FLIR CM174: Imaging 600A AC/DC Clamp Meter with IGM

P/N: CM174

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Website

http://www.flir.com

Customer support

http://support.flir.com

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General description	
Part number	CM174
Part name	Imaging 600A AC/DC Clamp Meter with IGM

The FLIR CM174 Imaging 600A AC/DC Clamp Meter with IGM is the first clamp meter equipped with a built-in thermal imager that can quickly lead you to problems you can't see with a standard clamp meter. Featuring Infrared Guided Measurement (IGM) technology, the FLIR CM174 visually guides you to the precise location of a potential electrical issue, identifying dangerous and unknown problem areas safely. Confirm your findings with accurate amperage and voltage measurements, and center-point temperature readings. The narrow jaw enables greater accessibility, and its compact form factor fits easily into a pocket – so you can have thermal imaging at your fingertips everywhere you go. The FLIR CM174 will quickly become your primary electrical troubleshooting tool.

Find problems faster with IGM:

- Visually identify electrical issues with the first thermal imaging clamp meter.
- Conquer cluttered wires and cables—IGM can quickly guide you in the right direction.
- All-in-one tool—carry just one device and always have access to thermal imaging.
- Work safely—scan a panel or cabinet for hazards using IGM without direct contact.

Confirm your findings:

- Verify problems, check loads, and validate hot spots.
- Center-point temperature to confirm hot spot.
- Amperage and voltage measurements to check the load.
- The laser and crosshair pinpoint the location of the problem found in thermal image.

Solve complex electrical issues:

- Design and functionality vital to professionals.
- Narrow jaw and built-in worklights help you access difficult locations with lighting issues.
- Advanced electrical features: true RMS, LoZ, VFD mode, inrush, smart diode with disable.
- Expandable to 3000 A AC with FLIR flex accessories.

Thermal imaging	
Detector type	FLIR Lepton; micro-bolometer focal plane array (FPA)
IR imaging resolution (V × H)	60 × 80 pixels
IR imaging field of view (V × H)	50.0° × 38.6°
IR imaging spectral response	8–14 µm
Thermal sensitivity	150 mK
IR image capture frequency	9 Hz
IR image color palettes	Rainbow, Iron, Gray scale

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Thermal imaging	
Laser pointer	Class I (red)
IR temperature measurement range	–25 to +150°C (–13 to +302°F)
Over- and under-range indication	OL
Temperature reading stabilization	Dashes are displayed for approximately 30 seconds as the temperature reading stabilizes
IR temperature resolution	0.1°C (0.1°F)
IR temperature accuracy	5.4°F (±3°C) or ± 3% of the reading (whichever is greater)
Distance-to-spot (D:S) ratio	30:1
Emissivity adjustment	4 presets plus a custom setting (0.01–0.99)
Targeting	Displayed cross-hairs pinpoint the center of the measurement spot
Hold	Image with measurement

Electrical measurement	
True RMS voltage and current	Yes
Auto-ranging	Yes, with manual range option
DC V range	60.00 V, 600.0 V, 1000 V
DC V accuracy	± (1.0% + 5 dgt)
AC V range	60.00 V, 600.0 V, 1000 V
AC V accuracy	±(1.0% + 5 dgt) 45–400 Hz
AC V VFD range	60.00 V, 600.0 V, 1000 V
AC V VFD accuracy	±(1% + 5 dgt) 45–65 Hz, ±(5% + 5 dgt) 65–400 Hz
LoZ range	60.00 V, 600.0 V, 1000 V
LoZ accuracy	±(1% + 5 dgt) 45–65 Hz, ±(5% + 5 dgt) 65–400 Hz
LoZ input impedance	2.5 kΩ
AC A range	60.00 A, 600.0 A
AC A accuracy	±(2% + 5 dgt) 45–400 Hz
AC A VFD range	60.00 A, 600.0 A
AC A VFD accuracy	±(2% + 5 dgt) 45–65 Hz, ±(6% + 5 dgt) 65–400 Hz
AC A inrush range and accuracy	60.00 A ± (3% + 0.3 A), 600.0 A ± (3% + 5 dgt)
DC A range	60.00 A, 600.0 A
DC A accuracy	±(2% + 5 dgt)
Frequency range	600.0 Hz, 6.000 kHz , 60.00 kHz
Frequench accuracy	±(0.1% + 2 dgt)
Resistance range	600.0 Ω, 6.000 kΩ
Resistance	±(1.0% + 5 dgt)
Continuity	600.0 Ω ± (1.0% + 5 dgt)
Diode	1.5 V ± (1.5% + 5 dgt)
Capacitance	1–1000 µF ± (1.0% + 4 dgt)
Flex input AC A range	30.00 A, 300.0 A, 3000 A
Flex input AC A accuracy	±(1% + 5 dgt) 45–400Hz
Flex input frequency range	600.0 Hz, 6.000 kHz , 10.00 kHz

