hz | 8 | 1.5 | 3.0 | 50 kΩ |
| | 20 Hz - 40 Hz | 5 | 1.5 | 3.0 | |
| | 40 Hz - 20 kHz | 5 | 1.5 | 3.0 | |
| | 20 kHz - 50 kHz | 5 | 2.0 | 3.0 | |
| | 50 kHz - 100 kHz | 18 | 5.0 | 8.0 | |
| | 100 kHz - 300 kHz | 36 | 15.0 | 15.0 | |
| | 300 kHz - 500 kHz | 48 | 40.0 | 40.0 | |
| | 500 kHz - 1 MHz | 120 | 75.0 | 75.0 | |

Secondary Performance and Operating Characteristics (cont)

| Voltage Range | Frequency Range | 24 Hour AC Stability ± 1 °C Slow Filter ± (ppm of Reading) | Temperature Coefficient ^[1] | | Input Resistance ^[2] |
|---------------|-------------------|--|--|---------------------------------|---------------------------------|
| | | | 10 °C to 40 °C | 0 °C to 10 °C 40 °C to 50 °C | |
| | | | PPM / °C | | |
| 220 V | 10 Hz - 20 Hz | 8 | 1.5 | 3.0 | 50 kΩ |
| | 20 Hz - 40 Hz | 5 | 1.5 | 3.0 | |
| | 40 Hz - 20 kHz | 5 | 1.5 | 3.0 | |
| | 20 kHz - 50 kHz | 5 | 2.0 | 3.0 | |
| | 50 kHz - 100 kHz | 18 | 5.0 | 8.0 | |
| | 100 kHz - 300 kHz | 36 | 15.0 | 15.0 | |
| | 300 kHz - 500 kHz | 48 | 40.0 | 40.0 | |
| 700 V | 10 Hz - 20 Hz | 8 | 1.5 | 4.0 | 500 kΩ |
| | 20 Hz - 40 Hz | 5 | 1.5 | 4.0 | |
| | 40 Hz - 20 kHz | 5 | 1.5 | 4.0 | |
| | 20 kHz - 50 kHz | 18 | 5.0 | 7.0 | |
| | 50 kHz - 100 kHz | 36 | 15.0 | 15.0 | |
| 1000 V | 10 Hz - 20 Hz | 8 | 1.5 | 4.0 | 500 kΩ |
| | 20 Hz - 40 Hz | 5 | 1.5 | 4.0 | |
| | 40 Hz - 20 kHz | 5 | 1.5 | 4.0 | |
| | 20 kHz - 50 kHz | 18 | 5.0 | 7.0 | |
| | 50 kHz - 100 kHz | 36 | 15.0 | 15.0 | |

[1] Add to uncertainty when more than 5 °C from calibration temperature.
 [2] Input capacitance approximately 100 pF.

Resolution and Range Limits

| Voltage Range | Autorange Limits ^[1] | | Resolution | |
|---------------|---------------------------------|--------|-------------|-----------------|
| | Upper | Lower | Filter Fast | Filter Med/Slow |
| 2.2 mV | 2.2 mV | 600 μV | 0.1 μV | 0.1 μV |
| 7 mV | 7 mV | 1.9 mV | 0.1 μV | 0.1 μV |
| 22 mV | 22 mV | 6 mV | 0.1 μV | 0.1 μV |
| 70 mV | 70 mV | 19 mV | 0.1 μV | 0.1 μV |
| 220 mV | 220 mV | 60 mV | 0.1 μV | 0.1 μV |
| 700 mV | 700 mV | 190 mV | 1.0 μV | 0.1 μV |
| 2.2 V | 2.2 V | 600 mV | 1.0 μV | 0.1 μV |
| 7 V | 7 V | 1.9 V | 10 μV | 1.0 μV |
| 22 V | 22 V | 6 V | 10 μV | 1.0 μV |
| 70 V | 70 V | 19 V | 100 μV | 10 μV |
| 220 V | 220 V | 60 V | 100 μV | 10 μV |
| 700 V | 700 V | 190 V | 1.0 mV | 100 μV |
| 1000 V | 1050 V | 600 V | 1.0 mV | 100 μV |

[1] In locked ranges, readings may be made approximately 1 % beyond the autorange limits.

