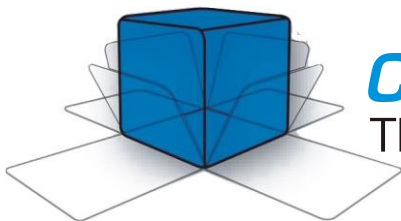


GFM-300A-DM

GROUND BOND TESTER

Instruction Manual



COMPLIANCE WEST USA
The blue box that tests. And tests.

Dear Customer:

Congratulations! Compliance West USA is proud to present you with your new Tester. Your instrument features a groundbreaking circuit design and ergonomic front panel and represents the latest in high current production line testing.

To fully appreciate all the features of your new meter, we suggest that you take a few moments to review this manual. Compliance West USA stands by your instrument with a full one-year warranty. If the need arises, please don't hesitate to call on us.

Thank you for your trust and confidence.

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Section 1

Introduction

This manual contains complete operating, maintenance and calibration instructions for the Compliance West USA Model GFM-300A-DM Ground Bound Tester.

The instrument is a bench-type ground circuit tester.

The GFM-300A-DM features a large variac knob, current and voltage digital meters and output breaker switch on front panel, always operate with precaution.

The GFM-300A-DM meets all safety agency criteria for ground bound testers.

Your tester is warranted for a period of one year upon shipment of the instrument to the original purchaser.

Specifications

TESTING CIRCUITRY

Test Type:	AC.
Current Output:	3-300Aac (Short circuit to 10mΩ). 3-400Aac (short circuit to 7.5mΩ). *Do not exceed 300A. Is not designed to test >300A.
Current Meter:	5% (3-20A), 2.5% (>20A).
Voltage Output:	0-3.75Vac (Open circuit)
Voltage Meter:	1.5% (0.37-5.00V).
Alarm Trigger:	305A.
Duty Cycle:	50%, 2min. ON and 2min. OFF at 300A max.

ELECTRICAL (*120V model)

Input Power:	120V, 10.0A (short circuit to 10mΩ).
Frequency:	50/60Hz.
Fuse:	15A, 250V, fast acting, 6.3x32mm.

ELECTRICAL (*220V model)

Input Power:	220V, 5.0A (short circuit to 10mΩ).
Frequency:	50/60Hz.
Fuse:	8A, 250V, fast acting, 6.3x32mm.

OUTPUTS

Red:	4/0AWG, 440A, 600V with high current clamps.
Black:	4/0AWG, 440A, 600V with high current clamps.

ENVIRONMENTAL

Operating Temperature:	15-35°C.
Relative Humidity Range:	0-90% non-condensing.

Table 1-1. GFM-300A-DM 120V Specifications

Section 2

Operation

This section describes how to set up and operate your tester. We recommend that you read the entire section carefully so that you can use all of the features of your Tester.

Setting up your tester

Your tester is shipped in a special protective container that should prevent damage to the instrument during shipping. Check the shipping order against the contents of the container and report any damage or short shipment to Compliance West USA. The container should include the following:

- GFM-300A-DM Tester.
- GFM-300A-DM User Manual.
- 14AWG Power Cord.
- 4-Wire sense premium leads with high current clamps.
- NIST traceable calibration certificate to ANSI Z540.
- Calibration Data Copy

If reshipment of the instrument is necessary, please use the original shipping container. If the original shipping container is not available, be sure that adequate protection is provided to prevent damage during shipment. We recommend that the instrument be surrounded by at least one inch of shock-absorbing material on all sides of the container.

Remove the Tester from its container and place it on a test bench.

AC Line Voltage Requirements

AC line voltage requirements for your Tester are noted on the rear panel of the instrument. Do not connect the instrument to a different voltage source.

Fuse Replacement

There is a user-replaceable fuse located on the rear panel of the instrument. The fuse rating is noted on the rear panel. Do not attempt to replace it with a fuse of any other rating.

