# 2790 SourceMeter® Switch System Specifications

## 7751/7752 Source/Switch Module Specifications

### 2790 Resistance Mode Specifications with Cards

<table>
<thead>
<tr>
<th>Source Maximum Current Resistance</th>
<th>Typ. Ckt. Voltage</th>
<th>Accuracy</th>
<th>Temperature Coefficient (0-18°C &amp; 28-40°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50mA 20Ω</td>
<td>5.5V</td>
<td>0.09% + 0.6mΩ (0.002%+0.02mΩ)/°C</td>
<td></td>
</tr>
<tr>
<td>20mA 50Ω</td>
<td>5.5V</td>
<td>0.11% + 1.5mΩ (0.003%+0.05mΩ)/°C</td>
<td></td>
</tr>
<tr>
<td>10mA 100Ω</td>
<td>5.5V</td>
<td>0.16% + 3.0mΩ (0.004%+1.0mΩ)/°C</td>
<td></td>
</tr>
</tbody>
</table>

(Dry Circuit Ohms 1mA max with 7751 or 7752 card)

### Max Capacitance

- **Cable Discharge (Ch. 20):**
  - (0.001%+0.005V)/°C
  - Temperature Coefficient:
  - 1000 ms max.
- **Fall Time:** 50V to 500V step, 0.1% of final value, 250 ms max.
- **Settling Time:**
- **Accuracy:** short circuit.
- **Programming Resolution:**
- **Output Level:**
  - Voltage Source Output (7751 Only)
    - (0.001%+0.5nA)/°C
    - Temperature Coefficient:
  - 1mS to 0.1% of final value (typ).

### Current Measure Input (7751 Only)

- **Accuracy:** 0.5% (of reading) + 5mA (0-50μA) (2yr Specification).
- **Temperature Coefficient:** (0-18°C & 28-40°C) (0.02%/+0.5nA)/°C
- **Voltage Burden:** <1mV.

### Switching Capabilities (Bank 1 – Bank 4)

- **4 Channels:** 1 Form A switch.
- **8 Channels:** 4-4 pole or 8-2 pole signals into DMM or U/V converter.
- **Contact Check:** 4-Wire contact check through internal DMM.
- **Relay Type:** Latching electromechanical.
- **Actuation Time:** <3ms.
- **Contact Life (typ):** >10^6 operations at maximum source level.
- **Contact Resistance:** >1 Ohm at end of contact life.
- **Contact Potential:** ±2μV typical per contact pair, ±3μV max.
- **Connector Type:** Pluggable screw terminal, #22 AWG wire size.

### Isolation Between any two Terminals

- 7751 or 7752 Module Notes
  - 1 Isolation for channels 1-12, only one channel closed at a time, or all channels open.
  - 2 See User's manual for ohm specifications at sources other than those specified.
  - 3 All specifications valid for 1 NPLC ADC aperture setting.

### System Throughput

- (Connect, source, measure, calculate)
  - 0.01 NPLC, Filter Off, over GPIB Bus
  - High Ohms (Source V): 13 Rdgs/Sec
  - Low Ohms (Source I): 9 Rdgs/Sec
  - 1 NPLC, Filter On, over GPIB Bus
  - High Ohms (Source V): 11 Rdgs/Sec
  - Low Ohms (Source I): 7 Rdgs/Sec

### System Throughput Notes

- 1. Reset upon fixed Vsource level, no settling time.
2790 SourceMeter® Switch System Specifications

