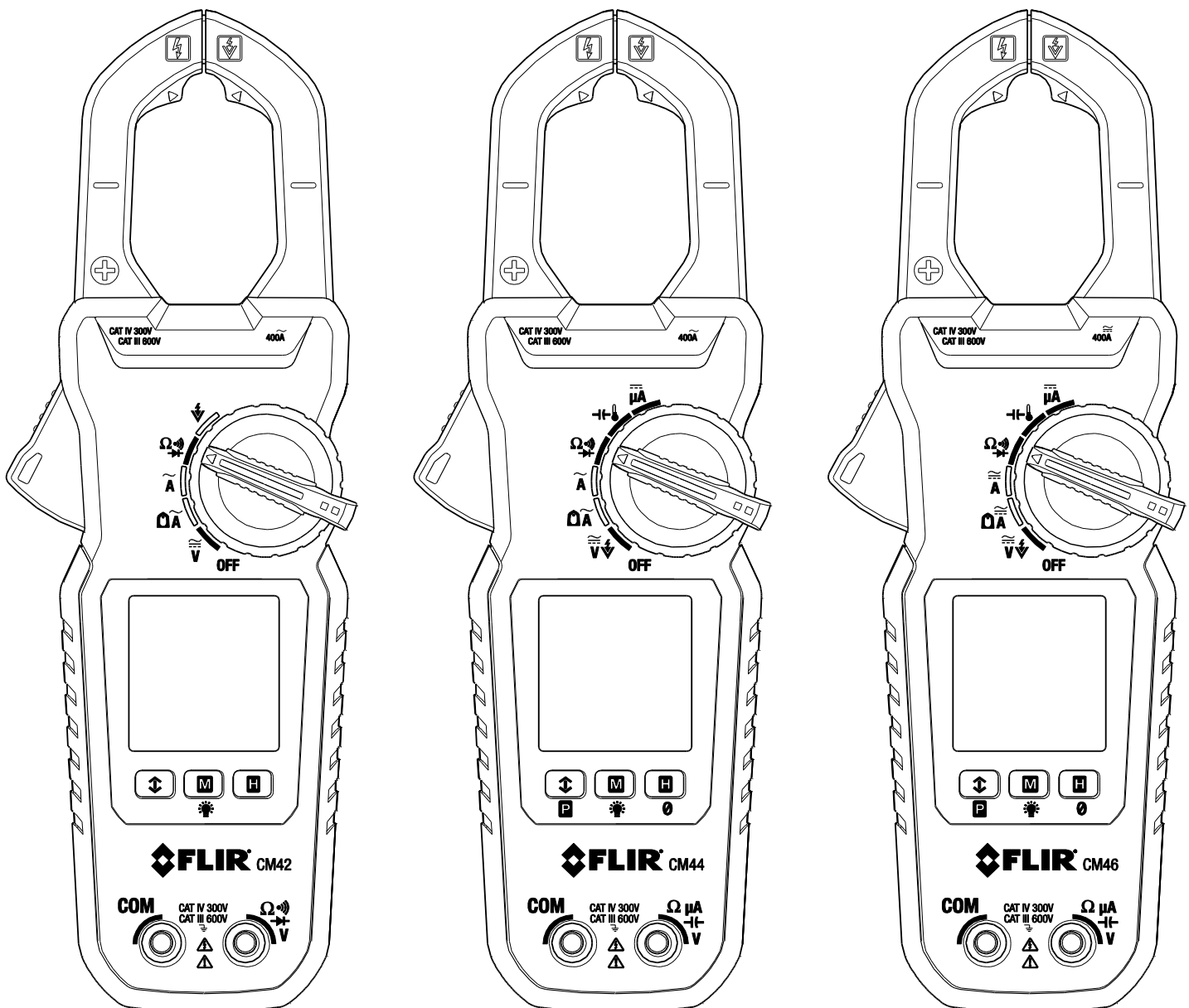




GETTING STARTED

FLIR MODEL CM42, CM44, and CM46

True RMS 400A Clamp Meter Series with Accu-Tip™

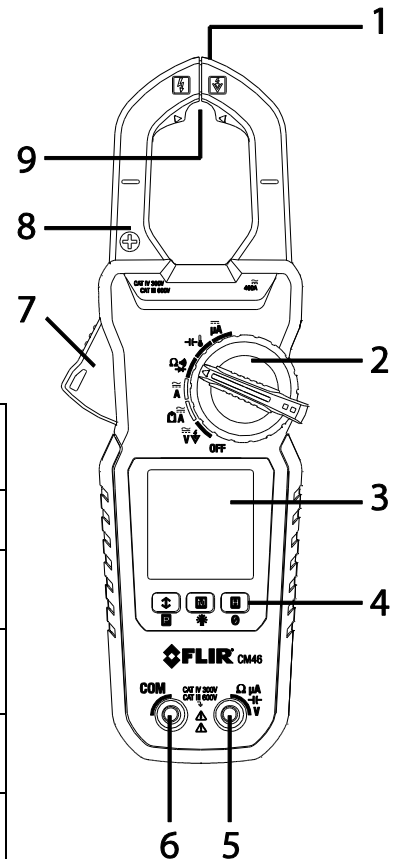


USER MANUAL LOCATION: The detailed User Manual is located on the support.flir.com web site (download tab). Please read the entire User Manual to gain a thorough understanding of the meter before use.

Register for Extended Warranty and Product Updates at www.flir.com/testwarranty

Meter Description

1. Non-contact voltage detector
 2. Function select switch
 3. Backlit LCD Display
 4. Control buttons
 5. Positive (+) Probe Input jack
 6. COM (negative -) Probe Input jack
 7. Clamp jaw trigger
 8. Clamp jaws
 9. Low current Accu-Tip™ clamp measuring area
- Note: Battery compartment on rear of meter



Function Buttons

	Short presses to access and step through MIN-MAX-AVG recorded readings. Long press to exit mode
	Long press to access 80ms PEAK RMS mode (CM44 and CM46)
	Short presses to step through available modes for selected function
