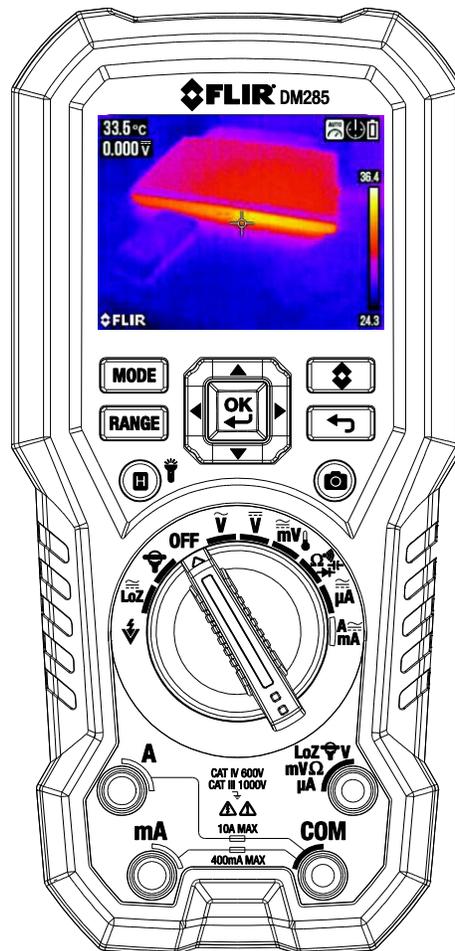


FLIR DM285

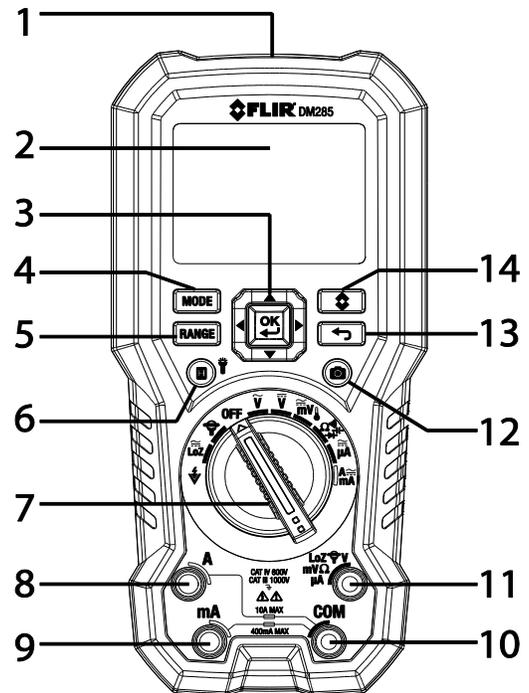
Imaging MultiMeter with IGM[™] and Bluetooth[®]



The latest versions of the detailed User Manual and Quick Start, with translations, are located on the support.flir.com web site (*download* tab). Please read the User Manual and Quick Start carefully before use. **Please Register for Extended Warranty and Product Updates at support.flir.com/prodreg**

METER DESCRIPTION

1. NCV sensor
2. LCD display
3. Navigation/OK keypad
4. MODE button
5. RANGE button
6. Display Hold/Work Light button
7. Function Switch
8. Positive (+) Probe Input Jack for Amps
9. Positive (+) Probe Input Jack for mA
10. COM (-) Probe Input Jack
11. Positive (+) Probe Input Jack for all except A/mA
12. Display Save button
13. Return/Exit menu button
14. Thermal imager button



Battery compartment, tilt stand, tripod mount, test lead holder, lenses/lens cover on back of meter

FUNCTION SWITCH POSITIONS

	Detect AC Voltage through the non-contact sensor at the top of the meter.
	Measure voltage through the probe inputs with a low-impedance load positioned across input
	Measure Current and Frequency from optional FLIR Flexible Current clamp meters/adaptors.
OFF	Meter is OFF and in full power-saving mode.
	Measure AC Voltage (V) and Frequency (Hz) through the probe inputs.
	Measure DC Voltage (V) through the probe inputs.
	Measure milli-volts or temperature through probe inputs (use thermocouple adaptor for temperature).
	Measure Resistance, Continuity, Diode, and Capacitance through probe inputs.
	Measure µA Current through the probe inputs.
	Measure Current (A or mA) and Frequency (Hz) through the probe inputs.