7751/7752 SOURCE/SWITCH MODULE SPECIFICATIONS

SPEC-2790

HW 9/04/02
Rev. B

KEITHLEY
Keithley Instruments, Inc.
Cleveland, Ohio 44139

PART NUMBER
SPEC-2790

SPECIFICATIONS
## 2790 SourceMeter® Switch System Specifications

### 2790 MAINFRAME FUNCTION SPECIFICATION

**MAINFRAME FUNCTION ACCURACY SPECIFICATIONS ARE FOR 1 YEAR, 23°C±5°C**

**DC MEASUREMENT SPECIFICATIONS**

**CONDITIONS:** MED (1 PLC) or 10 PLC or MED (1 PLC) with Digital Filter of 10

<table>
<thead>
<tr>
<th>Function</th>
<th>Range</th>
<th>Resolution</th>
<th>Test Current (±5%) or Burden Voltage</th>
<th>Input Resistance or Open Ckt. Voltage</th>
<th>24 Hour</th>
<th>90 Day</th>
<th>1 Year</th>
<th>0°C-18°C &amp; 28°C-40°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>100.000 mV</td>
<td>0.1 µV</td>
<td>&gt;10 Ω</td>
<td>15 + 30</td>
<td>25 + 70</td>
<td>30 + 70</td>
<td>(1 + 5)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.000000 V</td>
<td>1.0 µV</td>
<td>&gt;10 Ω</td>
<td>15 + 6</td>
<td>25 + 7</td>
<td>30 + 7</td>
<td>(1 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.00000 V</td>
<td>10 µV</td>
<td>&gt;10 Ω</td>
<td>10 + 4</td>
<td>20 + 5</td>
<td>30 + 5</td>
<td>(1 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100.000 V</td>
<td>100 µV</td>
<td>10 MΩ ±1%</td>
<td>15 + 100</td>
<td>40 + 9</td>
<td>55 + 9</td>
<td>(5 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000.000 V</td>
<td>1 mV</td>
<td>10 MΩ ±1%</td>
<td>20 + 10</td>
<td>35 + 9</td>
<td>50 + 9</td>
<td>(5 + 1)°C</td>
<td></td>
</tr>
<tr>
<td>Resistance</td>
<td>100.000 Ω</td>
<td>100 µΩ</td>
<td>1 mA</td>
<td>6.6 V</td>
<td>80 + 8</td>
<td>100 + 8</td>
<td>(8 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.000000 kΩ</td>
<td>1 mΩ</td>
<td>1 mA</td>
<td>6.6 V</td>
<td>80 + 8</td>
<td>100 + 8</td>
<td>(8 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.00000 kΩ</td>
<td>10 mΩ</td>
<td>100 µA</td>
<td>6.6 V</td>
<td>80 + 8</td>
<td>100 + 8</td>
<td>(8 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100.000 kΩ</td>
<td>100 mΩ</td>
<td>10 µA</td>
<td>12.8 V</td>
<td>80 + 8</td>
<td>100 + 8</td>
<td>(8 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.000000 MΩ</td>
<td>1 Ω</td>
<td>10 µA</td>
<td>12.8 V</td>
<td>80 + 8</td>
<td>100 + 8</td>
<td>(8 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.00000 MΩ</td>
<td>10 Ω</td>
<td>Note 7</td>
<td>7.0 V</td>
<td>150 + 6</td>
<td>200 + 10</td>
<td>(30 + 1)°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100.000 MΩ</td>
<td>100 Ω</td>
<td>Note 7</td>
<td>7.0 V</td>
<td>800 + 30</td>
<td>3000 + 30</td>
<td>(150 + 1)°C</td>
<td></td>
</tr>
</tbody>
</table>

**Continuity (2W)**

| 1.000 kΩ | 100 mΩ | 1 mA | 6.6 V | 40 + 100 | 100 + 100 | 100 + 100 | (8 + 1)°C |

**Current**

| 20.00000 mA | 10 nA | <0.2 V | 60 + 15 | 300 + 40 | 500 + 40 | (50 + 5)°C |
| 100.0000 mA | 100 nA | <0.05 V | 100 + 150 | 300 + 400 | 500 + 400 | (50 + 50)°C |
| 1.000000 A | 10 µA | <0.3 V | 200 + 15 | 500 + 40 | 800 + 40 | (50 + 5)°C |
| 3.000000 A | 10 µA | <10 V | 500 + 15 | 1200 + 40 | 1200 + 40 | (50 + 5)°C |

**Temperature**

(Displayed in °C, °F, or K. Exclusive of probe errors.)

