



# WHAT DO YOU NEED TO MEASURE?

FLIR delivers world-class thermal cameras and test & measurement tools with the accuracy, reliability, and versatility you need to tackle your most challenging jobs.



*“Our FLIR camera has contributed significantly to better safety and increased production in our facility. It has become a major part of our condition monitoring program.”*

— Scott Myers, Reliability Technician, Tate & Lyle  
Source: TechValidate TVID: BF7-504-768

*“FLIR gave us the ability to be more marketable and to provide services for clients, who were at the time, using other less qualified contractors for their imaging needs.”*

— Jeffrey Wayment, Electrician, Electric 1 West  
Source: TechValidate TVID: 3F5-D23-154

*“With FLIR, the ability to show clients heating or cooling losses is an effective way to prove value.”*

— Energy Auditor, Small Business Professional Services Company  
Source: TechValidate TVID: ADF-642-371

*“FLIR products have helped us by providing some of the best diagnostic equipment to reduce our customers’ down time and expensive repairs.”*

— Electrician, Small Business Professional Services Company  
Source: TechValidate TVID: 480-62C-A7E



Our exclusive IGM technology is centered around the FLIR Lepton® thermal camera core. The compact, low-cost Lepton gives us the ability to develop new, highly-efficient test and measurement products that integrate powerful thermal imaging — a capability that helps you instantly see excessive heat, so you can pinpoint the location of potential problems, take measurements, and solve problems faster than ever.



## NEW PRODUCTS



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### FLIR Ex-XT

The new FLIR Ex-XT cameras bring powerful resolution and temperature measurement features to the outstanding line of FLIR Ex-Series cameras. With up to 76,800 IR pixels and wide temperature ranges — -20°C to 550°C/-4°F to 1022°F — plus Wi-Fi and MSX® thermal imaging detail, the new Ex-XT models are the troubleshooting tools you need for building, electrical, and mechanical applications.



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### FLIR T840

A bright idea for bright conditions: the FLIR T840 thermal imaging camera has a brilliant color viewfinder with soft eyecup for conducting outdoor inspections. This camera also features a 180° rotating lens platform and thoughtful ergonomic design to help users quickly diagnose failing components in hard-to-reach areas.



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### FLIR VT8-600/VT8-1000

High-quality voltage, continuity, and current tester, ideal for electricians and service technicians who troubleshoot and verify electrical installations or systems within commercial and light industrial facilities. The FLIR VT8's optimized and open-jaw design allows it to fit into tight spaces and reliably measure large-diameter cables. Extensive measurement features make the FLIR VT8 a versatile tool — just one meter can get the job done.



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### EXTECH M055W

Wireless Datalogging Pin/Pinless Moisture Meter. Using the wireless feature, Bluetooth® Datalogging Module, and the free ExView® W-Series App, you can transmit readings in real-time to your iOS® and Android™ devices for remote viewing and store over 15K readings.





FLIR ONE® Pro-Series Thermal Imaging Camera Attachments

The FLIR ONE Pro-Series gives you the power to find invisible problems faster than ever. With robust features such as multiple temperature meters and level/span controls, the FLIR ONE Pro and FLIR ONE Pro LT work as hard as you do. The revolutionary VividIR™ image processing helps you see more details, FLIR MSX® adds sharpness and perspective, and the FLIR OneFit™ adjustable connector extends up to 4 mm to fit many popular protective cases. Whether you're inspecting electrical panels, looking for HVAC problems, or finding water damage, FLIR ONE Pro-Series camera are tools no serious professional should be without.

Key Features:

- Identify problem areas easier with the added detail and perspective from FLIR MSX
- Record stunningly crisp imagery and fine detail through VividIR advanced image processing
- Work anywhere with confidence thanks to the ruggedized drop-resistant design
- Fits with most popular phone cases using OneFit adjustable connector
- Measure the temperature of any spot in a scene up to 400°C/752°F (FLIR ONE Pro only) and detect temperature differences as small as 0.07°C/0.13°F (FLIR ONE Pro only)
- Share thermal images and videos to the social media platform of your choice through one-touch reporting
- Explore additional features such as FLIR ONE Panorama™, FLIR ONE TimeLapse™, and FLIR ONE CloseUp™ functions



| SPECIFICATIONS           | FLIR ONE PRO LT  | FLIR ONE PRO                   |
|--------------------------|--|--------------------------------|
| IR resolution            | 80 × 60 (4,800 pixels)   | 160 × 120 (19,200 pixels)      |
| Thermal sensitivity      | 100 mK   | 70 mK                          |
| Object temperature range | -20°C to 120°C (-4°F to 248°F)   | -20°C to 400°C (-4°F to 752°F) |
| HFOV/VFOV                | 55° ±1° / 43° ±1°  |                                |
| Accuracy                 | ±3°C (±5.4°F) or ±5%, typical percent of the difference between ambient and scene temperature. |                                |
| Focus                    | Fixed 15 cm - Infinity   |                                |
| Frame rate               | 8.7 Hz   |                                |
| Battery life             | 1 hour   |                                |
| Charging                 | Female micro USB-C (5 V 1 A)   |                                |
| Interface                | Lightning (iOS), USB-C, and micro USB (Android™)   |                                |



OneFit adapts your FLIR ONE Pro-Series camera to fit with almost any phone case.

flir.com/flironepro

FLIR C2 and FLIR C3 Full-Featured, Pocket-Sized Thermal Cameras

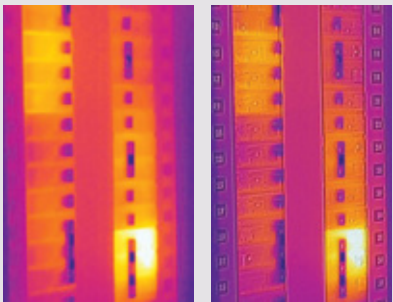
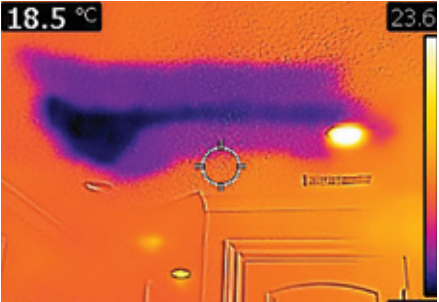
The FLIR C2 and C3 are your go-to tools for building inspections, facilities maintenance, HVAC, or electrical repair. The C2 includes MSX® real-time image enhancement, high sensitivity, a wide field of view, and fully radiometric imagery to clearly show where problems are and verify the completion of repairs. The C3 includes all the features of the C2 plus picture-in-picture, area maximum or minimum temperature measurement, and Wi-Fi connectivity so you can quickly get to the job of finding hidden problems, sharing images, and documenting repairs. No matter which you choose, you'll be ready anytime to find hot fuses, cold air leaks, plumbing issues, and more.

Key Features:

- Capture thermal measurements from -10°C to 150°C (14°F to 302°F)
- Pocket Portable: keep it at your side, ready for immediate use so you don't miss an opportunity
- Easy viewing thanks to brilliant 3 in. intuitive touchscreen with auto-orientation
- Isolate temperature measurements on any pixel and create convincing reports using fully-radiometric thermal image JPEGs that are easy to adjust and analyze in FLIR Tools®
- Identify problem areas faster using MSX-enhanced thermal images
- Share images with colleagues instantly with Wi-Fi peer-to-peer sharing (C3 only)
- Record picture-in-picture (C3 only)
- Determine hottest or coldest (max./min.) target in the scene with area measurement box (C3 only)



| SPECIFICATIONS           | FLIR C2   | FLIR C3                 |
|--------------------------|---|-------------------------|
| IR resolution            | 80 × 60 (4,800 pixels)  |                         |
| Thermal sensitivity      | <0.10°C   |                         |
| Field of view            | 41° × 31°   |                         |
| Object temperature range | -10°C to 150°C (14°F to 302°F)                                    |                         |
| Accuracy                 | ±2°C (±3.6°F) or 2%, whichever is greater, at 25°C (77°F) nominal |                         |
| Frame rate               | 9 Hz  |                         |
| Focus                    | Focus-free  |                         |
| Picture-in-picture       | —   | IR area on visual image |
| Area                     | —   | Box with max. or min.   |
| Wi-Fi                    | —   | Standard 802.11 b/g/n   |



Breaker Panel without MSX

Breaker Panel with MSX

What is MSX?

Patented MSX Image Enhancement Improves Clarity, Speeds Diagnosis

Multi-Spectral Dynamic Imaging (MSX) adds visible definition to IR images by detecting the edges of objects and including that detail in the thermal image. Text becomes clearly visible so that you can read a label or identifier within the IR image. This exclusive function provides extraordinary thermal detail that instantly highlights and orients problem locations and eliminates the need to refer to a visual image for detail.

flir.com/c2 • flir.com/c3

FLIR Ex-Series with Wi-Fi and MSX® Enhancement

The newest additions to the FLIR Ex-Series offer the thermal resolution you need to troubleshoot abnormally-high temperatures in electrical systems, locate structural issues, find energy waste, and much more. The E5-XT, E6-XT, and E8-XT boast an expanded temperature range — up to 550°C (1022°F) — and improved resolution compared with earlier Ex-Series models. With MSX® technology for extraordinary detail and Wi-Fi connectivity to smartphones and tablets via the FLIR Tools® Mobile app, the Ex-Series cameras help you make critical decisions easily.

Key Features:

- Easy to use with simple button navigation
- Record radiometric JPGs that are easy to share with clients
- Upload thermal photos instantly over Wi-Fi via the FLIR Tools® Mobile app
- Diagnose faults faster with the help of stunning MSX images
- Rely on the temperature measurements accuracy of ±2°C (±3.6°F) or ±2% of reading
- Fully automatic and light weight — only 575 g (1.2 lbs)
- Work longer thanks to the swappable Li-ion battery with 4-hour life
- On-board 640 × 480 digital camera provides visual, MSX, and picture-in-picture images

| SPECIFICATIONS           | FLIR E4  | FLIR E5-XT                                   | FLIR E6-XT                                    | FLIR E8-XT                                   |
|--------------------------|--|--|---|--|
| IR resolution            | 80 × 60 (4,800 pixels)   | 160 × 120 (19,200 pixels)                    | 240 × 180 (43,200 pixels)                     | 320 × 240 (76,800 pixels)                    |
| Thermal sensitivity      | <0.15°C (0.27°F) / <150 mK   | <0.10°C (0.27°F) / <100 mK                   | <0.06°C (0.11°F) / <60 mK                     | <0.05°C (0.09°F) / <50 mK                    |
| Object temperature range | –20°C to 250°C (–4°F to 482°F)   | –20°C to 400°C (–4°F to 752°F) in two ranges | –20°C to 550°C (–4°F to 1022°F) in two ranges | 20°C to 550°C (–4°F to 1022°F) in two ranges |
| Image modes              | Thermal MSX, thermal, picture-in-picture, thermal blending, digital camera |  |   |  |
| Measurement modes        | 3 modes: center spot, 1 area box (min/max), isotherm (above/below)         |  |   |  |
| Frame rate               | 9 Hz   |  |   |  |
| Field of view            | 45° × 34°  |  |   |  |
| Focus                    | Focus free   |  |   |  |

FLIR E53 Advanced Thermal Imaging Camera (240 × 180 IR Resolution)

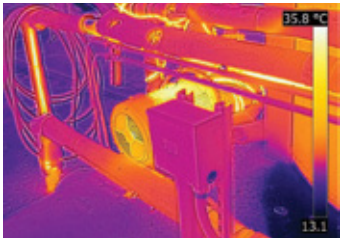
The FLIR E53 offers the resolution and sensitivity you need at the right price — making it the perfect entry into the Exx-Series. This camera provides more than 43,200 points of temperature measurement and detects temperature differences as small as <0.04°C for immediate identification of failing components.

Key Features:

- Take accurate readings on smaller targets at farther distances with superior spot-size performance
- Diagnose faster with improved detail and perspective from FLIR's patented MSX® image enhancement
- Measure temperatures up to 650°C (1200°F)
- Activate up to three spotmeters and one area box with max/min temperature display
- Streamline your workflow with customizable folders and simplified report generation
- Instantly improve contrast on your target with 1-Touch Level/Span
- Add voice, text, and sketch annotations
- Upload and share images instantly via Wi-Fi connection to mobile devices running the FLIR Tools® app
- Connect via METERLiNK® to Bluetooth-enabled FLIR Test & Measurement tools

| SPECIFICATIONS           | FLIR E53   |
|--------------------------|--|
| IR resolution            | 240 × 180 (43,200 pixels)  |
| Thermal sensitivity      | <0.04°C @ 30°C   |
| Object temperature range | –20°C to 650°C (–4°F to 1200°F)  |
| Accuracy                 | ±2°C (±3.6°F) or ±2% of reading  |
| Image frequency          | 30 Hz  |
| Field of view (FOV)      | 24° × 18°  |
| Focus                    | Manual   |
| Image modes              | Infrared, visual, MSX®, picture-in-picture   |
| Measurement presets      | No measurement, center spot, hot spot, cold spot, 3 spots, hot spot-spot*              |
| Spotmeter                | 3 in live mode   |
| Area box                 | 1 in live mode   |
| Compass, GPS             | Yes; automatic GPS image tagging   |
| Image file format        | Standard radiometric JPEG, measurement data included                                   |
| Video recording          | Real-time radiometric recording (.csq); non-radiometric H.264 recording to memory card |
| Video streaming          | Radiometric streaming over UVC or Wi-Fi non-radiometric H.264 or MPEG-4 over Wi-Fi     |
| Communication interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort   |

\*Hot spot to center spot Delta measurement



FLIR Exx-Series Advanced Thermal Imaging Cameras

FLIR redesigned the Exx-Series from the handle up to deliver the best performance, resolution, and sensitivity of any pistol-grip handheld thermal camera. The new E75, E85, and E95 cameras are packed with features you need for a wide range of electrical, mechanical, and building applications.

The new Exx-Series offers superior sensitivity, up to 161,472 pixel resolution, true 42° field of view, and a vibrant 4 in. LCD in a user-friendly, handheld platform that can detect even subtle indications of electrical faults, building deficiencies, and moisture intrusion.