FUNCTION BUTTONS

	Press to select one of the available functions for a multi-selection switch position. Press to toggle AC and DC measurements when available. Press to view Frequency in AC voltage and A, mA current modes.
	From Auto range mode, short press to select Manual range mode. From Manual mode, short press to change the range. Long press to return to the Auto mode.
	Short press to open/close the Thermal Imager.
	OK button with Navigation keypad arrows to confirm settings and navigate menus
	Press to exit modes or return from menu screens
	Short press: Hold mode (select hold or auto hold in Settings Menu). Long press: Work Light ON/OFF.
	Display Save button. Short press to capture a fully radiometric thermal image or DMM screenshot

DISPLAY SYMBOLS



The Status Bar icons (shown above) appear at the top of the display.

- L to R, row 1: Flex clamp icon/range, Laser, Relative, Continuity, Diode, VFD, LoZ, Work light, Bluetooth®, APO, Battery
- L to R, row 2: Datalogger, Data Hold, Auto Hold, Auto Range.
- Additional display symbols are shown below:

	Non-Contact Voltage detector mode	ϵ	Emissivity
	Low sensitivity voltage detector (160~1000V)		AC and DC current or voltage icons
	High sensitivity voltage detector (80~1000V)	OL	Over range reading
	MAX and MIN readings		PEAK MAX and PEAK MIN
	AVG (Average) reading	Ω	Resistance (ohms)
	Capacitance	Hz	Frequency (Hertz)
$^{\circ}\text{C}$	Celsius Temperature units	$^{\circ}\text{F}$	Fahrenheit Temperature units

METER POWER

Use three (3) 1.5V 'AA' batteries or the optional FLIR TA04 rechargeable battery pack to power the meter. Set function switch to any position to switch on the meter. If the battery icon appears low, if the meter does not power on, or if a low battery screen appears, recharge or replace the batteries. The meter switches off after 10 minutes of inactivity. Change the APO time in the General Settings menu.

THERMAL IMAGER with IGM™ (Infrared Guided Measurements)

- Set the function switch to any position. Short press the IGM™ button  to switch the thermal imager ON/OFF.
- Point the lens (back of meter) toward the target surface. Lighter shades indicate warmer temperatures and darker shades indicate cooler temperatures.
- View the surface temperature measurement (upper left). Use the Thermal Settings menu to control laser pointer, crosshairs, color palette, and emissivity. Set temperature units °C °F in the General Settings menu.
- All DMM functions are operational in the Thermal imaging mode; the electrical symbols appear on the left.
- The Distance to Spot ratio for the imager is 30:1 (measurement spot is 30 times smaller than the meter-to-spot distance). The Field of View is 44° (top view) x 57° (side view).
- Refer to screen shot for the descriptions below:

- Surface Temperature (dashes while stabilizing)
- DMM function
- Crosshairs
- Thermal image (120 x 160 pixels)
- Main menu (press OK to open)
- Lowest temperature reading in frame
- Thermal scale
- Highest temperature reading in frame
- Status icons (see Display Symbols section)



MAIN MENU

Press **OK** to open Main menu. Scroll to an icon and press **OK**. Refer to table below:

Icon	Description	Operation
	Image mode	Select image + DMM  or Image only  for imager display default
	Thermal settings	See thermal settings menu section to control color palette, emissivity, Laser pointer, and crosshairs
	Gallery mode	View stored data logs and images
	Advanced settings menu	See Advanced Settings menu section to control VFD, MAX-MIN-AVG, Peak, Relative, and Datalogger functions
	General settings	Refer to General settings menu below

GENERAL SETTINGS MENU

Press **OK** to open Main menu. Scroll to the Settings icon  and press **OK**. Press **OK** on any menu item and then refer to the table below. The user manual, available at website, provides in-depth information on each menu item.

