Warning
Do not service the Meter unless you are qualified to do so. The service information provided in this document is for the use of qualified personnel only.

To avoid electrical shock or personal injury: Always remove the test leads and input signals from the Meter before opening the case.

Use caution when working with voltages above 60V dc or 30V ac.

Warning
To avoid false readings, which could lead to possible electric shock or personal injury, replace the battery as soon as the battery indicator appears.

Caution
The Meter is protected throughout by double insulation or reinforced insulation. When servicing the Meter, use only specified replacement parts.

Caution
This Meter contains parts that can be damaged by static discharge. Follow the standard practices for handling static sensitive devices.

Introduction
This document covers the following topics relating to the calibration of the Fluke 30 Clamp Meter, hereafter referred to as the meter:

- Required Test Equipment
- Assembly/Reassembly
- Calibration Adjustments
- Performance Check

Service
To contact Fluke, call one of the following telephone numbers:

USA and Canada: 1-888-99-FLUKE (1-888-993-5853)
Europe: +31 402-678-200
Japan: +81-3-3434-0181
Singapore: +65-276-6196
Anywhere in the world: +1-425-356-5500


To order replacement parts, call 1-800-526-4731.
Outside U.S.A. contact your nearest service center.
Required Equipment

Table 1 lists the equipment required to perform the calibration procedure.

<table>
<thead>
<tr>
<th>Instrument Type</th>
<th>Recommended Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Calibrator</td>
<td>Fluke 5700A</td>
</tr>
<tr>
<td>Transconductance Amplifier</td>
<td>Fluke 5220A</td>
</tr>
<tr>
<td>Digital Multimeter</td>
<td>Fluke 77</td>
</tr>
<tr>
<td>Lab Supply (0-10V)</td>
<td>Fluke PN 296665</td>
</tr>
<tr>
<td>Resistor (MF, 30.1 ohms, 1%)</td>
<td>Fluke PN 296368</td>
</tr>
<tr>
<td>Resistor (MF, 27.4 ohms, 1%)</td>
<td>5500A coil</td>
</tr>
<tr>
<td>50 Turn Current Coil</td>
<td>5500A coil</td>
</tr>
</tbody>
</table>

Preparing for Calibration

1. Configure the test equipment as shown in Figure 1.
2. Disassemble the meter by removing the four screws on the case back.
3. Remove the battery cover and front panel.
4. Turn on the meter and use a DMM to verify that the battery level is between 7 and 9 volts. If the battery does not meet this criteria, replace the battery before proceeding with the calibration procedure.

*Note*
The test equipment should be allowed to warmup and stabilize for at least 30 minutes before starting the calibration checks.
**Calibration Adjustments**

Complete the following procedure to calibrate the meter. Refer to Figure 2 for the adjustment locations.

**AC Voltage Calibration**

1. Set the meter to the 200V AC range. Connect the calibrator to the input of the meter, and program the calibrator to 100V AC at 60 Hz. Adjust VR3 to indicate “100.0” on the display.

2. Set the calibrator to 0V and set the meter to the 600V AC range. Set the calibrator to 600V AC at 60 Hz, and verify that the display reading is within the tolerance specified in Table 2.

**AC Current Calibration**

1. Set the calibrator to 3.8 amps at 60 Hz.

2. Set the meter to the 200A AC range. Clamp the meter around the 5500A coil as shown in Figure 1. Center the jaws on the coil using the indicator marks on the jaws of the meter and adjust VR2 to indicate “191.0” on the display (adjusting to 191.0 amps ensures that the clamp meets accuracy specifications where response roll-off occurs).

3. Set the meter to the 400A AC range and set the calibrator to 7A AC at 50 Hz. Verify that the display reading is within the tolerance specified in Table 2. If the value is out of tolerance, balance the calibration between the 200A and 400A ranges so that both ranges fall within the tolerance specified in Table 2.

**Ohms Calibration**

The ohms ranges are not adjustable.

**Continuity Beeper Calibration**

Connect a 30.1Ω resistor across the meter’s input terminals, and turn VR4 slowly until the beeper sounds.

**Low Battery Indication Calibration**

1. Disconnect the battery from the meter, and connect the lab supply to the battery terminals. Set the power supply to 6.7V, and turn on the meter. Slowly adjust VR1 until the low battery indicator appears.
2. Set the power supply to 7.0V, and verify that the low battery indicator goes off.

Reassembly
1. Press and release the hold switch (so the switch is down), and fit the button over the switch housing.
2. Set the mark on the function switch axis to the 200V AC position (horizontal position), see Figure 4.
3. Set the rotary switch on the front panel to the 200V position.
4. Reinstall the front panel, making sure the wires surrounding the PCB are not caught between the front and back case halves.
5. Reinstall all but the battery cover screw (three screws) on the case back.
6. Reinstall the battery and battery cover. Then secure with the battery cover screw.

Performance Check
To perform a performance check on the meter, set up the test equipment as shown in Figure 1. Referring to Table 2, set the 5700A calibrator controls as shown, and verify that the meter readings fall between the high and low limits for each range.

<table>
<thead>
<tr>
<th>5700 Settings</th>
<th>Range</th>
<th>Low Limit</th>
<th>High Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current AC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20A</td>
<td>60</td>
<td>200A</td>
<td>18.8A</td>
</tr>
<tr>
<td>190A</td>
<td>60</td>
<td>200A</td>
<td>187.3A</td>
</tr>
<tr>
<td>40A</td>
<td>60</td>
<td>400A</td>
<td>36A</td>
</tr>
<tr>
<td>350A</td>
<td>50</td>
<td>400A</td>
<td>342A</td>
</tr>
<tr>
<td>400A</td>
<td>60</td>
<td>400A</td>
<td>388A</td>
</tr>
<tr>
<td>Volts AC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20V</td>
<td>60</td>
<td>200V</td>
<td>19.5</td>
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<tr>
<td>190V</td>
<td>60</td>
<td>200V</td>
<td>187.4V</td>
</tr>
<tr>
<td>60V</td>
<td>60</td>
<td>600V</td>
<td>56V</td>
</tr>
<tr>
<td>600V</td>
<td>60</td>
<td>600V</td>
<td>590V</td>
</tr>
<tr>
<td>Resistance Ω</td>
<td></td>
<td>Ohms</td>
<td></td>
</tr>
<tr>
<td>190Ω</td>
<td>NA</td>
<td></td>
<td>186.9Ω</td>
</tr>
</tbody>
</table>

To verify the continuity beeper, connect a 27.4Ω resistor (PN 296368) across the input terminals and verify the beeper sounds.

Figure 4. Rotary Switch Position