

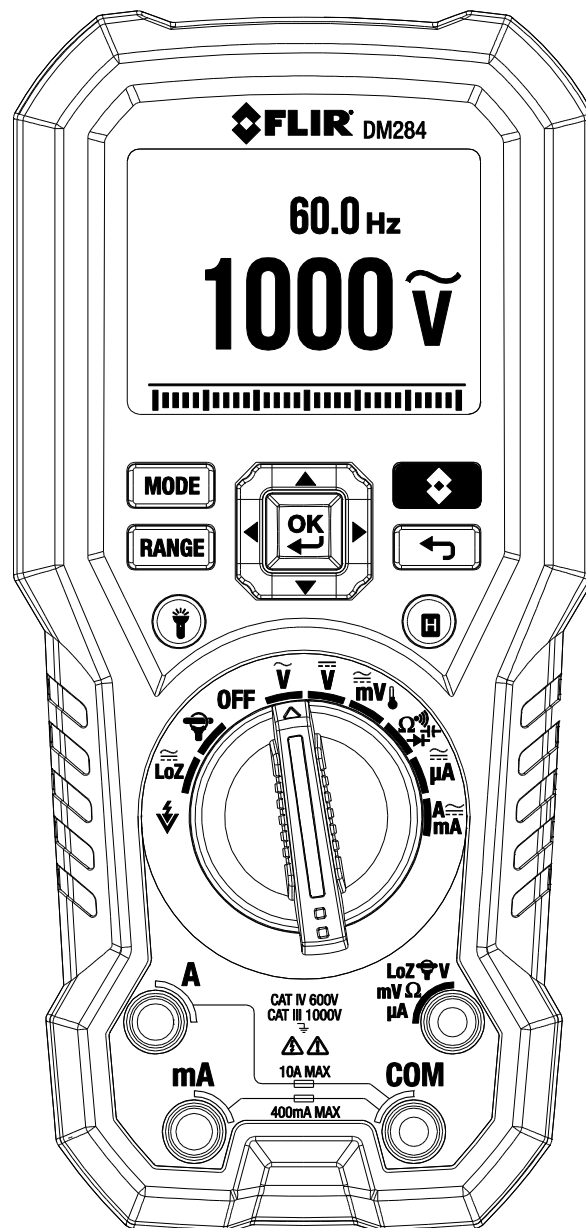


QUICK START GUIDE

MULTIMETER MODE ONLY

FLIR MODEL DM284

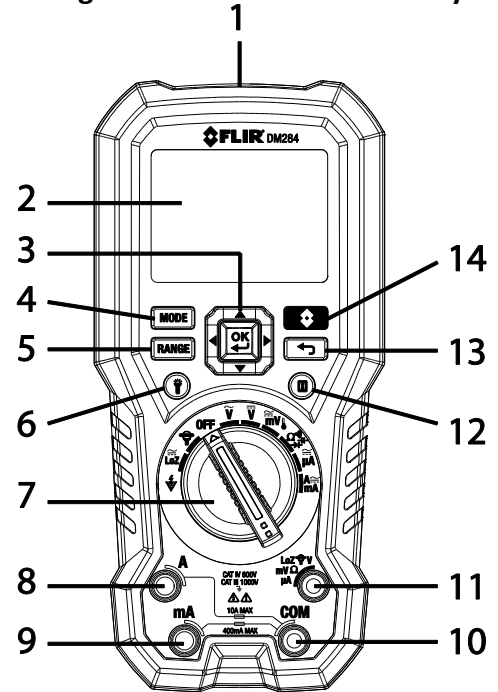
MULTIMETER MODE QUICK GUIDE



USER MANUAL LOCATION: The detailed User Manual is located on the support.flir.com web site (*download* tab). Translations of User Manuals and Quick Starts are also available at the web site. The Quick Start Guide for the IGM™ functions is a separate booklet located in the product packaging. Please read the entire User Manual to gain a thorough understanding of the meter before use. **Please Register for Extended Warranty and Product Updates at www.flir.com/testwarranty**











METER DESCRIPTION

1. Work Light and NCV detector area
2. LCD Display
3. Navigation/OK buttons
4. MODE Button
5. RANGE Button
6. Work light Button
7. Rotary Function Switch
8. Positive (+) Probe Input Jack for **A** (Current).
9. Positive (+) Probe Input Jack for **mA** (Current).
10. COM (-) Probe Input Jack
11. Positive (+) Probe Input Jack for all inputs except **A** and **mA**
12. Display 'Hold' (H) button
13. Cancel/Return Button
14. IGM™ Button