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Electrical measurement	
Flex input AC A accuracy	±(0.1% + 2 dgt)
Additional measurement functions	DCA zero, data hold, minimum/maximum

General	
Worklights	Dual white LEDs
Jaw opening:	35 mm (1.38 in.)
Display counts	0–6000
Measuring rate	3 times per second
Calibration cycle	1 year calibration cycle recommended
Auto power off	Programmable: off, 1, 2, 5, or 10 minutes
Power source	4 × 1.5 V AAA alkaline batteries
Battery life	Clamp mode ~10 hours; IGMTM mode 3 hours (with alkaline batteries and worklight off)

Environmental data	
Operational temperature	–10 to +10°C (14–50°F) (non-condensing) 10–30° C (50–86°F) (≤80% relative humidity (RH)) 30–40°C (86–104°F) (≤75% RH) 40–50°C (104–122° F) (≤45% RH)
Storage temperature	–20 to +60°C (4–140°F)
Relative humidity	0–80% RH (batteries not installed)
Temperature coefficient	0.2 × (specified accuracy)/°C, <18°C (64.4°F), >28°C (82.4°F)
Operating altitude	2000 m (6562 ft.)
Pollution degree	2
Drop test	2 m (6.6 ft.)

Physical data	
Dimensions: (D × W × L)	43 mm × 89 mm × 241 mm (1.7 in. × 3.5 in. × 9.5 in.)
Weight:	426 g (15.0 oz.) including batteries
Batteries	4 × 1.5 V AAA alkaline batteries

Warranty	
Warranty	https://www.flir.com/testwarranty

Certifications	
Agency approvals	CE, RCM, KC
Certifications	UL, cUL
Safety category rating	EN 61010-1 CAT IV-600 V, CAT III-1000 V, EN 61010-2-032

Shipping information	
Packaging type	Retail color box
Packaging contents	CM174, 4 × AAA batteries, premium CAT IV silicone test leads, quick start guide, user manual (CD), warranty registration card
Packaging weight	0.8 kg (1.8 lb.)
Packaging dimensions (H × W × L)	33 cm × 14 cm × 12 cm (13 in. × 5.5 in. × 4.75 in.)
Master carton weight	11.8 kg (26.1 lb.)

