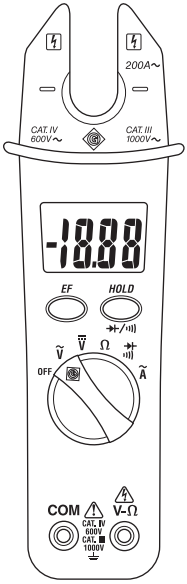
INSTRUCTION MANUAL
MANUAL DE INSTRUCCIONES
MANUEL D'INSTRUCTIONS

GREENLEE®
A Textron Company



CSJ-100

Digital Open Jaw Meter

Read and **understand** all of the instructions and safety information in this manual before operating or servicing this tool.

Description

The Greenlee CSJ-100 Digital Open Jaw Meter is a hand-held testing device with the following measurement capabilities: AC current, AC or DC voltage, and resistance. It also checks diodes, verifies continuity, and detects electric fields (EF).

Safety

Safety is essential in the use and maintenance of Greenlee tools and equipment. This instruction manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

Purpose of This Manual

This instruction manual is intended to familiarize all personnel with the safe operation and maintenance procedures for the Greenlee CSJ-100 Digital Open Jaw Meter.

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge: www.greenlee.com.

Do not discard this product or throw away!
For recycling information, go to www.greenlee.com.

KEEP THIS MANUAL

Important Safety Information

SAFETY ALERT SYMBOL

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

⚠DANGER

Immediate hazards which, if not avoided, WILL result in severe injury or death.

⚠WARNING

Hazards which, if not avoided, COULD result in severe injury or death.

⚠CAUTION

Hazards or unsafe practices which, if not avoided, MAY result in injury or property damage.

⚠WARNING

Read and **understand** this material before operating or servicing this equipment. Failure to understand how to safely operate this tool could result in an accident causing serious injury or death.

⚠WARNING

Electric shock hazard:

Contact with live circuits could result in severe injury or death.

Important Safety Information

⚠WARNING

Electric shock and fire hazard:

- Do not expose this unit to rain or moisture.
- Do not use the unit if it is wet or damaged.
- Use this unit for the manufacturer's intended purpose only, as described in this manual. Any other use can impair the protection provided by the unit.

Failure to observe these warnings could result in severe injury or death.

⚠WARNING

Electric shock hazard:

- Do not operate with the case or battery door open.
- Before opening the case or battery door, remove the test leads (or jaw) from the circuit and shut off the unit.

Failure to observe these warnings could result in severe injury or death.

⚠WARNING

Electric shock hazard:

- Using this unit near equipment that generates electromagnetic interference can result in unstable or inaccurate readings.
- Unless measuring voltage or current, shut off and lock out power. Make sure that all capacitors are discharged. Voltage must not be present.

Failure to observe these warnings could result in severe injury or death.

Important Safety Information

⚠CAUTION

Electric shock hazard:

- Do not attempt to repair this unit. It contains no user-serviceable parts.
- Do not expose the unit to extremes in temperature or high humidity. Refer to “Specifications.”

Failure to observe these precautions may result in injury and can damage the unit.

⚠CAUTION

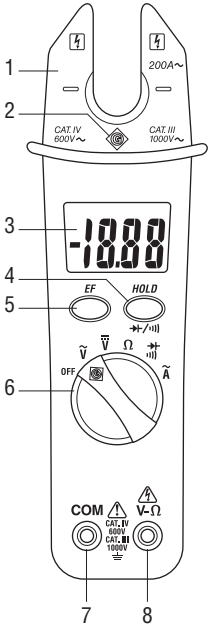
Electric shock hazard:

Do not change the measurement function while the test leads are connected to a component or circuit.

Failure to observe this precaution may result in injury and can damage the unit.

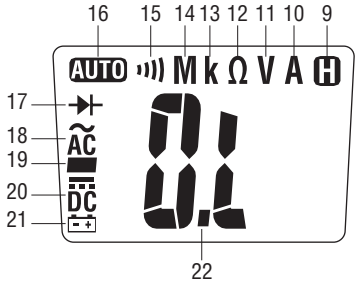
Identification

1. Jaw
2. EF indicator
3. Display
4. Hold/toggle button
5. EF button
6. Selector switch
7. Negative, common (COM), or ground input terminal
8. Volts or resistance (V-Ω) input terminal



Display Icons

9. H — Hold function is enabled.
10. A — Amps
11. V — Volts
12. Ω — Ohms
13. k — kilo (10^3)
14. M — Mega (10^6)
15.))) — Continuity mode
16. AUTO — Auto ranging is enabled.
17. ⇥| — Diode mode
18. AC — AC measurement is selected.
19. – — Negative polarity indicator
20. DC — DC measurement is selected.
21. Low battery indicator
22. *O.L* — Overload indicator



Symbols on the Unit

⚠ Warning—Read the instruction manual

⚠ ϟ Risk of electric shock

⧈ Double insulation

Battery

Recycle product in accordance with manufacturer's directions

Using the Features

- **Selector Switch**

  Turn switch to desired mode of operation:

  - $\tilde{V}$ (AC voltage)
  - $\overline{\tilde{V}}$ (DC voltage)
  - Ω (resistance)
  - (diode/continuity)
  - $\tilde{A}$ (AC current)

  Return switch to **OFF** position when not in use.