<table>
<thead>
<tr>
<th>Range</th>
<th>Resolution</th>
<th>1 Year (23°C ± 5°C)</th>
<th>Temperature Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Wire RTD: (100Ω platinum [PT100], D100, F100, PT385, PT3916, or user type. Offset compensation On.)</td>
<td>-200°C to 630°C</td>
<td>±0.01°C</td>
<td>0.06°C</td>
</tr>
<tr>
<td>Thermistor: (2.5kΩ, 5kΩ, and 10kΩ)</td>
<td>-80°C to 150°C</td>
<td>±0.01°C</td>
<td>±0.08°C</td>
</tr>
</tbody>
</table>

**DC Speed vs. Noise Rejection**

<table>
<thead>
<tr>
<th>Rate</th>
<th>Filter</th>
<th>Readings/s</th>
<th>RMS Noise</th>
<th>NMRR</th>
<th>CMRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Off</td>
<td>50 (0.08)</td>
<td>&lt;1.2 µV</td>
<td>110 dB</td>
<td>120 dB</td>
</tr>
<tr>
<td>1</td>
<td>Off</td>
<td>15 (12)</td>
<td>&lt;4 µV</td>
<td>90 dB</td>
<td>120 dB</td>
</tr>
<tr>
<td>0.1</td>
<td>Off</td>
<td>500 (400)</td>
<td>&lt;22 µV</td>
<td>–</td>
<td>80 dB</td>
</tr>
<tr>
<td>0.01</td>
<td>Off</td>
<td>2000 (1800)</td>
<td>&lt;150 µV</td>
<td>–</td>
<td>80 dB</td>
</tr>
</tbody>
</table>

**Channel (Ratio)**

Ratio Accuracy = Accuracy of selected Channel Range + Accuracy of Paired Channel Range

**Channel (Average)**

Average Accuracy = Accuracy of selected Channel Range + Accuracy of Paired Channel Range

**DC Operating Characteristics**

60Hz (50Hz) Operation

<table>
<thead>
<tr>
<th>Function</th>
<th>Digits</th>
<th>Readings/s</th>
<th>PLCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCV, DCl, Ohms (&lt;10M), Thermistor</td>
<td>6.515, 15</td>
<td>5 (4)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>6.515</td>
<td>30 (24)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6.515, 15</td>
<td>50 (40)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5.515, 15</td>
<td>100 (80)</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>5.515, 16</td>
<td>250 (200)</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>5.516</td>
<td>480 (400)</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>4.516</td>
<td>2000 (1800)</td>
<td>0.01</td>
</tr>
<tr>
<td>4W Ohms (&lt;10M)</td>
<td>6.515</td>
<td>1.4 (1.1)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>6.515</td>
<td>15 (12)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5.516</td>
<td>33 (25)</td>
<td>0.1</td>
</tr>
<tr>
<td>RTD</td>
<td>6.515</td>
<td>0.9 (0.7)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>6.515</td>
<td>8 (6.4)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5.515, 16</td>
<td>18 (14.4)</td>
<td>0.1</td>
</tr>
<tr>
<td>Channel (Ratio), Channel (AVG)</td>
<td>6.515</td>
<td>2.5 (2)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>6.515</td>
<td>15 (12)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5.515</td>
<td>25 (20)</td>
<td>0.1</td>
</tr>
</tbody>
</table>

**Temperature Coefficient**

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>0°-18°C &amp; 28°-40°C</td>
<td>±1%</td>
</tr>
</tbody>
</table>

**Switch System Specifications**

- **Switch HW**: 9/04/02
- **Rev. B**

---

**Specifications**

- **PART NUMBER**: SPEC-2790
- **Keithley Instruments, Inc.**
- **Cleveland, Ohio 44139**

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**AUTHOR**: Keithley Instruments, Inc.
2790 SourceMeter® Switch System Specifications

**MAINFRAME FUNCTION SPECIFICATION**

DC System Speeds\(^{14,17}\)
- RANGE CHANGES\(^{15}\): 50/s (42/s).
- FUNCTION CHANGES\(^{15}\): 50/s (42/s).
- AUTORANGE TIME\(^{16}\): < 30ms.
- ASCH READINGS TO RS-232 (19.2k BAUD): 55/s.
- MAX. INTERNAL TRIGGER RATE: 2000/s.
- MAX. EXTERNAL TRIGGER RATE: 375/s.

