

A black and white photograph of a man in a lab coat working in a laboratory. He is seated at a desk, interacting with a large piece of electronic equipment, the Fluke 5080A Multi-Product Calibrator. He is holding a handheld digital multimeter in his left hand and pointing at the controls of the calibrator with his right hand. The desk is cluttered with various electronic instruments, including several multimeters, a power supply, and other test equipment. In the background, there are shelves with more equipment and a fan. The overall scene is a professional laboratory environment.

FLUKE®

Calibration

5080A Multi-Product Calibrator MegOhm Meter Calibration Option

Extended Specifications

General Specifications

All specifications are valid after a warm-up period of 30 minutes, or twice the time since last warmed up, to a maximum of 30 minutes. For example, if the 5080A has been turned off for 5 minutes, the warm-up period is 10 minutes.

Specifications include stability, temperature coefficient, linearity, line and local regulation, and the traceability of the external standards used for calibration. It is not necessary to add anything to determine the total specification for the temperature range indicated.

Specification Confidence Level.....99 %

Warmup Time.....Twice the time since last warmed up, to a maximum of 30 minutes.

Temperature

Operating.....0 °C to 50 °C

Calibration (tcal)15 °C to 35 °C

Storage-20 °C to +70 °C

Temperature Coefficient.....Temperature coefficient for temperatures outside tcal ± 5 °C is 10 % of the stated specification per °C for temperatures in the range of 0 °C to 35 °C. Above 35 °C, the temperature coefficient is 20 % of the stated specification per °C.

Relative Humidity

Operating.....<80 % to 30 °C, <70 % to 40 °C, <40 % to 50 °C.

Storage<95 %, non-condensing

Altitude

Operating.....2,000 m (6,500 ft) maximum

Non-operating.....12,200 m (40,000 ft) maximum

Detailed Specifications

Low Resistance Source

Range1 Ω to 5.9 k Ω

Test Voltage Measurement

Resolution.....0.1 V

Specification..... $\pm(1.2$ % of input ± 0.2 V)

Settling Time.....1 second for input deviations of <5 %

Test Current Measurement Specification..... $\pm(1.2$ % + RS %) of input ± 0.2 V/R) A, where RS is the resistance specification, and R is the resistance

Nominal Value	Maximum Continuous Test Current ^[1]	Maximum Deviation from Nominal Value $\pm$ (% of value)	Specification of Characterized Value tcal ± 5 °C, $\pm$ (% of value)	
			90 days	1 year
1 Ω	700 mA	20 %	1.10 %	1.10 %
1.8 Ω	610 mA	10 %	0.78 %	0.78 %
3.7 Ω	550 mA	7 %	0.57 %	0.57 %
5.9 Ω	510 mA	7 %	0.49 %	0.49 %
10 Ω	440 mA	5 %	0.45 %	0.45 %
18 Ω	330 mA	5 %	0.42 %	0.42 %
37 Ω	230 mA	5 %	0.41 %	0.41 %
59 Ω	170 mA	5 %	0.48 %	0.48 %
100 Ω	140 mA	5 %	0.45 %	0.45 %
180 Ω	105 mA	5 %	0.42 %	0.42 %
370 Ω	73 mA	5 %	0.41 %	0.41 %
590 Ω	53 mA	5 %	0.34 %	0.34 %
1 k Ω	44 mA	5 %	0.30 %	0.30 %
1.8 k Ω	30 mA	5 %	0.22 %	0.22 %
3.7 k Ω	15 mA	5 %	0.14 %	0.14 %
5.9 k Ω	9 mA	5 %	0.10 %	0.10 %

[1] Exceeding the maximum current limits will cause the Calibrator to disconnect the output terminals and display an error message.

High Resistance Source

Range10 k Ω to 10.05 G Ω

Resolution4 digits (continuously variable for 10 k Ω to 10.05 G Ω)

Test Voltage Measurement

Range0 to 1575 V peak

Resolution..... 1 V
 Specification..... $\pm(3.0\% \text{ of input } \pm 5 \text{ V})$
Settling Time..... 2 seconds for input deviations of $<5\%$
Test Current Measurement Specification..... $\pm(3.0\% + RS\%)$ of input $\pm 5 \text{ V/R A}$, where RS is the resistance specification, and R is the resistance

