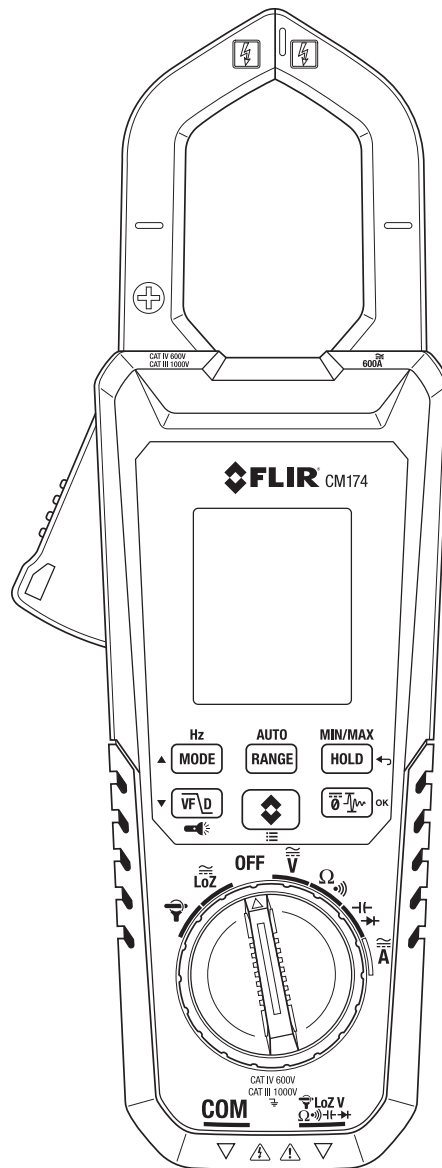


# FLIR CM174 CLAMP METER

**IMAGING CLAMP METER with IGM™**

**TRUE RMS 600A AC/DC CLAMP METER**



**USER GUIDE LOCATION:** The detailed User Guide is located in the product packaging and on the support.flir.com web site (download tab). The User Guide covers the CM174 in great detail, please read the entire Guide before use.

Register for Extended Warranty and Product Updates at [www.flir.com/testwarranty](http://www.flir.com/testwarranty)

## POWER

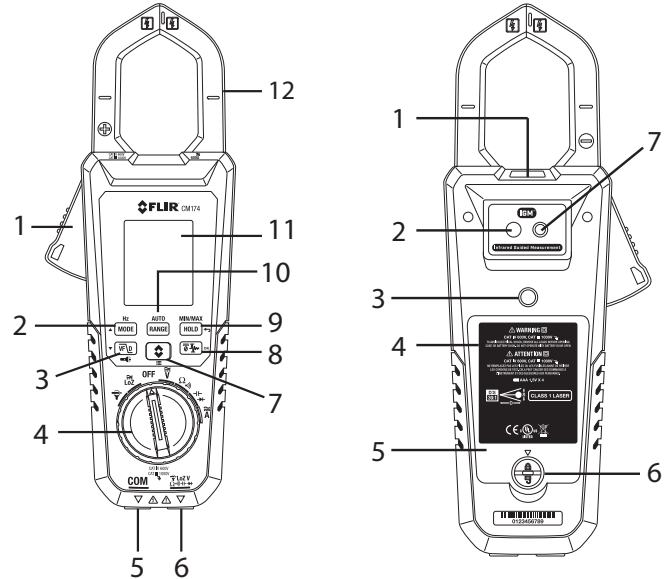
- Turn the function switch to any position to power ON.
- The meter is powered by four (4) 1.5V 'AAA' batteries.
- Auto Power OFF (APO) occurs after 10 mins. of inactivity. Disable APO in the programming menu (next page).

## FUNCTION SWITCH

|            |                                      |
|------------|--------------------------------------|
|            | For connecting to Flex Clamp Adaptor |
|            | Low impedance mode                   |
| <b>OFF</b> | Meter Power OFF                      |
|            | AC/DC Voltage testing                |
|            | Resistance and continuity tests      |
|            | Capacitance and diode tests          |
|            | AC/DC Current Clamp tests            |

## FUNCTION BUTTONS

|  |   |   |   |
|--|---|---|---|
|  | Select AC or DC in the Voltage/Current modes.<br>Select Diode or Capacitance; Continuity or Resistance.<br>Select Hz in AC Voltage, Current, and Flex Clamp modes.<br>Navigation 'up' arrow for use in menus. | <b>FRONT DESCRIPTION</b><br>1. Jaw opening trigger<br>2. MODE, Hz, up arrow button<br>3. VFD, Work light, down arrow<br>4. Function switch<br>5. COM (-) probe input jack<br>6. Positive (+) probe input jack<br>7. IGM thermal image button<br>8. Zero, Inrush, & OK button<br>9. MIN/MAX & HOLD button<br>10. AUTO & RANGE button<br>11. Color TFT display<br>12. Clamp jaw | <b>BACK DESCRIPTION</b><br>1. Work Light<br>2. Thermal Imaging Lens<br>3. Tripod Mount<br>4. Informational text<br>5. Battery compartment<br>6. Compartment lock<br>7. Laser pointer lens |
|  | Select Auto or Manual range mode. In Manual mode, press to change the range (scale); to return to Auto range mode from Manual mode, press and hold for > 2 seconds.   |   |   |
|  | Toggle normal and Hold (display freeze) modes<br>Press for > 2 seconds to activate or exit MIN/MAX mode.<br>Also use as a RETURN/BACK button in menus.  |   |   |
|  | Press to activate or deactivate the VFD mode. Press and hold to switch the Work Light ON/OFF. Use 'down' arrow in menus.  |   |   |
|  | Press to enter or exit the IGM Thermal Image mode. Press and hold for > 2 seconds to access the Programming Menu.   |   |   |
|  | In the DCA mode, press to zero the display. In the ACA mode press to activate or deactivate the inrush current mode.<br>Also used as confirmation (OK) button in menus.                                       |   |   |