Battery compartment tilt stand, tripod mount and test lead holder mounts on back of meter
























FUNCTION SWITCH POSITIONS

	Detect AC voltage through the non-contact sensor at the top of the meter.
	Measure voltage through low impedance loaded probe inputs.
OFF	Meter is switched OFF and in full power-saving mode.
	FLEX Direct: Auxiliary channel for Flexible Current clamp meters or generic clamp adaptors.
	Measure AC voltage (V) through the probe inputs.
	Measure DC voltage (V) through the probe inputs.
	Measure low voltage (mV) through the probe inputs. Use the MODE button to select AC/DC voltage.
	Measure temperature with adaptor connected to probe inputs. Use MODE to select.
	Measure resistance, continuity, capacitance, diode through the probe inputs. Use MODE to select.
	Measure current through the probe inputs (A or mA). Use the MODE button to select AC or DC.
	Measure µA current through the probe inputs. Use the MODE button to select AC or DC.






FUNCTION BUTTONS

	Use to select a sub-function of the primary function.
	From Auto range mode, press to select Manual range mode. From Manual range mode, short press to change the range. Long press to activate Auto range mode
	Press to activate the Thermal Camera IGM™ (Infrared Guide Measurement).
	Use the selector/navigation pad to navigate mode and advanced function menus.
	Press to cancel/exit a screen in the Settings menu (no function in the normal mode).
	Press to enter Hold mode (display hold or auto hold as selected in the Multimeter Settings Menu).
	Press to enable/disable the work light.


DISPLAY SYMBOLS

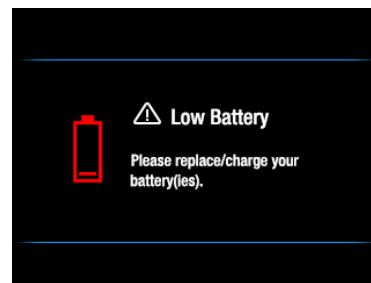
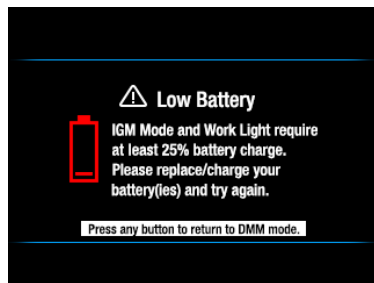
	Low Impedance mode		Auto power off function enabled
	Measured voltage is > 30 VAC/DC		AC current or voltage
	Non-Contact Voltage detector		DC current or voltage
	Battery voltage status		Flex Clamp Direct Input
	MAX (Maximum) reading		Continuity function
	MIN (Minimum) reading		Diode test function
	AVG (Average) reading		VFD mode
	PEAK MAX value displayed		Peak mode
	PEAK MIN value displayed		Frequency mode (ACA/ACV)
	Auto range mode		Relative mode
	Data Hold mode		Work light active
0000	Primary display (large digits)		Bar Graph Display
0000	Secondary display (smaller digits)		

MODE BUTTON OPERATION

Switch Position	MODE button sequence of operation
	AC → DC → Hz → °F or °C
	ACV → HZ
	Resistance → Continuity → Capacitance → Diode
	AC → DC
	AC → DC → HZ

METER POWER

Set the function switch to any position to switch the meter ON. If **LO BATT** is displayed, if one of the Low Battery screens appear (below), if the battery icon appears low  or if the meter does not power on, replace the four (4) 1.5V 'AAA' batteries in the rear compartment. **The optional TA04 Rechargeable Li-Polymer Battery system is available if battery recharging, rather than replacement, is preferred.**




The meter enters sleep mode after 10 minutes (default). The time can be set from 1 ~ 10 minutes (or OFF) in the Multimeter Settings menu. 20 seconds prior to entering APO mode, the meter beeps; at this point, press any button or turn the Rotary Switch to reset the APO timer.


MENU SYSTEM


- Press **OK** to open the main menu, Use the navigation arrows to step through the menu icons. From left to right, as shown below, they are: Image Mode, Thermal Settings, VFD, Advanced Menu, and Multimeter Settings.