Key Features:

- Save time and money with interchangeable, auto-calibrating lenses you can share between cameras
- Ensure accurate temperature measurements with laser-assisted autofocus
- Put more pixels on your target from a safe distance with up to 464 × 348 (161,472 pixels) IR resolution
- Add depth and detail to images with our best MSX® image enhancement
- Produce brilliant imagery at 4x the thermal pixel resolution with UltraMax® processing
- Instantly improve contrast for target with 1-Touch Level/Span
- See more clearly thanks to a vibrant 4 in. LCD with 160° viewing angle
- Share images and data quickly with streamlined reporting features
- Work faster thanks to rapid-response touchscreen with intuitive new user interface
- Work safely with convenient menu buttons that allow for one-handed operation
- New folder and naming structure that makes finding images easier
- Connect to mobile devices via Wi-Fi or to FLIR clamps, multimeters and moisture meters via METERLiNK®
- On-screen area measurement
- Wide temperature ranges up to 1,500°C / 2,732°F (E95)



AutoCal™ lenses

| SPECIFICATIONS                     | FLIR E75   | FLIR E85                         | FLIR E95                         |
|------------------------------------|--|----------------------------------|----------------------------------|
| IR resolution                      | 320 × 240 (76,800 pixels)  | 384 × 288 (110,592 pixels)       | 464 × 348 (161,472 pixels)       |
| UltraMax®                          | 307,200 pixels   | 442,368 pixels                   | 645,888 pixels                   |
| Object temperature range           | –20°C to 650°C / optional 1000°C (–4°F to 1200°F / 1830°F)                             | –20°C to 1200°C (–4°F to 2192°F) | –20°C to 1500°C (–4°F to 2732°F) |
| Laser area measurement (m² or ft²) | No   | Yes                              | Yes                              |
| Area box                           | 1 in live mode   | 3 in live mode                   | 3 in live mode                   |
| Thermal sensitivity                | <0.03°C @ 30°C †   |                                  |                                  |
| Accuracy                           | ±2°C (±3.6°F) or ±2% of reading  |                                  |                                  |
| Image frequency                    | 30 Hz  |                                  |                                  |
| Field of view (FOV)                | 24° × 18° (18 mm lens), 42° × 32° (10 mm lens), 14° × 10° (29 mm lens)                 |                                  |                                  |
| Lens identification                | Automatic  |                                  |                                  |
| Focus                              | Continuous, one-shot laser distance meter (LDM), one-shot contrast, manual             |                                  |                                  |
| Image modes                        | Infrared, visual, MSX®, picture-in-picture   |                                  |                                  |
| Measurement presets                | Center spot, hot spot, cold spot, User Preset 1, User Preset 2                         |                                  |                                  |
| Spotmeters                         | 3 in live mode   |                                  |                                  |
| Laser distance measurement         | Yes, on-screen   |                                  |                                  |
| Compass, GPS                       | Yes; automatic GPS image tagging   |                                  |                                  |
| Image file format                  | Standard radiometric JPEG, measurement data included                                   |                                  |                                  |
| Video recording                    | Real-time radiometric recording (.csq); non-radiometric H.264 recording to memory card |                                  |                                  |
| Video streaming                    | Radiometric streaming over UVC or Wi-Fi; non-radiometric H.264 or MPEG-4 over Wi-Fi    |                                  |                                  |
| Communication interfaces           | USB 2.0, Bluetooth, Wi-Fi, DisplayPort   |                                  |                                  |

† With wide-angle lens



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product design



Select FLIR meters  
communicate with Exx  
cameras via Bluetooth



Mobile devices  
communicate with Exx  
cameras via Wi-Fi



FLIR T-Series Professional Thermal Imaging Cameras

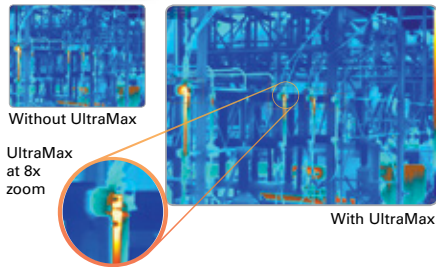
FLIR T-Series thermal imaging cameras offer outstanding range, resolution, and image clarity paired with the ergonomics professional thermographers need for a full day of inspections. These professional-level cameras offer features such as crisp 640 × 480 thermal imagery (T620/T640/T660) or a 180° rotating optical block (T530/T540/T840). All offer superior sensitivity and state-of-the-art connectivity, so you can find hot spots or potential faults, and report them quickly for immediate repairs.

Key Features:

- The best detection, pictures, and temperature measurements with up to 307,200 pixel (640 × 480) IR resolution
- Interchangeable AutoCal™ optics can be shared between T500-Series, the T840, or new Exx-Series models without the need for secondary pairing or factory recalibration
- Add depth and detail to images with MSX® image enhancement
- Ergonomic design provides all-day comfort, so you can scan from tough angles while keeping the display in view
- Simplify manual level and span adjustments with 1-Touch Level/Span (T530/T540/T840)
- Laser-assisted autofocus improves focus and measurement accuracy, provides data for laser distance measurement, and on-screen area measurement (T530/T540/T840)
- Quickly access to measurement tools, parameters, image modes, and more through vibrant touchscreen and updated interface
- Send images and collect data via Wi-Fi to the FLIR Tools® app
- Add FLIR clamp or multimeter data to images via Bluetooth with METERLiNK® technology



reddot award  
product design



**ULTRAMAX®**  
Unmatched performance at four times the resolution  
A unique image processing technique that allows you to generate reports with images that have four times as many pixels

| SPECIFICATIONS           | FLIR T530   | FLIR T540   | FLIR T840   | FLIR T620                        | FLIR T640                         | FLIR T660   |
|--------------------------|---|---|---|----------------------------------|-----------------------------------|---|
| IR resolution            | 320 × 240   | 464 × 348   | 464 × 348   | 640 × 480                        | 640 × 480                         | 640 × 480   |
| Object temperature range | -20°C to 650°C / opt. 1200°C (-4°F to 1202°F / 2192°F)  | -20°C to 1500°C (-4°F to 2732°F)                        | -20°C to 1500°C (-4°F to 2732°F)                        | -40°C to 650°C (-40°F to 1202°F) | -40°C to 2000°C (-40°F to 3632°F) | -40°C to 2000°C (-40°F to 3632°F)   |
| Accuracy                 | ±2°C (±3.6°F) or ±2% of reading                         | ±2°C (±3.6°F) or ±2% of reading                         | ±2°C (±3.6°F) or ±2% of reading                         | ±2°C (±3.6°F) or ±2% of reading  | ±2°C (±3.6°F) or ±2% of reading   | ±1°C (±1.8°F) or ±1% of reading for limited temp. range / ±2°C (±3.6°F) or ±2% of reading |
| Thermal sensitivity      | <30 mK @ 30°C (42° lens)                                | <30 mK @ 30°C (42° lens)                                | <50 mK  | <40 mK at 30° C                  | <30 mK at 30°C                    | <20 mK @ 30°C   |
| Focus                    | Continuous LDM, One-shot LDM, One-shot contrast, Manual | Continuous LDM, One-shot LDM, One-shot contrast, Manual | Continuous LDM, One-shot LDM, One-shot contrast, Manual | One-shot automatic, Manual       | One-shot automatic, Manual        | One-shot automatic, Manual  |
| Display size             | 4 in. (10.16 cm) LCD                                    | 4 in. (10.16 cm) LCD                                    | 4 in. (10.16 cm) LCD                                    | 4.3 in. (10.92 cm) LCD           | 4.3 in. (10.92 cm) LCD            | 4.3 in. (10.92 cm) LCD  |
| Viewfinder               | No  | No  | Yes   | No                               | Yes                               | Yes   |

FLIR Optics

FLIR produces a range of optional lenses for each family of T-Series cameras. From the OSX™ Precision HDIR optics for the T1K, to the T500-Series' compact AutoCal™ lenses, these optics were designed to be tough, accurate, and precise.



AutoCal lenses  
(T500-Series, T840, Exx-Series)



6° Telephoto lens  
(T500-Series and T840)



T600-Series lenses



T1K lenses

FLIR T1K HD Thermal Imaging Cameras

FLIR T1K (T1010/T1020) infrared cameras are designed for thermography experts who need the highest quality without compromise. With full HD resolution, outstanding thermal sensitivity, and FLIR-exclusive optics designed specifically for HDIR detectors, T1K cameras raise the bar on performance.

Key Features:

- Records high-quality images at 786,432 pixel (1024 × 768) native IR resolution
- Delivers superior image clarity and detail thanks to MSX®, UltraMax®, and FLIR proprietary adaptive filtering algorithms
- Ergonomic design provides all-day comfort, so you can scan from tough angles while keeping the display in view
- FLIR OSX™ Precision HDIR optical system provides the highest fidelity imagery so you can pin-point the smallest anomalies from farther away
- Now featuring an agile new GUI and live image enhancements such as 1-Touch Level/Span
- Wireless connectivity allows you to upload images and collect data via Wi-Fi to the FLIR Tools® app\*

\* T1020 model

| SPECIFICATIONS           | FLIR T1010                         | FLIR T1020  |
|--------------------------|------------------------------------|---|
| IR resolution            | 1024 × 768                         | 1024 × 768  |
| Thermal sensitivity      | <25 mK @ 30°C                      | <20 mK @ 30°C   |
| Accuracy                 | ±2°C (±3.6°F) or ±2 % of reading   | ±1°C (±1.8°F) or ±1% for temperatures 5°C to 150°C (41°F to 302°F)<br>±2°C (±3.6°F) or ±2 % of reading for temperatures up to 1200°C (2192°F) |
| Viewfinder               | No                                 | Yes   |
| Object temperature range | -40°C to 2000°C (-40°F to 3632°F)  |   |
| Focus                    | One shot or manual                 |   |
| Display size             | 4.3 in. (10.92 cm) wide screen LCD |   |



The Infrared Training Center

ITC offers classes for practically every application, from free online courses to advanced training that can certify you as a thermography expert.

- **FREE online courses**  
User-friendly, on-demand courses designed to show you how to use your camera and get started on electrical surveys, energy audits, and more
- **Thermography certification training**  
Level I certifies that you know how a thermal imager works and how to use it. Level II cranks your credibility up a notch with more in-depth concepts, and intensive labs
- **Classes covering many topics**  
Popular ITC courses include: Indoor Electrical Surveys Using IR Thermography, Outdoor Electrical Surveys Using IR Thermography, Building Inspection, and Condition Monitoring
- **Brush up your skills**  
Need a quick refresher on the basics of infrared? ITC's FREE live and on-demand webcasts are just for you! Available on your desktop, laptop, tablet, or smartphone: [www.infraredtraining.com/webinars](http://www.infraredtraining.com/webinars)

Come to classes at our training center or at one of our many regional locations. On-site training at your facility is available if you would like to certify a group of 10 or more. For a complete list and schedule of courses and more information, visit [www.infraredtraining.com](http://www.infraredtraining.com)





| Specifications               | Mobile                            |                                   | Compact                           |                                     | Point & Shoot   |                                   |  |         | Professional  |  |  |                                       | High-Performance  |                                       |                               |   |   |  |   |
|------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|---|-----------------------------------|--|---------|---|--|--|---------------------------------------|---|---------------------------------------|-------------------------------|---|---|--|---|
| Model                        | FLIR ONE Pro LT                   | FLIR ONE Pro                      | C2                                | C3                                  | E4  | E5-XT                             | E6-XT  | E8-XT   | E53   | E75  | E85  | E95                                   | T530  | T540                                  | T840                          | T620  | T640  | T1010  | T1020   |
| IR resolution                | 80 × 60<br>(4,800 pixels)         | 160 × 120<br>(19,200 pixels)      | 80 × 60<br>(4,800 pixels)         |                                     | 80 × 60<br>(4,800 pixels)   | 160 × 120<br>(19,200 pixels)      | 240 × 180 (43,200 pixels)<br>320 × 240 (76,800 pixels) |         | 240 × 180<br>(43,200 pixels)  | 320 × 240<br>(76,800 pixels)   |  | 384 × 288<br>(110,592 pixels)         | 464 × 348<br>(161,472 pixels)   | 320 × 240<br>(76,800 pixels)          | 464 × 348<br>(161,472 pixels) |   | 640 × 480<br>(307,200 pixels)   |  | 1024 × 768<br>(786,432 pixels)  |
| UltraMax® resolution         | —                                 |                                   | —                                 |                                     | —   |                                   |  |         | —   | 307,200 pixels   |  | 442,368 pixels                        | 645,888 pixels  | 307,200 pixels                        | 645,888 pixels                |   | 1.2 MP  |  | 3.1 MP  |
| MSX® image enhancement       | Yes                               |                                   | Yes                               |                                     | Yes   |                                   |  |         | Yes   |  |  |                                       | Yes   |                                       |                               |   |   |  |   |
| Color viewfinder             | —                                 |                                   | —                                 |                                     | —   |                                   |  |         | —   |  |  |                                       | —   |                                       | Yes                           | —   | Yes   | —  | Yes   |
| Thermal sensitivity          | <0.1°C                            | <0.07°C                           | <0.10°C                           |                                     | <0.15°C   | <0.10°C                           | <0.06°C  | <0.05°C | <0.04°C   | <0.03°C  |  |                                       | <0.03°C   |                                       |                               | <0.04°C   | <0.03°C   | <0.025°C   | <0.02°C   |
| Temperature range            | -20°C to 120°C<br>(-4°F to 752°F) | -20°C to 400°C<br>(-4°F to 752°F) | -10°C to 150°C<br>(14°F to 302°F) |                                     | -20°C to 250°C<br>(-4°F to 482°F)                                   | -20°C to 400°C<br>(-4°F to 752°F) | -20°C to 550°C<br>(-4°F to 1022°F)                     |         | -20°C to 650°C<br>(-4°F to 1,200°F)   | -20°C to 650°C<br>(-4°F to 1,200°F)  | -20°C to 1,200°C<br>(-4°F to 2,192°F)  | -20°C to 1,500°C<br>(-4°F to 2,732°F) | -20°C to 650°C<br>(-4°F to 1,202°F)   | -20°C to 1,500°C<br>(-4°F to 2,732°F) |                               | -40°C to 650°C<br>(-40°F to 1,202°F)  | -40°C to 2,000°C<br>(-40°F to 3,632°F)  | -40°C to 650°C<br>(-40°F to 1,202°F)   | -40°C to 2000°C<br>(-40°F to 3,632°F)   |
|                              |                                   |                                   |                                   |                                     |   |                                   |  |         |   | Optional to<br>1,000°C (1,830°F)   |  |                                       |   | Optional to<br>1,200°C (2,192°F)      |                               |   | Optional to<br>2,000°C (3,632°F)  |  |   |
| Field of view                | 50° x 38°                         | 55° x 43°                         | 41° × 31°                         |                                     | 45° × 34°   |                                   |  |         | 24° x 18°   |  |  |                                       | 24° × 18°   |                                       |                               | 25° × 19°   |   | 28° × 21°  |   |
| Spot size ratio              | 86:1                              | 153:1                             | 90:1                              |                                     | 97:1  | 192:1                             | 294:1  | 385:1   | 571:1   | 763:1  | 917:1  | 1111:1                                | 763:1   | 1111:1                                |                               | 1471:1  |   | 2128:1   |   |
| Measurement tools            | 3 spots, 3 area boxes, 3 circles  |                                   | Spotmeter                         | Spotmeter,<br>area box<br>(max/min) | Spotmeter (center spot), area box (max/min), isotherm (above/below) |                                   |  |         | 3 spotmeters,<br>1 area box,<br>center spot,<br>hot spot,<br>cold spot,<br>3 spots,<br>hot spot-spot* | 3 spotmeters,<br>1 area box<br>(max/min),<br>hot spot,<br>cold spot,<br>User Presets<br>(1 & 2), Delta T | 3 spotmeters, 3 area boxes<br>(max/min), hot spot, cold spot,<br>User Presets (1 & 2), Delta T |                                       | 3 spotmeters, 3 area boxes (max/min), hot spot, cold spot,<br>User Presets (1 & 2), Delta T |                                       |                               | 10 spotmeters,<br>5+5 area boxes,<br>hot spot, cold spot,<br>User Presets<br>(1 & 2), Delta T | 10 spotmeters,<br>5+5 area boxes,<br>profile (max/min),<br>hot spot, cold spot,<br>User Presets (1 &<br>2), Delta T | 1 spotmeter, 1 area<br>box (max/min/<br>avg.),<br>profile (max/min),<br>hot spot, cold spot,<br>User Presets<br>(1 & 2), Delta T | 10 spotmeters,<br>5+5 area boxes<br>(max/min/avg.),<br>profile (max/min),<br>hot spot, cold spot,<br>hot spot, cold spot,<br>User Presets<br>(1 & 2), Delta T |
| Communication modes          | USB-C, micro-USB and Lightning    |                                   | USB                               | USB, Wi-Fi                          | USB, Wi-Fi  |                                   |  |         | USB, Wi-Fi, Bluetooth, Display Port   |  |  |                                       | USB, Wi-Fi, Bluetooth, Display Port   |                                       |                               | USB, Wi-Fi, Bluetooth, mini-HDMI  |   | USB Micro-B,<br>HDMI   | USB Micro-B, Wi-Fi,<br>Bluetooth, HDMI  |
| Touchscreen                  | —                                 |                                   | 3 in (7.62 cm)                    |                                     | —   |                                   |  |         | 4 in (10.16 cm)   |  |  |                                       | 4 in (10.16 cm)   |                                       |                               | 4.3 in (10.92 cm)   |   |  |   |
| On—screen text, image sketch | —                                 |                                   | —                                 |                                     | —   |                                   |  |         | Yes   |  |  |                                       | Yes   |                                       | Yes                           |   | —   | Yes  |   |
| Voice annotation             | —                                 |                                   | —                                 |                                     | —   |                                   |  |         | Yes   |  |  |                                       | Yes   |                                       | Yes                           |   | —   | Yes  |   |
| Laser pointer                | —                                 |                                   | —                                 |                                     | —   |                                   |  |         | Yes   |  |  |                                       | Yes   |                                       |                               |   |   |  |   |
| METERLiNK®                   | —                                 |                                   | —                                 |                                     | —   |                                   |  |         | Yes   |  |  |                                       | Yes   |                                       | Yes                           |   | —   | Yes  |   |
| Radiometric JPEG             | Yes                               |                                   | Yes                               |                                     | Yes   |                                   |  |         | Yes   |  |  |                                       | Yes   |                                       |                               |   |   |  |   |
| IR video storage             | Yes                               |                                   | —                                 |                                     | —   |                                   |  |         | Yes   |  |  |                                       | Yes   |                                       | Yes                           |   | —   | Yes  |   |
| Built—in GPS/Compass         | —                                 |                                   | —                                 |                                     | —   |                                   |  |         | Yes   |  |  |                                       | Yes   |                                       | Yes                           |   | —   | Yes  |   |
| Available lenses             | —                                 |                                   | —                                 |                                     | —   |                                   |  |         | —   | 14°, 24° and 42° AutoCal™ lenses   |  |                                       | 6°, 14°, 24° and 42° AutoCal™ lenses  |                                       |                               | 7°, 15°, 25°, 45° and 80°   |   | 7°, 12°, 28° and 45°   |   |

