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

P/N: CM275

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Website

http://www.flir.com

Customer support

http://support.flir.com

Disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply. Products described herein may be subject to US Export Regulations. Please refer to exportquestions@flir.com with any questions.

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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#CM275; r. 80053;

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)	44° × 57°
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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P/N: CM275

#CM275; r. 80053;

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	https://www.flir.com/testwarranty

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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#CM275; r. 80053;

Shipping information	
Country of origin	Taiwan
Tariff code	9027504020

Technical support	
Website	http://support.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	

Supplies & accessories:

- TA04-KIT; Lithium Polymer Rechargeable Battery Kit
- TA15; Universal Soft Sided Case
- TA17; Pouch for FLIR Clamp Meters
- TA42; TA42 Belt Clip
- TA52; TA52 Magnetic Meter Mount
- 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)

Teledyne FLIR LLC
9 Townsend West, Nashua NH 03063 / Phone: 603.324.7800 / Fax: 603.324.7864

Declaration of Conformity

Flir Model: ***CM275***
Description: ***Clamp Meter, 600A, AC/DC with IGM™ Technology w/BT***
Date of Issue: ***12-Jul-21***

We, Teledyne FLIR LLC., 9 Townsend West, Nashua, NH 03063 declare that a sample of the product listed above has been tested by a third party for CE marking

EMC Directive: **2014/30/EU**
Report Number: **R11754183-EMC**
Report Date of Issue: **7/31/2017**

Standards:
EN 61326-1:2013

LVD Directive: **2014/35/EU**
Report Number: **E201687-D1010-1/A0/C0-ULCB**
Report Date of Issue: **12/6/2017**

Standards:
IEC 61010-1:2010 (Third Edition)
IEC 61010-2-032:2012 (Third Edition)
IEC 61010-2-033:2012 (First Edition)

RED Directive: **2014/53/EU**
Report Number: **R11754183-EMC**
Report Date of Issue: **7/31/2017**

Standards:
EN 301 489-1 V2.2.9
EN 301 489-17 V3.2.0

RoHS Directive: **EU Directive 2015/863/EU (RoHS 3)**

The test reports show that the product fulfills the requirement in the EC Low Voltage Directive, EMC Directive, RED Directive, and RoHS Directive for CE Marking. On this basis, together with the manufacturer's own documented production control, the manufacturer (or his European authorized representative) can in his EC Declaration of Conformity verify compliance with the EC Low Voltage Directive, EMC Directive, RED Directive, and RoHS Directive.

Mark Sultzbach / QA Manager

Taipei, Taiwan Oct 4, 2021

UK Declaration of Conformity

Product: FLIR CM275

Name and address of the manufacturer: Teledyne FLIR LLC,
9 Townsend West,
Nashua, NH 03063

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration: FLIR CM275

The object of the declaration described above is in conformity with the relevant statutory requirements applicable to the specific product:

Standards review between UK and EU

UK legislation refr.	**UK designated standard***	**EU regulation refr.**	**EU harmonised standard**
EMC		**EMC**	
S.I. 2016 No. 1091	EN 61326-1:2013	2014/30/EU	EN 61326-1:2013
S.I. 2016 No. 1091	EN 301 489	2014/30/EU	EN 301 489-1 V2.2.9
S.I. 2016 No. 1091	EN 301 489	2014/30/EU	EN 301 489-1 V3.2.0
LVD Directive		**LVD Directive**	
S.I. 2016 No. 1101	IEC 61010-1 (Ed. 3)	2014/35/EU	IEC 61010-1 (Ed. 3)
S.I. 2016 No. 1101	IEC 61010-1-032 (Ed. 1)	2014/35/EU	IEC 61010-2-032:2012 (Ed. 3)
S.I. 2016 No. 1101	IEC 61010-2-033 (Ed. 1)	2014/35/EU	IEC 61010-2-033 (Ed. 1)
RoHS			
S.I. 2012 No. 3032	EN 50581:2012	2015/65/EU (RoHS)	EN 50581:2012

* https://www.gov.uk/guidance/designated-standards 2021-03-19
Designated standards: EMC – consolidated list, version 1, 1 January 2021
Designated standards: RoHS – consolidated list, version 1, 1 January 2021
Designated standards: low voltage – notice of publication, 1 January 2021

FLIR Commercial Systems
Quality Assurance

Hank Tsai

Hank Tsai
Quality Manager