- Press **OK** to open a menu item or to set an option ON or OFF. When an option is switched ON, a blue dot will appear next to the icon. The navigation arrows are sometimes used to select an option.
- Use the Cancel/Return button  to exit menu levels and to return to the normal display mode.

AUTO/MANUAL RANGE


In Auto range mode, the meter automatically selects the most appropriate measurement scale. In Manual range mode, the desired range (scale) can be adjusted by the user. Auto range mode is the default mode of operation. When a new function is selected with the function switch, the starting mode is Auto range and the  indicator is displayed.

To enter Manual range mode, short press the **RANGE** button. To change the range, press the **RANGE** button repeatedly until the desired range is displayed. To return to the Auto range mode, long press the **RANGE** button until the Auto Range  indicator is again displayed.


MIN-MAX-AVG MEMORIES


The meter captures and displays the minimum, maximum, and average readings, updating only when a higher/lower value is registered. The meter also averages the total sum of all recorded values. This mode is accessed through the Advanced Menu . Press **OK** on this icon  to show the maximum , minimum , and average  readings on the display.

VFD (ACV and ACA only)

High-frequency noise is eliminated from the voltage measurement through the use of a low-pass filter (for AC voltage/current). Navigate to the icon  with the left/right arrows and enable/disable VFD mode by pressing the **OK** button.




RELATIVE MODE

This mode is accessed through the Advanced Menu .







1. Press **OK** on this icon  to capture a reference reading that subsequent measurements can be compared with.
2. A blue dot is shown next to the icon when this mode is selected.
3. The reference value will be displayed next to the Relative icon.
4. The primary display will show the difference between the measured value and the stored reference.
5. Press **OK** at this icon to switch the Relative mode OFF.

PEAK MAX and PEAK MIN (ACV and ACA only)



The meter captures and displays positive/negative peaks, and updates only when a higher/lower value is registered.

1. Access the Peak mode **P** in the Advanced menu .
2. Use the up/down navigation buttons to toggle Peak Max and Peak Min.
3. In Peak Max mode, the  indicator is displayed. In Peak Min mode, the  indicator is displayed.
4. Press the **HOLD** button to pause the Peak mode. Press again to continue.

MULTIMETER (DMM) SETTINGS MENU


1. Press **OK** to open the main menu and Navigate to the Multimeter Settings icon  using the arrow buttons
2. Open the Settings menu by pressing the **OK** button.
3. See the Settings menu examples below:
 - Diode  (Smart or Classic modes); Press **OK** to choose a setting.
 -  Auto power off (APO): Press **OK** to open the sub-menu. Use the arrow buttons to choose the time period after which the meter enters sleep mode. Press **OK** to confirm the selection (a blue dot will appear next to the selection).
 -  Auto hold: Use the **OK** button to toggle ON (blue dot) and OFF.
 -  Temperature units. Use the **OK** button to toggle °C and °F.
 -  Coarse Resolution. Use the **OK** button to toggle ON (blue dot) and OFF. This function is for Voltage function only. The range and resolution for the Voltage function will change as follows when Coarse Resolution is enabled:




- 600.0mV → 600mV
- 6.000V → 6.00V
- 60.00V → 60.0V
- 600.0V → 600V
- 1000V → 1000V
- Default: OFF
- **Language:** Scroll to the desired language and press **OK**.
-  Help Screen: View the FLIR Customer Care contact information.
-  Information: View DMM, IGM, and Laser technical information.



DATA HOLD and AUTO HOLD

The meter has two HOLD modes: classic Data Hold and Auto Hold. Press the **H** button to activate the selected mode. To select Data Hold or Auto Hold, use the Multimeter Settings menu . Refer to the paragraphs below.


Data Hold: In Data Hold mode, the primary meter display freezes the last reading. To enter/exit Data Hold mode, press the **H** button. In Hold mode, the  indicator is displayed.