More Secondary Performance and Operating Characteristics

| | |
|---|---|
| Maximum Non-destructive Input | 1200 V rms |
| Guard Isolation | 10 V peak |
| Volt-Hertz Product | 1 x 10 ⁸ |
| Frequency Accuracy (from 0 °C to 50 °C) | |
| 10 Hz - 120 Hz | 100 ppm + 10 digits |
| Above 120 Hz | 100 ppm + 2 digits |
| Frequency Resolution | 1.00 Hz to 119.99 Hz |
| | 0.1200 kHz to 1.1999 kHz |
| | 1.200 kHz to 11.999 kHz |
| | 12.00 kHz to 119.99 kHz |
| | 0.1200 MHz to 1.0000 MHz |
| | 1.000 MHz to 1.1999 MHz (Wideband only) |
| | 1.200 MHz to 11.999 MHz (Wideband only) |
| | 12.00 MHz to 30.0 Mhz (Wideband only) |

Reading Rate

| | |
|---------------|---|
| <40 Hz | 2 seconds per reading |
| 40 Hz | 2 seconds decreasing linearly to 1 second at 200 Hz |
| >200 Hz | 1 second per reading |

Maximum Settling Time to Full Specifications (in range lock)

| | |
|---------------------|---------------------|
| Filter Off | 1 sample |
| dc | 6 seconds |
| <200 Hz | 8 seconds |
| >200 Hz | 4 seconds |
| Filter Fast | 4 averaged samples |
| dc | 10 seconds |
| <200 Hz | 16 seconds |
| >200 Hz | 8 seconds |
| Filter Medium | 16 averaged samples |
| dc | 22 seconds |
| <200 Hz | 32 seconds |
| >200 Hz | 16 seconds |
| Filter Slow | 32 averaged samples |
| dc | 40 seconds |
| <200 Hz | 64 seconds |
| >200 Hz | 32 seconds |

Filter Buffer Restart Limits:

| | |
|---------------------------|--------------|
| Fine: Fast: 10 counts | |
| Medium/Slow | |
| <220 mV | 10 counts |
| >220 mV | 100 counts |
| Medium: Fast: 100 counts | |
| Medium/Slow | |
| <220 mV | 100 counts |
| >220 mV | 1000 counts |
| Course: Fast: 1000 counts | |
| Medium/Slow | |
| <220 mV | 1000 counts |
| >220 mV | 10000 counts |

Input Waveform Specified for sinewave with THD less than 1%

Wideband Uncertainty Specifications (Option -03)