Use the following procedure to replace the fuse F1:

1. Turn the output switch to the OFF position.
2. Turn the power switch to the OFF position.
3. Unplug the instrument from the source of supply.
4. Remove the fuseholder.
5. Replace the fuse with a new one of the correct rating.
6. Replace the fuseholder.

Front and Rear Panel Features

Before using your Tester, take a few minutes to become familiar with the use of its controls, indicators and connectors. The front panel features of the GFM-300A-DM are shown in Figure 2-1 and described in Table 2-1.

Front Panel

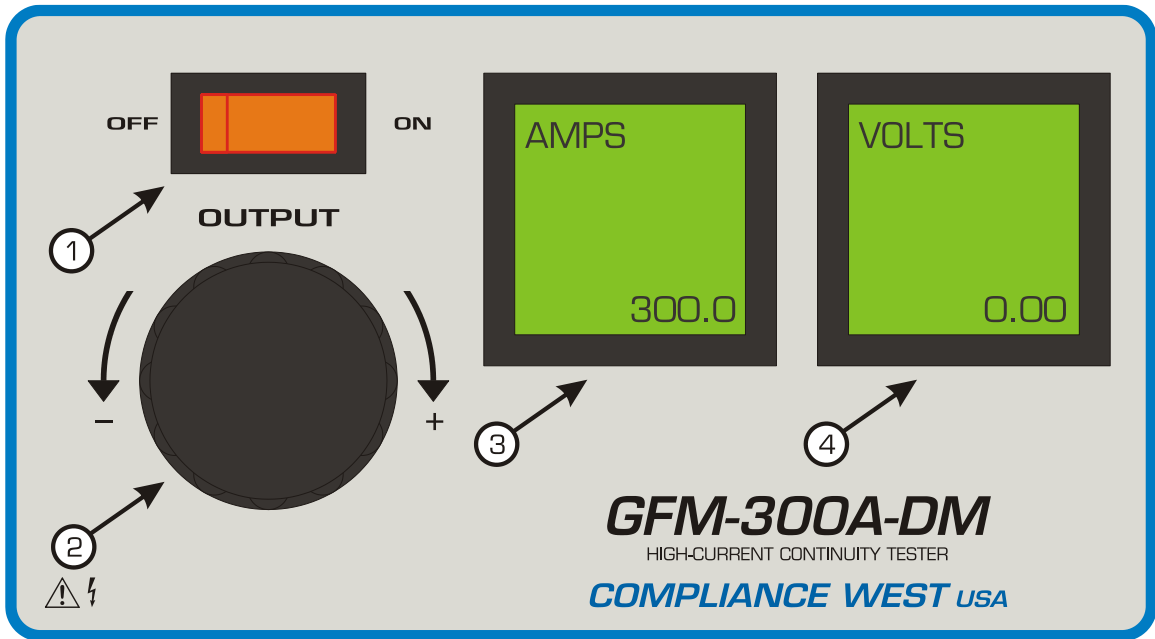


Figure 2-1. Controls, Indicators, Connectors - Model GFM-300A-DM Front Panel

Front Panel Description

ITEM	NAME	FUNCTION
1	Output Breaker Switch	The Output Switch enables the outputs thru the leads. Always turn the knob to the minimum before switching to ON position.
2	Knob – Output Adjustment	The large knob facilitates the increase or decrease of current output. Always turn the knob to the minimum before switching the output to ON.
3	Current Digital Meter	The Current Digital Meter displays the current that is flowing thru the output leads. A Red flashing backlight alarm is activated when exceeding 305A.
4	Voltage Digital Meter	The Voltage Digital Meter displays the voltage that is between the output leads clamps.