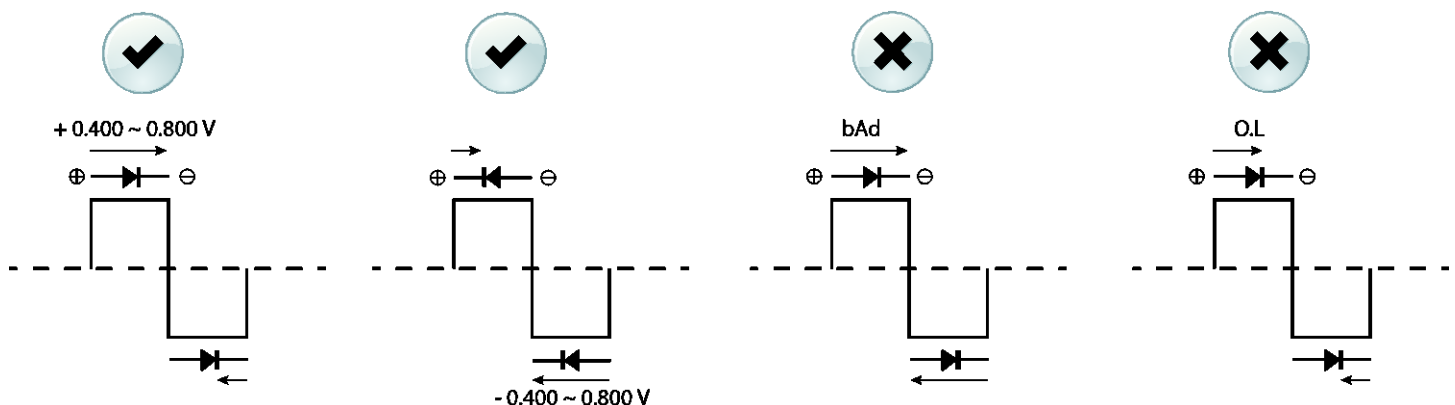
Auto Hold Mode: In Auto hold mode, the secondary display freezes the last reading. The real-time reading is displayed on the primary display. The held reading will not change unless the difference between the held reading and any new reading is > 50 digits. The Auto hold function will capture a reading if the reading is greater than the trigger level: > 1% of full scale range for Voltage/Current/Capacitance. For Resistance/Diode/Temperature the trigger is automatic as long as 'OL' is not displayed. To enter/exit Auto hold mode, press the **H** button.

FREQUENCY MEASUREMENTS (ACV and ACA only)