	Long press to switch the display backlight ON or OFF (also switches off automatically).
	Short presses to access/exit the display hold mode
	Long presses to access/exit the Relative mode (CM44) or DC Zero (CM46)

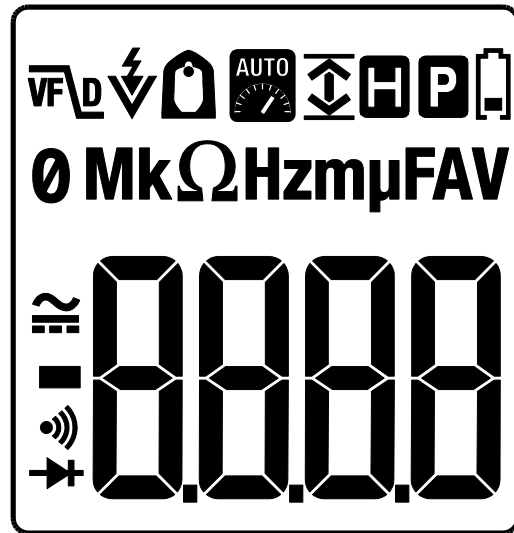
Function Switch Positions

OFF	Switch the meter OFF (full power saving mode)
	Measure AC/DC Voltage through the probe inputs
	Measure electric field (EF) using the non-contact voltage detector (this symbol also shown on display when EF mode is active)
	Measure AC or DC (CM46) current through the clamp jaws
	Measure AC current through the clamp jaws (CM42/CM44)
	Measure low AC current (CM42/CM44) through the clamp jaws (Accu-Tip™). Low current AC/DC on the CM46
	Measure resistance, continuity, and diode through the probe inputs. Measurement type chosen by the M button.
	Measure capacitance/temperature through probe inputs. Use the M button to select function (CM44 and CM46)
	Measure DC microamperes (current) through the probe inputs. CM44 and CM46