\*Hot spot to center spot Delta measurement



FLIR AX8 Thermal Imaging Temperature Sensor

FLIR AX8 is a thermal sensor with imaging capabilities. Combining thermal and visual cameras in a small, affordable package, the AX8 provides continuous temperature monitoring and automated alarms for critical electrical and mechanical equipment. Compact and easy to install, AX8 provides continuous monitoring of electrical cabinets, manufacturing areas, data centers, energy distribution, mass transit, refrigeration warehouses, and much more.

Key Features:

- Streaming live-video output
  - Automated alarming at pre-set temperature thresholds
  - Ethernet/IP and Modbus TP compliant for easy sharing of alarm and analysis results to a PLC
  - Image masking function allows for analysis of just the target
- MSX® image enhancement for improved visual details
  - Compact design for easy installation in space-constrained areas
  - Ability to stream live video via Ethernet

| SPECIFICATIONS               | AX8  |
|------------------------------|--|
| IR resolution                | 80 × 60 (4,800 pixels)   |
| Thermal sensitivity/NETD     | <0.10°C @ 30°C (86°F)/100 mK   |
| Field of view                | 48° × 37°  |
| Built-in digital camera      | 640 × 480  |
| Object temperature range     | -10°C to 150°C (14°F to 302°F)   |
| Accuracy                     | ±2°C (±3.6°F) or ±2% of reading  |
| Spotmeter                    | 6  |
| Area                         | 6 boxes with max./min./average   |
| Automatic hot/cold detection | Max/Min temp. value and position shown within box  |
| Alarm functions              | Set up to 5 alarms on any selected measurement function  |
| Alarm output                 | Digital Out, store image, file sending (ftp), email (SMTP), notification   |
| Storage media                | Built-in memory for image storage  |
| Ethernet, protocols          | Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, sftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour) |
| Image modes                  | Thermal, visual, MSX   |



AX8 Accessory Starter Kit (Part number 71200-0002): includes an M12 to RJ45 Ethernet cable, front mounting-plate kit, rear mounting-plate kit, Gigabit PoE injector 15 W, M12 to pigtail cable



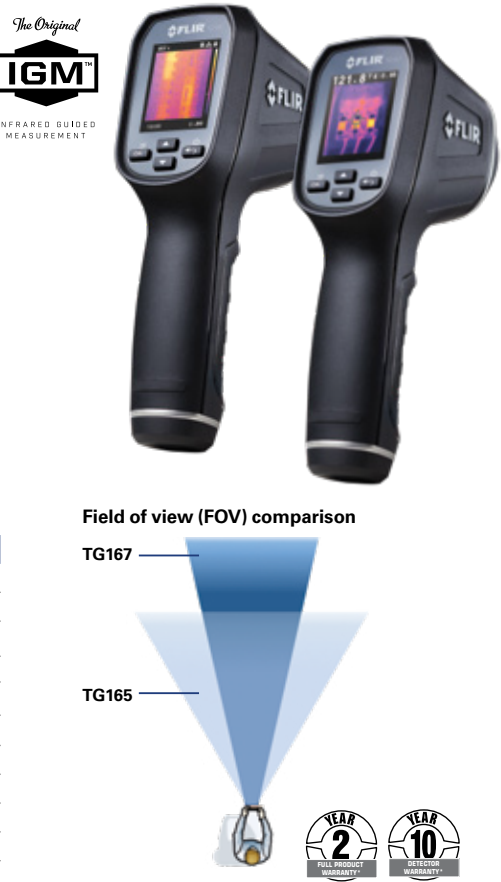
FLIR TG165/TG167 Spot Thermal Cameras

Bridging the gap between single spot IR thermometers and FLIR's legendary infrared cameras, the TG165 and TG167 give you the advantage of thermal imaging to help you discover temperature issues you can't see with typical spot radiometers. Equipped with FLIR's Lepton® thermal imaging sensor, the TG165 and TG167 use the power of Infrared Guided Measurement (IGM™) to show you heat patterns across your target, guiding you to the precise location of potential problems so you can take more reliable temperature readings. They also store images and data for reports. And with a spot ratio of 24:1, you can capture measurements from a safer distance.

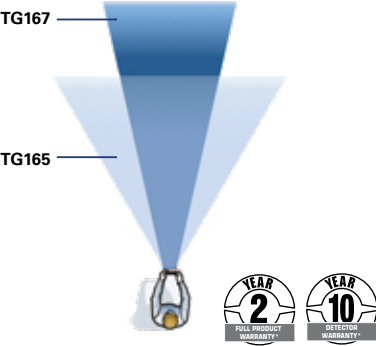
Key Features:

- True thermal detection – best-in-class image quality
  - Tripod mount and lanyard connection
  - Simple to operate, with pull-trigger to activate lasers or freeze images
- Rugged and reliable – withstands a 2-meter drop
  - Dual laser pointers to frame area of interest
  - Micro SD card & mini-USB port for downloading images and charging

| SPECIFICATIONS          | TG165                                    | TG167                        |
|-------------------------|--|------------------------------|
| Field of view           | 38.6° × 50°                              | 19.6° × 25°                  |
| Thermal imaging palette | Hot-iron, grayscale                      | Hot-iron, rainbow, grayscale |
| IR resolution           | 80 × 60 (4,800 pixels)                   |                              |
| Distance-to-spot ratio  | 24:1                                     |                              |
| Range                   | -25°C to 380°C (-13°F to 716°F)          |                              |
| Basic accuracy          | ±1.5°C (2.7°F) or 1.5%                   |                              |
| Measurement resolution  | 0.1°C / 0.1°F                            |                              |
| Temperature sensitivity | <150 mK                                  |                              |
| Focus                   | Fixed                                    |                              |
| Laser pointer           | Dual diverging lasers, trigger-activated |                              |



Field of view (FOV) comparison



FLIR TG54/TG56 Spot IR Thermometers

The TG54 and TG56 spot infrared thermometers provide non-contact surface temperature readings so you can quickly and easily take measurements in places that are out of reach. Providing a distance-to-spot ratio of up to 30:1, the TG54 and TG56 can measure smaller targets from a safer distance. New mode options give you control to view your current reading and last two temperature readings simultaneously. The TG54 and TG56 are built with a color screen that makes it easy to navigate and select settings, plus adds visibility and efficiency to the advanced feature set. The TG54 and TG56 are your go-to, pocket-sized devices for efficient temperature measurement.

Key Features:

- Non-contact surface temperature measurement
  - Laser pointer helps you identify what is hot or cold
  - Graphical menu structure allows easy access to settings
  - Easy emissivity selection with predetermined levels and custom adjustment
- Rugged, industrial design that can withstand a 3-meter drop
  - Bright LED worklight to help you see your target in poor lighting conditions

| SPECIFICATIONS               | TG54  | TG56 |
|------------------------------|---|------|
| Distance-to-spot ratio (D:S) | 24:1  | 30:1 |
| Range                        | -30°C to 650°C (-22°F to 1202°F)            |      |
| Basic accuracy               | ±1°C (±1.8°F) or 1% of reading              |      |
| Emissivity                   | Adjustable with 4 presets and custom option |      |
| Resolution                   | 0.1°C / 0.1°F                               |      |
| Response                     | ≤150 ms                                     |      |
| Spectral response            | 5 to 14 μm                                  |      |



FLIR IRW-xC/xS Round IR Windows

FLIR IR Windows add a protective barrier between you and energized equipment, so you can perform inspections more efficiently and reduce the threat of arc flash injury. FLIR IRW-Series windows feature a permanent hinged cover that flips open easily, so there’s nothing to drop, mix up, or lose. If there are mixed-metal concerns, choose the stainless-steel model to prevent galvanic corrosion.

Key Benefits:

- Minimize time/cost of complying with NFPA 70E for electrical inspections
  - Decrease the risk of arc flash incidents and resultant injuries
  - Perform both visual and thermal inspections through the crystal window
- Maintain integrity of cabinet environmental ratings, even after installation
  - Install easily using standard knockout punches, no screws
  - Avoid contact between dissimilar metals by choosing stainless steel models



| SPECIFICATIONS                | IRW-2C                     | IRW-3C          | IRW-4C          | IRW-2S                         | IRW-3S          | IRW-4S          |
|-------------------------------|----------------------------|-----------------|-----------------|--------------------------------|-----------------|-----------------|
| Optic diameter                | 50 mm (1.97 in)            | 75 mm (2.95 in) | 95 mm (3.74 in) | 50 mm (1.97 in)                | 75 mm (2.95 in) | 95 mm (3.74 in) |
| NEMA environment type         | Type 4/12 (outdoor/indoor) |                 |                 |                                |                 |                 |
| Automatically grounded        | Yes                        |                 |                 |                                |                 |                 |
| Maximum operating temperature | 260°C (500°F)              |                 |                 |                                |                 |                 |
| Body material                 | Anodized aluminum          |                 |                 | AISI-grade 316 stainless steel |                 |                 |
| Greenlee punch                | 76BB                       | 739BB           | 742BB           | 76BB                           | 739BB           | 742BB           |

FLIR IRW-xPC/xPS Large Format IR Windows

FLIR IRW-xPC and IRW-xPS large format infrared inspection windows offer the field of view you need to image inaccessible components, improving inspection efficiency and helping to prevent unplanned downtime. The rectangular polymer windows provide the largest viewing area available to monitor completely undisturbed assets inside energized electrical equipment. Durable and stable in harsh environments, these IR windows are suitable for most industrial settings as well as for shipboard use.

Key Benefits:

- Meet IP2x standard for safe maximum hole size and fail-safe design
  - Tested and certified to the highest industry standards
  - Use IRW-xPC windows for indoor applications and IRW-xPS windows for outdoor applications
- Maintain fixed and stable transmission to ensure temperature data is accurate and reliable
  - Proven compatibility with acids, alkalis, UV, moisture, humidity, vibration, and high frequency noise
  - Protect viewing panes from flying debris, dust, or impact with the lockable window covers



| SPECIFICATIONS                  | IRW-6PC  | IRW-12PC          | IRW-24PC         | IRW-6PS   | IRW-12PS          | IRW-24PS         |
|---------------------------------|--|-------------------|------------------|---|-------------------|------------------|
| Overall height                  | 21.8 cm (8.6 in)                                 | 20.6 cm (8.1 in)  | 21.8 cm (8.6 in) | 21.8 cm (8.6 in)  | 20.6 cm (8.1 in)  | 21.8 cm (8.6 in) |
| Overall width                   | 16 cm (6.3 in)                                   | 30.5 cm (12.0 in) | 61 cm (24.0 in)  | 16 cm (6.3 in)  | 30.5 cm (12.0 in) | 61 cm (24.0 in)  |
| Aperture overall height         | 15 cm (5.9 in)                                   | 12.7 cm (5.0 in)  | 15 cm (5.9 in)   | 15 cm (5.9 in)  | 12.7 cm (5.0 in)  | 15 cm (5.9 in)   |
| Aperture overall width          | 9.1 cm (3.6 in)                                  | 23.6 cm (9.3 in)  | 53 cm (20.9 in)  | 9.1 cm (3.6 in)   | 23.6 cm (9.3 in)  | 53 cm (20.9 in)  |
| Optic temperature range         | -40°C to 325°C (-40°F to 617°F)                  |                   |                  |   |                   |                  |
| IP/NEMA environment type        | IP65 / NEMA 4x                                   |                   |                  | IP67 / NEMA 6   |                   |                  |
| Maximum operating temperature   | -40°C to 200°C (-40°F to 392°F)                  |                   |                  | -40°C to 273°C (-40°F to 523°F)                         |                   |                  |
| Body material                   | Aluminum   |                   |                  | Powder-coated stainless steel                           |                   |                  |
| Optic reinforced grill material | Aluminum reinforcing grill (IP22/ IP2x standard) |                   |                  | Stainless steel reinforcing grill (IP22/ IP2x standard) |                   |                  |

flir.com/ir-windows

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

FLIR CM275 clamp meters combine Infrared Guided Measurement (IGM) thermal imaging with electrical measurement in one powerful inspection, troubleshooting, and diagnostic tool. Confirm your findings with the clamp meter's wide range of functions plus temperature readings. The FLIR CM275 also provides wireless connectivity for direct connection to the FLIR Tools® app.