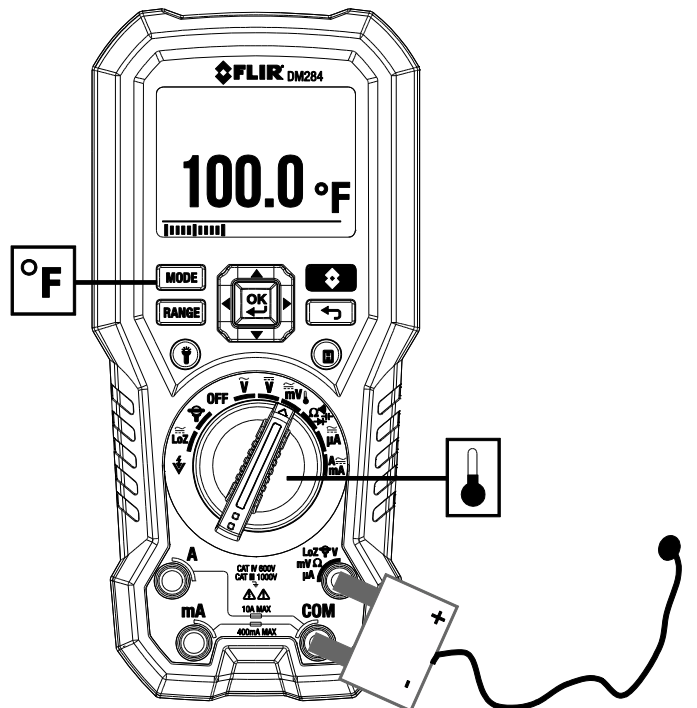
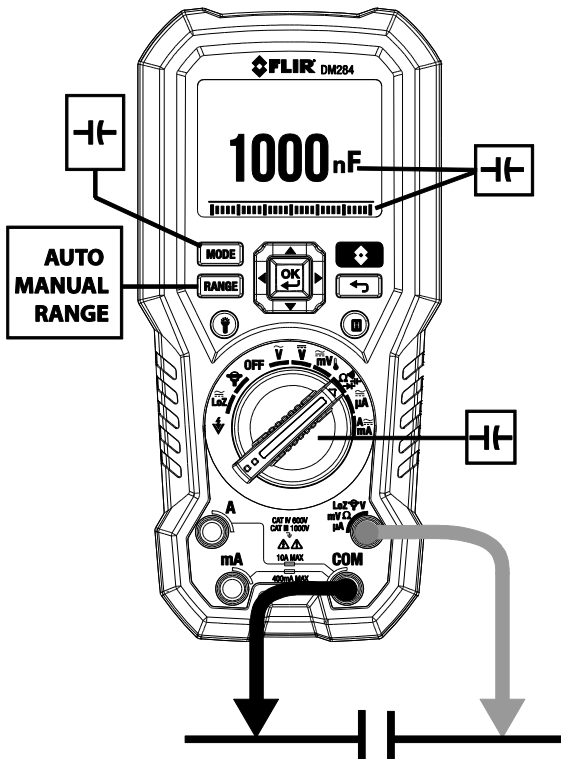
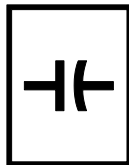
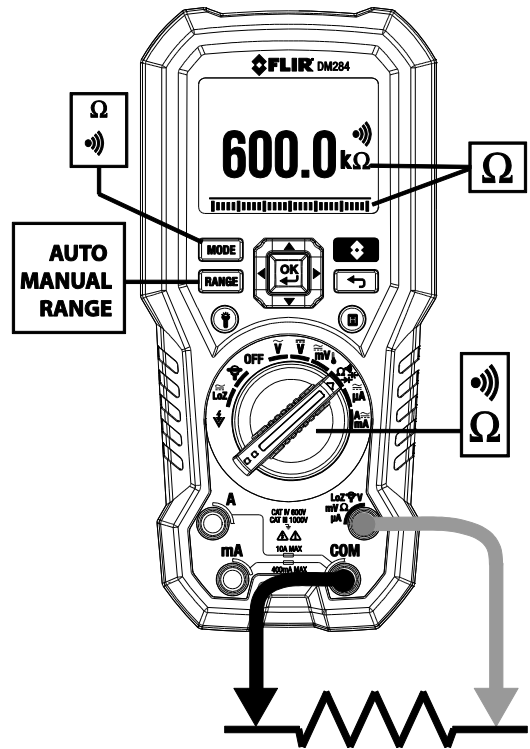
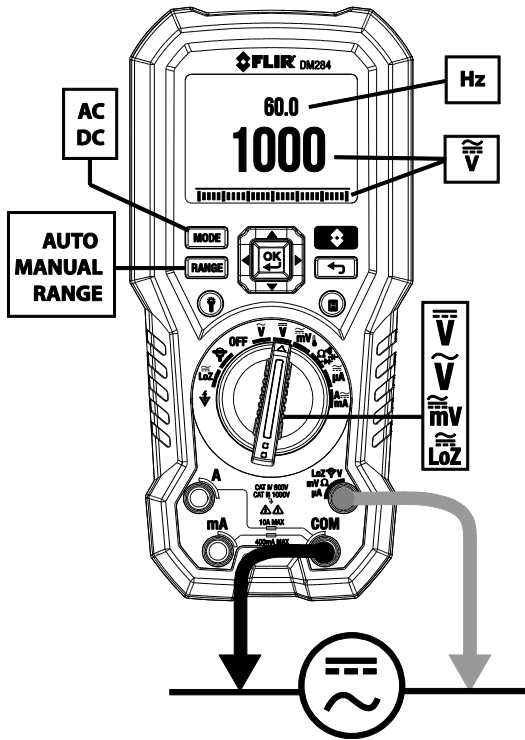
The frequency is displayed above the AC Voltage and AC Current measurement. Use the **MODE** button to display only the frequency in the primary display area.