| Voltage Range ^[1] | Frequency Range | Flatness ^[2] 1 year ± 3 °C ± (% of Reading + μV) | Flatness ^[3] Temperature Coefficient ppm / °C | Absolute Uncertainty 0 °C to 50 °C ^[4] ± (% of Reading + μV) | | | Resolution |
|------------------------------|-------------------|---|--|--|-----------|-----------|------------|
| | | | | 90 Days | 1 Year | 2 Years | |
| 2.2 mV | 10 Hz - 30 Hz | 0.10 + 0 | 75 | 0.5 + 1.2 | 0.6 + 1.5 | 0.8 + 2 | 0.1 μV |
| | 30 Hz - 120 Hz | 0.05 + 0 | 75 | 0.5 + 1.2 | 0.6 + 1.5 | 0.8 + 2 | |
| | 120 Hz - 1.2 kHz | 0.05 + 0 | 75 | 0.5 + 1.2 | 0.6 + 1.5 | 0.8 + 2 | |
| | 1.2 kHz - 120 kHz | 0.05 + 0 | 75 | 0.5 + 1.2 | 0.6 + 1.5 | 0.8 + 2 | |
| | 120 kHz - 500 kHz | 0.07 + 1 | 75 | 0.5 + 1.2 | 0.6 + 1.5 | 0.8 + 2 | |
| | 500 kHz - 1.2 MHz | 0.07 + 1 | 75 | | | | |
| | 1.2 MHz - 2 MHz | 0.07 + 1 | 100 | | | | |
| | 2 MHz - 10 MHz | 0.17 + 1 | 200 | | | | |
| | 10 MHz - 20 MHz | 0.30 + 1 | 200 | | | | |
| | 20 MHz - 30 MHz | 0.70 + 2 | 400 | | | | |
| 7 mV | 10 Hz - 30 Hz | 0.10 + 0 | 75 | 0.4 + 5 | 0.5 + 7 | 0.7 + 8 | 0.1 μV |
| | 30 Hz - 120 Hz | 0.05 + 0 | 75 | 0.4 + 5 | 0.5 + 7 | 0.7 + 8 | |
| | 120 Hz - 1.2 kHz | 0.05 + 0 | 75 | 0.4 + 5 | 0.5 + 7 | 0.7 + 8 | |
| | 1.2 kHz - 120 kHz | 0.05 + 0 | 75 | 0.4 + 5 | 0.5 + 7 | 0.7 + 8 | |
| | 120 kHz - 500 kHz | 0.07 + 1 | 75 | 0.4 + 5 | 0.5 + 7 | 0.7 + 8 | |
| | 500 kHz - 1.2 MHz | 0.07 + 1 | 75 | | | | |
| | 1.2 MHz - 2 MHz | 0.07 + 1 | 100 | | | | |
| | 2 MHz - 10 MHz | 0.1 + 1 | 200 | | | | |
| | 10 MHz - 20 MHz | 0.17 + 1 | 200 | | | | |
| | 20 MHz - 30 MHz | 0.37 + 1 | 300 | | | | |
| 22 mV | 10 Hz - 30 Hz | 0.10 | 75 | 0.4 + 10 | 0.5 + 13 | 0.7 + 16 | 0.1 μV |
| | 30 Hz - 120 Hz | 0.05 | 75 | 0.4 + 10 | 0.5 + 13 | 0.7 + 16 | |
| | 120 Hz - 1.2 kHz | 0.05 | 75 | 0.4 + 10 | 0.5 + 13 | 0.7 + 16 | |
| | 1.2 kHz - 120 kHz | 0.05 | 75 | 0.4 + 10 | 0.5 + 13 | 0.7 + 16 | |
| | 120 kHz - 500 kHz | 0.07 | 75 | 0.4 + 10 | 0.5 + 13 | 0.7 + 16 | |
| | 500 kHz - 1.2 MHz | 0.07 | 75 | | | | |
| | 1.2 MHz - 2 MHz | 0.07 | 75 | | | | |
| | 2 MHz - 10 MHz | 0.1 | 100 | | | | |
| | 10 MHz - 20 MHz | 0.17 | 100 | | | | |
| | 20 MHz - 30 MHz | 0.37 | 200 | | | | |
| 70 mV | 10 Hz - 30 Hz | 0.10 | 40 | 0.4 + 20 | 0.5 + 30 | 0.6 + 40 | 1.0 μV |
| | 30 Hz - 120 Hz | 0.05 | 40 | 0.4 + 20 | 0.5 + 30 | 0.6 + 40 | |
| | 120 Hz - 1.2 kHz | 0.05 | 40 | 0.4 + 20 | 0.5 + 30 | 0.6 + 40 | |
| | 1.2 kHz - 120 kHz | 0.05 | 40 | 0.4 + 20 | 0.5 + 30 | 0.6 + 40 | |
| | 120 kHz - 500 kHz | 0.05 | 40 | 0.4 + 20 | 0.5 + 30 | 0.6 + 40 | |
| | 500 kHz - 1.2 MHz | 0.05 | 40 | | | | |
| | 1.2 MHz - 2 MHz | 0.05 | 75 | | | | |
| | 2 MHz - 10 MHz | 0.1 | 100 | | | | |
| | 10 MHz - 20 MHz | 0.15 | 100 | | | | |
| | 20 MHz - 30 MHz | 0.35 | 200 | | | | |
| 220 mV | 10 Hz - 30 Hz | 0.10 | 40 | 0.3 + 60 | 0.4 + 80 | 0.5 + 100 | 1.0 μV |
| | 30 Hz - 120 Hz | 0.04 | 40 | 0.3 + 60 | 0.4 + 80 | 0.5 + 100 | |
| | 120 Hz - 1.2 kHz | 0.04 | 40 | 0.3 + 60 | 0.4 + 80 | 0.5 + 100 | |
| | 1.2 kHz - 120 kHz | 0.04 | 40 | 0.3 + 60 | 0.4 + 80 | 0.5 + 100 | |
| | 120 kHz - 500 kHz | 0.04 | 40 | 0.3 + 60 | 0.4 + 80 | 0.5 + 100 | |
| | 500 kHz - 1.2 MHz | 0.05 | 40 | | | | |
| | 1.2 MHz - 2 MHz | 0.05 | 75 | | | | |
| | 2 MHz - 10 MHz | 0.1 | 100 | | | | |
| | 10 MHz - 20 MHz | 0.15 | 100 | | | | |
| | 20 MHz - 30 MHz | 0.35 | 200 | | | | |