- **Hold/Toggle Button**

  Momentarily press to select diode or continuity mode.

  Press momentarily to hold the present value on the display. H will appear on the display. Press again to return to normal mode.

- **EF Button**

  Press and hold to detect the electric field that surrounds current-carrying conductors. Refer to the “Typical Measurements” section.

- **Auto Power Off**

  The unit automatically shuts off after approximately 15 minutes of inactivity.

Operation

⚠WARNING

Electric shock hazard:

Contact with live circuits could result in severe injury or death.

1. Set the selector switch according to the Settings Table.
2. Refer to “Typical Measurements” for specific measurement instructions.
3. Test the unit on a known functioning circuit or component.
   - If the unit does not function as expected on a known functioning circuit, replace the battery.
   - If the unit still does not function as expected, send the unit to Greenlee for repair. Refer to the instructions under the Warranty.
4. Take the reading from the circuit or component to be tested.

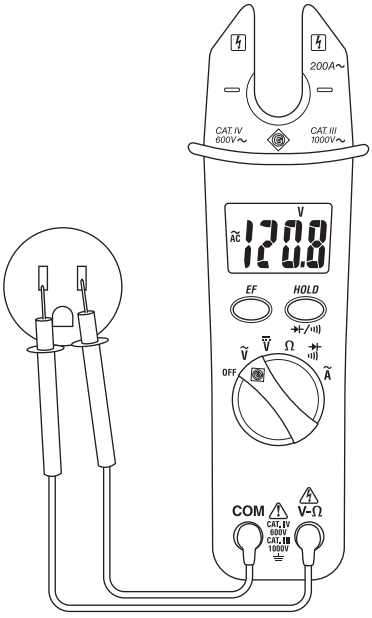
Settings Table

To measure this value …	Set the Selector Switch to this symbol …	This icon appears on the display …	Connect red lead to …	Connect black lead to …
AC Voltage	$\tilde{V}$	AC V	V-Ω	COM
DC Voltage	$\overline{\overline{V}}$	DC V	V-Ω	COM
Resistance	Ω	M Ω	V-Ω	COM
AC Current*	$\tilde{A}$	AC A	N/A	N/A
To measure this value …	**Set the Selector Switch to this symbol …**	**Momentarily press the Hold/Toggle Button until this icon appears on the display …**	**Connect red lead to …**	**Connect black lead to …**
Diode	⊣))	⊣ V	V-Ω	COM
Continuity	⊣))	)) Ω	V-Ω	COM

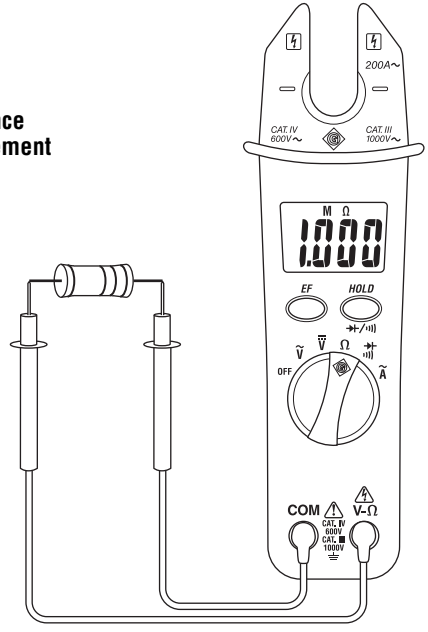
* AC current measurements are made using the jaw. Refer to “Typical Measurements” for specific measurement instructions.