**DC MEASUREMENT CHARACTERISTICS**

**DC Volts**
- A-D LINEARITY: 2.0 ppm of reading + 1.0 ppm of range.
- INPUT IMPEDANCE:
  - 100mV–10V Ranges: Selectable >10GΩ with <400pF or 10MΩ ±1%.
  - 100V, 1000V Ranges: 10MΩ ±1%.
- INPUT BIAS CURRENT: <100pA at 23°C.
- COMMON MODE CURRENT: <500nA p-p at 50Hz or 60Hz.
- INPUT PROTECTION: Front, 1000V, Rear, 300V, 7702 card only.

**Resistance**
- MAX 4W\(\Omega\) LEAD RESISTANCE: 10% of range per lead for 100Ω and 1kΩ ranges; 1kΩ per lead for all other ranges.
- OFFSET COMPENSATION: Selectable on 4Ω, 100Ω, 1kΩ, and 10kΩ ranges.
- CONTINUITY THRESHOLD: Adjustable 1 to 1000 Ω.
- INPUT PROTECTION: Front, 1000V Source Inputs, 350V Sense Inputs, Rear, 300V, 7702 card only.

**DC Current**
- Shunt Resistors: 100mA–3A, 0.1Ω, 20mA, 5Ω.
- Input Protection: 3A, 250V fuse.

**DC Notes**
1. 20% overrange except on 1000V and 3A.
2. Add the following to “ppm of range” uncertainty: 100mV 15ppm, 1V and 100V 2ppm, <1MΩ 2ppm, 10mA and 1A 10ppm, 100mA 40ppm.
3. ±2% (measured with 10MΩ input resistance DMM, >10GΩ DMM on 10MΩ and 100MΩ ranges).
4. Relative to calibration accuracy.
5. For signal levels <500V, add 0.02ppm/V uncertainty for portion exceeding 500V.
6. Specifications are for 4-wire Ω, 100Ω with offset compensation on.
7. With offset compensation on, OPEN CTK. VOLTAGE is 12.8V. For 2-wire Ω add 1Ω additional uncertainty.
8. Must have 10% matching of lead resistance in Input HI and LO. Test current = 0.7μA/10MΩ
9. ±2% (measured with 10MΩ input resistance DMM, >10GΩ DMM on 10MΩ and 100MΩ ranges).
10. Specifications are for 4-wire Ω, 100Ω with offset compensation on.
11. Add 1V when used with plug-in modules.
12. For RATIO, DCV only. For AVERAGE, DCV only. Available with plug-in modules only.
13. Auto zero off.
14. For LSYNC On, line frequency ±0.1 %. For LSYNC Off, use 60dB for 1PLC.
15. For 1kΩ unbalance in LO lead.
16. Speeds are for 60Hz (50Hz) operation using factory defaults operating conditions (*RST). Autorange off, Display off, Limits off, Trigger delay = 0.
17. Speeds include measurements and binary data transfer out the GPIB.
18. Sample count = 1024, auto zero off.
19. Auto zero off, NPLC = 0.01.
20. For lead resistance >0Ω, add the following uncertainty/Ω for measurement temperatures of:

<table>
<thead>
<tr>
<th>Resistance</th>
<th>70°–100°C</th>
<th>100°–150°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2 kΩ</td>
<td>(44004)</td>
<td>0.22°C</td>
</tr>
<tr>
<td>5.0 kΩ</td>
<td>(44007)</td>
<td>0.10°C</td>
</tr>
<tr>
<td>10 kΩ</td>
<td>(44006)</td>
<td>0.04°C</td>
</tr>
</tbody>
</table>
# 2790 SourceMeter® Switch System Specifications