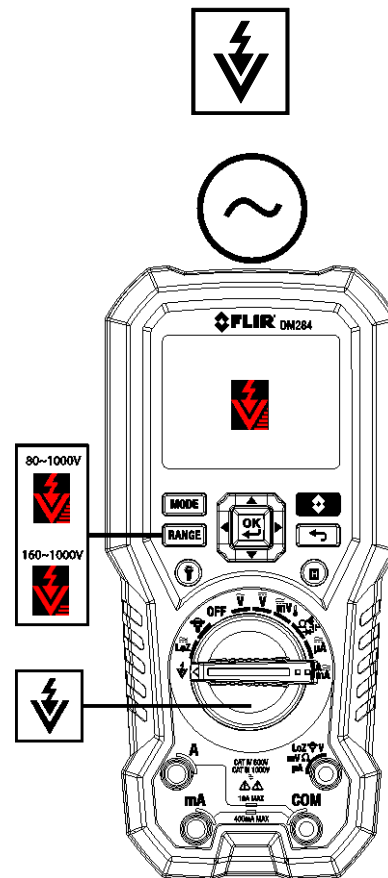
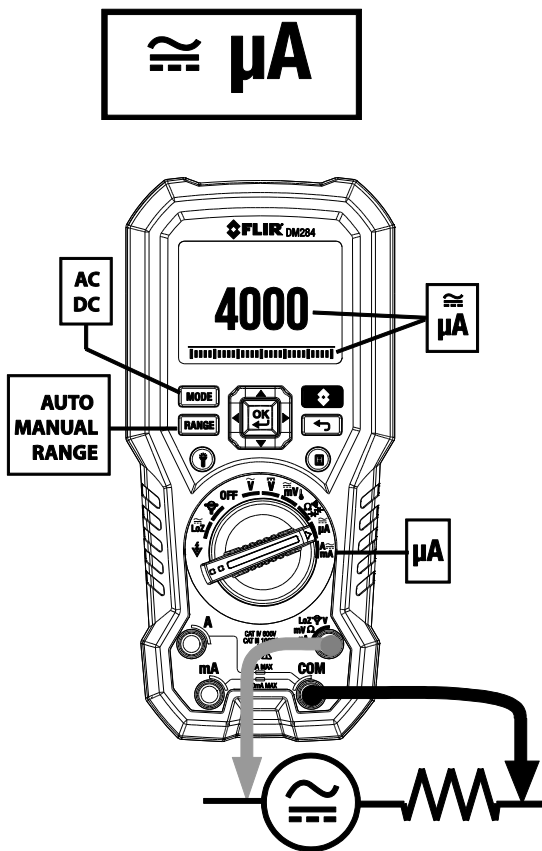
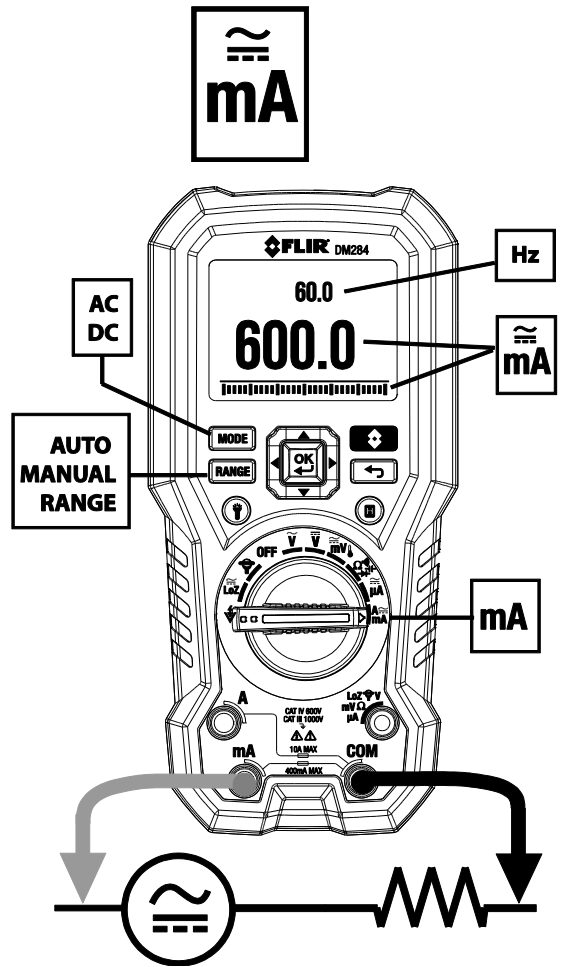
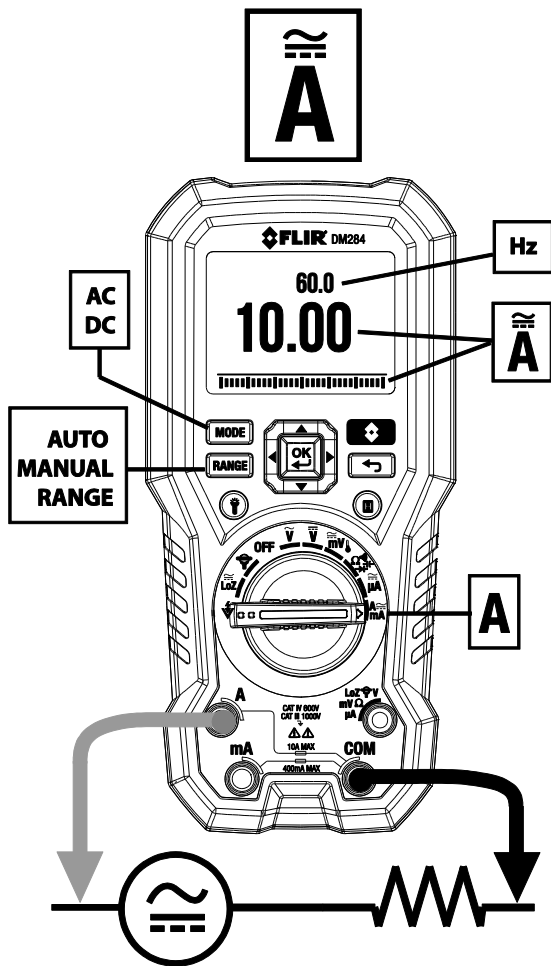
SMART DIODE TEST