Icon	Description	Operation
	Diode mode	Press OK to toggle SMART and CLASSIC modes
	APO	Press OK to open sub-menu. Scroll to setting, press OK and press Return to exit
	Units	Press OK to toggle temperature units
	Sample rate	Press OK to open the selector. Use arrows to set datalogger sample rate (1~99 seconds) and press OK
	Real-time clock	Press OK to open sub-menu. Use arrows to scroll through setting fields and to select the date and time. Press OK to confirm
	Auto/Data Hold	Use the OK button to toggle AUTO and DATA Hold mode as the default
	Coarse Resolution	Press OK to toggle ON/OFF. When on, the display resolution decreases to inhibit quickly changing digits for easier viewing
	Bluetooth®	Press OK to toggle ON/OFF. Refer to the User Manual for complete details

	Button tone	Press OK to toggle the button-press beeper ON/OFF
	Battery type	Press OK to select battery type in use: Alkaline or Lithium
Language	Language	Press OK and scroll to desired language then press OK . Press Return to exit
	Delete data logs	Press OK to delete all stored data logs
	Delete images	Press OK to delete all stored images
	Help screen	Press OK to view Customer Care contact info
	View Information	Press OK to see Firmware, Lepton, Bluetooth®, and Laser icons. Press OK at the desired icon to view its information screen

THERMAL SETTINGS MENU

Press **OK** to open the main menu and scroll to the Thermal Settings  icon, press **OK**

Icon	Description	Operation
	Palette	Press OK to set a thermal imager color palette (Iron, Rainbow, Gray)
	Emissivity	Press OK and scroll to a preset or to the fine-tuning icon  . For fine-tuning, press OK at the fine-tuning icon and use the arrow buttons to set value, press OK to confirm.
	Laser pointer	Press OK to toggle the laser ON/OFF
	Crosshairs	Press OK to toggle crosshairs ON/OFF

ADVANCED SETTINGS MENU

Press **OK** to open the Main Menu, scroll to the Advanced Settings icon , and press **OK**. Scroll to the icons shown below and press **OK** to activate (blue dot next to icon indicates mode is enabled)

Icon	Description	Operation
	VFD	Press OK to enable/disable the low pass filter that eliminates high-frequency noise
	MAX-MIN-AVG	Press OK to enable/disable the MAX  , MIN  , and AVG  readings
	Peak mode	Press OK to enable/disable PEAK Max  PEAK Min  for ACA/ACV measurements. Refer to the user manual for more detailed information
	Relative mode	Press OK to store a reading as reference with which to compare subsequent readings. Refer to the user manual for more detailed information
	Datalogger	Press OK to start/stop logging data (up to 40k readings in 10 sets. Use Gallery mode (Main Menu) to view logged data. Refer to the user manual for detailed information

