# **Manual Supplement**

Manual Title: 1586A Users Supplement Issue: **1**Print Date: June 2013 Issue Date: 10/13
Revision/Date: Page Count: 3

This supplement contains information necessary to ensure the accuracy of the above manual. This manual is distributed as an electronic manual on the following CD-ROM:

CD Title: 1586A CD Rev. & Date: 6/2013 CD PN: 4107852



1586A Users Manual Supplement

# Change #1, 66263, 66773, 66913, 66954

## On page 1-14, replace Input Protection and add:

#### Safety

Mains Input...... IEC 61010-1, Overvoltage Category II, Pollution Degree 2 Measurement Input...... 50 Vdc max, all functions and ranges.

Electromagnetic Environment....... IEC 61326-1: Basic (Controlled EM for full specification)

Radio Frequency Emissions...... IEC CISPR 11: Group 1, Class A. (Group 1 has intentionally generated and/or uses

conductively coupled radio-frequency energy which is necessary for the internal functioning of the equipment itself. Class A equipment is suitable for use in non-domestic locations and/or directly connected to a low-voltage power supply network.)

On pages 1-15 and 1-16, replace the *PRT/RTD Resistance Accuracy* and *PRT/RTD Temperature Accuracy* with:

## PRT/RTD Resistance Accuracy

Accuracy is given as % of measurement or ohms, whichever is greater. Basic accuracy is for 4-wire PRT/RTD. When using 3-wire PRT/RTD add  $0.013~\Omega$  to the accuracy specification for internal resistance mismatch and voltage offset if using Channel 1, or add  $0.05~\Omega$  if using channels x01 through x20. If the environment temperature is outside the specified range, multiply the temperature coefficient numbers by the temperature deviation and add to the accuracy specification.

| Range         | Sample Rate | DAQ-STAQ<br>Module and<br>Channel 1 | High-Capacity<br>Module   | T.C./ °C Outside<br>18 °C to 28 °C |
|---------------|-------------|-------------------------------------|---------------------------|------------------------------------|
|               | Slow        | 0.002 % or 0.0008<br>Ω              | 0.003 % or 0.003 Ω        | 0.0001 % or 0.0008 Ω               |
| 0 Ω to 400 Ω  | Medium      | 0.002 % or 0.002 $\Omega$           | 0.003 % or 0.003 $\Omega$ | 0.0001 % or 0.0008 $\Omega$        |
|               | Fast        | 0.002 % or 0.005 Ω                  | 0.003 % or 0.006 $\Omega$ | 0.0001 % or 0.0008 $\Omega$        |
|               | Slow        | 0.004 % or 0.06 Ω                   | 0.006 % or 0.06 $\Omega$  | 0.0001 % or 0.008 $\Omega$         |
| 400 Ω to 4 kΩ | Medium      | 0.004 % or 0.1 Ω                    | 0.006 % or 0.1 $\Omega$   | 0.0001 % or 0.008 $\Omega$         |
|               | Fast        | 0.004 % or 0.18 Ω                   | 0.006 % or 0.18 $\Omega$  | 0.0001 % or 0.008 $\Omega$         |

#### Note:

For conducted disturbances on mains input >1 V from 10 MHz to 40 MHz, add 0.25  $\Omega$ . For disturbances >3 V, accuracy is unspecified.

10/13

Manual Supplement 1586A Users

#### PRT/RTD Temperature Accuracy

Accuracy is for 4-wire 100  $\Omega$  nominal PRT/RTD. When using 3-wire PRT/RTD add 0.039 °C to the accuracy specification for internal resistance mismatch and voltage offset if using Channel 1, or add 0.15 °C if using channels x01 through x20. If the environment temperature is outside the specified range, multiply the temperature coefficient number by the temperature deviation and add to the accuracy specification. Linear interpolation may be used between points in the table. Specifications do not include sensor accuracy. The practical range of temperature measurement depends on the sensor and characterization.

