



# CLAMP METER GUIDE

FIND THE RIGHT SOLUTION





# CLAMP METERS WITH IGM™



Use the power of thermal imaging to catch failing components early and pinpoint the source of problems for further testing and investigation.

Our selection of high-quality professional and industrial clamp meters includes models with built-in thermal imaging—we call it IGM (Infrared Guided Measurement). FLIR clamp meters enhanced with IGM provide a fast, reliable way to identify hot spots and overloaded circuits from a safe distance.

Whether you are a commercial, industrial, or residential electrician, or provide maintenance and repair for HVAC or solar installations, FLIR clamp meters will help you maximize safety and efficiency.





Non-contact voltage detection

Bright LED worklight

Thermal imager for non-contact temperature measurement

CM275 - 160 x 120 imager

CM174 - 80 x 60 imager

Full color IPS LCD display

IGM button activates thermal imaging

Laser pinpoints exact hot spot locations

Intuitive menu system

Store up to 10K scalar measurements or 100 images

WARNING  
AVERTISSEMENT  
METER LINK  
Model Number: CM275  
Country: U.S.A. / Canada  
Contact: 1.888.610.7664

# CM174/275

INDUSTRIAL IMAGING CLAMP METERS WITH IGM



The CM275 provides METERLiNK® communication with mobile devices and compatible FLIR cameras

Replace batteries without any tools

Work faster, safer, and more efficiently with the unique combination of onboard thermal imaging and a wide range of electrical measurement features.



## KEY FEATURES

- Scan entire targets with thermal camera to find hidden electrical issues
- Pinpoint exact hot spot locations with laser or crosshairs
- Use advanced electrical features including VFD mode, True RMS, and LoZ
- Expand measurement capabilities to 3000 A AC with FLIR Flex Clamp accessories (TA72/TA74)

## CM275 UNIQUE FEATURES

- See greater detail with 160 × 120 (19,200 pixel) thermal detector—2x the resolution of the CM174
- Store electrical measurements and thermal images internally for later review
- Streamline documentation and sharing by connecting wirelessly to the FLIR Tools® Mobile App

600 A current measurements

AC/DC current measurements

Side-mounted dial for one-handed use

Includes True RMS, LoZ, Continuity Test, Diode Test

Internal memory for datalogging

Large illuminated display

METERLiNK® communication with mobile devices

Solar industry spec MC4 test lead connectors



# CM65

TRUE RMS 600 A SOLAR CLAMP METER



Photovoltaic (PV) installers can trust this rugged solar clamp meter to accelerate and simplify PV panel testing at new and existing sites. It comes standard with quick-connect MC4 test leads for safe and easy troubleshooting on residential and commercial solar equipment.

## KEY FEATURES

- Avoid connection errors and simplify testing with MC4 test leads
- Get precise readings every time with True RMS and  $\pm 1.5\%$  accuracy
- Eliminate residual ghost voltage with LoZ (low impedance) mode
- Share results on-the-go with customers or managers using FLIR Tools® Mobile
- Datalog readings to internal memory
- View readings clearly on the large-digit, backlit LCD display
- See meter readings on mobile devices using METERLiNK



# CM94

2000 A AC/DC UTILITY CLAMP METER



The CM94 tackles high-current measurements in demanding utility and industrial job sites with 2000 A AC/DC range, oversized jaws for oversized conductors, drop-test protection and a CAT IV-1000 V safety rating. This full-featured clamp meter delivers results for utility and industrial electricians.

## KEY FEATURES

- Take on any current measurements up to 2000 A AC/DC
- Get the most accurate readings on VFD-controlled equipment with VFD mode
- Eliminate residual ghost voltage with LoZ (low impedance) mode
- Survives tumbles off a ladder or into a utility vault with 2 m drop protection
- View readings clearly on the large-digit, backlit LCD display



1000 A current measurements



Advanced power and harmonics measurements

Bright backlit display

# CM82/83/85

TRUE RMS POWER CLAMP METERS



These industrial-grade clamp meters offer advanced power analysis and variable frequency drive (VFD) filtering functions for superior accuracy and reliable performance.



## KEY FEATURES

- Get the most accurate readings on VFD-controlled equipment with VFD mode
- Conduct system-level performance analysis with advanced power efficiency and harmonics measurements
- Capture fast AC Current spikes during appliance start-up with inrush mode
- Ensure that the motor and power source are in alignment with phase rotation testing

## CM83 and CM85 UNIQUE FEATURES

- Remote viewing on smartphones and tablets via Bluetooth®
- Wirelessly embed readings into thermal images on compatible FLIR cameras with METERLINK

# CM78

## 1000 A CLAMP METER WITH IR THERMOMETER

A safe and capable combination tool that is ideal for the electrician who works on high-powered equipment and temperature systems.