Table 2-1. Controls, Indicators, Connectors - Model GFM-300A-DM Front Panel

Rear Panel

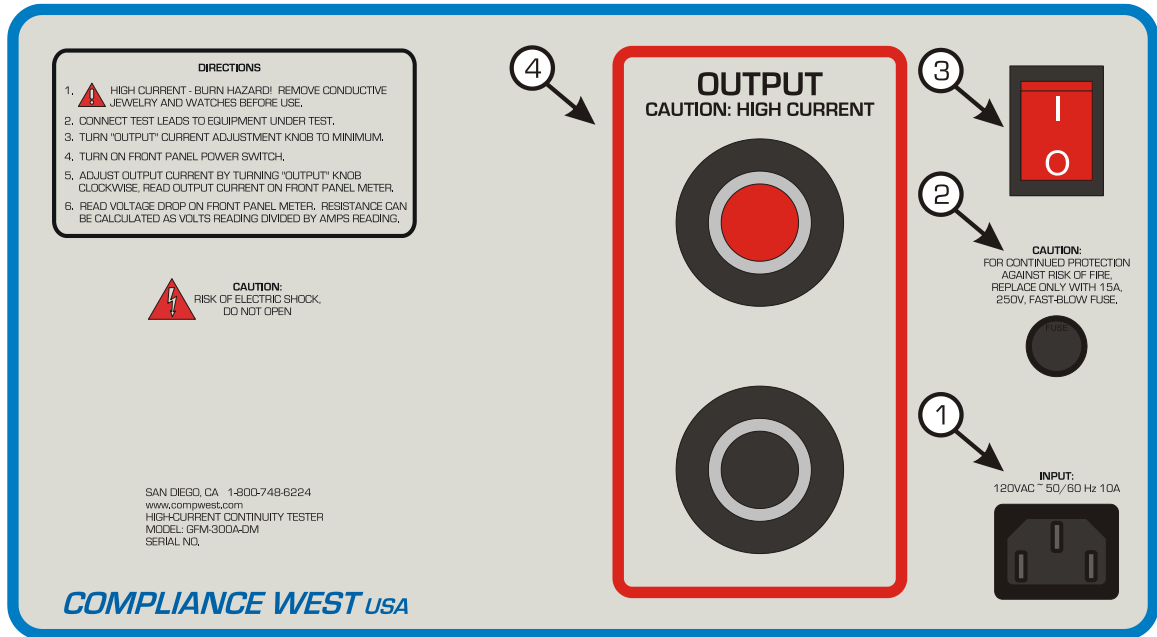


Figure 2-2. Control, Indicators, Connectors - Model GFM-300A-DM Rear Panel

Rear Panel Description

ITEM	NAME	FUNCTION
1	AC Input	Use supplied cordset to connect the GFM-300A-DM tester to an appropriate source of supply.
2	Fuse	Fuse holder provides access for Fuse replacement.
3	Power Switch	I to turn on the tester, make sure output switch on the front panel is OFF, otherwise the tester output will be enable. O to turn tester off.
4	Output	Tester Output, the panel strain relief secures the tester output leads, do not attempt o loose de leads, always use the provided leads and clamps to test.

Table 2-2. Control, Indicators, Connectors - Model GFM-300A-DM Rear Panel

Initial Checkout Procedure

The following procedure will allow you to verify that the Tester is working correctly before use. The only test equipment required is the unit itself, Digital meter, and high current meter (clamp).

CAUTION

High current. Risk of burns. Remove any conductive jewelry before using the Tester.

Voltage Verification

1. Make sure output and rear power switch is on the OFF position.
2. Remove other objects from the work area to avoid shock.
3. Make sure the clamps are placed on a non conductive bench.
4. Plug your Tester to a correctly rated source of supply.
5. Turn Variac Knob to the minimum.
6. Connect a Voltage meter at the output.
7. Turn the power switch on the back to the I or ON position.
8. Turn the Output switch on the front to the I or ON position.
9. Increase the voltage by turning the variac knob clockwise and confirm voltage meter in the front panel is in accordance with the Voltage meter connected at the output, current meter should not move, significantly.
10. Turn voltage knob to minimum.
11. Turn the Output switch on the front to the O or OFF position.
12. Turn the power switch on the back to the O or OFF position.
13. Remove the Voltage meter.