Key Features:

- Safely check for live connections using non-contact temperature measurement
- Use advanced electrical features including Variable Frequency Drive (VFD) mode, True RMS, and Low Impedance (LoZ) mode
- Pinpoint exact hot spot locations with laser or crosshairs
- Store electrical measurements and thermal images internally, for later review
- Rely on the protection of CAT IV-600V, CAT III-1000V safety ratings

| THERMAL IMAGING CM275    |                                |                |
|--------------------------|--------------------------------|----------------|
| IR resolution            | 160 × 120 (19,200 pixels)      |                |
| Object temperature range | -10°C to 150°C (14°F to 302°F) |                |
| Field of view            | 50° × 38°                      |                |
| Temperature sensitivity  | 150 mK                         |                |
| Focus                    | Fixed                          |                |
| MEASUREMENTS             | RANGE                          | BASIC ACCURACY |
| AC / DC Voltage          | 1000 V                         | ±1.0%          |
| VFD AC Voltage           | 1000 V                         | ±1.0%          |
| AC / DC LoZ V            | 1000 V                         | ±1.0%          |
| AC / DC Current          | 600.0 A                        | ±2.0%          |
| VFD AC Current           | 600.0 A                        | ±2.0%          |
| AC inrush                | 600.0 A                        | ±3.0%          |
| Resistance               | 6.000 kΩ                       | ±1.0%          |
| Capacitance              | 1000 µF                        | ±1.0%          |
| Diode test               | 1.5 V                          | ±1.5%          |



FLIR CM174 Industrial Thermal Imaging Clamp Meter with IGM™

The FLIR CM174 is equipped with a built-in thermal imaging camera that can quickly lead you to problems you can't see with a standard clamp meter. Using IGM technology, the CM174 visually guides you to the precise location of a potential electrical problem, identifying dangerous and unknown problem areas safely. Confirm your findings with accurate amperage and voltage measurements, and center-point temperature readings.

Key Features:

- 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
- Center-point temperature to confirm hot spot
- Laser and crosshair pinpoint the location of the problem found in thermal image
- Narrow jaw and built-in worklights help you access difficult locations with lighting issues
- Advanced electrical features: True RMS, LoZ, VFD Mode, Inrush, and Smart Diode with Disable

| THERMAL IMAGING CM174    |                                 |                |
|--------------------------|---------------------------------|----------------|
| IR resolution            | 80 × 60 (4,800 pixels)          |                |
| Object temperature range | -25°C to 150°C (-13°F to 302°F) |                |
| Field of view            | 50° × 38.6°                     |                |
| Temperature sensitivity  | 150 mK                          |                |
| Focus                    | Fixed                           |                |
| MEASUREMENTS             | RANGE                           | BASIC ACCURACY |
| AC / DC Voltage          | 1000 V                          | ±1.0%          |
| VFD AC Voltage           | 1000 V                          | ±1.0%          |
| AC / DC LoZ V            | 1000 V                          | ±1.0%          |
| AC / DC Current          | 600.0 A                         | ±2.0%          |
| VFD AC Current           | 600.0 A                         | ±2.0%          |
| AC inrush                | 600.0 A                         | ±3.0%          |
| Resistance               | 6.000 kΩ                        | ±1.0%          |
| Capacitance              | 1000 µF                         | ±1.0%          |
| Diode test               | 1.5V                            | ±1.5%          |



flir.com/test



FLIR CM82/CM83/CM85 Industrial True RMS Power Clamps

FLIR offers an excellent choice of industrial-grade Power Clamp Meters engineered with advanced power analysis and variable frequency drive filtering functions required by electrical troubleshooters.

Key Features:

- VFD Mode provides superior accuracy for working on VFD-controlled equipment
- Advanced power efficiency and harmonics measurements for system level performance analysis
- Inrush Mode captures fast AC current spikes during appliance start-up
- Phase Rotation testing ensures the motor and power source are aligned
- True RMS DMM functionality features reliable performance and expansive ranges
- Powerful LED lamps not only assist with clamping but are bright enough to serve as a primary work light
- True RMS voltage and current, power factor, bright white LED backlit display, analog bar graph, integrated non-contact voltage detector, min/max/average, auto power off, data hold, peak hold, relative, DCA zero, and battery status

CM82

- 600 A True RMS AC/DC current measurements

CM83 and CM85

- True RMS AC/DC current measurements (CM83: 600 A) (CM85: 1000 A)
- Bluetooth connection to FLIR Tools® Mobile for remote viewing and sharing
- Embed clamp meter readings via METERLiNK® in radiometric images captured with compatible FLIR thermal cameras



| SPECIFICATIONS             | CM82                                 | CM83                                 | CM85                                | BASIC ACCURACY |
|----------------------------|--------------------------------------|--------------------------------------|-------------------------------------|----------------|
| AC/DC current              | 600 A                                | 600 A                                | 1000 A                              | ±2.0%          |
| AC/DC voltage              | 1000 V                               | 1000 V                               | 1000 V                              | ±1.0% / 0.7%   |
| AC VFD voltage             | 1000 V                               | 1000 V                               | 1000 V                              | ±1.0%          |
| Harmonics                  | 1st to 25th order                    | 1st to 25th order                    | 1st to 25th order                   | ±5.0%          |
| Total harmonics distortion | 0.0 to 99.9%                         | 0.0 to 99.9 %                        | 0.0 to 99.9 %                       | ±3.0%          |
| Inrush current             | 600 ACA<br>(Integration time 100 ms) | 600 ACA<br>(Integration time 100 ms) | (Integration time 100 ms)           | ±3.0%          |
| Active power               | 10 kW to 600 kW<br>(10 V, 5 A min)   | 10 kW to 600 kW<br>(10 V, 5 A min)   | 10 kW to 1000 kW<br>(10 V, 5 A min) | ±3.0%          |
| Diode test                 | 0.4 to 0.8 V                         | 0.4 to 0.8 V                         | 0.4 to 0.8 V                        | ±0.1 V         |
| Capacitance                | 3.999 mF                             | 3.999 mF                             | 3.999 mF                            | ±1.9%          |
| Resistance                 | 99.99 kΩ                             | 99.99 kΩ                             | 99.99 kΩ                            | ±1.0%          |
| Continuity threshold       | 30 Ω                                 | 30 Ω                                 | 30 Ω                                | ±1.0%          |
| Frequency                  | 20.00 Hz to 9.999 kHz                | 20.00 Hz to 9.999 kHz                | 20.00 Hz to 9.999 kHz               | ±0.5%          |
| Bluetooth range max        | —                                    | 32 ft (10 m)                         | 32 ft (10 m)                        | —              |
| Jaw opening                | 37 mm (1.45 in, 1000 MCM)            | 37 mm (1.45 in, 1000 MCM)            | 45 mm (1.77 in)                     | —              |
| Category rating            | CAT IV-600 V, CAT III-1000 V         |                                      |                                     |                |
| Battery type               | 6 x AAA                              |                                      |                                     |                |

\* When registered within 60 days of purchase.

FLIR CM78 1000A Clamp Meter with IR Thermometer

The FLIR CM78 is a True RMS industrial clamp meter for the electrician who works on high-powered equipment and temperature systems and needs a safe, capable combination tool. An integrated IR thermometer provides fast non-contact measurements on panels, conduits, and motors.

Key Features:

- Integrated IR thermometer provides fast non-contact measurements on panels, conduits, and motors
- Powerful worklights not only assist with clamping but are bright enough to serve as a primary worklight
- FLIR Tools Mobile connects the FLIR CM78 to your compatible smartphones and tablets via Bluetooth
- METERLiNK® technology wirelessly integrates electrical readings on your infrared image with METERLiNK-enabled FLIR thermal cameras
- Features: Voltage and current, min/max/average, auto power off, data hold, relative, peak hold, battery status indicator, bright white LED backlight

| SPECIFICATIONS                         | CM78                                | BASIC ACCURACY |
|--|-------------------------------------|----------------|
| AC/DC current                          | 1000 A                              | ±2.5%          |
| AC/DC voltage                          | 1000 V                              | ±1.5%          |
| Resistance                             | 40 MΩ                               | ±1.5%          |
| Capacitance                            | 4 mF                                | ±3.0%          |
| Frequency                              | 4000 Hz                             | ±1.5%          |
| Temperature (IR)                       | -20 to 518°F,<br>-29 to 270°C       | ±2.0%          |
| IR distance to target ratio            | 8 inches away : 1<br>inch spot size |                |
| Type K temperature<br>(optional probe) | -4 to 1400°F,<br>-20 to 760°C       | ±3.0%          |



FLIR CM72/CM74 Commercial 600A Clamp Meters

The FLIR CM72 600A AC Clamp Meter and the CM74 600A AC/DC Clamp Meter give you better access to wiring in hard-to-reach places. With advanced electrical features including Auto Range, True RMS, Inrush (CM74 only), and VFD Mode (CM74 only), the clamp meters have all the measurement functions you need to stay competitive and ensure accurate readings.

Key Features:

- Portable and slim, with a narrow jaw for easy access to crowded panels
- High-powered LED worklights guide you to your target in low light
- Advanced measurement features including True RMS, LoZ, smart diode with Disable, and MIN/MAX/HOLD
- Rubberized, double-molded hand grips and bright, backlit LCD display
- Premium gold-tipped silicone test lead included
- Expandable to 3000 A AC with TA72 and TA74 Flex Clamp accessories (sold separately)

| SPECIFICATIONS         | CM72    | CM74    | BASIC ACCURACY |
|------------------------|---------|---------|----------------|
| AC/DC voltage          | 600 V   | 1000 V  | ±1.0%          |
| VFD AC voltage         | —       | 1000 V  | ±1.0%          |
| LoZ Mode AC/DC voltage | 600 V   | 1000 V  | ±1.0%          |
| DC current             | —       | 600 A   | ±2.0%          |
| AC current             | 600 A   | 600 A   | ±2.0%          |
| VFD AC current         | 600 A   | 600 A   | ±2.0%          |
| Inrush AC current      | —       | 600 A   | ±3.0%          |
| Frequency              | 60 kHz  | 60 kHz  | ±0.1%          |
| Resistance             | 6000 Ω  | 6000 Ω  | ±1.0%          |
| Continuity             | 600 Ω   | 600 Ω   | ±1.0%          |
| Capacitance            | 1000 μF | 1000 μF | ±1.0%          |
| Diode                  | 1.5 V   | 1.5 V   | ±1.5%          |



FLIR CM42/CM44/CM46 Professional 400A True RMS Clamp Meters with Accu-Tip™

FLIR CM4X clamp meters are affordable True RMS meters designed for commercial and residential electricians. The CM42 and CM44 feature AC clamp measurement, and the CM46 offers both AC/DC measurement to meet your unique needs. Each meter is equipped with a bright back-lit display for ease of use inside electrical panels. Made with an over-molded, easy-to-grip design, CM4X clamp meters are durable enough to withstand a two-meter drop, and the slim form factor is convenient to carry in your tool bag anywhere you go.

Key Features:

- Accu-Tip technology delivers more accurate amperage readings on smaller-gauged wires, to a tenth of a digit
- MAX/MIN/AVG recording plus frequency and diode measurement
- Data hold, zero function, and low-pass filter (VFD) for voltage measurement
- Large, bright backlit display for easy-to-see readings
- Operates at -10°C to 50°C (14°F to 122°F) and accepts up to 30 mm max conductor
- Electrical field detection (NCV) determines if voltage is present, strength of the field

| SPECIFICATIONS                                | CM42         | CM44                               | CM46                               | BASIC ACCURACY |
|---|--------------|------------------------------------|------------------------------------|----------------|
| AC / DC voltage                               | 600 V        | 600 V                              | 600 V                              | ±1.0%          |
| AC + DC voltage (digital low-pass filter/VFD) | —            | —                                  | 600 V                              | ±1.2%          |
| Clamp-On AC current (50-100 Hz)               | 400 A        | 400 A                              | 400 A                              | ±1.8%          |
| (100-400 Hz)                                  | —            | —                                  | 400 A                              | ±2.0%          |
| Clamp-On DC current                           | —            | —                                  | 400 A                              | ±2.0%          |
| Accu-Tip Clamp-On DC current                  | —            | —                                  | 60 A                               | ±2.0%          |
| Frequency                                     | 50 to 400 Hz | 50 to 400 Hz                       | 50 to 400 Hz                       | ±1.0%          |
| Resistance                                    | 60 kΩ        | 60 kΩ                              | 60 kΩ                              | ±1.0%          |
| Capacitance                                   | —            | 2500 μF                            | 2500 μF                            | ±2.0%          |
| Diode   | 2.0 V        | 2.0 V                              | 2.0 V                              | ±1.5%          |
| Temperature                                   | —            | -40°C to 400°C<br>(-40°F to 752°F) | -40°C to 400°C<br>(-40°F to 752°F) | ±1.0%          |



FLIR CM55/CM57 Flexible Clamp Meters

FLIR CM55 and CM57 flexible clamp meters are ergonomic tools designed to simplify your workday. The narrow, flexible coil clamp allows you to measure currents in tight or awkward spots. The clamps are Bluetooth-enabled for direct connection with the FLIR Tools® app on iOS and Android devices, so you can transfer data, then analyze and share it — right from the job-site.

Key Features:

- Measures current up to 3,000 Amps for multiple conductor measurements
- Convenient 10 in. or 18 in. (25.4 cm or 45.7 cm) flexible clamp
- Inrush current for equipment start-up spikes
- Bluetooth to mobile devices for remote viewing
- Data recording for trend analysis transferable via Bluetooth
- Bright LED worklights for easy inspection and navigation

| SPECIFICATIONS                 | CM55                              | CM57                              |
|--------------------------------|-----------------------------------|-----------------------------------|
| Flexible Conductor Length      | 10 in (25.4 cm)                   | 18 in. (45.7 cm)                  |
| Maximum AC current             | 3000 A AC                         | 3000 A AC                         |
| AC response                    | True RMS                          | True RMS                          |
| AC current ranges & resolution | 30.00 A, 300.0 A, 3000 A          | 30.00 A, 300.0 A, 3000 A          |
| Basic AC current accuracy      | ±3.0% + 5 digits                  | ±3.0% + 5 digits                  |
| Maximum resolution             | 0.01 A                            | 0.01 A                            |
| AC Current bandwidth           | 45 Hz – 500 Hz (sine wave)        | 45 Hz – 500 Hz (sine wave)        |
| Inrush current                 | Min 0.5 A, 100 mS                 | Min 0.5 A, 100 mS                 |
| Data record mode               | 20,000 points, 1 min. sample rate | 20,000 points, 1 min. sample rate |
| Positional error               | 15 mm (0.6 in) 2.0%               | 35 mm (1.4 in) 1.0%               |
| (Distance from optimum)        | 25 mm (1.0 in) 2.5%               | 50 mm (2.0 in) 1.5%               |
|                                | 35 mm (1.4 in) 3.0%               | 60 mm (2.4 in) 2.0%               |



FLIR VT8-600/VT8-1000 Voltage, Continuity, and Current Testers

High-quality voltage, continuity, and current tester, ideal for electricians and service technicians who troubleshoot and verify electrical installations or systems within commercial and light industrial facilities. The FLIR VT8's optimized and open-jaw design allows it to fit into tight spaces and reliably measure large-diameter cables. Extensive measurement features make the FLIR VT8 a versatile tool — just one meter can get the job done. Carry the compact tester in your pocket to be ready at any moment for easy troubleshooting.