Display Icon Descriptions

	MIN MAX AVG	Ω	Ohms (Resistance)
	PEAK rms inrush	A	Amperes (Current)
	Accu-Tip™ mode	V	Volts (Voltage)
	Auto range mode	F	Farad (Capacitance)
	Display Hold mode	Hz	Hertz (Frequency)
	Battery status	k	10 ³ (kilo)
	AC measurement	m	10 ⁻³ (milli)
	DC measurement	μ	10 ⁻⁶ (micro)
	Continuity	M	10 ⁶ (mega)
	Diode	0	Relative or DC Zero
	Low pass filter		Voltage Detector (NCV)

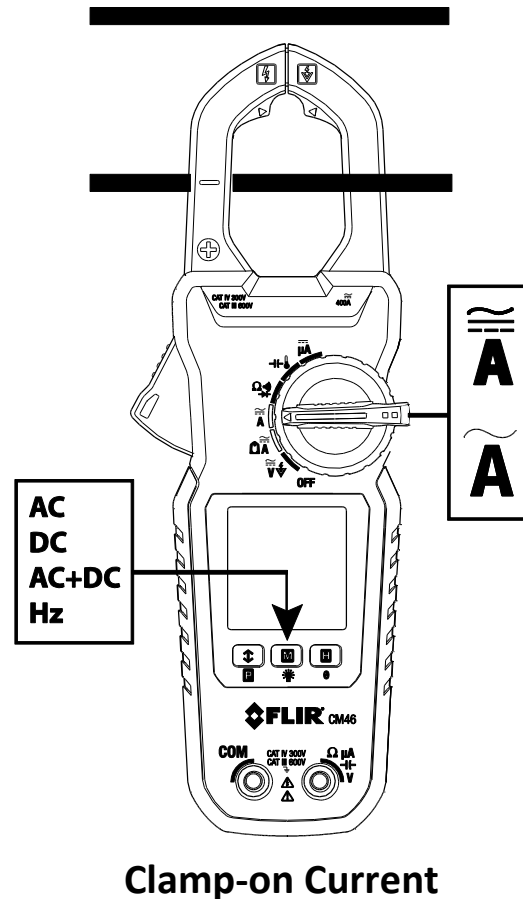
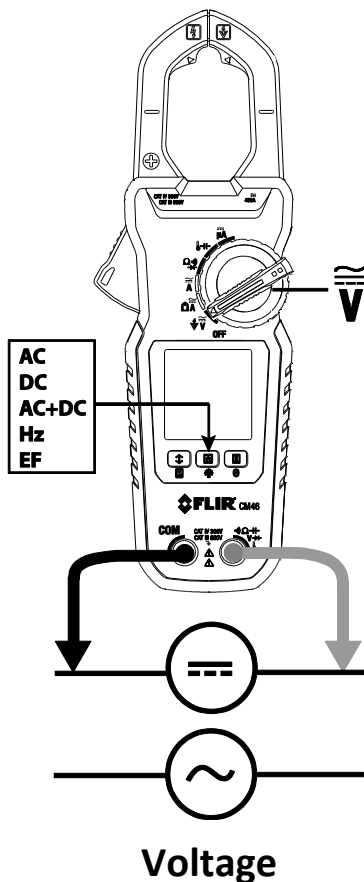
Meter Display