Typical Measurements

Voltage Measurement

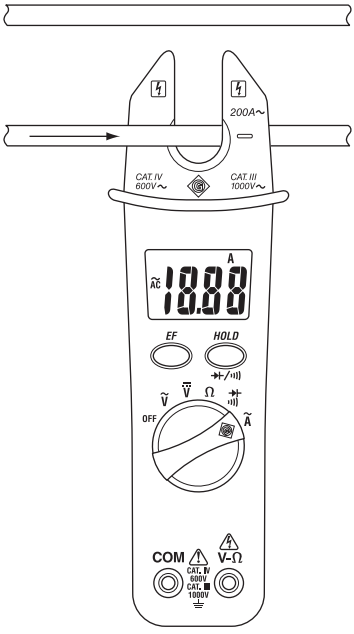


Resistance Measurement



Typical Measurements

AC Current Measurement

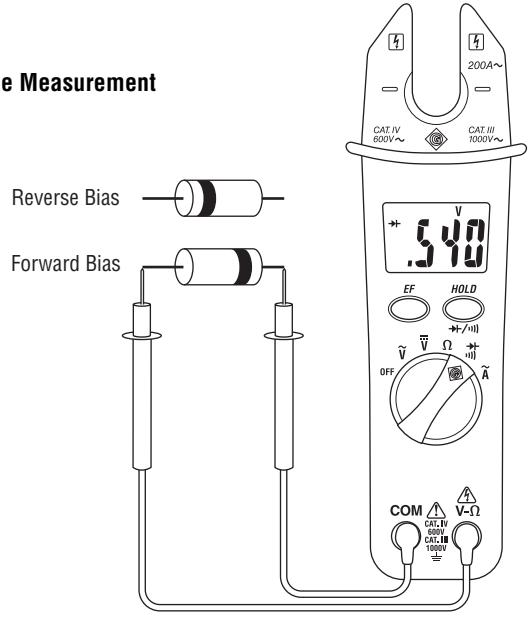


Clamp Around Wire

Notes:

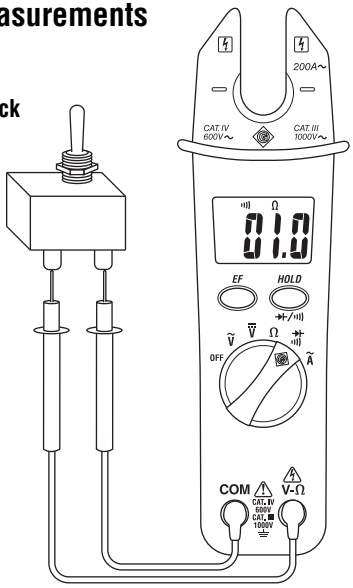
- *Place the jaw around one conductor only.*
- *Center the wire in the jaw for highest accuracy.*

Diode Measurement



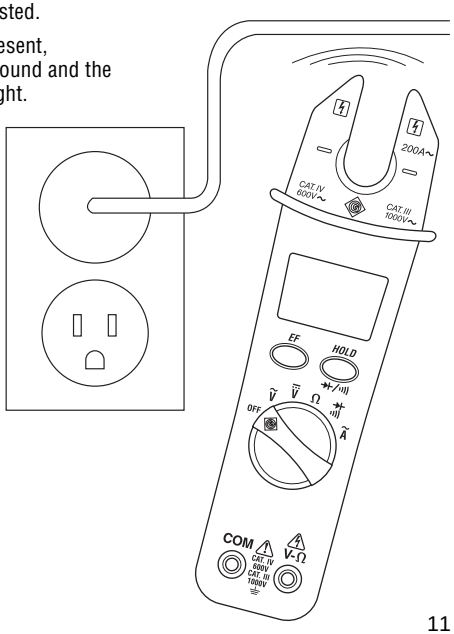
Typical Measurements

Continuity Check



Electric Field (EF) Detection

1. Press and hold the **EF** button to detect the electric field that surrounds current-carrying conductors. (The selector switch may be in any position.)
2. Place the tip of either jaw next to the wiring to be tested.
3. If AC voltage is present, the CSJ-100 will sound and the EF indicator will light.



Accuracy

Refer to “Specifications” for operating conditions and temperature coefficient.

Accuracy is specified as follows: ± (a percentage of the reading + a fixed amount) at 23 °C ± 5 °C (73.4 °F ± 9 °F), 0% to 80% relative humidity.

AC Voltage

Measurement Range	Accuracy
200.0 V	± (1.5% + 0.5 V)
1000 V	± (1.5% + 5 V)

Frequency Range: 50 Hz to 500 Hz

Input Impedance: 2 MΩ || 100 pF max.