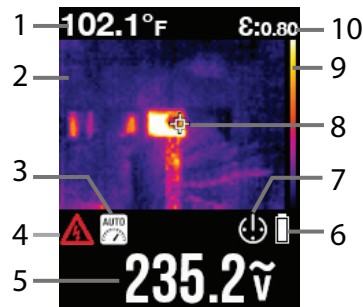
## CLAMP METER DISPLAY ICONS

|  |                                      |                                    |  |
|--|--------------------------------------|------------------------------------|--|
|  | Maximum reading value (MIN/MAX mode) | <b>A</b>                           | Ampere. Unit of measure for Current                |
|  | Minimum reading value (MIN/MAX mode) | <b>V</b>                           | Volt. Unit of measure for Voltage                  |
|  | Auto range mode                      | <b>F</b>                           | Farad. Unit of measure for Capacitance             |
|  | Data Hold mode (reading freeze)      | <b>Hz</b>                          | Hertz. Unit of measure for Frequency               |
|  | Battery voltage status               | <b>k</b>                           | 10 <sup>3</sup> (kilo)                             |
|  | Auto power off function is enabled   | <b>m</b>                           | 10 <sup>-3</sup> (milli)                           |
|  | Voltage is > 30 V DC or AC RMS       | <b>μ</b>                           | 10 <sup>-6</sup> (micro)                           |
|  | AC current or voltage                | <b>V<math>\overline{F}</math>D</b> | VFD mode   |
|  | DC current or voltage                | <b>0</b>                           | DC Zero mode                                       |
|  | Continuity function                  |                                    | Inrush current mode                                |
|  | Diode test                           |                                    | Flex Clamp Adaptor mode                            |
|  | Ohm. Resistance and Continuity modes | 100<br>mV/A                        | Match Flex Clamp range setting to match the CM174. |
|  | Emissivity symbol                    | <b>LoZ</b>                         | Lo Z mode  |

## THERMAL IMAGER and PROGRAMMING MENU

IGM button (short press) opens the Thermal Imager (see example). IGM button (long press) opens the Programming Menu (table below). Use arrow keys to scroll; use **OK** to open a menu/toggle a setting; use the back/return button to exit.

| Icon | Description    | Options                          |
|------|----------------|----------------------------------|
|      | Color Palette  | Iron, Rainbow, & Gray scale      |
|      | Emissivity     | 0.30, 0.60, 0.80, 0.95, & custom |
|      | Laser pointer  | ON or OFF                        |
|      | Temp. units    | C or F                           |
|      | Cross hairs    | ON or OFF                        |
|      | Diode modes    | CLASSIC or SMART mode            |
|      | Auto Power OFF | OFF, 1, 2, 5, or 10 minutes      |
|      | Help Screen    | Contact information              |
|      | Information    | Firmware and calibration info    |



1. Temperature
2. Thermal Image
3. Auto Range icon
4. High Voltage alert
5. Voltage reading
6. Battery status
7. Auto Power OFF
8. Cross hairs
9. Palette scale
10. Emissivity setting

The Thermal Imager measures a targeted surface's temperature. Color variations reflect temperature differences: lighter colors = higher temperatures and darker colors = cooler temperatures. The Distance to Spot (target) ratio is 30:1 so at a distance of 30" the target spot is 1". Use the Cross hairs and Laser pointer to optimize surface targeting.

**⚠ WARNING:** Do not point the laser beam toward the eyes; prolonged exposure may cause injury.



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### Support Site

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## Certificate of Conformity and ISO-9001 Quality Management System

FLIR Commercial Systems, Inc., an ISO 9001:2008 certified company, hereby certify that our instruments meet or exceed the specifications stated in the user manuals.

This instrument was produced under the stringent guidelines of FLIR Commercial System's certified ISO-9001 Quality Management System from design to delivery. All instruments are calibrated and inspected to meet the stated specifications.

FLIR Commercial Systems, Inc. inspects its incoming shipments using an approved sampling plan with an Acceptable Quality Level (AQL). All incoming inspections are performed using test equipment that is traceable to National Standards. Our ISO-9001 Quality Management System extends to aftermarket support where tested quality procedures are applied to customer support, service, calibration and repair processes.

This instrument will provide years of reliable service when used in accordance with the instructions provided in the User Guide. To have this device certified please contact your local service center.

## Quality Assurance Management



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