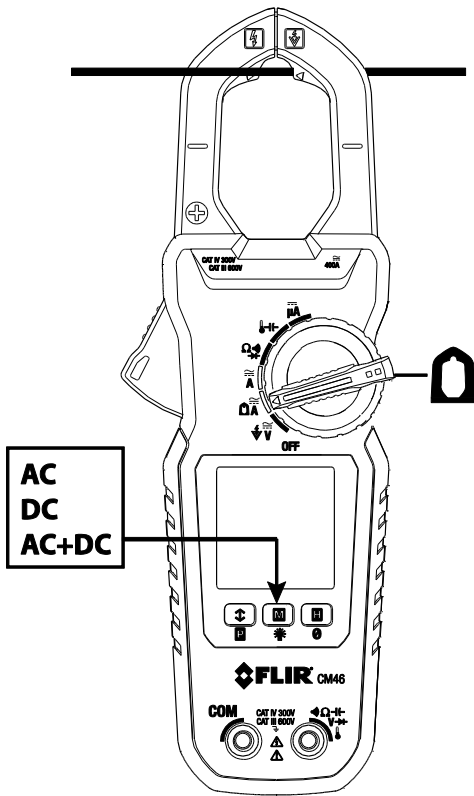


Meter Power

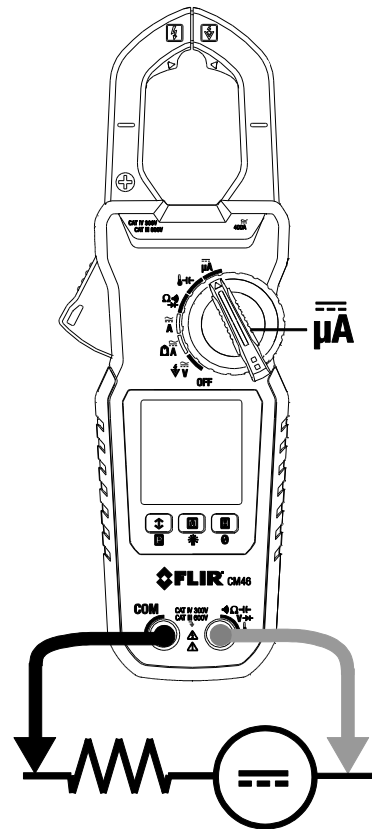
1. Set the function switch to any position to switch the meter ON.
2. If the battery indicator shows that the battery voltage is low or if the meter does not power on, replace the batteries.
3. The Auto-Power-off (APO) features switches the meter off automatically after approximately 32 minutes of inactivity.

Measurements (Note: DC+AC and DC Clamp CM46 only)