Key Features:

- Take measurements in tight spaces with the optimized jaw design, and measure large-diameter cables with the wide jaw opening
- Measure True RMS AC/DC voltage and current, continuity, resistance, and capacitance
- Improve accuracy of readings with True RMS measurements
- Detect live AC voltages with the built-in non-contact voltage (NCV) detector
- Work efficiently in dimly lit areas using the bright LED worklight and backlit display
- Safely store test leads when not in use with the built-in test lead holder

VT8-600

- Measures up to 100 A/600 V with CAT III-600 V /CAT IV-300 V safety rating

VT8-1000

- Measures up to 200 A/1000 V with the CAT III-1000 V/CAT IV-600 V safety rating

| SPECIFICATIONS                         | VT8-600   | VT8-1000 |
|--|---|----------|
| AC/DC Current Range                    | 100A  | 200A     |
| AC/DC Current Resolution               | 0.1A  |          |
| AC (50 to 60 Hz) / DC Current Accuracy | ±2.5%   |          |
| AC/DC Voltage Range                    | 600 V   | 1000 V   |
| AC/DC Voltage Resolution               | 0.1 V   |          |
| AC (45 to 66 Hz) / DC Voltage Accuracy | ± 1.5%, ±1.0%   |          |
| Resistance                             | 60.00 MΩ ± (1.5%)   |          |
| Continuity Check Threshold             | 10 Ω to 100 Ω   |          |
| Capacitance                            | 600 μF ±4.0%, 6000 μF ±10.0%  |          |
| Non-Contact Voltage Detector (NCV)     | ≥100 Vrms; ≤10 mm distance (LED/buzzer alerts)                                  |          |
| Additional Measurement Functions       | DCA zero, relative mode (AC/DC voltage, AC current, and capacitance), data hold |          |

NEW



FLIR TA72/TA74 Flexible Clamp Adaptors

Designed to add capabilities and simplify challenges, the FLIR TA72 and TA74 Universal Flex Current Probes let you easily take measurements in tight or awkward spots — a difficult task with a traditional hard jaw clamp meter. The connection is a standard banana plug and the output is a voltage signal, so it's compatible with most DMMs and clamp meters, regardless of brand.

Key Features:

- Adds 3000 A AC current measurements to existing meters
- Convenient 10 in. or 18 in. (25.4 cm or 45.7 cm) flexible clamp with locking mechanism
- AC voltage probe output for universal compatibility
- Banana plug connections fit most meters
- Switchable AC current range: 30 A, 300 A, 3000 A
- Bright LED worklight for easy inspection

| SPECIFICATIONS                           | TA72  | TA74  |
|--|---|---|
| Flexible Conductor Length                | 10 in (25.4 cm)                                       | 18 in. (45.7 cm)  |
| Maximum AC current                       | 3000 A AC   |   |
| AC current ranges & resolution           | 30.00 A, 300.0 A, 3000 A                              |   |
| Basic AC current accuracy (full scale)   | ±3.0% + 5 digits                                      |   |
| Measurement rate                         | 1.5 samples per second, nominal                       |   |
| AC current bandwidth                     | 45 Hz to 500 Hz (sine wave)                           |   |
| Positional error (distance from optimum) | 15 mm (0.6 in.)<br>25 mm (1.0 in.)<br>35 mm (1.4 in.) | 35 mm (1.4 in) 1.0%<br>50 mm (2.0 in) 1.5%<br>60 mm (2.4 in) 2.0% |





FLIR DM285 Industrial Thermal Imaging Multimeter with Datalogging, Wireless Connectivity and IGM™

The FLIR DM285 is an industrial, True RMS digital multimeter with Infrared Guided Measurement (IGM) to guide you directly to hot spots and temperature anomalies. The built-in 160 × 120 thermal imager will help you pinpoint issues faster, so you can get to repairs safely and efficiently. The DM285 features on-board data storage and Bluetooth® connection to the FLIR Tools® Mobile app, for data sharing and reporting.

Key Features:

- 19,200 pixel thermal camera visually guides you to an electrical problem
- Includes high-quality test probes and a Type-K thermocouple
- Performs 18 measurement functions including LoZ and non-contact voltage (NCV) detection
- Saves electrical parameter data and thermal images with onboard data storage
- Drop-tested and IP rated for greater durability
- Fast and easy battery swaps with the ‘no tool’ battery compartment

FLIR DM284 Imaging Multimeter with IGM™

The FLIR DM284 with IGM is a professional, all-in-one True RMS digital multimeter, featuring a built-in thermal imager. Speed up troubleshooting with IGM, for immediate, visual indication of hot spots that need further investigation. IGM lets you work from a safer distance and more efficiently without direct contact. Once you’re guided to the right spot, the DM284 can help verify findings with advanced contact measurement features.

Key Features:

- See exactly where to measure with the 160 × 120 resolution thermal imaging
- 18-function DMM including VFD mode, True RMS, LoZ, and NCV
- View simultaneous thermal and thermocouple measurements
- Built-in worklights and laser pointer plus thermocouple input
- Simple user interface with multiple thermal image color palettes
- Drop-tested and IP rated for greater durability

Specifications DM284 and DM285

| THERMAL IMAGING           |                                      |                                       |
|---------------------------|--------------------------------------|---------------------------------------|
| IR Resolution             | 160 × 120 (19,200 pixels)            |                                       |
| Temperature sensitivity   | ≤150 mK                              |                                       |
| Emissivity                | 4 presets with custom adjustment     |                                       |
| Temperature accuracy      | 3°C or 3.5%                          |                                       |
| Object temperature range  | -10°C to 150°C (14°F to 302°F)       |                                       |
| FOV (w x h)               | 46° × 25° (DM284), 50° × 38° (DM285) |                                       |
| Laser pointer             | Yes                                  |                                       |
| Focus                     | Fixed                                |                                       |
| MEASUREMENTS              | RANGE                                | ACCURACY                              |
| AC / DC Voltage           | 1000 V                               | ±1.0% / 0.09%                         |
| AC / DC Voltage (mV)      | 600.0 mV                             | ±1.0% / 0.5%                          |
| VFD AC Voltage            | 1000 V                               | ±1.0%                                 |
| AC / DC LoZ V             | 1000 V                               | ±1.5%                                 |
| AC / DC Current           | 10.00 A                              | ±1.5%                                 |
| AC / DC mAmps             | 400.0 mA                             | ±1.5%                                 |
| AC / DC μAmps             | 4,000 μA                             | ±1.0%                                 |
| Resistance                | 6,000 MΩ                             | ±0.9%                                 |
|                           | 50.00 MΩ                             | ±3.0%                                 |
| Continuity                | Yes                                  | Yes                                   |
| Capacitance               | 10.00 mF                             | ±1.9%                                 |
| Diode                     | Yes                                  | Yes                                   |
| Min/Max/Avg               | Yes                                  | Yes                                   |
| Flex clamp range          | 3000 A AC (Optional TA72/74)         | ±3.0% + 5 digits                      |
| Frequency range           | 99.99 kHz                            | ±0.1%                                 |
| Type-K thermocouple range | -40°C to 400°C (-40°F to 752°F)      | ±1.0% + 3°C (DMM) / ±1.0% + 5°C (IGM) |



Also available as a kit (DM284-FLEX-KIT / DM285-FLEX-KIT) that includes 3000 A flex clamp, carrying case and rechargeable battery

FLIR DM92/DM93 True RMS Industrial Multimeters

The FLIR DM92 and DM93 digital multimeters offer variable frequency drive filtering to help you accurately analyze non-traditional sine waves and noisy signals. The DM93 also offers Bluetooth connectivity, so you can upload and share data through the FLIR Tools® mobile app. No matter the electrical challenge, the DM92/DM93 have the features and flexibility to make the job simple.

| FEATURES BY METER          | DM92                                | DM93                                |
|----------------------------|-------------------------------------|-------------------------------------|
| Connectivity               | —                                   | Bluetooth®, max. range 10 m (32 ft) |
| Data recording             | —                                   | 20,000 Pts (125 days max)           |
| MEASUREMENTS - BOTH MODELS | RANGE                               | BASIC ACCURACY                      |
| DC voltage                 | 1000 V                              | ±0.05%                              |
| AC voltage                 | 1000 V                              | ±0.5%                               |
| VFD voltage                | 1000 V                              | ±0.5%                               |
| DC current                 | 10.00 A                             | ±0.2%                               |
| AC current                 | 10.00 A                             | ±1.0%                               |
| Resistance                 | 40.00 MΩ                            | ±0.2%                               |
| Continuity threshold       | 30.00 Ω                             | ±0.2%                               |
| Frequency                  | 100.0 kHz                           | ±5 digits                           |
| Capacitance                | 40.00 mF                            | ±0.9%                               |
| Diode                      | 2.000 V                             | ±1.5%                               |
| Temperature range          | -200°C to 1200°C (-328°F to 2192°F) | ±1.0%                               |

FLIR DM90/DM91 TRMS Multimeter with Type-K Temperature

The FLIR DM90 and DM91 offer the comprehensive features professionals need to safely troubleshoot electrical, electronic, and HVAC/R systems. Equipped with LoZ, VFD Mode, and more, the DM90/DM91 multimeters give you trusted results for the most accurate diagnosis of electrical problems. The DM91 is also enhanced with Bluetooth® technology, so you can connect to mobile devices running FLIR Tools® or the FLIR InSite™ workflow management system.

| FEATURES BY METER                     | DM90                             | DM91                              |
|---------------------------------------|----------------------------------|-----------------------------------|
| Connectivity                          | —                                | Bluetooth®                        |
| Data logging and storage              | —                                | 1 file of 40k scalar measurements |
| Measuring rate                        | 3 samples per second             | 3 samples per second              |
| MEASUREMENTS - BOTH MODELS            | RANGE                            | BASIC ACCURACY                    |
| AC / DC Voltage                       | 1000 V                           | ±1.0% / 0.09%                     |
| AC / DC Voltage (mV)                  | 600.0 mV                         | ±1.0% / 0.5%                      |
| VFD AC Voltage                        | 1000 V                           | ±1.0%                             |
| AC / DC LoZ V                         | 1000 V                           | ±2.0%                             |
| AC / DC Current                       | 10.00 A                          | ±1.5% / 1.0%                      |
| AC / DC mAmps                         | 400.0 mA                         | ±1.5% / 1.0%                      |
| AC / DC μAmps                         | 4,000 μA                         | ±1.0%                             |
| Resistance                            | 6,000 MΩ                         | ±0.9%                             |
|                                       | 50.00 MΩ                         | ±3.0%                             |
| Capacitance                           | 10.00 mF                         | ±1.9%                             |
| Diode                                 | 1.500 V                          | ±0.9%                             |
| Frequency counter                     | 100.00 kHz                       | ±0.1%                             |
| Continuity check                      | 600.0 Ω                          | ±0.9%                             |
|                                       | 20.00 Ω                          |                                   |
|                                       | 200.0 Ω                          |                                   |
| Type-K thermocouple temperature range | -40°C to 400°C<br>-40°F to 752°F | ±1.0% + 3°C<br>±1.0% + 5.4°F      |



Key Features:

- Powerful LED worklight for performing tests in dim lighting
- Drop-tested, durable construction with an IP54 rating
- Multiple measurements including True RMS voltage and current, LoZ, MIN/MAX/AVG
- Manually stores and recalls up to 99 readings
- Integrated Bluetooth technology connects DM93 to FLIR Tools app
- Connect DM93 to compatible FLIR thermal cameras via METERLINK®



Key Features:

- Powerful LED worklight for performing tests in dim lighting
- Durable, drop-tested construction
- Multiple measurements including True RMS voltage and current, LoZ, MIN/MAX/AVG
- Stores and recalls up to 40k readings (DM91)
- Integrated Bluetooth technology for connection to FLIR Tools app, FLIR InSite (DM91)
- CAT IV-600V and CAT III-1000V safety rated

FLIR DM166 Imaging TRMS Multimeter

The FLIR DM166 is a must-have tool for commercial electricians and automation, electronic, and HVAC technicians. Featuring Infrared Guided Measurement (IGM™), the DM166 visually guides you to the precise location of potential problems. It also offers essential measurement features such as True RMS AC/DC voltage and current, non-contact voltage detection, VFD mode, and more.

- Key Features:**

  - 4,800 pixel thermal camera visually guides you to an electrical problem
  - Includes high-quality test probes and a Type-K thermocouple
  - Removes high-frequency interference with reading through VFD mode
- Safely check for live connections using non-contact temperature measurement
  - Offers CAT III-600V, CAT IV-300V safety rating
  - Drop-tested and IP rated for greater durability

| MEASUREMENTS              | RANGE                           | ACCURACY                               |
|---------------------------|---------------------------------|--|
| AC / DC Voltage           | 600 V                           | ±0.7% / 0.5%                           |
| AC / DC Voltage (mV)      | 600.0 mV                        | ±1.0% / 0.3%                           |
| VFD AC Voltage            | 600 V                           | ±1.0%                                  |
| AC / DC Current           | 10.00 A                         | ±1.0% / 0.7%                           |
| AC / DC mAmps             | 600.0 mA                        | ±1.0% / 0.7%                           |
| AC / DC μAmps             | 6,000 μA                        | ±1.5% / 1.0%                           |
| Resistance                | 6,000 MΩ                        | ±0.9%                                  |
|                           | 60.00 MΩ                        | ±1.5%                                  |
| Continuity                | Yes                             |  |
| Capacitance               | 2,000 mF                        | ±2.0%                                  |
|                           | 10.00 mF                        | ±5.0%                                  |
| Diode                     | Yes                             | Yes                                    |
| Min/Max/Avg               | Yes                             | Yes                                    |
| Flex clamp range          | 3000 A AC (optional TA72/74)    | ±3.0% + 5 digits                       |
| Frequency range           | 99.99 kHz                       | ±0.1%                                  |
| Type-K thermocouple range | -40°C to 400°C (-40°F to 752°F) | ±1.0% + 3°C (DMM)<br>±1.0% + 5°C (IGM) |



The Original  
**IGM™**  
INFRARED GUIDED MEASUREMENT

**YEAR 10**  
FULL PRODUCT WARRANTY

| THERMAL IMAGING          |                                  |
|--------------------------|----------------------------------|
| IR Resolution            | 80 × 60 pixels (4,800 pixels)    |
| Temperature Sensitivity  | ≤150 mK                          |
| Emissivity               | 4 presets with custom adjustment |
| Temperature Accuracy     | 3°C or 3%                        |
| Object temperature Range | -10°C to 150°C (14°F to 302°F)   |
| Field of View            | 38° × 50°                        |
| Laser Pointer            | Yes                              |
| Focus                    | Fixed                            |

FLIR IM75 Insulation & DMM Combo with METERLiNK®

The FLIR IM75 is an all-in-one multi-function digital multimeter and insulation tester for installation, troubleshooting, and maintenance professionals. It features a handheld insulation tester and multiple resistance ranges for insulation test levels, as well as METERLiNK compatibility and Bluetooth connectivity to transmit and share data.