AUTO/MANUAL RANGE

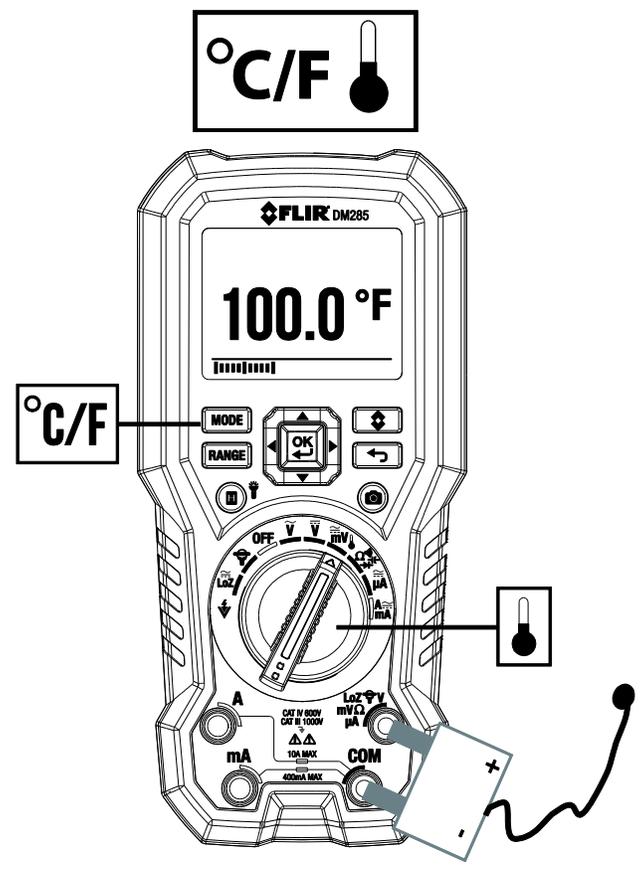
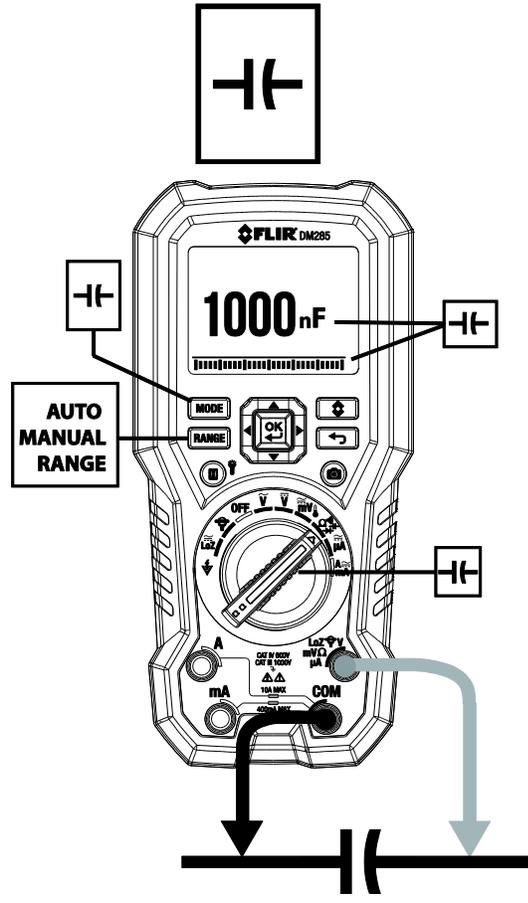
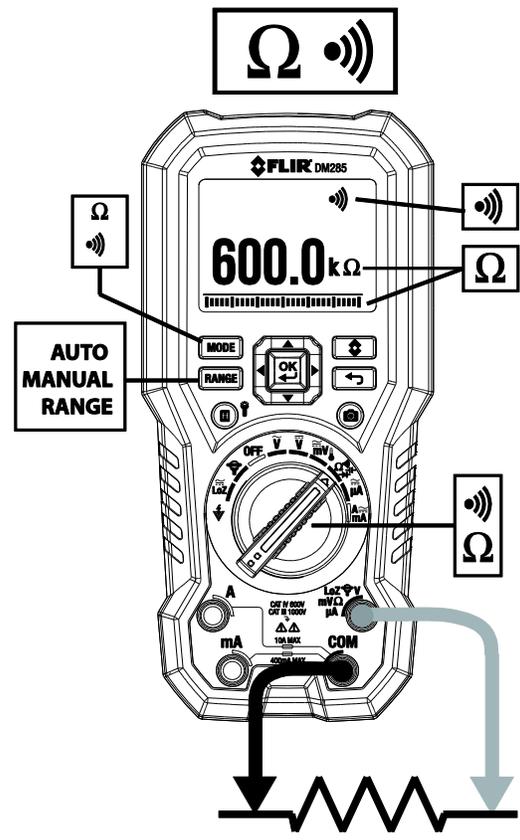
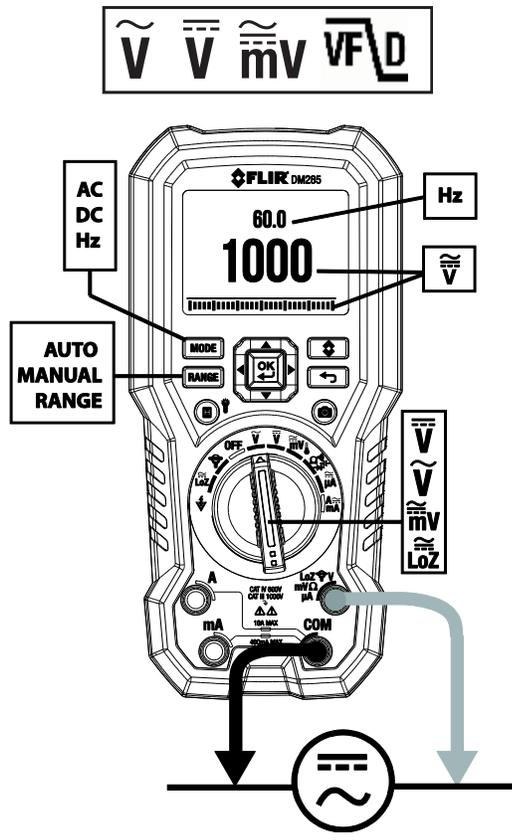
Auto range mode is the default mode of operation. When you select a new function, the starting mode is Auto range and the  indicator appears.