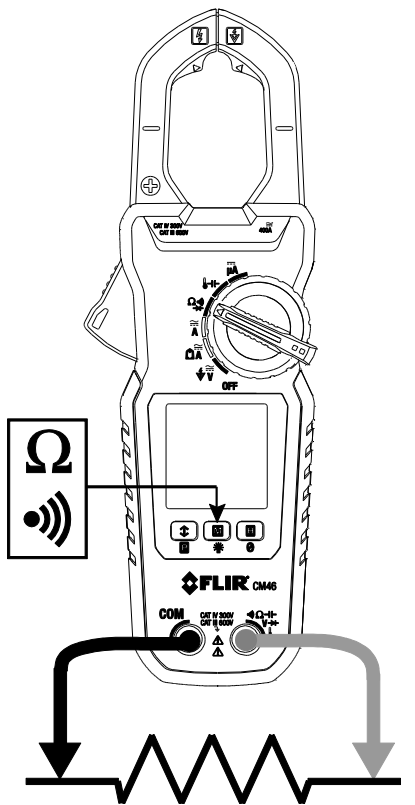




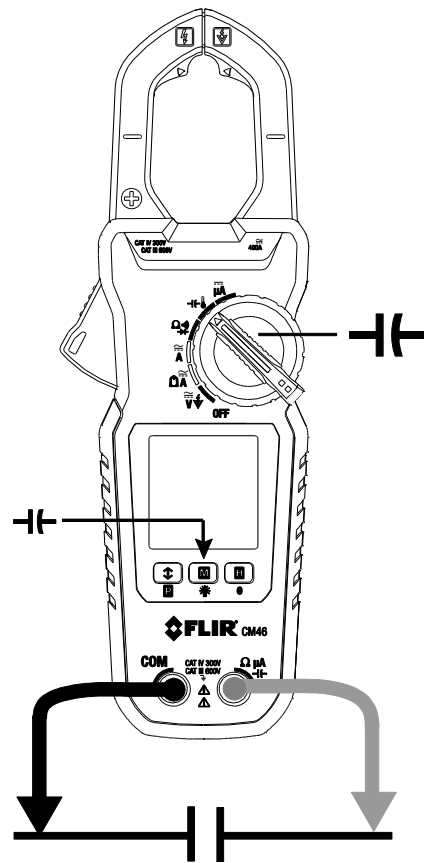
Accu-Tip™ Low Current Clamp



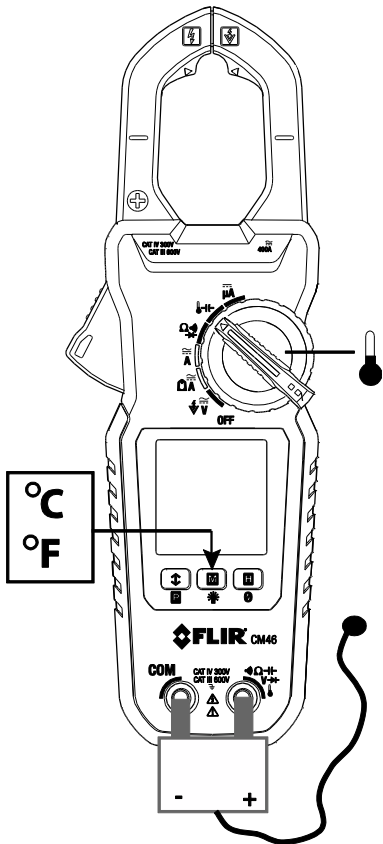
DC μ A (CM44/CM46)