- Key Features:**

  - Advanced insulation modes
  - True RMS measurements with 1000 V range
  - Multiple resistance insulation test level ranges
  - LED display with Compare Mode for fast pass/fail determination
- Communicates with METERLiNK-enabled FLIR thermal imaging cameras, FLIR Tools® mobile app
  - Durable double-molded construction (IP54, 2 m drop test)

| MEASUREMENTS             | MAX RANGE                    | BASIC ACCURACY |
|--------------------------|------------------------------|----------------|
| Insulation resistance    | 4 M to 20 GΩ                 | ±1.5%          |
| Insulation test voltages | 50, 100, 250, 500 and 1000 V | ±3.0%          |
| AC / DC voltage          | 1000 V                       | ±0.1% / ±1.5%  |
| VFD AC voltage           | 1000 V                       | ±1.5%          |
| Earth bond resistance    | 40.00 Ω to 40.00 kΩ          | ±1.5%          |
| Capacitance              | 10.00 mF                     | ±1.2%          |
| Frequency (ACV)          | 40.00 kHz                    | ±5 digits      |
| Diode test               | 2,000 V                      | ±1.5%          |
| Continuity               | 400.0 Ω                      | ±0.5%          |



**LIMITED LIFETIME WARRANTY**

FLIR DM62/DM66 True RMS Digital Multimeters

The FLIR DM62 and DM66 digital multimeters combine rich feature sets, precise measurement, and quality construction into tools of exceptional value. The meters are easy to use and built to last — whether you want the DM62 for DIY projects or need the pro-level measurement features of the DM66. Whichever multimeter you choose, you'll get the job done fast and efficiently.

| FEATURES BY METER          | DM62     | DM66                                 |
|----------------------------|----------|--------------------------------------|
| Capacitance                | —        | 200.0 nF (±1.5%)<br>10.00 mF (±4.5%) |
| AC / DC LoZ V              | —        | 600.0 V (±2.0%)                      |
| Frequency                  | —        | 50.00 kHz (±0.1%)                    |
| MEASUREMENTS - BOTH MODELS | RANGE    | BASIC ACCURACY                       |
| AC / DC Voltage            | 600.0 V  | ±1.0% / 0.4%                         |
| AC / DC Voltage (mV)       | 600.0 mV | ±1.0% / 0.4%                         |
| VFD AC Voltage             | 600.0 V  | ±1.0%                                |
| AC / DC Current            | 10.00 A  | ±1.5% / 1.0%                         |
| AC / DC mAmps              | 600.0 mA | ±1.0% / 0.7%                         |
| AC / DC μAmps              | 6,000 μA | ±1.5% / 1.0%                         |
| Resistance                 | 6,000 MΩ | ±0.9%                                |
| Diode                      | 3,000 V  | ±0.9%                                |

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FLIR DM64 HVAC TRMS Digital Multimeter

The FLIR DM64 is an affordable True RMS digital multimeter with temperature (Type-K thermocouple) and Microamp measurement to test flame sensors. This coupled with a rich feature set for both high- and low-voltage applications makes it the ideal tool for HVAC professionals.

- Key Features:**

  - Flashing backlight and audible indicators
  - Test functions include VFD mode, LoZ, capacity, resistance, and more
  - High- and low-voltage measurement capabilities
- Includes Type-K thermocouple to measure temperatures up to 400°C (752°F)
  - Test flame sensors with microamps feature
  - Durable, drop-tested design with no-tool battery compartment

| MEASUREMENTS                          | RANGE                              | BASIC ACCURACY             |
|---------------------------------------|------------------------------------|----------------------------|
| AC / DC Voltage                       | 600.0 V                            | ±1.0% / 0.4%               |
| AC / DC Voltage (mV)                  | 600.0 mV                           | ±1.0% / 0.4%               |
| VFD AC Voltage                        | 600.0 V                            | ±1.0%                      |
| AC / DC LoZ V                         | 600.0 V                            | ±2.0%                      |
| AC / DC Current                       | 10.00 A                            | ±1.5% / 1.0%               |
| AC / DC mAmps                         | 600.0 mA                           | ±1.0% / 0.7%               |
| AC / DC μAmps                         | 6,000 μA                           | ±1.5% / 1.0%               |
| Resistance                            | 6,000 MΩ                           | ±0.9%                      |
| Capacitance                           | 2000 μF                            | ±1.5%                      |
| Frequency                             | 5,000 kHz                          | ±0.1%                      |
| Diode                                 | 3,000 V                            | ±0.9%                      |
| Type-K thermocouple temperature range | -40°C to 400°C<br>-40°F to 752.0°F | ±1.0% + 1°C<br>±1.0% + 2°F |



**YEAR 3**  
FULL PRODUCT WARRANTY



**YEAR 3**  
FULL PRODUCT WARRANTY



## FLIR VP40 Non-Contact Voltage (NCV) Detector + Flashlight

NEW

The FLIR VP40 is a CAT IV-rated, non-contact voltage detector designed to reliably detect voltages on the latest tamper-proof outlets and electrical systems. Toolbox-tough, with a rubber-reinforced case and buttons, the VP40 has vibration and red LED alarms to help alert users to the presence of voltage, even in noisy areas. Plus, versatile high/low-sensitivity modes help detect voltage in industrial equipment and low-voltage installations.

### Key Features:

- 3 m drop-tested and CAT IV-1000V rated
- Vibration and multi-color flashing LED alarms for voltage indication
- Long run-time with power-saving Low Battery indication and Auto Power-off
- Includes two AAA batteries

| SPECIFICATIONS       | VP40                         |
|----------------------|------------------------------|
| Voltage ranges       | 90 to 1000 V<br>24 to 1000 V |
| Category rating      | CAT IV-1000 V                |
| Frequency range      | 45 to 65 Hz                  |
| Vibrating indication | Yes                          |
| On/Off switch        | Yes                          |



## FLIR RT50 Receptacle Tester with GFCI Check

The RT50 is a reliable GFCI receptacle tester designed for electricians, home or building inspectors, and do-it-yourselfers who need to verify or troubleshoot operation of 3-wire receptacle circuits within residential and commercial buildings. It is durable, easy, and safe to use, and offers the quality you have come to expect from FLIR test and measurement products.

### Key Features :

- Durable and safe, designed with an impact-resistant case
- Meets UL safety standards in the US and Canada
- Test for correct wiring of 3-wire receptacles in 110-125 V AC, 50/60 Hz circuits
- Check for circuit breaker operation and verification that it is wired for protection
- Receive positive indication that the circuit has tripped with the GFCI test annunciator LED
- Detect common wiring problems immediately with the bright and easy-to-read indicator lights
- Conveniently verify both 'ground bottom' and 'ground top' style sockets with test code light legend on both sides
- Securely plug into outlets with the ergonomic, easy-grip design



## FLIR Test Accessories



TA12 General Purpose Accessory Case



TA80 CAT IV Silicone Test Probes



TA50 Magnetic Hanging Strap for Multimeters



TA14 Belt Holster for TG165/TG167



TA60 Thermocouple Probe with Adapter



TA55 AC Current Line Splitter



TA03-KIT, AAA Universal Rechargeable Battery



TA04-KIT, Lithium-Polymer Rechargeable Battery for DM28x, CM27x, and DM166

flir.com/test

## FLIR VS70 Videoscope

The rugged, waterproof FLIR VS70 videoscope is the perfect solution for bringing hidden problems into view. It features intuitive handset controls for maneuvering the narrow camera probe into tight spaces, and a vivid 5.7 in. color LCD display so you can easily identify problems. Record videos and grab stills so you can document your findings.

### Key Features:

- Intuitive handset controls for selecting angle of view
- Drop-tested and IP rated for splash and water resistance
- Long battery life plus car-charging option for all-day use
- Includes headset for recording voice annotations
- Multiple articulation options including two-way and four-way wireless controls
- Expansion cameras and add-on accessories available

| SPECIFICATIONS              | VS70                               |
|-----------------------------|------------------------------------|
| Display resolution          | 640 x 480 pixels                   |
| Display size                | 135 mm (5.7 in)                    |
| Battery life (continuous)   | 6 to 8 hours (integrated)          |
| Frame rate                  | 30 fps (NTSC & PAL)                |
| Video/image transfer        | SD card or USB                     |
| Camera diameter range       | 3.9 mm to 28 mm                    |
| Camera focal length options | Long view or short view macro      |
| Camera length range         | 0.3 m to 30 m (0.98 ft to 98.4 ft) |
| Certifications              | CE, FCC                            |



### Best-Selling Videoscope Kits:

- **VS70-1** General purpose (wired) with 8 mm long-focus camera
- **VS70-3** 2-way articulation (wired) with 6 mm long-focus camera
- **VS70-3W** 2-way articulation (wireless) with 6 mm long-focus camera
- **VS70-KIT** Bundle with wired 2-way articulation 6 mm long-focus camera and 8 mm long focus camera
- **VS70-KIT-W** Bundle with wireless 2-way articulation 6 mm long-focus camera and 8 mm long-focus camera

More complete kits and a-la-carte options available. Contact FLIR to find the right solution for your application.

## FLIR EM54 Environmental Meter

Designed for HVAC/R professionals inspecting and troubleshooting ducting systems within residential, commercial, and industrial facilities. Features air flow/velocity, humidity, temperature, wet bulb, and dew point functions

### Key Features:

- Get accurate duct inlet and outlet air speed measurements with the external wide range, high-resolution anemometer
- User selectable units for air velocity: ft/min, m/sec, km/h, MPH, and knots
- Calculates duct airflow (CFM/CMM), wet bulb and dew point in addition to air temperature and relative humidity measurements
- Type K temperature probe included
- View readings clearly on the backlit multi-function display

| ENVIRONMENTAL MEASUREMENTS               | RANGE   | ACCURACY  |
|--|---|---|
| Air Velocity, Vane Anemometer Probe      | 0.4 to 30 m/s<br>79 to 5906 ft/min<br>1.4 to 108.0 km/h<br>0.9 to 67.2 mph<br>0.8 to 58.3 knots | ±3% +0.2 m/s<br>±3% +40 ft/min<br>±3% +0.8 km/h<br>±3% +0.4 mph<br>±3% +0.4 knots |
| Air Flow                                 | 0 to 999900 CMM (0 to 999900 CFM)   |   |
| Air Temperature                          | 10 to 30°C (50 to 86°F)<br>-30 to 9.9°C (-22 to 50°F) and<br>31 to 60°C (88 to 140°F)           | ±1°C (1.8°F)<br>±2°C (3.6°F)  |
| Air Relative Humidity                    | 5% to 98%   | ±3.5%   |
| Dew Point (Calculated)                   | -30 to 60°C (-22 to 140°F)  | ±3°C (4.8°F)  |
| Wet Bulb (Calculated)                    | -30 to 50°C (-22 to 122°F)  | ±3°C (4.8°F)  |
| Contact Temperature, Type K Thermocouple | -99.9 to 99.9°C<br>(-148 to 212°F)<br>100 to 1372°C<br>(212 to 2502°F)                          | ±1.5% +1°C (1.8°F)<br>±1.5% +2°C (3.6°F)  |



flir.com/test

FLIR MR176/MR160  
Imaging Moisture Meters with IGM™

Featuring Infrared Guided Measurement (IGM™) powered by a FLIR Lepton® thermal imaging sensor, MR176 and MR160 help you quickly see temperature patterns that point to potential hidden moisture, so you know where to place the meter probe to capture accurate readings.



Common Features MR176 and MR160

- 80 × 60 (4,800 pixels) Lepton thermal imager guides you to potential moisture areas
- Document readings and images to share via USB cable
- Integrated pinless moisture measurements for fast detection, and external pin probe included with expandable probe options
- Equipped with a laser and crosshair to easily reference the location of the potential moisture issue seen in the thermal image
- Rugged, portable design with intuitive menu system

MR176 only

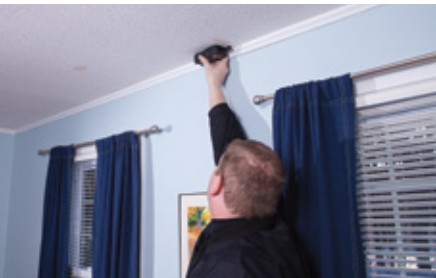
- Customize thermal images: select which measurements are integrated (moisture, temperature, relative humidity, dew point, vapor pressure, mixing ratio)
- A lock image setting prevents extreme hot and cold temperatures from interfering with images while scanning for issues
- Field-replaceable temperature/relative humidity sensor
- Progressive Environmental Stability informs you when the relative humidity readings have reached a steady state

FLIR MR77 Moisture Meter and Hygrometer

Rugged, feature-packed moisture meter incorporating a pinless sensor and a wired pin probe to capture moisture readings up to 1.9 cm (0.75 in) below the surface of various wood types and building materials. The MR77 also incorporates a laser-spot IR thermometer, a field-replaceable temperature/humidity sensor, and High/Low moisture and humidity alarms.

Key Features:

- Features pinless moisture sensor, temperature and RH sensor, and IR thermometer for fast non-contact measurements
- Remote pin-type probe for contact moisture readings
- Bluetooth METERLiNK® technology wirelessly integrates moisture readings on images from compatible FLIR thermal cameras
- Field-replaceable temperature and relative humidity sensor
- 2-meter drop-tested, rubber overmolded, pocket-sized design
- Industry-leading limited lifetime warranty with registration

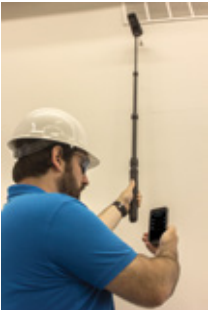


FLIR MR59 Ball Probe Moisture Meter with Bluetooth®

The FLIR MR59 is a pinless meter with wireless connectivity, which offers the convenience to view live readings from a mobile device via the FLIR Tools® Mobile app. Thanks to the ball-shaped sensor, users can cover a large area in a short time without making a mark; measure into corners and around baseboards easily; and detect problems below the surface.