### KEY FEATURES

- Take fast, non-contact measurements on panels, conduits, and motors with the integrated IR thermometer
- Overcome poor lighting conditions with the powerful LED lamps that can serve as a primary worklight
- Connect the meter to your compatible smartphones and tablets via Bluetooth and FLIR Tools Mobile
- View and share data from a mobile device via Bluetooth
- METERLINK technology wirelessly integrates electrical readings onto your infrared images taken with METERLINK-enabled FLIR thermal cameras



# CM72/74

## COMMERCIAL CLAMP METERS

Made with a narrow jaw and high-powered LED worklights, the CM72 (AC) and CM74 (AC/DC) make it easier to take measurements in dark, crowded panels and cabinets.

### KEY FEATURES

- Easily access wiring in crowded panels and cabinets with the narrow clamp jaw
- Carry the light, compact meter in your back pocket
- Overcome poor lighting conditions with the dual bright high-powered LED worklights
- View readings clearly on the large-digit, backlit LCD display
- Reduce slippage with the rubberized double molded hand grips
- True RMS provides accurate AC measurements

### CM74 UNIQUE FEATURES

- Advanced electrical features including: LoZ, VFD Mode, Inrush, Smart Diode with Disable
- AC/DC current measurements



600 A AC/DC measurements

Narrow clamp jaw for easier access

Large backlit display

Dual bright LED worklights

Optional TA42 belt clip

AC/DC current measurements

Includes True RMS, LoZ, VFD Mode, Inrush, and Smart Diode



18-inch flexible coil clamp

10-inch flexible coil clamp

Bright LED worklights

Bright LED worklights

Backlit display

Backlit display

METERLiNK communication  
with mobile devices and  
compatible FLIR cameras

3 m drop-tested durability

3 m drop-tested durability

# CM55/57

FLEXIBLE CLAMP METERS



METERLiNK communication with mobile devices and compatible FLIR cameras

Take measurements in tight or awkward spots with these narrow and flexible coil clamps. With Bluetooth communication for remote viewing and data transfer to iOS® and Android™ devices via the FLIR Tools Mobile App, analyze and share data fast right from the jobsite.

## KEY FEATURES

- Snake the coil around obstacles with ease, even in deep, crowded cabinets
- Take multiple conductor measurements with True RMS AC Current up to 3,000 Amps
- Pinpoint equipment start-up problems with the inrush current function
- Illuminate dark cabinets with the built-in dual LED worklights

## CHOOSE YOUR FLEXIBLE COIL LENGTH

- CM55 – 10 in (25.4 cm) for easy maneuverability and compact convenience
- CM57 – 18 in (45.72 cm) for larger and multiple conductor measurements, double-wrap requirements, and deeper access



Non-contact voltage detection



Bright backlit display

# CM42/44/46

PROFESSIONAL 400 A TRUE RMS CLAMP METER FAMILY WITH ACCU-TIP™



These affordable clamp meters feature Accu-Tip technology, allowing you to take the most accurate amperage measurements on smaller-gauged wires – to a tenth of a digit!

## KEY FEATURES

- Accu-Tip enables more accurate amperage measurements on smaller-gauged wires
- Use the large, bright backlit display to help you see readings inside of dark electrical panels
- Carry the durable, lightweight meters in your tool bag everywhere you go
- Determine voltage presence and relative strength of the field with Max/Min/Avg recording, frequency, and electrical field detection

## CM44 and CM46 UNIQUE FEATURES

- CM44 and CM46 feature Peak-rms inrush current, capacitance, microAmp DC current, temperature measurements and relative/DC zero functions
- CM46 performs AC+DC voltage measurements and clamp-on DC current measurements