Wideband Uncertainty Specifications (Option -03) (cont.)

| Voltage Range ^[1] | Frequency Range | Flatness ^[2] 1 year ± 3 °C ± (% of Reading + μV) | Flatness ^[3] Temperature Coefficient ppm / °C | Absolute Uncertainty 0 °C to 50 °C ^[4] ± (% of Reading + μV) | | | Resolution |
|------------------------------|-------------------|---|--|--|------------|------------|------------|
| | | | | 90 Days | 1 Year | 2 Years | |
| 700 mV | 10 Hz - 30 Hz | 0.10 | 40 | 0.3 + 200 | 0.4 + 300 | 0.5 + 400 | 10.0 μV |
| | 30 Hz - 120 Hz | 0.03 | 40 | 0.3 + 200 | 0.4 + 300 | 0.5 + 400 | |
| | 120 Hz - 1.2 kHz | 0.03 | 40 | 0.3 + 200 | 0.4 + 300 | 0.5 + 400 | |
| | 1.2 kHz - 120 kHz | 0.03 | 40 | 0.3 + 200 | 0.4 + 300 | 0.5 + 400 | |
| | 120 kHz - 500 kHz | 0.03 | 40 | 0.3 + 200 | 0.4 + 300 | 0.5 + 400 | |
| | 500 kHz - 1.2 MHz | 0.05 | 40 | | | | |
| | 1.2 MHz - 2 MHz | 0.05 | 75 | | | | |
| | 2 MHz - 10 MHz | 0.1 | 100 | | | | |
| | 10 MHz - 20 MHz | 0.15 | 100 | | | | |
| 20 MHz - 30 MHz | 0.35 | 200 | | | | | |
| 2.2 V | 10 Hz - 30 Hz | 0.10 | 40 | 0.3 + 300 | 0.35 + 400 | 0.4 + 500 | 10.0 μV |
| | 30 Hz - 120 Hz | 0.03 | 40 | 0.3 + 300 | 0.35 + 400 | 0.4 + 500 | |
| | 120 Hz - 1.2 kHz | 0.03 | 40 | 0.3 + 300 | 0.35 + 400 | 0.4 + 500 | |
| | 1.2 kHz - 120 kHz | 0.03 | 40 | 0.3 + 300 | 0.35 + 400 | 0.4 + 500 | |
| | 120 kHz - 500 kHz | 0.03 | 40 | 0.3 + 300 | 0.35 + 400 | 0.4 + 500 | |
| | 500 kHz - 1.2 MHz | 0.05 | 40 | | | | |
| | 1.2 MHz - 2 MHz | 0.05 | 75 | | | | |
| | 2 MHz - 10 MHz | 0.1 | 100 | | | | |
| | 10 MHz - 20 MHz | 0.15 | 100 | | | | |
| 20 MHz - 30 MHz | 0.35 | 200 | | | | | |
| 7 V | 10 Hz - 30 Hz | 0.10 | 40 | 0.3 + 500 | 0.35 + 800 | 0.4 + 1000 | 100.0 μV |
| | 30 Hz - 120 Hz | 0.03 | 40 | 0.3 + 500 | 0.35 + 800 | 0.4 + 1000 | |
| | 120 Hz - 1.2 kHz | 0.03 | 40 | 0.3 + 500 | 0.35 + 800 | 0.4 + 1000 | |
| | 1.2 kHz - 120 kHz | 0.03 | 40 | 0.3 + 500 | 0.35 + 800 | 0.4 + 1000 | |
| | 120 kHz - 500 kHz | 0.03 | 40 | 0.3 + 500 | 0.35 + 800 | 0.4 + 1000 | |
| | 500 kHz - 1.2 MHz | 0.05 | 40 | | | | |
| | 1.2 MHz - 2 MHz | 0.05 | 75 | | | | |
| | 2 MHz - 10 MHz | 0.1 | 100 | | | | |
| | 10 MHz - 20 MHz | 0.15 | 100 | | | | |
| 20 MHz - 30 MHz | 0.35 | 200 | | | | | |

[1] Range limits same as INPUT 1 or INPUT 2.

