

Certificate of Calibration

Beaverton Service Center

Certificate Number: 296266

Data Type: Found-Left
Result Summary: In Tolerance
Manufacturer: Fluke
Model: 70 III
Serial Number: 72830395
Description: Multimeter

Calibration Date: 22-Nov-2016
Calibration Due: 22-Nov-2017
Certificate Date: 22-Nov-2016
Temperature: 22.8 °C
Humidity: 38.0 %

Procedure: Fluke 70-3: (1 year) CAL VER /5520A

Revision: 1.2

Customer: STATE OF WASHINGTON
City: SEATTLE
State: WA

Country: US

Purchase Order: CCS WASHINGTON ST PATROL

RMA: 31154741

This calibration is traceable to the International System of Units (SI), through National Metrology Institutes (NIST, PTB, NRC, NPL, etc.), radiometric techniques, or natural physical constants. This certificate applies only to the item identified and shall not be reproduced other than in full, without the specific written approval by Fluke Corporation. Calibration certificates without signature are not valid. The calibration has been completed in accordance with Fluke Electronics Corporation Quality System Document 111.0 Revision 118 8/2014 and/or Fluke 17025 Quality Manual QSD 111.41 Revision 005 9/2014.

The Data Type found in this certificate must be interpreted as:

- As - Found Calibration data collected before the unit is adjusted and / or repaired.
- As - Left Calibration data collected after the unit has been adjusted and / or repaired.
- Found-Left Calibration data collected without any adjustment and / or repair performed.

This calibration conforms to the requirements of ANSI/NCSL Z540-1-1994 (R2002).

In the attached measurement results, deviation may be expressed with units, Measured Value (MV) - Nominal Value (NV) or as a proportion of the nominal value ((MV-NV)/NV), expressed without units with a scalar multiplier such as % (0.01), or as a ratio of the units (mA/A, μ V/V, etc.) Descriptions such as μ A/A, μ V/V, and others, where used to annotate results or column headings are the preferred replacements for what was historically labeled as "ppm" or parts-per-million and described the results in that column, unless otherwise noted by units symbols.

Where applicable, the expanded uncertainty of measurement at the time of test is given in the following pages. They are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k, such that the confidence level approximates 95%.

Where applicable, the Test Uncertainty Ratio (TUR) is provided in the following pages. Unless otherwise stated, the TUR for a given measurement result is 4:1 or greater.

Results are reviewed to establish where any measurement results exceeded the manufacturer's specifications.

Measurement results greater than limits of error are indicated by '!'.



TRACY WRIGHT
 Issued By

Certificate Number: 296266**Date of Calibration:** 22-Nov-2016**Standards Used**

| Asset | Description | Cal-Date | Cal-Due |
|--------------|------------------------|-----------------|----------------|
| 15615 | Fluke 5522A Calibrator | 09-Sep-2016 | 09-Sep-2017 |

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Calibration Data

| Parameter | Nominal Value | Measurement Result | Limits of Error | | Test Uncertainty Ratio (TUR) |
|---|---------------|--------------------|-----------------|-------------|------------------------------|
| | | | Lower Limit | Upper Limit | |
| DISPLAY TEST | | | | | |
| Display Segments Illuminated Correctly: | | Pass | | | |
| RESISTANCE TEST | | | | | |
| 320Ohms Range | | | | | |
| 0.0 Ohm | 0.00 | 0.0 | 0.0 | 0.2 | |
| 100.0 Ohm | 100.00 | 99.9 | 99.3 | 100.7 | |
| 3200Ohms Range | | | | | |
| 1000 Ohm | 1000.0 | 1000 | 994 | 1006 | |
| 32kOhms Range | | | | | |
| 10.00 kOhm | 10.000 | 10.00 | 9.94 | 10.06 | |
| 320kOhms Range | | | | | |
| 100.0 kOhm | 100.00 | 100.0 | 99.4 | 100.6 | |
| 3.2MOhms Range | | | | | |
| 1.000 MOhm | 1.0000 | 1.000 | 0.994 | 1.006 | |
| 32MOhms Range | | | | | |
| 10.00 MOhm | 10.000 | 10.01 | 9.79 | 10.21 | |
| DIODE TEST | | | | | |
| Beeper Audible | | Pass | | | |
| Beeper OFF | | Pass | | | |
| DC VOLTAGE TEST | | | | | |
| 320mV Range | | | | | |
| 300.0 mV | 300.00 | 299.6 | 299.0 | 301.0 | |
| DC VOLTAGE TEST | | | | | |
| 3.2V Range | | | | | |
| 2.700 V | 2.7000 | 2.698 | 2.691 | 2.709 | |
| 32V Range | | | | | |
| 27.00 V | 27.000 | 26.98 | 26.91 | 27.09 | |
| 320V Range | | | | | |
| 270.0 V | 270.00 | 269.9 | 269.1 | 270.9 | |
| 600V Range | | | | | |
| 600 V | 600.0 | 600 | 597 | 603 | |
| AC VOLTAGE TEST | | | | | |
| 3.2V Range | | | | | |
| 2.700 V @ 100 Hz | 2.7000 | 2.695 | 2.644 | 2.756 | |
| 2.700 V @ 500 Hz | 2.7000 | 2.683 | 2.644 | 2.756 | |

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| Parameter | Nominal Value | Measurement Result | Limits of Error | | Test Uncertainty Ratio (TUR) |
|-------------------|---------------|--------------------|-----------------|-------------|------------------------------|
| | | | Lower Limit | Upper Limit | |
| 600V Range | | | | | |
| 600 V @ 100 Hz | 600.0 | 599 | 586 | 614 | |
| 600 V @ 1 kHz | 600.0 | 598 | 586 | 614 | |