

# ARDENT Meters and Testers

## Multimeters and Clamp Meters

### Overview

From electrical diagnostics to industrial testing, high-quality meters are indispensable tools for professionals managing voltage, current, resistance, power analysis, and insulation. ARDENT instruments are meticulously engineered for accuracy, reliability, and intuitive operation, providing the critical data essential for comprehensive troubleshooting, predictive maintenance, and performance optimization across diverse operational environments. Integrated advanced safety features, such as the Automatic Terminal Blocking system (designed to prevent inadvertent misuse), and ergonomic enhancements like the rotating head of clamp meters, ensure ARDENT meters deliver seamless operation for both routine verification and complex diagnostics. Engineered for durability and efficiency, these instruments offer the precision and confidence required to execute demanding measurement tasks effortlessly.



**ARD-MM410**



**ARD-IT30**



**ARD-CM300AC**



**ARD-CM1000ACDC**

### Safety Category Ratings

Category Rating	Brief Description	Typical Applications
<b>CAT IV</b>	Connection point to utility power and outdoor conductors	<ul style="list-style-type: none"> <li>Electricity meters, primary overcurrent protection equipment</li> <li>Outside and service entrance, service drop from pole to building, run between meter and panel</li> <li>Overhead line to detached building, underground line to well pump</li> </ul>
<b>CAT III</b>	Three-phase circuits and single-phase lighting circuits in commercial buildings	<ul style="list-style-type: none"> <li>Equipment in fixed installations, such as switchgear and polyphase motors</li> <li>Bus and feeder in industrial plants</li> <li>Feeders and short branch circuits, distribution panel devices</li> <li>Lighting systems in larger buildings</li> <li>Appliance outlets with short connections to service entrance</li> </ul>
<b>CAT II</b>	Single-phase receptacles and connected loads	<ul style="list-style-type: none"> <li>Appliance, portable tools, and other household and similar loads</li> <li>Outlet and long branch circuits</li> <li>Outlets at more than 10 meters (30 feet) from CAT III source</li> <li>Outlets at more than 20 meters (60 feet) from CAT IV source</li> </ul>
<b>CAT I</b>	Electronics	<ul style="list-style-type: none"> <li>Protected electronic equipment</li> <li>Equipment connected to (source) circuits in which measures are taken to limit transient overvoltages to an appropriately low level</li> </ul>

Want to learn more about Safety Category Ratings?

[Click here](#) to read our safety guide and FAQ's.

The measurement category (CAT) rating and voltage rating for a meter is determined by a combination of the meter, test probes and any accessories connected to the meter. The combination rating is the **LOWEST** rating of any individual component.

Always de-energize power before accessing an electrical enclosure.

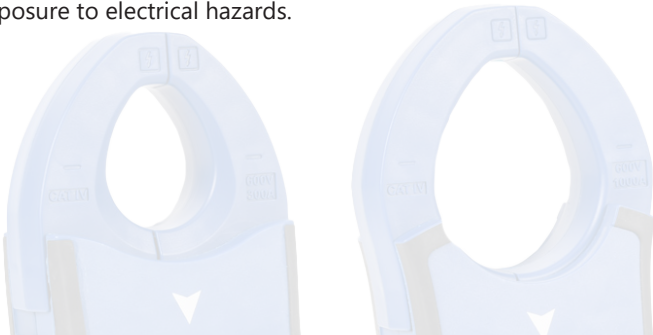
Always follow safety and lockout/tagout procedures when working on or near electrical systems and equipment.

Use proper personal protective equipment (PPE) when working around sources of hazardous electrical energy.

# ARDENT Meters and Testers

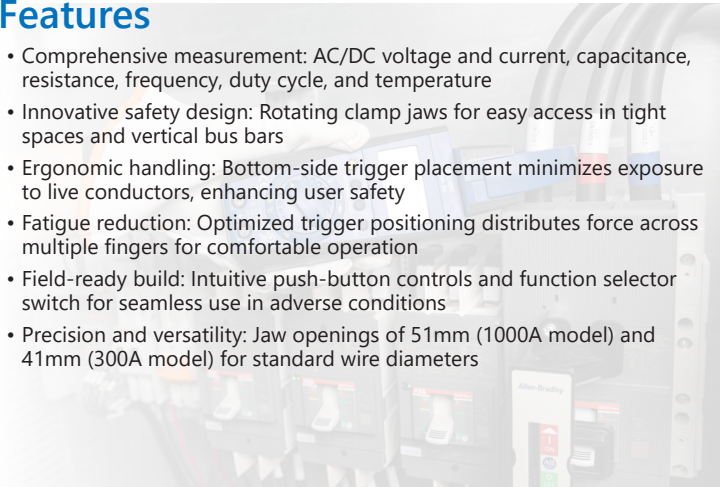
## Clamp Meters

The ARDENT Clamp Meter series is designed for professionals who require reliable measurement of essential electrical parameters in diverse field conditions. These clamp meters provide accurate readings of AC and DC current, voltage, frequency, capacitance, resistance, duty cycle, and temperature. With an innovative ergonomic design and advanced safety features, they enable effortless operation while minimizing exposure to electrical hazards.