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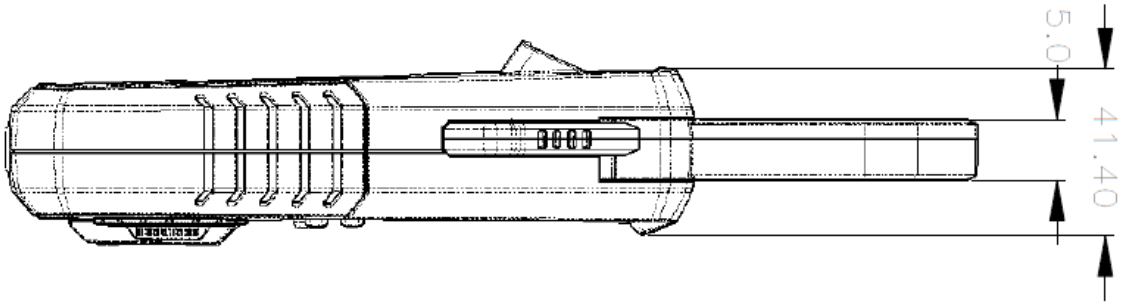
Shipping information	
Master carton dimensions (H × W × L)	62.3 cm × 29.3 cm × 36.1 cm (24.6 in. × 11.6 in. × 14.3 in.)
Master carton quantity	12
UPC	793950371749
EAN	0793950371749
Country of origin	Taiwan
Tariff code	9030.31.0000

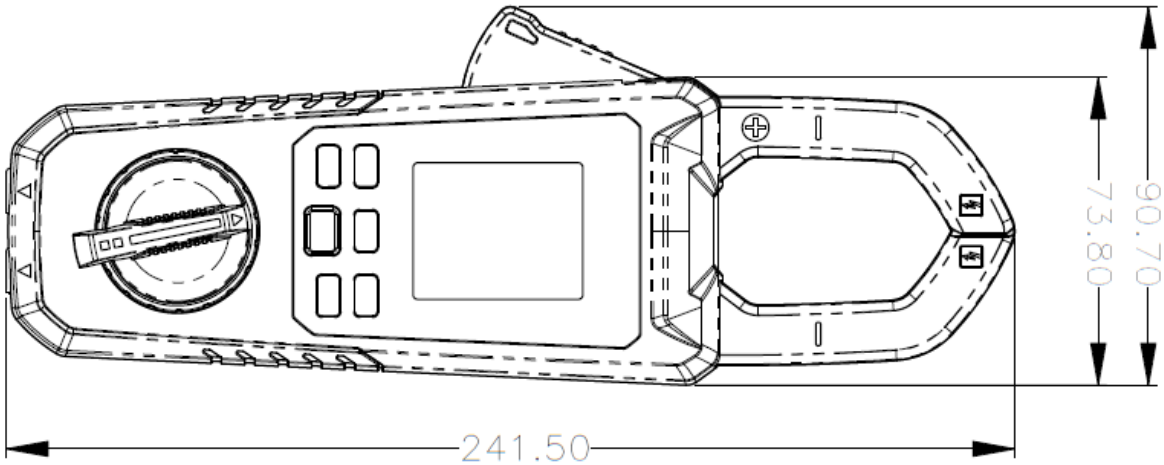
Technical support	
Website	http://support.flir.com

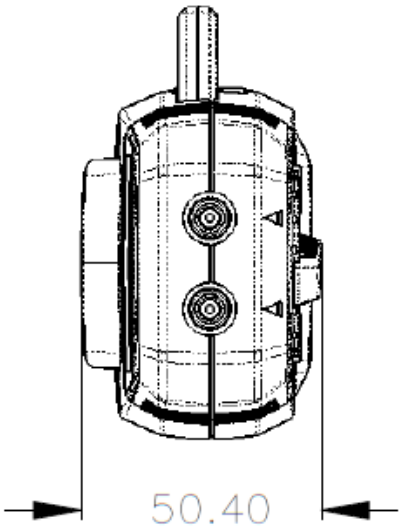
Supplies & accessories:

- TA03-KIT; NiMH Rechargeable Battery Kit
- TA15; Universal Soft Sided Case
- TA55; AC Current Line splitter
- TA70; CAT IV Insulated Alligator Probes
- TA72; Large Universal Flex Current Probe Accessory (25 cm)
- TA74; Large Universal Flex Current Probe Accessory (45 cm)
- TA80; CAT IV Silicone Test Leads

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Modified Date	**Modified By**
Thursday, October 29, 2015	T&M Engineering
Description	
CM174	
Units	**Scale**
Millimeters	Not to Scale