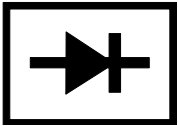
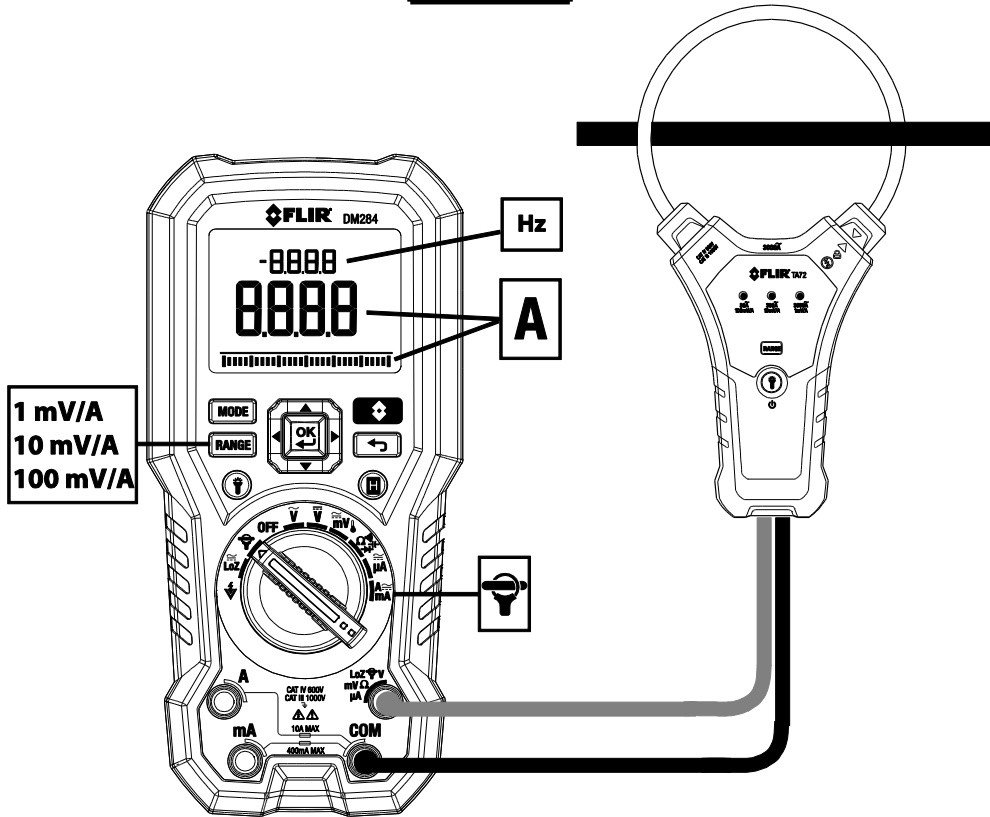
In SMART mode the meter checks diodes using an alternating test signal sent through the diode in both directions. This allows the user to check the diode without having to reverse polarity manually. The meter display will show $\pm 0.400 \sim 0.800V$ for a good diode, 'BAD' for a shorted diode, and 'O.L' for an opened diode. To toggle the SMART and CLASSIC DIODE modes, please use the Multimeter Settings Menu . Only the Classic Diode mode is illustrated in the Measurement section of this Quick Start; for more details on SMART DIODE please refer to the more comprehensive User Manual available at www.support.flir.com (download tab).