## Features

- Comprehensive measurement: AC/DC voltage and current, capacitance, resistance, frequency, duty cycle, and temperature
- Innovative safety design: Rotating clamp jaws for easy access in tight spaces and vertical bus bars
- Ergonomic handling: Bottom-side trigger placement minimizes exposure to live conductors, enhancing user safety
- Fatigue reduction: Optimized trigger positioning distributes force across multiple fingers for comfortable operation
- Field-ready build: Intuitive push-button controls and function selector switch for seamless use in adverse conditions
- Precision and versatility: Jaw openings of 51mm (1000A model) and 41mm (300A model) for standard wire diameters



## Clamp Meter Specifications





Part Number	Description	Includes	Price
<b><u>ARD-CM1000AC</u></b>	ARDENT clamp meter, AC/DC voltage, AC current, resistance, capacitance, frequency and temperature, 1000A, CAT IV 600V/CAT III 1000V.	Carrying case, normal tip probe set, alligator clip set, instruction manual, test certificate and 9v battery	\$125.00
<b><u>ARD-CM1000ACDC</u></b>	ARDENT clamp meter, AC/DC voltage, AC/DC current, resistance, capacitance, frequency and temperature, 1000A, CAT IV 600V/CAT III 1000V, True RMS.		\$180.00
<b><u>ARD-CM300AC</u></b>	ARDENT clamp meter, AC/DC voltage, AC current, resistance, capacitance, frequency and temperature, 300A, CAT IV 600V/CAT III 1000V.		\$90.00
<b><u>ARD-CM300ACDC</u></b>	ARDENT clamp meter, AC/DC voltage, AC/DC current, resistance, capacitance, frequency and temperature, 300A, CAT IV 600V/CAT III 1000V, True RMS.		\$160.00

## Rotary Jaw Mechanism

The ARDENT clamp meters have a rotary mechanism for the clamp jaws. These rotary clamp jaws can be rotated at different angles at a 30° step with a maximum up to 90° in both clockwise and anti-clockwise directions as shown. This allows the user to align the clamp jaws in the orientation of bus bar/conductor while keeping the display and keys facing the user.



# ARDENT Meters and Testers

Clamp Meter Specifications				
Product Image				
Model Number	<u>ARD-CM300AC</u>	<u>ARD-CM300ACDC</u>	<u>ARD-CM1000AC</u>	<u>ARD-CM1000ACDC</u>
Basic Features				
Counts	3100	3100	3100	3100
TRMS	✗	✓	✗	✓
Basic Accuracy	±0.5%	±0.4%	±0.4%	±0.4%
Safety Rating	CAT IV 600V/CAT III 1000V	CAT IV 600V/CAT III 1000V	CAT IV 600V/CAT III 1000V	CAT IV 600V/CAT III 1000V
Jaw Opening	41mm	41mm	51mm	51mm
Protection Rating	IP20	IP20	IP20	IP20
Measurement				
DC Voltage Measurement	1000V	1000V	1000V	1000V
AC Voltage Measurement	1000V	1000V	1000V	1000V
DC Current Measurement	✗	300A	✗	1000A
AC Current Measurement	300A	300A	1000A	1000A
Resistance Measurement	30MΩ	30MΩ	30MΩ	30MΩ
Capacitance Measurement	30μF	30μF	30μF	30μF
Frequency Measurement	100 kHz	100 kHz	100 kHz	100 kHz
Temperature Measurement	✓	✓	✓	✓
Continuity Testing	✓	✗	✓	✓
Diode Test	✓	✓	✓	✓
Duty Cycle	✓	✓	✓	✓
Diagnostics and Data				
Peak Hold	✗	✓	✓	✓
Data Hold/MIN-MAX	✓/✓	✓/✓	✓/✓	✓/✓
Relative Measurement	✓	✓	✓	✓
Display				
Dual Display	✓	✓	✓	✓
Backlight	✓	✓	✓	✓
Analog Bar Graph	✗	✓	✓	✓

Note: For detailed specifications, please see the user manual for the individual part number.



