FLIR CM275: Industrial Thermal Imaging Clamp Meter with Datalogging, Wireless Connectivity, and IGM

P/N: CM275

Document identity

Publ. No.: CM275
Release:
Commit: 45660
Language: en-US
Modified: 2017-10-05
Formatted: 2017-10-09

Website

http://www.flir.com

Customer support

http://support.flir.com

Part number	CM275
Part name	Industrial Thermal Imaging Clamp Meter with Datalogging, Wireless Connectivity, and IGM

The FLIR CM275 clamp meter combines thermal imaging with electrical measurement in a powerful inspection, troubleshooting, and diagnostic tool. Through Infrared Guided Measurement (IGM), it provides a fast, reliable way to identify hot spots and overloaded circuits from a safe distance. Confirm your findings with the clamp meter's wide range of functions plus temperature readings. The FLIR CM275 provides wireless connectivity for direct connection to the FLIR Tools app and the FLIR InSite professional workflow management solution. When you choose the FLIR CM275 clamp meter, inspecting and servicing plant equipment and facilities becomes safer and more efficient.

Troubleshoot faster and more safely:

- Identify electrical issues quickly with the power of IGM.
- Scan entire targets for electrical issues with 160 × 120 thermal resolution.
- Safely check for live connections using non–contact temperature measurement.
- Pinpoint exact hot spot locations using laser and cross–hairs.
- Easily reach awkward, dark locations using the narrow jaws and built-in worklights.

Diagnose efficiently:

- Quickly verify problems, check loads, and validate hot spots.
- Diagnose complex systems with high– and low-voltage measurement capabilities.
- Use advanced electrical features including VFD mode, true RMS, and LoZ.
- Expand measurement capabilities to 3000 A AC with FLIR Flex Clamp accessories.
- Rely on the protection of CAT IV—600V, CAT III—1000 V safety ratings.

Document and share results:

- Store data onboard or share wirelessly for improved workflow.
- Store electrical measurements and thermal images internally, for later review.
- Wirelessly connect to FLIR Tools or the FLIR InSite workflow management app for streamlined documentation, reporting, and information sharing.

Static data logging and storage	
Data storage interval, configurable	1–99 s
Readings per memory set	40 000
Maximum number of memory sets	10

Thermal image storage	
Maximum number of images	100

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Connectivity	
Wireless technology	Bluetooth BLE
Communications protocol	METERLiNK

Thermal imaging	
Detector type	FLIR Lepton; micro-bolometer focal plane array
Infrared (IR) imaging resolution (V × H)	160 × 120 pixels
IR imaging field of view (V × H)	50° × 38°
IR imaging spectral response	8–14 µm
Thermal sensitivity	150 mK (0.15°C)
IR image capture frequency	9 Hz
IR image color palettes	Rainbow, Iron, Gray scale
Laser pointer	Class I (red)
Laser pointer power	<0.4 mW
IR temperature measurement range	–10 to 150°C (14–302°F)
Over- and under-range indication	OL
Temperature reading stabilization	Dashes are displayed for approximately 30 s as the temperature reading stabilizes
IR temperature resolution	0.1°C (0.1°F)
IR temperature accuracy	±3°C (5.4°F) or ± 3% of the reading (whichever is greater) for temperatures >25°C (77°F), ±5°C for temperatures -10°C to 25°C (14°F–77°F)
Distance-to-spot (D:S) ratio	30:1
Emissivity adjustment	0.95 maximum, 4 presets plus a custom setting (0.10–0.99)
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
AC/DC V	1000 V RMS AC or 1000 V DC ± 1.0%
VFD AC V	1000 V AC RMS, 45–65 Hz, ± 1%
AC/DC LoZ V	1000 V AC RMS, 45–65 Hz, or 10000 V DC ± 1%
AC/DC A	600.0 A AC RMS, 45–400 Hz, or 600.0 A DC ± 2%
VFD AC A	600.0 A, 45–65 Hz, ± 2%
AC A inrush	600.0 A ± 3%
Frequency counter	60.00 kHz ± 0.1%
Resistance	6.000 kΩ ± 1.0%
Continuity	Beep below 30 Ω
Diode test	1.5 V ± 1.5%
Capacitance	1000 µF ± 1.0%
Flex input AC A	3000 A, 45–400 Hz, ± 1%
Flex input frequency counter	10.00 kHz ± 0.1%
Additional measurement functions	DCA zero, data hold, minimum/maximum

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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	3 × AA Energizer L91 lithium (Li/FeS_2) batteries or optional TA04 lithium polymer rechargeable battery system
Battery life, Energizer L91 lithium batteries	Approximately 12 hours constant IGM
Battery life, TA04 lithium polymer batteries	Approximately 12 hours constant IGM

Environmental data	
Operational temperature	0–30°C (32–86°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) (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)	48.5 mm × 97 mm × 255 mm (1.91 in. × 3.82 in. × 10.04 in.)
Weight	460 g (16.2 oz.) without batteries

Warranty	
Warranty	10 years for the product, 10 years for the detector with registration

Certifications	
Agency approvals	C-UL-US, CE, RCM
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	CM275, 3 × AA L91 lithium batteries, premium CAT IV silicone test leads, soft carrying case, quick start guide, warranty registration card
Packaging weight	1.3 kg (2.8 lb.)
Packaging dimensions (H × W × L)	33 cm × 14 cm × 11 cm (13 in. × 5.5 in. × 4.33 in.)
Master carton weight	16.5 kg (36.4 lb.)
Master carton dimensions (H × W × L)	65 cm × 30 cm × 56 cm (25.6 in. × 11.8 in. × 22.0 in.)
Master carton quantity	12
UPC	793950372753
EAN	0793950372753

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Shipping information	
Country of origin	Taiwan
Tariff code	9027504020

Technical support	
Website	http://support.flir.com
E-mail	TMsupport@flir.com
Phone	855-499-3662
Repairs	repair@flir.com

Included in the box	
CM275 Industrial Thermal Imaging Clamp Meter with Datalogging, Wireless Connectivity, and IGM	
TA82 Premium Silicone Test Leads	
Soft-sided carrying case	
3 ×L91 (AA) lithium batteries	

Optional accessories	
TA72 Universal Flex Current Probe Accessory 10 in. (25 cm)	
TA74 Universal Flex Current Probe Accessory 18 in. (45 cm)	
TA04-KIT Lithium Polymer Rechargeable Battery Kit	
TA52 Magnet Mount	
TA42 Belt Clip	
TA10-F Protective Case for FLIR DMMs and TA7X	
TA55 Line Splitter	
TA70 Alligator Clips	