## MAINFRAME FUNCTION SPECIFICATION

### AC MEASUREMENT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Function</th>
<th>Range</th>
<th>Resolution</th>
<th>All Ranges</th>
<th>Calibration Cycle</th>
<th>Accuracy: ±(% of reading + % of range), 23°C ±5 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>All Ranges</td>
<td></td>
<td>3 Hz-10 Hz</td>
</tr>
<tr>
<td>Voltage</td>
<td>100.00000 mV</td>
<td>0.1 µV</td>
<td></td>
<td>90 Days</td>
<td>0.35 ± 0.03</td>
</tr>
<tr>
<td></td>
<td>1.00000 V</td>
<td>1.0 µV</td>
<td></td>
<td></td>
<td>0.35 ± 0.03</td>
</tr>
<tr>
<td></td>
<td>10.0000 V</td>
<td>10 µV</td>
<td></td>
<td>1 Year</td>
<td>0.35 ± 0.03</td>
</tr>
<tr>
<td></td>
<td>100.000 V</td>
<td>100 µV</td>
<td></td>
<td></td>
<td>0.035 ± 0.03</td>
</tr>
<tr>
<td></td>
<td>750.00 V</td>
<td>1.0 µV</td>
<td></td>
<td></td>
<td>0.35 ± 0.03</td>
</tr>
</tbody>
</table>

### AC MEASUREMENT CHARACTERISTICS

#### AC Volts

- **MEASUREMENT METHOD:** AC-coupled, True RMS.
- **INPUT IMPEDANCE:** 1MΩ ±2%/Ω by <100pF.
- **INPUT PROTECTION:** 1000Vp or 400VDC, 300Vrms with 7702 module.

#### AC Current

- **MEASUREMENT METHOD:** AC-coupled, True RMS.
- **SHUNT RESISTANCE:** 0.1Ω.
- **BURDEN VOLTAGE:** 1A <0.3Vrms, 3A <1Vrms. Add 1Vrms when used with 7702 modules.
- **INPUT PROTECTION:** 3A, 250V fuse.

### Frequency and Period

- **MEASUREMENT METHOD:** Reciprocal Counting technique.
- **GATE TIME:** SLOW 1s, MED 100ms, and FAST 10ms.

#### AC General

- **AC CMRR:** 70dB.
- **MAXIMUM CREST FACTOR:** 5 at full-scale.
- **VOLT HERTZ PRODUCT:** <= 8 x 10^7.

### AC OPERATING CHARACTERISTICS

#### 60Hz (50Hz) Operation

<table>
<thead>
<tr>
<th>Function</th>
<th>Digits</th>
<th>Readings/s</th>
<th>Rate</th>
<th>Bandwidth</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACV, ACI</td>
<td>6.5^5</td>
<td>2x/Reading</td>
<td>SLOW</td>
<td>3 Hz-300kHz</td>
</tr>
<tr>
<td></td>
<td>6.5^5</td>
<td>1.4 (1.1)</td>
<td>MED</td>
<td>30 Hz-300kHz</td>
</tr>
<tr>
<td></td>
<td>6.5^5</td>
<td>4.8 (4)</td>
<td>MED</td>
<td>30 Hz-300kHz</td>
</tr>
<tr>
<td></td>
<td>6.5^5</td>
<td>35 (28)</td>
<td>FAST</td>
<td>300 Hz-300kHz</td>
</tr>
<tr>
<td>Frequency, Period</td>
<td>6.5</td>
<td>1 (1)</td>
<td>SLOW</td>
<td>3 Hz-300kHz</td>
</tr>
<tr>
<td></td>
<td>5.5</td>
<td>9 (9)</td>
<td>MED</td>
<td>30 Hz-300kHz</td>
</tr>
<tr>
<td></td>
<td>4.5</td>
<td>35 (35)</td>
<td>FAST</td>
<td>300 Hz-300kHz</td>
</tr>
<tr>
<td></td>
<td>4.5^10</td>
<td>65 (65)</td>
<td>FAST</td>
<td>300 Hz-300kHz</td>
</tr>
</tbody>
</table>

---

**HW 9/04/02**

**Rev. B**
2790 SourceMeter® Switch System Specifications

MAINFRAME FUNCTION SPECIFICATION

AC System Speeds\(^7,11\)
RANGE CHANGES\(^2\): 4/s (3/s).
FUNCTION CHANGES\(^3\): 4/s (3/s).
AUTORANGE TIME: < 3s.
ASCII READINGS TO RS-232 (19.2k baud): 50/s.
MAX. INTERNAL TRIGGER RATE: 300/s.
MAX. EXTERNAL TRIGGER RATE: 250/s.