# ARDENT Meters and Testers

## Replacement Holster

Keep your multimeter secure and protected with this durable rubber holster, designed to withstand everyday use in demanding environments. Engineered for a snug fit, it provides enhanced grip, shock absorption, and an added layer of defense against impacts, ensuring your device stays safeguarded while in the field or workshop.

## Canvas Carrying Cases




Built for convenience and durability, these rugged polyester canvas carrying cases offer reliable storage and protection for your multimeters and clamp meters. Featuring reinforced stitching, multiple compartments, and a secure closure, they keep your instruments organized while shielding them from dust, debris, and on-the-go wear and tear. Whether transporting tools between worksites or storing them safely, these cases deliver practical protection without compromise.



**ARD-MM-BT-1**



**ARD-MM-CASE-1**

Holster and Cases Specifications				
Part Number	Part Image	Description	For Use With	Price
<b><u>ARD-CM-CASE-1</u></b>		ARDENT carrying case, polyester canvas, 10.50 x 3.50 x 3.50in, 3 compartments.	ARDENT clamp meters	\$16.00
<b><u>ARD-MM-CASE-1</u></b>		ARDENT carrying case, polyester canvas, 9.50 x 4.50 x 4.50in, 2 compartments.	ARDENT multimeters and insulation tester	\$16.00
<b><u>ARD-MM-BT-1</u></b>		ARDENT rubber holster, replacement	ARD-MM410, ARD-MM612, ARD-MM613, ARD-MM615 and ARD-MM616	\$8.00



# ARDENT Meters and Testers

## Meter Accessories

Ensure peak performance and versatility with essential accessories designed to enhance your multimeter and clamp meter functionality. From replacement test leads and alligator clips for secure connections to fuses and temperature adapters for expanded measurement capabilities, these tools provide the precision, durability, and reliability needed to keep you on the job without interruption.



**ARD-PRB-STD**

Meter Accessories Specifications					
Part Number	Product Image	Description	Includes	For Use With	Price
<a href="#"><u>ARD-PRB-FPT</u></a>		ARDENT test lead set, replacement, CAT IV 600V/ CAT III 1000V, 48in length. For use with all ARDENT multimeters and clamp meters. Fine tip CATIV 600V probe covers included.	Fine tip cativ 600v probe covers	all ARDENT multimeters and clamp meters	\$16.00
<a href="#"><u>ARD-PRB-STD</u></a>		ARDENT test lead set, replacement, CAT IV 600V/ CAT III 1000V, 48in length. For use with all ARDENT multimeters and clamp meters. Standard tip CATIV 600V probe covers included.	Standard tip cativ 600v probe covers	all ARDENT multimeters and clamp meters	\$16.00
<a href="#"><u>ARD-AG-CLP-1</u></a>		ARDENT alligator clip set, CAT IV 600V/CAT III 1000V. For use with ARD-PRB-STD.	N/A	ARD-PRB-STD	\$16.00
<a href="#"><u>ARD-TPA1</u></a>		ARDENT temperature adapter, for use with ARD-MM410, ARD-MM612, ARD-MM613, ARD-MM615, ARD-MM616 and ARD-IT30.	N/A	ARD-MM410, ARD-MM612, ARD-MM613, ARD-MM615, ARD-MM616 and ARD-IT30	\$8.00
<a href="#"><u>ARD-FS16A</u></a>		ARDENT fuse, replacement, 16A. For use with ARD-MM410, ARD-MM612, ARD-MM613, ARD-MM615 and ARD-MM616.	N/A	ARD-MM410, ARD-MM612, ARD-MM613, ARD-MM615 and ARD-MM616	\$12.00
<a href="#"><u>ARD-FS1P6A</u></a>		ARDENT fuse, replacement, 1.6A. For use with ARD-MM410, ARD-MM612, ARD-MM613, ARD-MM615, ARD-MM616 and ARD-IT30.	N/A	ARD-MM410, ARD-MM612, ARD-MM613, ARD-MM615, ARD-MM616 and ARD-IT30	\$12.00

# Understanding Safety Category (CAT) Ratings

## Why Your Test Instrument Keeps You Safe

When you're working with electricity, safety is the number one priority. You shouldn't use the wrong electrical test instrument for a high-energy circuit. That's where Safety Category (CAT) Ratings come in.

Think of CAT ratings as a safety roadmap for your test instrument, telling you where it's safe to use it. These ratings are determined by international standards (like IEC 61010) and indicate how well a meter can withstand sudden, powerful surges of electricity—called "transients" or "voltage spikes"—that can occur from things like lightning strikes, motor starts, or even just turning equipment on and off.