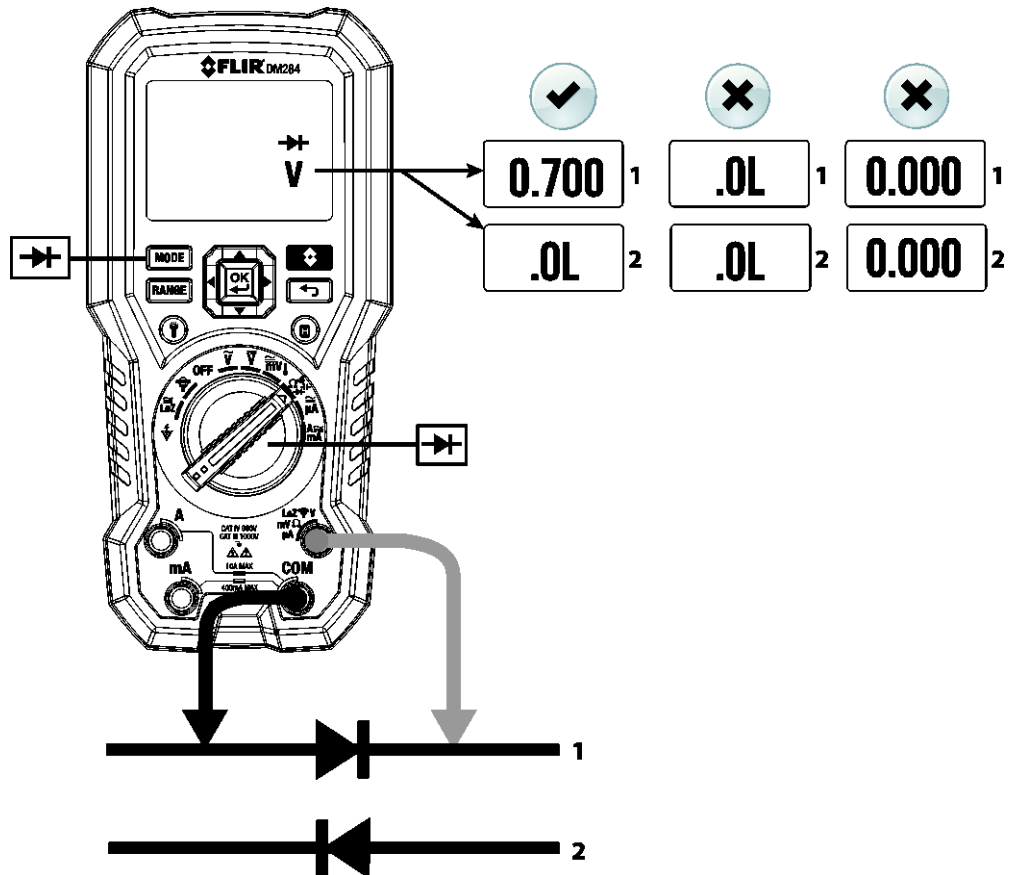
MEASUREMENTS







CLASSIC DIODE MODE





Corporate Headquarters

FLIR Systems, Inc.
2770 SW Parkway Avenue
Wilsonville, OR 97070 USA
Telephone: +1 503-498-3547

Customer Support

Technical Support Website	http://support.flir.com
Technical Support Email	TMSupport@flir.com
Service and Repair Email	Repair@flir.com
Customer Support Telephone	+1 855-499-3662 option 3 (toll free)

Certificate of Conformity and ISO-9001 Quality Management System

FLIR Commercial Systems, Inc., an ISO 9001 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.

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

Quality Assurance Management

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Translations of User Manuals and Quick Starts are available at the support.flir.com web site (download tab).

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