Key Features:

- Run the meter over and around objects on the measuring surface with the ball-probe sensor
- Identify potential moisture problems up to 100 mm (4 in) below the surface
- Wirelessly connect the meter to FLIR Tools Mobile to view readings on a mobile device
- Detect moisture in a wide range of common building materials
- Receive stable, repeatable readings
- Clear, easy-to-read display
- Work in dim conditions with the backlit display and bright worklight
- Use with the MR04 extension pole to reduce the need for a ladder, or to optimize ergonomics for 'high' and 'low' measuring targets (accessory not included)



FLIR MR12 Ball Probe Moisture Sensor

The FLIR MR12 is a ball-shaped moisture sensor accessory designed to extend the measurement range of the FLIR MR176, MR160, and MR60 moisture meters. Cover a large area in a short time without making a mark, and measure into corners and around baseboards easily. When there's no clear presence of moisture, the MR12's ball probe can help you detect moisture below the surface, and determine the moisture migration path from the source.

Key Features:

- Supports wide range of common building materials
- Senses moisture up to 100 mm (4.0 in), depending upon material tested
- Compatible with FLIR MR60, MR160, and MR176 moisture meters
- Optional MR04 extension pole helps optimize ergonomics for high and low targets
- Auto Power Off after 5 minutes
- Functions up to 40 hours on one battery (without worklight)
- Handgrip designed to prevent interference with measurement
- Drop-tested to 2 meters



FLIR MR60 Combination Pin/Pinless Moisture Meter

The FLIR MR60 is an advanced pin and pinless moisture meter offering the flexibility of destructive and non-destructive measurements. Select one of the 11 material groups for pin moisture or set a reference point for pinless moisture scanning. Then conveniently save screenshots of your measurements as a CSV file with the date, time, and settings.

Key Features:

- Save up to 10,000 screenshots to transfer and view on a PC
- Programmable high-moisture alarm with audible and color/visual alerts
- Bright, easy-to-read display
- Includes FLIR Tools® professional reporting software
- Rugged design that can withstand a 3-meter drop





FLIR MR55 Pin Moisture Meter with Bluetooth®

The FLIR MR55 is a pin-based meter with wireless connectivity, which offers the convenience to view readings from a mobile device via the FLIR Tools® Mobile app. Thanks to a built-in library of 11 material groups, users can tune the meter to the appropriate test material to improve measurement accuracy. This library is easy to access on the FLIR.com website by scanning a QR code on the back of the meter with a mobile device.

Key Features:

- Automatically compensates for ambient temperature
- Can be tuned to the appropriate test material via built-in library of 11 material groups
- Easy-to-read LCD display with data hold feature
- Avoid prolonged work delays thanks to easily-replaceable electrode pins
- Work in dim lighting with the backlit display and bright worklight
- Rugged design, drop-tested to 2 meters
- Lanyard cap retention



FLIR MR40 Moisture Pen + Flashlight

The FLIR MR40 is a rugged, 2-pin single scale moisture meter with an integrated flashlight for wood and common building materials. It provides builders, remodelers, residential roofing and flooring contractors, and pest control professionals a quick and reliable means to check for and quantify moisture content. With a pen-like form factor the MR40 can be carried in your pocket, ready to work when you are.

Key Features:

- Small enough to carry in your pocket
- Sleek design for getting into corners
- 3-meter drop-tested and IP54 splash-proof rated
- Clear LCD display
- Replaceable pins, 2<sup>nd</sup> set included
- Integrated calibration/pin check in the cap
- Audible indication of measured range (5-12%, 13-60%, +60%)
- Measurement 'Hold' function
- Simple on-off button with 'Auto Power Off'



Pocket-sized with trim design for getting into corners



FLIR MR Accessories

FLIR offers a quality line of probe accessories to upgrade your FLIR moisture meter to meet advanced measurement challenges. Use our optional external pin probes on hard woods and dense materials, in deep wall cavities, or to get through obstructions such as sub-floors and hardwood flooring. Designed for everyday job site use, we focused on durability of the system (probe, pins, and cord), ease of use, and versatility.



**MR01 Replaceable Temperature/Relative Humidity Sensor**  
Compatible with the MR77 or MR176, the MR01 takes accurate temperature and humidity measurements. A metallic screw secures the probe in place.



**MR06 Wall Cavity Probe**  
Penetrate into wall cavities and the inside face of exterior walls to measure insulation moisture levels.



**MR01-EXT Temperature/Relative Humidity Sensor and Extension Assembly**  
Use to extend the reach of the MR77 or MR176, or for acclimation in dryer/dehumidifier exhaust vents.



**MR07 Hammer Probe**  
Take measurements in subfloor through carpet, hardwood flooring, and hard materials that are difficult to penetrate with a standard pin probe.



**MR11 Handheld Temperature/Humidity Sensor**  
Pre-deploy in dehumidifier exhaust vents for instantaneous readings, or use in locations where access is restricted.



**MR08 Hammer and Wall Probe**  
Comfortably hammer probe into vertical, angled, or inverted surfaces, and get down below carpet pads and subfloor.



**MR04 Extension Pole**  
Probe large and out-of-reach areas easily with this telescoping pole that extends up to 132 cm (52 in).



**MR09 Baseboard Probe**  
Probe behind baseboards, wall trim, crown molding, and other inaccessible areas without removal.



**MR05 Impact Probe**  
Easily test for moisture in challenging spots — uneven surfaces, corners, hard woods, high-density materials, and in areas without a dry reference.



**MR10 Protective Case**  
Safeguard your FLIR Test and Measurement instruments with this durable EVA protective case.



**MR12 Ball Probe Moisture Sensor Accessory**  
Take non-invasive readings up to 100 mm (4 in.) below most surfaces.

FLIR MR Kits

Moisture Meter kits provide a complete solution for fast and accurate troubleshooting.



**MR160-KIT2 Building Inspection Kit**  
Featuring a FLIR MR160 IGM™ Moisture Meter, FLIR C2 Compact Thermal Camera, and a FLIR MR06 Wall Cavity Probe



**MR176-KIT5 Professional Imaging Moisture Kit**  
Featuring a FLIR MR176 IGM Moisture Meter with Replaceable Hygrometer, FLIR MR08 Hammer and Wall Cavity Probe, and FLIR MR01 Replaceable Temperature/Relative Humidity Sensor



**MR160-KIT5 Professional Imaging Moisture Kit**  
Featuring a FLIR MR160 IGM Moisture Meter and FLIR MR08 Hammer and Wall Cavity Probe



**MR176-KIT6 Professional Remediation Kit**  
Featuring a FLIR MR176 IGM Moisture Meter with Replaceable Hygrometer, FLIR E6 Infrared Camera with MSX®, and FLIR MR08 Hammer and Wall Cavity Probe

EX650 Series True RMS 600A Clamp Meters

Professional clamps featuring Low Impedance (LoZ) mode and choice of advanced model with Low Pass Filter (LPF) and Inrush functions

- 30 mm (1.18 in) jaw size accommodates conductors up to 350 MCM
  - LoZ prevents false readings caused by ghost voltages
  - µA function for HVAC flame rod current measurements
  - Built-in non-contact AC voltage (NCV) detector with LED indicator, 6000-count backlit display
  - Min/Max captures highest and lowest readings
- Convenient LED worklight for viewing in dimly lit area
  - CAT III-600V category rating
  - Advanced functions (EX655): Low Pass Filter, Inrush, and DC Zero
  - Includes test leads, three AAA batteries, Type-K temperature probe (EX655 only)

| Specifications              | EX650                                     | EX655  |
|-----------------------------|---|--|
| AC current (max res.)       | 6 A, 60 A, 600 A (0.001 A)                | 60 A, 600 A (0.01 A)                           |
| DC current (max res.)       | —   | 60 A, 600 A (0.01 A)                           |
| Basic accuracy              | ACA: ±2.5 % of rdg                        | ACA: ±2.5 % of rdg;<br>DCA: ±2.5 % of rdg      |
| AC/DC µA current (max res.) | 600 µA (0.1 µA)                           | 600 µA (0.1 µA)                                |
| DC voltage (max res.)       | 1000 V (0.1 mV)                           | 1000 V (0.1 mV)                                |
| AC voltage (max res.)       | 750 V (1 mV)                              | 750 V (1 mV)                                   |
| Basic accuracy              | ACV: ±1.2 % of rdg;<br>DCV: ±0.8 % of rdg | ACV: ±1.2 % of rdg;<br>DCV: ±0.8 % of rdg      |
| NCV detection               | 100 V to 1000 V                           | 100 V to 1000 V                                |
| Resistance (max res.)       | 60 MΩ (0.1 Ω)                             | 60 MΩ (0.1 Ω)                                  |
| Capacitance (max res.)      | 60 mF (0.01 nF)                           | 60 mF (0.01 nF)                                |
| Frequency (max res.)        | —   | 10 Hz to 1 MHz (0.01 Hz)                       |
| Temperature (max res.)      | —   | -40°C to 1000°C (1°C)<br>-40°F to 1832°F (1°F) |
| Continuity beeper           | Yes                                       | Yes  |
| Diode test                  | Yes                                       | Yes  |

MA440/MA443/MA445 400A Clamp Meters + NCV

Three models to choose from, with or without True RMS and AC or AC/DC Current functions, with built-in non-contact voltage detector

- 30 mm (1.2 in) jaw size accommodates conductors up to 500 MCM
  - 4000-count backlit LCD display
  - Built-in flashlight illuminates work area (MA443/MA445)
- CAT III-600V category rating
  - Complete with test leads, three AAA batteries, general purpose Type-K temperature probe (MA443/MA445), and pouch

| Specifications                     | MA440 (Max. Resolution) | MA443 (Max. Resolution)            | MA445 (Max. Resolution)            |
|------------------------------------|-------------------------|------------------------------------|------------------------------------|
| AC Current                         | 400.0A (1mA)            | 400.0A (1mA) True RMS              | 400.0A (10mA) True RMS             |
| DC Current                         | —                       | —                                  | 400.0A (10mA)                      |
| DC Voltage                         | AC: ±2.0%               | AC: ±1.8%                          | AC: ±2.5%, DC: ±2.0%               |
| AC Voltage                         | 600V (0.1mV)            | 600V (0.1mV) True RMS              | 600V (0.1mV) True RMS              |
| Non-Contact Voltage (NCV)          | 600V (1mV)              | 600V (1mV)                         | 600V (1mV)                         |
| Resistance                         | AC: ±1.2% DC: ±0.8%     | AC: ±1.2% DC: ±0.8%                | AC: ±1.2% DC: ±0.8%                |
| Capacitance                        | 100 to 600V             | 100 to 600V                        | 100 to 600V                        |
| Frequency                          | 40MΩ (0.1Ω)             | 40MΩ (0.1Ω)                        | 40MΩ (0.1Ω)                        |
| Temperature (Type K - meter range) | 100µF (0.01nF)          | 40mF (0.01nF)                      | 40mF (0.01nF)                      |
| Duty Cycle                         | 1MHz (0.01Hz)           | 1MHz (0.01Hz)                      | 1MHz (0.01Hz)                      |
| Diode/Continuity                   | —                       | -40° to 1832°F/-40° to 1000°C (1°) | -40° to 1832°F/-40° to 1000°C (1°) |
|                                    | Yes                     | Yes                                | Yes                                |
|                                    | Yes                     | Yes                                | Yes                                |



EX350 Series True RMS Multimeters with LPF and LoZ

Professional meters loaded with advanced features, including LPF, LoZ, Resistance, Capacitance, Frequency, and Continuity

- LPF mode aids in accurate measurement of variable frequency drive signals
- LoZ prevents false readings caused by ghost voltages
- Built-in non-contact AC voltage (NCV) detector with LED indicator
- CAT III-600V rating
- Both models include test leads and two AA batteries
- EX355 includes general purpose Type-K bead wire temperature probe

| Specifications       | EX350              | EX355                             |
|----------------------|--------------------|-----------------------------------|
| Display counts       | 4000               | 6000                              |
| Basic DCV accuracy   | ±0.5 %             | ±0.5 %                            |
| NCV detector         | Yes                | Yes                               |
| DC/AC voltage        | 0.01 mV to 600 V   | 0.01 mV to 600 V                  |
| DC/AC current        | 0.1 µA to 10.00 A  | 0.1 µA to 10.00 A                 |
| Resistance           | 0.1Ω to 40.00 MΩ   | 0.1 Ω to 60.00 MΩ                 |
| Capacitance          | 1 pF to 60.00 mF   | 1 pF to 60.00 mF                  |
| Frequency            | 0.001 Hz to 10 MHz | 0.001 Hz to 10 MHz                |
| Temperature (Type-K) | —                  | -40°C to 1000°C (-40°F to 1832°F) |
| Duty cycle           | 0.1 to 99.9 %      | 0.1 to 99.9 %                     |
| Diode test           | 3.2 V              | 3.2 V                             |
| Continuity           | Audible            | Audible                           |



EX360 Series CAT IV TRMS Multimeters + NCV + LoZ

Choose a CAT IV-600V multimeter designed for electrical, HVAC, or industrial applications with LoZ function for accurate voltage readings

- LoZ prevents false readings caused by ghost voltages
  - Built-in NCV detector with LED indicator
  - 1000V AC/DC volt range and resistance up to 40 MΩ
  - Peak Hold and Relative Mode
- Smart Data Hold freezes the displayed reading and automatically updates the reading and alerts user (audibly and visually) if the measurement changes ±50 counts
  - Large white LED backlit display with 60-segment analog bar graph for viewing trends

| Specifications        | EX360              | EX363                           | EX365              |
|-----------------------|--------------------|---------------------------------|--------------------|
| Basic accuracy (DCV)  | 0.5 %              | 0.5 %                           | 0.5 %              |
| NCV detector          | Yes                | Yes                             | Yes                |
| DC/AC voltage         | 0.1 mV to 1000 V   | 0.1 mV to 1000 V                | 0.1 mV to 1000 V   |
| DC/AC current         | —                  | —                               | 1 mA to 10 A       |
| DC/AC µA current      | —                  | 600 µA                          | —                  |
| Resistance            | 0.1 Ω to 40 MΩ     | 0.1 Ω to 40 MΩ                  | 0.1 Ω to 40 MΩ     |
| Capacitance           | 1 nF to 10 mF      | 1 nF to 10 mF                   | 1 nF to 10 mF      |
| Frequency             | 0.01 Hz to 100 kHz | 0.01 Hz to 100 kHz              | 0.01 Hz to 100 kHz |
| Temperature (Type-K)  | —                  | -40°C to 394°C (-40°F to 742°F) | —                  |
| Diode test/continuity | Yes                | Yes                             | Yes                |



Includes test leads, 9V battery, holster with tilt stand and built-in magnet, and general-purpose bead wire temperature probe (Model EX363)



**MG320 CAT IV Insulation Tester/ True RMS Multimeter**

Combines a portable 20GΩ/1000V Insulation Tester with a True RMS Multimeter in a single, compact instrument. CAT IV safety rating ensures the highest level of protection

- Measure insulation test voltages to 1000 V and insulation resistance to 20 GΩ (autoranging)
- Manually store/recall up to 99 readings
- Polarization Index (PI) and Dielectric Absorption Ratio (DAR) measurements
- Programmable timer feature sets the duration of testing
- Backlit 6,000 count display with analog bargraph; low battery indicator.