| Sample<br>Rate | Temperature | DAQ-STAQ<br>Module and<br>Channel 1 | High-Capacity<br>Module | T.C./ °C Outside<br>18 °C to 28 °C |
|----------------|-------------|-------------------------------------|-------------------------|------------------------------------|
| Slow           | −200 °C     | 0.002 °C                            | 0.008 °C                | 0.002 °C                           |
|                | 0 °C        | 0.005 °C                            | 0.008 °C                | 0.003 °C                           |
|                | 300 °C      | 0.012 °C                            | 0.018 °C                | 0.006 °C                           |
|                | 600 °C      | 0.02 °C                             | 0.03 °C                 | 0.01 °C                            |
| Medium         | −200 °C     | 0.005 °C                            | 0.008 °C                | 0.002 °C                           |
|                | 0 °C        | 0.005 °C                            | 0.008 °C                | 0.003 °C                           |
|                | 300 °C      | 0.012 °C                            | 0.018 °C                | 0.006 °C                           |
|                | 600 °C      | 0.02 °C                             | 0.03 °C                 | 0.01 °C                            |
| Fast           | −200 °C     | 0.013 °C                            | 0.015 °C                | 0.002 °C                           |
|                | 0 °C        | 0.013 °C                            | 0.015 °C                | 0.003 °C                           |
|                | 300 °C      | 0.014 °C                            | 0.018 °C                | 0.006 °C                           |
|                | 600 °C      | 0.02 °C                             | 0.03 °C                 | 0.01 °C                            |

#### Note:

For conducted disturbances on mains input >1 V from 10 MHz to 40 MHz, add 0.6 Celsius. For disturbances >3 V, accuracy is unspecified.

# On page 1-16, add the following Note to *Thermistor Resistance Accuracy* table:

#### Note:

For conducted disturbances on mains input >1 V from 10 MHz to 40 MHz, add 8  $\Omega$ . For disturbances >3 V, accuracy is unspecified.

# On page 1-17, add the following Note to all 3, Thermistor Temperature Accuracy tables:

#### Note

For conducted disturbances on mains input >1 V from 10 MHz to 40 MHz, add 0.02 Celsius. For disturbances >3 V, accuracy is unspecified.

### On page 1-20, add the following Notes to *DC Voltage Accuracy* table:

#### Note

- For conducted disturbances on mains input >1 V from 10 MHz to 20 MHz, add 0.02 % of range. For disturbances >3 V, accuracy is unspecified.
- For radiated disturbances > 1V/m from 450 MHz to 550 MHz, add 0.02 % of range. For disturbances > 3V/m, accuracy is unspecified.

# On page 1-21, change the Resistance Accuracy, 1 M $\Omega$ add the following Note to Resistance Accuracy table:

From: 0.004 % + 0.001 % To: 0.006 % + 0.001 %

### Note:

For conducted disturbances on mains input >1 V from 10 MHz to 40 MHz, add 0.06 % of range.. For disturbances >3 V, accuracy is unspecified.

# On page 2-3 Table 2-1, replace the 220 V and the 240 V entries with:

| 220 V | 160 mA, 250 V (slow blow) | 4394437 |
|-------|---------------------------|---------|
| 240 V | 160 mA, 250 V (slow blow) | 4394437 |

2 10/13

1586A Users Manual Supplement

# On page 5-3, under About the DMM Function, replace the first sentence with:

The DMM is a digital multimeter feature that lets you quickly connect test leads to the front-panel to make voltage, resistance, current, and frequency.

# On page 6-3 Table 6-1, replace the 220 V and the 240 V entries with:

| 220 V | 160 mA, 250 V (slow blow) | 4394437 |
|-------|---------------------------|---------|
| 240 V | 160 mA, 250 V (slow blow) | 4394437 |

# On page 6-5 Table 6-3, delete:

| 3980562 | TL71 Test Lead Set | 1 |
|---------|--------------------|---|
|---------|--------------------|---|

# On page 6-5, change:

## From:

| 166488 🔨 | Fuse 0.125A, 250V (slow blow) [2] | 1 |
|----------|-----------------------------------|---|
| 1        | , , ,                             |   |

## To:

| 4394437 <u></u> | Fuse 0.160 mA, 250V (slow blow) [2] | 1 |
|-----------------|-------------------------------------|---|
|-----------------|-------------------------------------|---|

10/13 3