DC Voltage

Measurement Range	Accuracy
200.0 V	± (1.0% + 0.2 V)
1000 V	± (1.0% + 2 V)

Input Impedance: 2 MΩ

Resistance

Measurement Range	Accuracy
200.0 Ω	± (1.0% + 0.5 Ω)
2.000 kΩ	± (1.0% + 0.002 kΩ)
20.00 kΩ	± (1.0% + 0.02 kΩ)
200.0 kΩ	± (1.0% + 0.2 kΩ)
2.00 MΩ	± (1.0% + 0.002 MΩ)
20.00 MΩ	± (1.9% + 0.05 MΩ)

AC Current

Measurement Range	Accuracy
0.0 to 200.0 A	± (3.0% + 0.3 A)

Frequency Range: 50 Hz to 60 Hz

Adjacent Conductor Influence: < 0.08 A/A

Continuity Beeper

Range	Accuracy
200.0 Ω	1.0% + 0.5 Ω

Open Circuit Voltage: 0.4 VDC typical

Audible Threshold: Between 50 Ω and 250 Ω

Diode Tester

Test Current	Accuracy (0.4 V to 0.8 V)
0.4 mA typical	1.5% + 0.050 V

Open Circuit Voltage: < 1.6 VDC typical

Specifications

Display: 3-1/2-digit LCD (1999 maximum reading)

Sampling Rate: 1.5 per second

Overrange Indication: "OL" appears on the display

Jaw Opening: 16 mm (0.63")

Wireless Electric Field Detection (EF):
Voltage Range: 50 VAC to 1000 VAC
Frequency Range: 50 Hz to 500 Hz

Measurement Category: Category IV, 600 V; Category III, 1000 V per UL 61010-1 and UL 61010B-2-032

Temperature Coefficient: 0.2 x (specified accuracy) per °C below 18 °C or above 28 °C

Operating Conditions:
At 0% ≤ 80% RH: 0 °C to 30 °C (32 °F to 86 °F)
At 0% ≤ 75% RH: 30 °C to 40 °C (86 °F to 104 °F)
At 0% ≤ 45% RH: 40 °C to 50 °C (104 °F to 122 °F)
Altitude: 2000 m (6500') maximum
Indoor use only

Storage Conditions: -20 °C to 60 °C (-4 °F to 140° F), 0% to 80% relative humidity with battery removed

Pollution Degree: 2

Battery: Two 1.5 V (AAA, A4M, or IEC LR03)

Measurement Categories

These definitions were derived from the international safety standard for insulation coordination as it applies to measurement, control, and laboratory equipment. These measurement categories are explained in more detail by the International Electrotechnical Commission; refer to either of their publications: IEC 61010-1 or IEC 60664.

Measurement Category I

Signal level. Electronic and telecommunication equipment, or parts thereof. Some examples include transient-protected electronic circuits inside photocopiers and modems.

Measurement Category II

Local level. Appliances, portable equipment, and the circuits they are plugged into. Some examples include light fixtures, televisions, and long branch circuits.

Measurement Category III

Distribution level. Permanently installed machines and the circuits they are hard-wired to. Some examples include conveyor systems and the main circuit breaker panels of a building's electrical system.

Measurement Category IV

Primary supply level. Overhead lines and other cable systems. Some examples include cables, meters, transformers, and other exterior equipment owned by the power utility.

Maintenance

⚠CAUTION

Electric shock hazard:

- Do not attempt to repair this unit. It contains no user-serviceable parts.
- Do not expose the unit to extremes in temperature or high humidity. Refer to “Specifications.”

Failure to observe these precautions may result in injury and can damage the unit.

Battery Replacement

⚠WARNING

Electric shock hazard:

- Do not operate with the case or battery door open.
- Before opening the case or battery door, remove the test leads (or jaw) from the circuit and shut off the unit.

Failure to observe these warnings could result in severe injury or death.

1. Disconnect the unit from the circuit. Turn the unit OFF.
2. Remove the screw from the battery door.
3. Remove the battery door.
4. Replace the batteries (observe polarity).
5. Replace the battery door and the screw.

Cleaning

Periodically wipe the case with a damp cloth and mild detergent; do not use abrasives or solvents.

Statement of Conformity

Greenlee Textron Inc. is certified in accordance with ISO 9000 (2000) for our Quality Management Systems.

The instrument enclosed has been checked and/or calibrated using equipment that is traceable to the National Institute for Standards and Technology (NIST).

Lifetime Limited Warranty

Greenlee Textron Inc. warrants to the original purchaser of these goods for use that these products will be free from defects in workmanship and material for their useful life, excepting normal wear and abuse. This warranty is subject to the same terms and conditions contained in Greenlee Textron Inc.'s standard one-year limited warranty.

For all Test Instrument repairs, contact Customer Service at 800-435-0786 and request a Return Authorization.

For items not covered under warranty (such as items dropped, abused, etc.), a repair cost quote is available upon request.

Note: Prior to returning any test instrument, please check replaceable batteries or make sure the battery is at full charge.

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