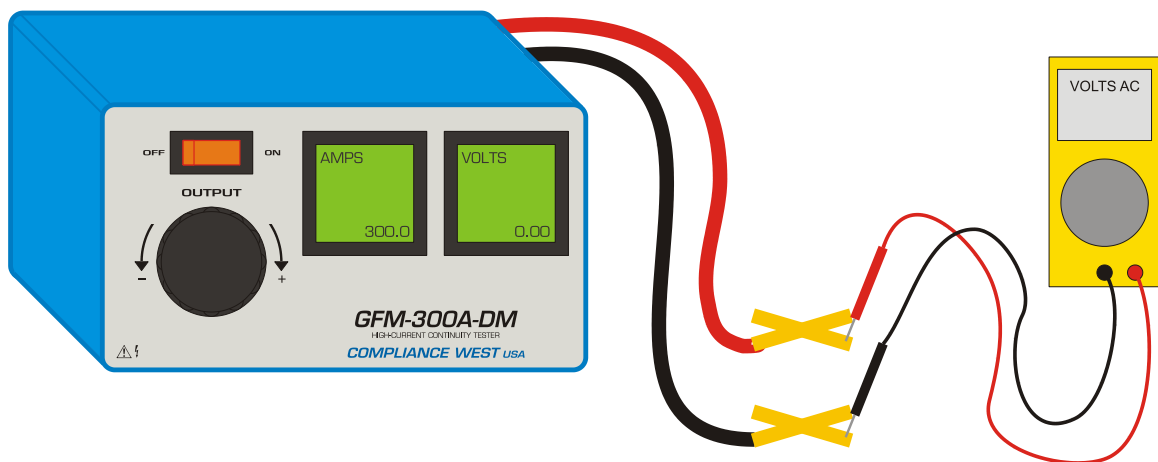


Figure 2-3. Voltage Test Verification set up

Current Verification

1. Make sure output and rear power switch is on the OFF position.
2. Remove other objects from the work area to avoid shock.
3. Make sure the clamps are placed on a non conductive bench.
4. Plug your Tester to a correctly rated source of supply.
5. Turn Variac Knob to the minimum.
6. Short circuit the output leads and connect a current clamp meter at one of the leads.
7. Make sure the area around the leads and clamps is free from people contact.
8. Turn the Output switch on the front to the I or ON position.
9. Increase the current by turning the variac knob clockwise and confirm current meter in the front panel is in accordance with the current clamp meter, voltage meter should not move significantly.
10. Turn voltage knob to minimum.
11. Turn the Output switch on the front to the O or OFF position.
12. Turn the power switch on the back to the O or OFF position.
13. Remove current clamp.
14. Disconnect lead clamps (open circuit).