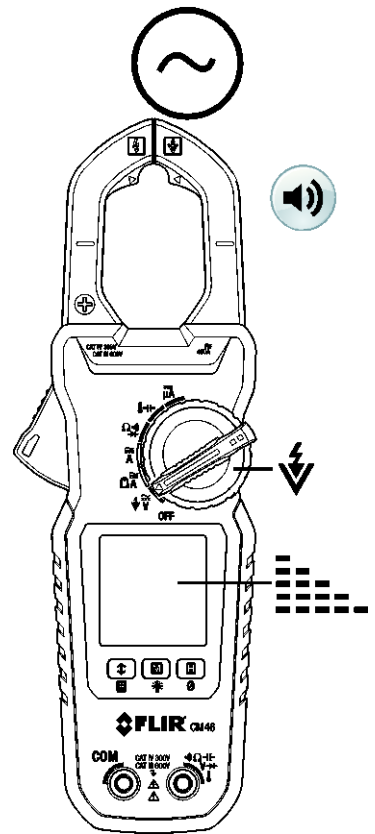
Resistance/Continuity



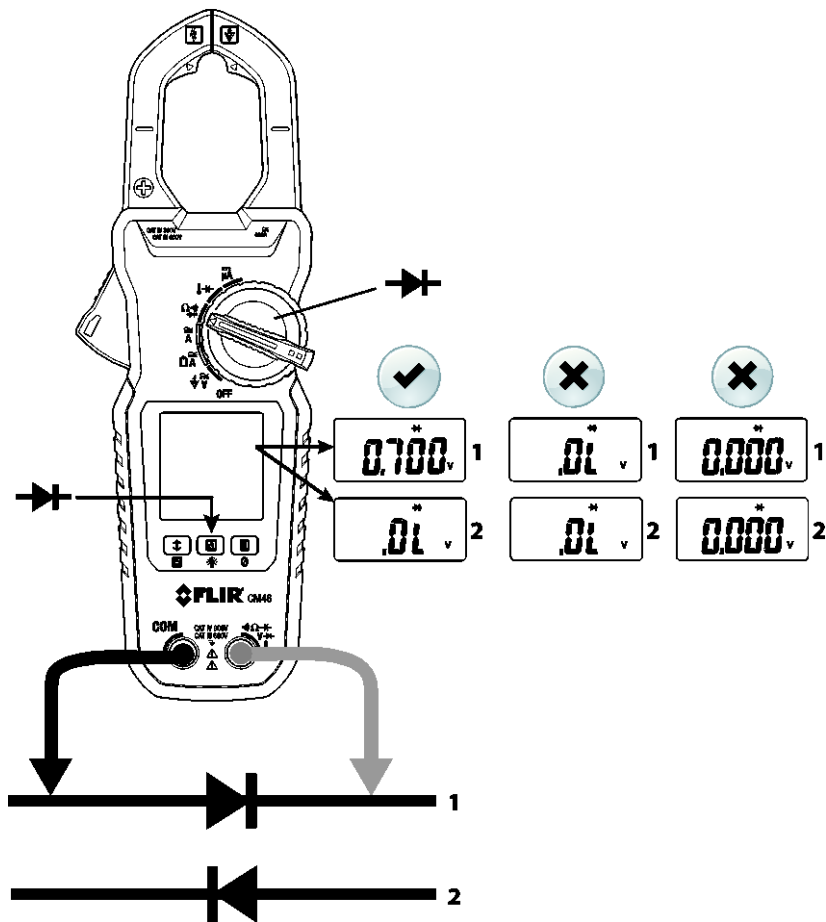
Capacitance (CM44/CM46)



Temperature (CM44/CM46)




Non-Contact Voltage Detector







Diode Test

Additional Features and Functions








Relative (CM44) and DC Zero (CM46)

DC ZERO: To offset a non-zero DCA residual signal caused by magnetic hysteresis of the jaws (for DCA and DC+ACA functions), short press the ZERO  button to activate/re-activate. For best accuracy, apply this technique before making any single DCA or DC+ACA measurement. The meter displays “dc_0” briefly to confirm activation. The meter emits 3 beeps if the residual is beyond a reasonable hysteresis reading of ± 5 DCA.


RELATIVE MODE: To access the Relative function, long press the  button and the display icon  will appear. The measurement value displayed at the time the button is pressed will be stored by the meter as a reference value. Subsequent measurements made, while the Relative mode is active, will be compared to the stored reference and the meter will display the difference between the stored reference and the actual measurement. Long press the  button to exit this mode and the display icon  will switch off.

MIN/MAX/AVG Recording


In MIN/MAX/AVG record mode, the meter captures and displays the Minimum, Maximum, and Average readings and updates only when a change in measurement value is registered. Auto Power OFF is disabled when MIN-MAX-AVG recording is enabled.

1. Short press the  button to access the recording mode. The MAX, MIN, and AVG icon  will appear indicating that the meter is now recording.
2. Short press the  button to step through the recorded MAX , MIN , and AVG  values.
3. Long press the  button to exit this mode. The icons will switch off. The meter will return to normal operation and the MAX, MIN, and AVG memories will be reset.


VFD Mode (low pass filter)

The VFD feature eliminates high frequency noise in voltage measurements by means of a low-pass filter. The VFD mode is designed for variable frequency drive measurements. This mode is always active for ACV and Hz measurements. The VFD display icon is displayed  when active.


Display Hold Function

1. In Display Hold mode, the reading is held on the display.
2. Short press the **H** (HOLD) button to toggle the Display Hold function ON and OFF.
3. In Hold mode, the  indicator is displayed.

Display Backlighting

A long press of the  button activates/deactivates backlighting. The backlight switches off automatically after several seconds to conserve battery energy.

PEAK Mode (CM44 and CM46)

A long press of the **P** (PEAK) button arms the Peak feature. The LCD icon  is displayed when Peak mode is active. Peak mode captures inrush current or voltage RMS values. The Peak measurement window is 80ms in duration. Auto-Power-Off is disabled automatically in this mode. Long press **P** to switch the Peak mode OFF.

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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.

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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