Specification and Maximum Ratings

Range	Resolution	Maximum Voltage ^[1]	Specification (tcal $\pm 5^\circ\text{C}$, $\pm$ of output)	
			90 days	1 year
10.00 to 19.99 k Ω	10 Ω	140 V	0.20%	0.20 %
20.00 to 39.99 k Ω	10 Ω	200 V	0.20 %	0.20 %
40.00 to 99.99 k Ω	10 Ω	400 V	0.20 %	0.20 %
100.0 to 499.9 k Ω	100 Ω	800 V	0.20 %	0.20 %
500.0 to 999.9 k Ω	100 Ω	1100 V	0.20 %	0.20 %
1.000 to 9.999 M Ω	1 k Ω	1575 V	0.30 %	0.30 %
10.00 to 99.99 M Ω	10 k Ω	1575 V	0.50 %	0.50 %
100.0 to 999.9 M Ω	100 k Ω	1575 V	0.50 %	0.50 %
1.000 to 10.050 G Ω	1 M Ω	1575 V	1.00 %	1.00 %

[1] Exceeding the maximum voltage limits will cause the Calibrator to disconnect the output terminals and display an error message.

18.24 G Ω Single-Value Output

Range 18.24 G Ω single output

Test Voltage Measurement

Range 0 to 1575 V peak
 Resolution 1 V
 Specification $\pm(3.0\% \text{ of input } \pm 5 \text{ V})$
Settling Time 2 seconds for input deviations of $<5\%$
Test Current Measurement Specification $\pm(3.1\% \text{ of input } \pm 1 \text{ nA})$

Specification and Maximum Ratings

Nominal Value	Maximum Voltage ^[1]	Maximum Deviation from Nominal Value	Specification, 1 year, tcal $\pm 5^\circ\text{C}$, $\pm(\% \text{ of output})$
18.24 G Ω	1575 V	$\pm 5\%$	3.0 %

[1] Exceeding the maximum voltage limits will cause the Calibrator to disconnect the output terminals and display an error message.

Short Mode for Megohm Meters

Nominal Resistance $<100 \Omega$

Test Current Measurement

Range 100 mA DC peak
 Resolution 0.1 mA
 Specification $\pm(1.8\% \text{ of input } \pm 3.4 \text{ mA})$
Settling Time 1 second for input deviation of $<5\%$
Test Voltage Measurement Specification $\pm(1.2\% \text{ of input } \pm 0.2 \text{ V})$

Note

Exceeding the maximum current limits will cause the Calibrator to disconnect the output terminals and display an error message.

Ordering information

Models

5080A	Multi-product calibrator
5080A/MEG	Calibrator with megohm meter calibration option
5080A/SC	Calibrator with oscilloscope calibration option
5080A/SC/MEG	Calibrator with megohm meter and oscilloscope calibration option

Accessories

9100-200	10/50 turn coils
5500A/COIL	50 turn coil
5080A/CASE	Transit case with wheels

Software

5080/CAL	5080/CAL calibration software
5080A/WS1⁽¹⁾	Calibrator with MET/CAL® Lite software

Value-added services

Gold CarePlan⁽²⁾	Priority extended warranties and annual calibration services
Silver CarePlan⁽²⁾	Extended warranties with calibration on repair

Upgrades⁽³⁾

5080A->5080A/MEG	Upgrade 5080A to 5080A/MEG
5080A->5080A/SC	Upgrade 5080A to 5080A/SC
5080A->5080A/SC/MEG	Upgrade 5080A to 5080A/SC/MEG

⁽¹⁾ MET/CAL Lite is also available for 5080A/MEG, 5080A/SC, and 5080A/SC/MEG.

⁽²⁾ Select from plans up to five years, with standard or accredited calibration.

⁽³⁾ Installable only at Fluke service centers for extra calibration and installation cost.

Total solutions in calibration

www.Fluke.com/FlukeCal

Fluke Calibration. *Precision, performance, confidence.™*

Electrical	RF	Temperature	Pressure	Flow	Software
------------	----	-------------	----------	------	----------

Fluke Calibration

PO Box 9090,
Everett, WA 98206 U.S.A.

Fluke Europe B.V.

PO Box 1186, 5602 BD
Eindhoven, The Netherlands

For more information call:

In the U.S.A. (800) 443-5853 or Fax (425) 446-5116
In Europe/M-East/Africa +31 (0) 40 2675 200 or Fax +31 (0) 40 2675 222
In Canada (800)-36-FLUKE or Fax (905) 890-6866
From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116
Web access: <http://www.fluke.com>

©2010 Fluke Corporation. Specifications subject to change without notice.
Printed in U.S.A. 10/2010 3949308A D-EN-N Pub-ID 11694-eng

Modification of this document is not permitted without written permission from Fluke Corporation.