[2] Relative to 1 kHz, for 2-year specification multiply by 1.5.

[3] Add to flatness specifications when more than 3 °C from calibration temperature.

[4] At input connector.

Wideband Characteristics

Maximum Non-Destructive Input200 V rms

Guard Isolation0.5 V peak

Input Impedance

1 kHz.....50Ω (± 0.5 %)

30 MHz.....50Ω (± 5 %)

Wideband VSWR with 50 Ω Source

1 kHz.....50 Ω (± 0.5 %)

30 MHz.....50 Ω (± 5 %)

Shunt Input Characteristics

- The shunt input was designed to allow ac/dc current transfers using the Fluke A40 Series current shunts.

- 5790A-7001 A40/A40A Current Shunt Adapter and Cable required.

Shunt Model Current Range

A402.5 mA - 5A

A40A5A - 20A

Input Resistance91 Ω ± 1 %

Operating Input Voltage.....250 mV to 500 mV

Maximum Non-Destructive Input50V rms

General Specifications

| | |
|-----------------------------------|--|
| Warm-up Time | 30 minutes |
| Relative Humidity | |
| Operating | 45 % to 50 °C 75 % to 45 °C 95 % to 30 °C |
| Storage..... | <95 % non-condensing |
| Altitude | |
| Operating | 3,050 meters (10,000 feet) |
| Non-Operating | 12,200 meters (40,000 feet) |
| Temperature | |
| Operating | 0 °C to 50 °C |
| Calibration | 15 °C to 35 °C |
| Storage..... | -40 °C to 70 °C |
| EMI/RFI | |
| Complies with | FCC Part 15 Subpart B, Class B; VDE 0871, Class B; ESD: EIA PN-1361. |
| Surge..... | ANSI C62.41-1980, Category A |
| Reliability..... | MIL-T-2880D, paragraph 3.13.3 |
| Size | |
| Height | 17.8 cm (7 in) standard rackmount + 1.5 cm (0.6 in) |
| Width | 43.2 cm (17 in) |
| Depth..... | 63 cm (24.8 in) |
| Maximum Power Requirements | |
| 5790A | 95 VA |
| With Wideband Option | 120 VA |
| Weight | |
| 5790A | 24 kg (53 lb) |
| With Wideband | 24.5 kg (54 lb) |
| Line Power | 47 Hz to 63 Hz; ± 10 % of selectable line voltages: 100 V, 110 V, 115 V, 120 V, 200 V, 220 V, 230 V, 240 V |
| Safety | Complies with UL1244 and IEC 348-1976 and IEC 1010 and CSA C22.2 No. 231 and ANSI/ISA S82 |
| Remote Interfaces | RS-232, IEEE-488 |
| Confidence Level..... | 99 % |



5790A rear panel.

Ordering information

Model

5790A AC Measurement Standard

Options

5790A-03 Wideband AC Measurement

Accessories

5440A-7002 Low Thermal Cable Set

792A-7003 Transfer Switch

792A-7004 A40 Current Shunt Adapter. Connects directly to Type-N input connector to permit use with A40 Current Shunts. Not compatible with A40A Current Shunts.

5790A-7001 A40/A40A Current Shunt Adapter and Cable. Connects to current shunt binding posts to permit use with both A40 and A40A Current Shunts.

A40 Current Shunts (10, 20, 50, 100, 200, 300, 500 mA and 1, 2, 3, 5A). Requires 792A-7004 or 5790A-7001.

A40A Current Shunts (10 and 20A). Requires 5790A-7001.

Y5737 5790A Rackmount Kit. Includes 24 inch slides that allow for side ventilation.

Y8021 Shielded IEEE-488 Cable, 1 m

Y8022 Shielded IEEE-488 Cable, 2 m

Y8023 Shielded IEEE-488 Cable, 4 m



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Printed in U.S.A. 8/2013 1260112E_EN

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