# TECHNICAL SPECIFICATIONS

Specs	Residential/Commercial			Commercial/Industrial					Industrial						
Model	FLIR CM42	FLIR CM44	FLIR CM46	FLIR CM65	FLIR CM72	FLIR CM74	FLIR CM174	FLIR CM275	FLIR CM78	FLIR CM82	FLIR CM83	FLIR CM85	FLIR CM55	FLIR CM57	FLIR CM94
IGM® Resolution	—	—	—	—	—	—	80 x 60	160 x 120	IR Thermometer	—	—	—	—	—	—
IGM Temperature Range	—	—	—	—	—	—	-10°C to 150°C (14°F to 302°F)	-10°C to 150°C (14°F to 302°F)	-20°C to 270°C (-4°F to 518°F)	—	—	—	—	—	—
Display Counts/Type	6000/Backlit LCD	6000/Backlit LCD	6000/Backlit LCD	3-5/6 digits 6000 counts	6000/Backlit LCD	6000/Backlit LCD	6000/2 in Color TFT	6000/2.4 in Color TFT	4000/Backlit LCD	10000/Backlit LCD	10000/Backlit LCD	10000/Backlit LCD	3000/Backlit LCD	3000/Backlit LCD	3-5/6 digits 6000 counts; 3-1/2 digits 1999 counts for Hz
Jaw Opening	1.2 in (30 mm)	1.2 in (30 mm)	1.2 in (30 mm)	1.18 in (30 mm)	1.38 in (35 mm)	1.38 in (35 mm)	1.38 in (35 mm)	1.38 in (35 mm)	1.70 in (42 mm)	1.45 in (37 mm)	1.45 in (37 mm)	1.77 in (45 mm)	10 in (25 cm) Flex Coil	18 in (45 cm) Flex Coil	2.17 in (55 mm)
AC/DC Voltage	600 V	600 V	600 V	1000 V	600 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	—	—	1000 V
VFD AC Voltage	600 V	600 V	600 V	1000 V	—	1000 V	•	•	—	•	•	•	—	—	1000 V
LoZ AC/DC Voltage	—	—	—	1000 V	•	•	•	•	—	—	—	—	—	—	1000 V
AC Current	400 A	400 A	400 A	600.0 A	600 A	600 A	600 A	600 A	1000 A	600 A	600 A	1000 A	3000 A	3000 A	2000 A
DC Current	—	—	400 A	600.0 A	—	600 A	600 A	600 A	1000 A	600 A	600 A	1000 A	—	—	2000 A
VFD AC Current	—	—	—	—	600 A	600 A	600 A	600 A	—	—	—	—	—	—	—
Inrush AC Current	—	•	•	—	—	•	•	•	—	•	•	•	•	•	—
Resistance	60.00 kΩ	60.00 kΩ	60.00 kΩ	600.0, 6.000 kΩ	6.00 kΩ	6.00 kΩ	6.00 kΩ	6.00 kΩ	40.00 MΩ	100 kΩ	100 kΩ	100 kΩ	—	—	40.00 MΩ
Capacitance	—	2500 µF	2500 µF	—	1000 µF	1000 µF	1000 µF	1000 µF	4000 µF	4000 µF	4000 µF	4000 µF	—	—	6.000 µF
Frequency	1.00 kHz	1.00 kHz	1.00 kHz	1.0 kHz	60.00 kHz	60.00 kHz	60.00 kHz	60.00 kHz	4.00 kHz	10.00 kHz	10.00 kHz	10.00 kHz	—	—	0.4 kHz
Temperature	—	-40°C to 400°C (-40°F to 752°F)	-40°C to 400°C (-40°F to 752°F)	-40.0 to 400°C (-40.0°F to 752°F)	—	—	—	—	-20°C to 760°C (-4°F to 1400°F)	—	—	—	—	—	-50°C to 1000°C (-58°F to 1832°F)
Min/Max/Average	•	•	•	Min/Max	Min/Max	Min/Max	Min/Max	Min/Max	•	•	•	•	—	—	—
Peak	—	•	•	—	—	—	—	—	•	•	•	•	—	—	—
Power/Power Factor	—	—	—	—	—	—	—	—	—	600 kW/0.0 to 1.0	600 kW/0.0 to 1.0	1000 kW/0.0 to 1.0	—	—	—
Harmonics/Total Harmonic Distortion (THD)	—	—	—	—	—	—	—	—	—	1 to 25/0 to 99.9	1 to 25/0 to 99.9	1 to 25/0 to 99.9	—	—	—
Phase Rotation	—	—	—	—	—	—	—	—	—	•	•	•	—	—	—
Non-Contact Voltage Detector (NCV)	•	•	•	—	—	—	—	—	—	•	•	•	—	—	—
Worklights	—	—	—	—	•	•	•	•	•	•	•	•	•	•	—
Data Storage	—	—	—	Record measuring data	—	—	—	10 files (40k readings each), 100 images	—	—	—	—	2000 readings	2000 readings	—
Bluetooth®/METERLINK™	—	—	—	•	—	—	—	•	•	•	•	•	•	•	—
Safety Category	CAT IV-300V CAT III-600V	CAT IV-300V CAT III-600V	CAT IV-300V CAT III-600V	CAT IV-600 V, CAT III-1000 V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-600V CAT III-1000V	CAT IV-1000V

# COMPLETE YOUR TOOLBAG

FLIR has a full line of products to make your job easier, including thermal cameras, voltage detectors, digital multimeters, and IR thermometers.



## ACCESSORIES

FLIR has all the right accessories to help you maximize your benefits from your clamp meters, including:



**TA80 CAT IV Test Leads**  
1000 V, 10 A test probes with gold-plated tips for professional precision.



**TA55 Line Splitter**  
Provides easy and safe measurements of current and voltage from two or three wire outlets. Standard North American 3-prong plug. (For US type outlets only).



**TA52 Magnetic Mount**  
Designed for the FLIR CM174, CM74, and CM72 clamp meters, the low profile TA52 firmly attaches to the meter's tripod mount and stores easily.



**TA42 Belt Clip**  
Designed for use with the FLIR CM174, CM74, and CM72 clamp meters, the low-profile clip securely attaches to the meter's tripod mount.



**TA10-F Case**  
Pouch to carry your meter and accessories. Compatible with FLIR DM9x, TA7x, select CM5x meters.



**TA11 Case**  
Pouch to carry your clamp meter and accessories. Compatible with FLIR CM78 and CM8x meters.



**TA15 Universal Soft Sided Case**  
Pouch to carry your clamp meter and accessories. Compatible with any FLIR clamp meter and the TA7x Universal Flex current probe accessory.