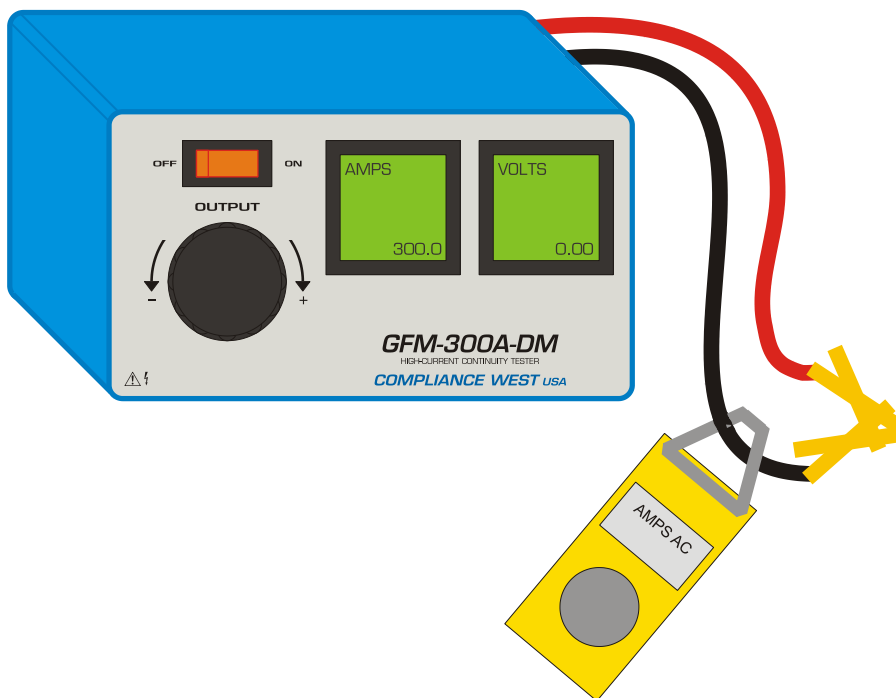


Figure 2-4. Current Test Verification set up

Operating Techniques

The following paragraphs describe how to operate your GFM-300A-DM Tester. In the following sections, EUT means Equipment Under Test.

1. Make sure Power and Output switch is on the OFF position.
2. Plug your Tester to a correctly rated source of supply.
3. Turn Variac Knob to the minimum.
4. Connect the output clamp leads to the EUT, making sure the alligator clamp makes as much conductor contact as possible. This avoids extra resistance.
5. Turn the power switch on the back to the I or ON position.
6. Turn the output switch on the front to the I or ON position.
7. Adjust the desired current / voltage level by increasing the voltage knob. Do not exceed 305A.
8. When test is finish, decrease the voltage knob to minimum and turn Output switch on the front to the O or OFF position.
9. After completion of testing turn the power switch on the back to the O or OFF position.

Section 3

Technical Assistance

Technical Assistance from Compliance West USA is available:

Phone: (800) 748-6224

Hours: 8:30 AM - 4:30 PM Pacific Time.

Also available on our web site at: **www.compwest.com**

Contact:

Compliance West USA
650 Gateway Center Way, Suite D
San Diego, CA 92102

Phone: (619) 878-9696

FAX: (619) 794-0404

Section 4

Maintenance and Calibration

WARNING

MAINTENANCE AND CALIBRATION INSTRUCTIONS ARE FOR QUALIFIED PERSONNEL ONLY. TO AVOID ELECTRIC SHOCK, DO NOT PERFORM ANY SERVICING OTHER THAN THE CONTAINED IN THE OPERATING INSTRUCTIONS.

Introduction

This section of the manual contains maintenance information for the GFM-300A-DM tester. A 1-year calibration cycle is recommended to maintain the specifications of the factory. The test equipment required for the performance test is digital meter and a current meter.

Service Information

The MegaPulse tester is warranted to the original purchaser for a period of 1 year. This warranty does not cover problems due to misuse or neglect. Malfunctions which occur within the limits of the warranty will be corrected at no charge. Mail the instrument post paid to the manufacturer. Dated proof of purchase is required for all in-warranty repairs. The manufacturer is also available for calibration and / or repair of instruments that are beyond their warranty period. Contact the manufacturer for a cost quotation. Ship the instrument and your remittance according to the instructions given by the manufacturer.

General Maintenance

WARNING

Dangerous voltages exist when energized. Make sure the tester is turned off, and unplug from supply.

Cleaning

Remove dust from the front panel and case with a microfiber, use a damp microfiber for a deeper cleaning, dry right after with another microfiber.

CAUTION

Do not use aromatic hydrocarbons or chlorinated solvents for cleaning. These solutions will react with the plastic materials used in the instrument.

Calibration Information

The Calibration Procedure should be performed annually and any time the instrument has been repaired.

The calibration procedure should be performed at an ambient temperature of $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ($73.4^{\circ}\text{F} \pm 9^{\circ}\text{F}$). The procedure consists in the verification and calibration of the meter reading. The Calibration procedure must be performed by qualified personnel, for more information contact Compliance West USA.