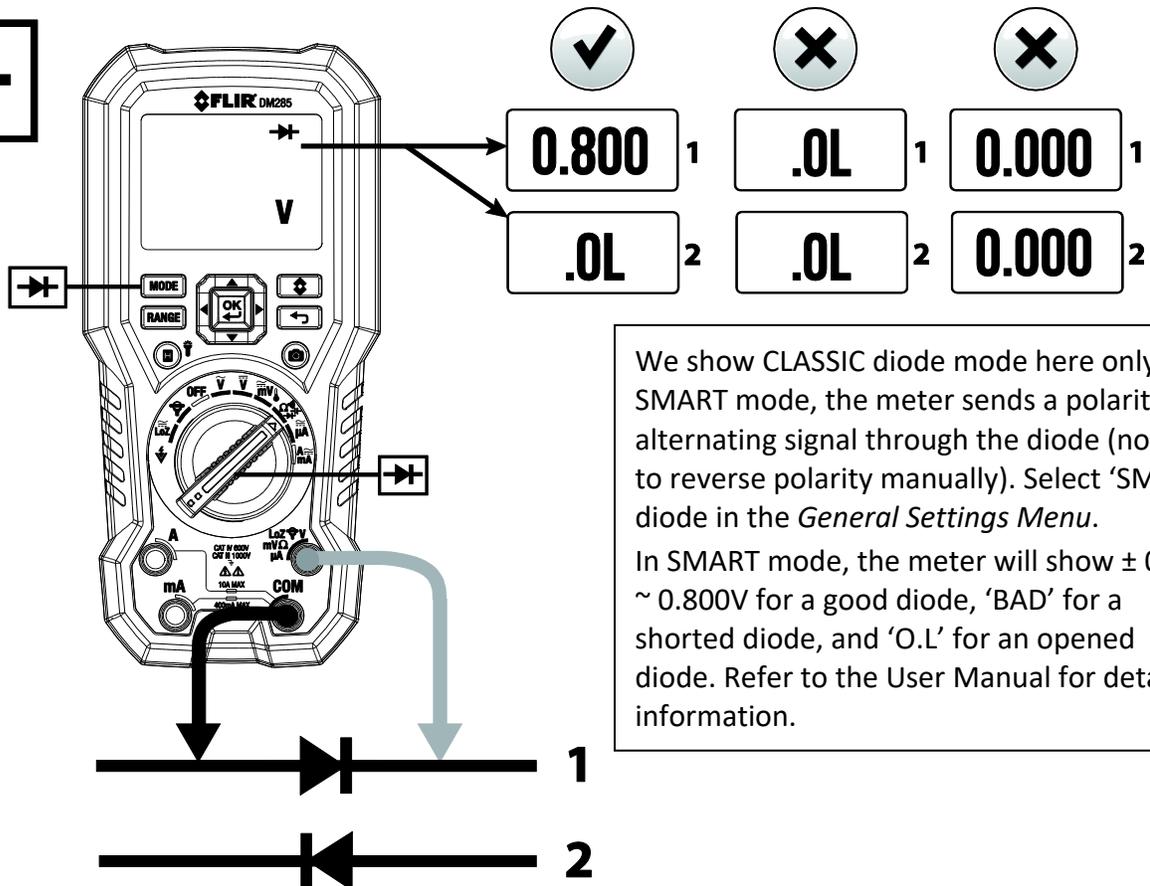
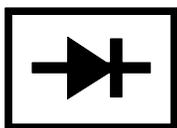
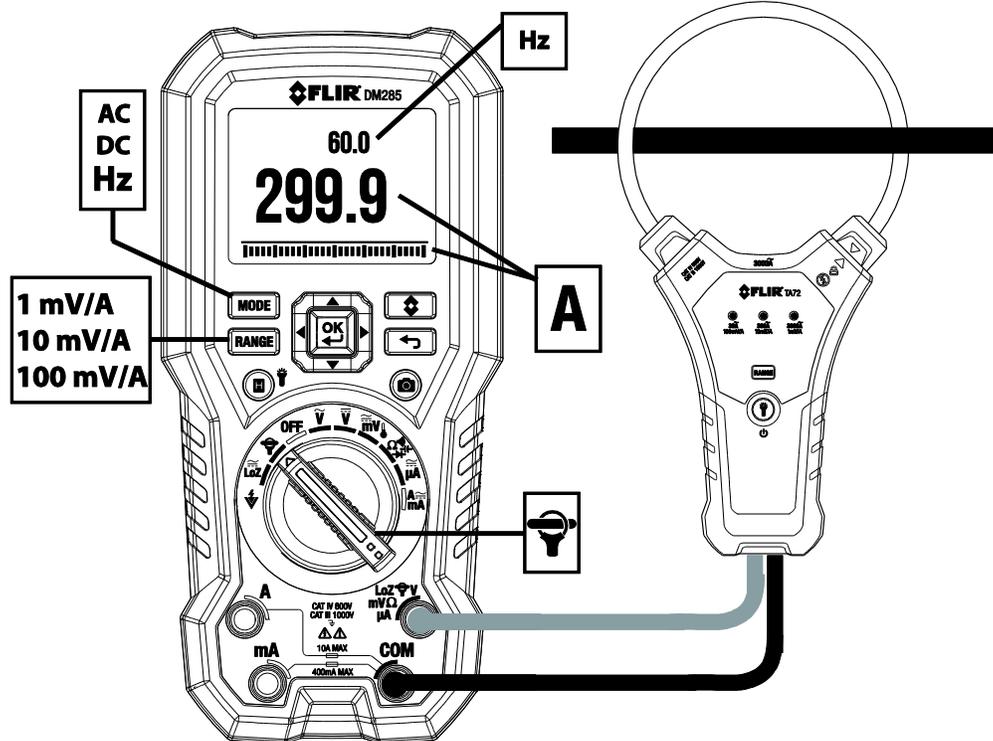
1. To enter Manual range mode, short press the **RANGE** button. Then use the **RANGE** button to change the range.
2. To return to the Auto range mode, long press the **RANGE** button.

DATA HOLD and AUTO HOLD

The meter has two HOLD modes: classic Data Hold (freezes displayed reading) and Auto Hold (advanced version of data hold detailed in the user manual). To select Data Hold or Auto Hold as the default, please use the General Settings menu. Press the **H** (HOLD) button to activate/deactivate the selected HOLD mode. In HOLD mode the **H** indicator appears.

MEASUREMENTS





We show CLASSIC diode mode here only. In SMART mode, the meter sends a polarity-alternating signal through the diode (no need to reverse polarity manually). Select 'SMART' diode in the *General Settings Menu*. In SMART mode, the meter will show ± 0.400 ~ 0.800V for a good diode, 'BAD' for a shorted diode, and 'O.L' for an opened diode. Refer to the User Manual for detailed information.



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