Safety Category Ratings		
Category Rating	Brief Description	Typical Applications
<b>CAT IV</b>	Connection point to utility power and outdoor conductors	<ul style="list-style-type: none"> <li>Electricity meters, primary overcurrent protection equipment</li> <li>Outside and service entrance, service drop from pole to building, run between meter and panel</li> <li>Overhead line to detached building, underground line to well pump</li> </ul>
<b>CAT III</b>	Three-phase circuits and single-phase lighting circuits in commercial buildings	<ul style="list-style-type: none"> <li>Equipment in fixed installations, such as switchgear and polyphase motors</li> <li>Bus and feeder in industrial plants</li> <li>Feeders and short branch circuits, distribution panel devices</li> <li>Lighting systems in larger buildings</li> <li>Appliance outlets with short connections to service entrance</li> </ul>
<b>CAT II</b>	Single-phase receptacles and connected loads	<ul style="list-style-type: none"> <li>Appliance, portable tools, and other household and similar loads</li> <li>Outlet and long branch circuits</li> <li>Outlets at more than 10 meters (30 feet) from CAT III source</li> <li>Outlets at more than 20 meters (60 feet) from CAT IV source</li> </ul>
<b>CAT I</b>	Electronics	<ul style="list-style-type: none"> <li>Protected electronic equipment</li> <li>Equipment connected to (source) circuits in which measures are taken to limit transient overvoltages to an appropriately low level</li> </ul>

## CAT Ratings Explained

The higher the CAT number, the tougher the environment the instrument is designed for, and the more protection it offers you. Here's a simple way to look at them:

**CAT I (Lowest Energy):** This is for measuring low-energy circuits, like everyday electronics, small appliances, or control signals. Think of it as being far away from the main power source, where potential surges are very small.

**CAT II (Local Power Outlets):** This category is for measurements on standard wall outlets and plug-in loads. This includes most household appliances, portable tools, and devices you plug into a wall socket. The potential for sudden surges is higher than CAT I, but still relatively contained.

**CAT III (Building Electrical Installations):** This is for measurements within a building's main electrical system. This includes things like circuit breakers, wiring, switches, distribution panels, and industrial equipment directly wired into the building. Here, the potential for dangerous surges is significantly higher than in CAT II.

**CAT IV (Utility & Service Entrance):** This is the highest and most robust category. It is for measurements at the very source of the low-voltage power installation – essentially, where the power comes into a building from the utility lines. This includes outdoor power lines, electricity meters, service entrances, and underground utility vaults. These environments have the highest potential for extremely dangerous and powerful surges.

## Why Does This Matter to You?

Using a meter with the correct (or higher) CAT rating for your specific task is crucial. If you use a meter rated too low for the environment you're working in, a sudden voltage spike could not only damage your meter but, more importantly, could cause it to fail explosively, leading to serious injury or even death from arc flash or electrocution.

Always check the CAT rating on your test instrument and make sure it matches or exceeds the requirements of the electrical environment you're working in. When in doubt, always choose a higher CAT rating – it offers more protection!

# Understanding Safety Category (CAT) Ratings

## Essential Electrical Safety Practices: Your Questions Answered

Safety is paramount when performing electrical measurements. Here are answers to common questions about protecting yourself and using proper equipment:

**Q:** How is the overall safety rating of my electrical test setup determined?

**A:** The safety of your electrical measurement setup, including its Measurement Category (CAT) rating and voltage rating, is determined by the combination of every component you use. This includes the test meter itself, the test probes (leads), and any accessories connected to the meter (e.g., alligator clips, specialized adapters).

The critical rule is that the overall combination rating is the **LOWEST** rating of any individual component in your setup. For example, if you have a meter that has a CAT IV rating but are using CAT III test leads, your entire setup is only safe to the CAT III rating of those leads. Always ensure all parts of your measurement system are rated appropriately for the task.

**Q:** What fundamental safety steps should I always take before working on electrical systems?

**A:** Several foundational safety practices are non-negotiable when working with or near electrical energy:

- Always de-energize power before accessing an electrical enclosure or beginning work on electrical equipment, whenever possible.
- Always meticulously follow safety and lockout/tagout (LOTO) procedures when working on or near electrical systems and equipment. This prevents unexpected energization.
- Utilize proper personal protective equipment (PPE), such as arc-rated clothing, insulating gloves, and eye protection, when working around sources of hazardous electrical energy.
  - A hazard assessment will determine the specific PPE required.