AC Notes
1. 20% overrange except on 750V and 3A.
2. Specifications are for SLOW mode and sine wave inputs >5% of range. SLOW and MED are multi-sample A/D conversions. FAST is DETector:BANDwidth 300 with nPLC = 1.0.
3. Applies to 0°–18°C and 28°–40°C.
4. For square wave inputs >10% of ACV range, except 100mV range. 100mV range frequency must be >10Hz if input is <20mV.
5. Applies to non-sine waves >5Hz and <500Hz. (Guaranteed by design for Crest Factors >4.3)
6. For 1kΩ unbalance in LO lead.
7. Speeds are for 60Hz (50Hz) operation using factory defaults operating conditions (*RST). Autorange off, Display off, Limits off, Trigger delay=0. Includes measurement and binary data transfer out GPIB.
8. 0.01% of step settling error. Trigger delay = 400ms.
9. Trigger delay = 0.
10. Sample count = 1024.
11. DETector:BANDwidth 300 with nPLC = 0.01.
12. Maximum useful limit with trigger delay = 175ms.

Internal Scanner Speeds:
Into and Out of Memory to GPIB\(^5\)
7702 Scanning DCV: 60/s

Internal Scanner Speed Notes:
1. Speeds are 60Hz or 50Hz operation using factory default conditions (*RST). NPLC = 0.01. Auto Zero off, Auto Range off, and Display off. Sample count =1024. Includes measurement and binary data transfer out GPIB.

GENERAL SPECIFICATIONS

POWER SUPPLY: 100V / 120V / 220V / 240V
+10%, -5%.
LINE FREQUENCY: 50/60Hz, automatically sensed at power-up.
POWER CONSUMPTION: 28VA.
OPERATING ENVIRONMENT: Specified for 0°C to 40°C. Specified to 60% R.H. at 35°C.
STORAGE ENVIRONMENT: -40°C to 70°C.
BATTERY: Lithium battery-backed memory, 3 years @ 23°C.
WARRANTY: 1 year.
VIBRATION: MIL-PRF-28800F Class 3, Random.
WARM-UP: 2 hours to rated accuracy.
DIMENSIONS:
  - Rack Mounting: 89mm high × 213mm wide × 370mm deep (3.5 in. × 8.375 in. × 14.563 in.).
  - Bench Configuration (with handle and feet): 104mm high × 238mm wide × 370mm deep (4.125 in. × 9.375 in. × 14.563 in.).
SHIPPING WEIGHT: 6.5kg (14 lbs).
DIGITAL I/O: 2 inputs, 1 for triggering and 1 for hardware interlock. 5 outputs, 4 for Reading Limits and 1 for Master Limit. Outputs are TTL compatible or can sink 250mA, diode clamped to 33V.
EARTH ISOLATION: 500Vpeak, >10GΩ and <150pF any terminal to chassis.
TRIGGERING AND MEMORY:
  - Window Filter Sensitivity: 0.01%, 0.1%, 1%, 10%, or Full-scale of range (none).
  - Reading Hold Sensitivity: 0.01%, 0.1%, 1%, or 10% of reading.
  - Trigger Delay: 0 to 99 hrs (1ms step size).
  - External Trigger Delay: <2ms.
  - External Trigger Jitter: <1ms.
  - Memory Size: 55,000 readings.
MATH FUNCTIONS: Rel, Min/Max/Average/Std Dev/Peak-to-Peak (of stored reading), Limit Test, %, mX + b and m(1/X) +b with user defined units displayed.
REMOTE INTERFACE:
  - GPIB (IEEE-488.2) and RS-232C.
  - SCPI (Standard Commands for Programmable Instruments)
MODULES SUPPORTED: Models 7751, 7752, and 7702.