**380260 Digital Megohmmeter**

Measure insulation resistance up to 2000 MΩ, with a choice of 250, 500, or 1000 VDC test voltages

- Low resistance, continuity, and AC/DC voltage measurement functions
- Lo Ω function for testing connections
- Lock Power On Function for hands-free operation
- Data hold to freeze displayed reading



**GRT300 4-Wire Earth Ground Resistance Tester**

Measure earth ground in four ranges from 2 to 2000 Ω. Two-, three-, and four-wire testing options

- Automatic I (current) and P (potential) spike check
- Test Hold function for easy operation
- Autoranging, automatic zero adjustment, data hold and auto power off
- Large dual-line LCD with overrange and low battery indication
- Includes test leads with alligator clips, 4 auxiliary earth bars, hard carrying case, 8 AA batteries



**382357 Clamp-on Ground Resistance Tester**

Enables non-contact measurements of ground conductors without the need for auxiliary ground spikes

- Simplifies ground resistance measurements on multiple point ground systems
- Electrical noise detection feature prevents inaccurate readings
- Autoranging ground resistance measurements from 0.025 to 1500 Ω, True RMS AC leakage current range of 1 mA and AC True RMS AC current range of 0.3 mA to 30.00A
- Note: AC Leakage current is different from AC current
- Programmable datalogging with 116 data points, user-set Hi/Lo alarm



**PRT200 Non-Contact Phase Sequence Tester**

Featuring a 45 to 65 Hz frequency range and the ability to test up to 1000 VAC with visible/audible indicators

- LEDs indicate phase orientation and whether each phase is live
- Audible alarm when correct phase is detected and when phase is reversed
- Adjustable LED brightness for use in any lighting
- Durable housing with back cover magnet for attachment to an AC distribution panel
- CAT IV-600 V safety rating



**480400/480403 Phase Sequence Testers**

Check phase sequence and status of 3-phase power sources over a 15 to 400 Hz frequency range

- Testing range rated for 40 to 600 V
- 480400 displays graphical phase orientation on the large LCD and does not require battery
- 480403 LEDs display motor rotation and phase status and also indicates rotation direction of the motor
- Double-molded durable housing
- Cat III-600 V safety rating
- Includes cable and 3 large color-coded alligator clips and case (480803 also comes with 9 V battery)



**RD300 Refrigerant Leak Detector**

Ideal for detecting leaks from air conditioning units and cooling systems that use all standard refrigerants down to 0.25 oz/yr (7 g/yr)

- Detects all standard refrigerants using a heated diode sensor
- LED light at probe tip (with on/off switch for working in dimly lit areas)
- User-selectable high, medium, or low sensitivity levels, ranging from 0.25 oz (7 g) to 0.99 oz (28 g) per year
- Audible and visible alerts, with mute button
- Field-replaceable sensor (RD300-S)



**RD200 Refrigerant Leak Detector**

Ideal for detecting leaks from air conditioning units and cooling systems, using all standard refrigerants down to 0.2 oz/yr (6 g/yr)

- User-selectable sensitivity level, with high level capable of detecting 0.2 oz (6 g) per year
- Multi-colored LED indicator for leak detection
- Audible and visible alerts, plus low battery indicator
- Convenient field replaceable sensor (RD200-S)



**AN100/AN200 CFM/CMM Thermo-Anemometers**

Simultaneous display of ambient temperature and air flow/air velocity

- Up to 8 easy-to-set area dimensions (m² or ft²) are stored in the meter's internal memory
- User selectable units for air velocity: ft/min, m/sec, km/h, MPH, and knots
- 20-point average function for air flow
- Extra-large LCD backlit display
- AN200 features built-in non-contact IR thermometer measuring remote surface temperatures up to 260°C (500°F) with an 8:1 distance-to-spot ratio and laser pointer



**SDL350 Hot Wire CFM Thermo-Anemometer/Datalogger**

Measure Air Velocity/Air Flow meter with telescoping probe designed to fit into HVAC ducts and other small openings and records data on an SD card in Excel® format

- Datalogger date/time stamps and stores readings on an SD card for easy transfer to a PC
- Probe extends up to 215 cm (7.05 ft) maximum length with cable
- Adjustable data sampling rate: 1 to 3600 seconds
- User selectable units for air velocity: ft/min, m/sec, km/h, MPH, and knots
- Type K/J Thermocouple input for high temperature measurements
- Large backlit LCD displays Air Velocity or Air Flow and Temperature simultaneously



**42545 High Temperature IR Thermometer**

50:1 Wide-range infrared thermometer with laser pointer

- Wide temperature range, from -50°C to 1000°C (-58°F to 1832°F)
- 50-to-1 distance-to-target ratio
- Built-in laser pointer for easy targeting
- Large backlit LCD display
- Adjustable emissivity
- High resolution of 0.1° up to 199.9°
- High and low alarm set points with audible and visual alerts



**IR320 Waterproof Dual Laser IR Thermometer with Alarm**

Rugged design with Waterproof (IP65) and 9.8ft (3m) drop-proof protection, 12:1 Fast-response IR thermometer offers programmable hi/low alarms

- Accurate temperature measurements from -20 to 650°C (4 to 1202°F)
- Maximum resolution of 0.1°C/°F, basic accuracy of ±(1% of reading 1°C/2°F)
- Dual laser pointer identifies target area between the two points
- Adjustable emissivity
- Programmable high/low alarms with dual color LED indicators
- Lock function for continuous temperature measurement
- MAX/MIN/AVG/DIF functions





LT300 Light Meter

Digital and analog display of light in Foot-candles (Fc) or Lux

- Measure up to 40,000 Fc (400,000 Lux) helps ensure adequate illumination
- Max resolution to 0.01 Fc/Lux
- Large LCD display with analog bar graph for quick, reliable assessments
- Backlight for easy reading even at low light levels
- Relative mode indicates change in light levels
- Peak mode captures highest readings



LT40/LT45 LED Light Meters

Monitor and optimize environmental light levels in buildings, schools, and offices

- Model LT40 measures white LED lights
- Model LT45 measures white, red, yellow, green, and blue LED lights
- Measure LED and standard lighting in Lux or Foot-Candle (Fc) units
- 4000-count display
- Min/Max average
- Cosine and color-corrected measurements
- Manually store/recall up to 99 readings (LT45)



407732-KIT Type-2 Sound Meter Kit

Kit includes a digital sound level meter with high and low ranges, a 94dB/114dB sound level calibrator to verify meter operation, and a protective case

- High accuracy of ±1.5 dB meeting Type 2 ANSI S1.4-1983, IEC 60651, EN60651
- Offers high and low measuring ranges, from 35 to 100 dB (low) and 65 to 130 dB (high)
- Data Hold and Max Hold functions
- Backlit LCD display makes it easy to view in dimly lit area
- Includes Sound Level Calibrator - 1 kHz sine wave at 94 dB/114 dB is generated to an accuracy of 4% (frequency) and ±0.5 dB



SL400 Personal Noise Dosimeter/ Datalogger with USB Interface

Perform noise accumulation surveys to determine total sound exposure over an 8-hour period for compliance with OSHA, MSHA, DOD, ACGIH, and ISO standards

- Datalogs up to 999,999 readings when used as a sound level meter
- Measures sound level (A and C weighting), min/max, time-averaged sound level (Leq), Z peak, and sound exposure level (SEL)
- Adjustable Criterion Level, Exchange Rate, and Threshold, plus user-defined measurement setup
- Connects via USB to Windows®-compliant software for control and analysis



C0240 Indoor Air Quality, Carbon Dioxide (CO<sub>2</sub>)

Measure CO<sub>2</sub>, air temperature, humidity, and other environmental conditions in enclosed areas

- Dual display of CO<sub>2</sub> concentrations and Relative Humidity, Temperature, Dew Point, or Wet Bulb
- Maintenance-free non-dispersive infrared (NDIR) CO<sub>2</sub> sensor
- Alarm sounds when CO<sub>2</sub> concentrations exceed user set-point
- Automatic baseline calibration, data hold, auto power off, and low battery indicator
- Includes software and cable for real-time datalogging to a PC



VPC300 Video Particle Counter with Built-in Camera

Measure particle sizes, air temperature, relative humidity, and more while also capturing videos and photos

- Measure up to 6 channels of particle sizes (down to 0.3 µm), and display Air Temperature, Humidity, Dew Point, or Wet Bulb
- Selectable sample time and count data, as well as programmable delay
- Controls include max/min, DIF, AVG record, date/time setup, auto power off
- Records 3 GP 320 × 240 videos and JPEG images to internal memory
- Stores up to 5000 records and 20 minutes of video



Extech 510-Series Environmental Meters

Whether you're solving HVAC problems, checking outdoor UV conditions, or measuring energy from electromagnetic/electrical fields of electrical appliances and power lines, Extech helps expand your problem-solving capabilities, giving you quick and accurate results. Monitor heat indices and track temperature changes during hot, humid days to prevent heat stroke during outdoor activities, sporting events, or in an indoor workplace. Monitor noise levels and perform workplace audits and measure indoor and outdoor light levels. Extech's compact multifunction environmental meters combine all-in-one versatility with accurate diagnostics.

EN510 10-in-1 Environmental Meter

Measurement modes include: Air Velocity, Air Flow, Air Temperature, Type-K Temperature, Heat Index, Humidity, Wet Bulb, Dew Point, Windchill, and Light Level

Includes low friction ball bearing mini vane wheel, a precision photo diode with cosine and color correction filter, and a capacitive humidity sensor for high accuracy. General purpose bead wire probe is included for measuring temperatures up to 250°C (482°F), while the meter can measure temperatures up to 1300°C (2372°F) if used with Type-K probes.



EMF510 EMF/ELF Meter

High-sensitivity EMF/ELF meter with built-in single-axis sensor

The Extech EMF510 measures energy from electromagnetic fields (EMF) and electrical signals and is sensitive to extremely low frequency levels (ELF). The built-in single-axis sensor is ideal for monitoring power lines, electrical appliances, fans and blowers, and electrical circuits in two ranges with milli-Gauss and micro-Tesla units.



AN510 CMM/CFM Anemometer + Type-K

4-in-1 Anemometer measures air velocity, air flow, air temperature, and Type-K temperature

Convenient 4-in-1 Anemometer is designed in rugged compact housing with built-in low friction ball bearing mini vane wheel for high accuracy in measuring Air Velocity/Flow. General purpose bead wire probe is included for measuring temperatures up to 250°C (482°F), while the meter can measure temperatures up to 1300°C (2372°F) if used with Type-K probes.



RHT510 Hygro-Thermometer Psychrometer

Measures Relative Humidity and Temperature, and calculates Dew Point and Wet Bulb

Conveniently check the humidity and temperature in residential and professional settings to ensure comfort and safety. General purpose bead wire Type-K probe is included for measuring temperatures up to 250°C (482°F), while the meter can measure temperatures up to 1300°C (2372°F) if used with Type-K probes.



SL510 Sound Level Meter



High-accuracy sound level meter with A and C weighting, fast/slow response modes

Compact design with ±1 dB high accuracy and a large backlit display provides quick and reliable sound level testing. It meets Class 2 standards (IEC 61672-2013 and ANSI/ASA S1.4/Part 1). Measure A & C weighting from 35 to 130 dB with fast and slow response time selectivity.

LT510 Light Meter



Compact Foot-candle/Lux light meter with backlit LCD

Measures light intensity up to 20,000 Lux (1860 Fc range) with resolution to 1 Lux (0.1 Fc). Ideal for indoor lighting tests and for checking security and safety illumination in parking garages, nighttime ATM areas, stairwells, landings, and hallways.

UV510 UV Light Meter



UV light meter for measuring UVA light radiation from natural and artificial sources

Built-in UV sensor with cosine correction measures irradiance from UVA light sources up to 20.00 mW/cm². The sensor wavelength range is 320 to 390 nm. It offers a backlit dual display for easy outdoor viewing, two selectable ranges, and zero function.



**MO55W Wireless Datalogging Pin/Pinless Moisture Meter**

Using the wireless feature, Bluetooth® Datalogging Module, and the free ExView® W-Series App, you can transmit readings in real- time to your iOS® and Android™ devices for remote viewing and store over 15K readings

- Displays moisture level in wood and building materials
- Non-invasive Pinless moisture measurement to a max. depth of 1" (25 mm)
- Direct Pin moisture measurement uses ~0.4" (10 mm) pins
- Programmable High/Low audible alarms
- Export data in Excel® format
- Take snapshots of the measurement area with your connected smart phone or tablet camera



**RHT30/RHT35 USB Humidity/ Temperature Dataloggers**

Easy-to-use dataloggers store thousands of humidity and temperature readings with date/time stamp

- Built-in NTC thermistor and capacitive humidity sensor
- Barometric pressure MEMS sensor (RHT35 only)
- User-programmable settings including sample rate and high/low alarm range
- Connect via USB to a PC after datalogging to download data and generate reports and trending graphs in PDF or spreadsheet format



**RH390/RH490 Precision Psychrometers**

Measure temperature and humidity simultaneously with high ±2% accuracy

- Fast response time (<30 seconds)
- Dual backlit display
- Simultaneous display of: Humidity/Temperature, Humidity/Dew Point or Humidity/Wet Bulb
- Captures water vapor levels in grams/kilogram and grains per pound (RH490 only)
- Data hold and min/max functions



**SDL500 Hygro-Thermometer/Datalogger**

Date/time stamps and stores readings on an SD card in Excel® format for easy transfer to a PC

- Relative Humidity, Temperature, Dew Point, and Wet Bulb functions
- Adjustable data sampling rate: 1 to 3600 seconds
- Stores 99 readings manually and 20M readings via SD card
- Type K/J Thermocouple input for high temperature measurements
- Large backlit dual LCD display
- Record/Recall MIN, MAX readings



**TH30 USB Dual Temperature Datalogger**

Record air temperature and external probe temperature with date/time stamp

- Compact device with built-in NTC thermistor and external temperature probe (included)
- Red and green status indicators on 5-digit LCD display
- Continuous datalogging records up to 48,000 readings (24,000 for each parameter)
- Generate PDF or Excel® reports with data and trending graphs



**RH200W 8-Channel Wireless Hygro-Thermometer**

Measure indoor temperature and humidity from up to 30 m (98 ft) away through connection to wireless transmitters

- Base station LCD with Auto-Night Light displays local and up to 8 remote temperatures and humidity readings
- Displays comfort levels from “too cold” to “too hot/humid,” plus trend arrows to indicate temperature/humidity changes
- Records max/min readings for the duration of measurement session
- Ideal for multi-room monitoring in restaurants, greenhouses, storage buildings, and more
- Includes a base station and one transmitter. Additional remote Transmitters (RH200W-T) sold separately.



**RPM10 Photo/Contact Tachometer with Built-In Infrared Thermometer**

Combination tachometer provides contact and non-contact RPM measurements plus surface temperature

- Built-in IR thermometer with laser measures temperature remotely for motors and rotating parts
- Provides wide RPM (photo and contact) and linear surface speed (contact) measurements
- Laser allows non-contact photo tachometer to measure from greater distances, up to 2 m (6.5 ft)
- Rugged, double-molded housing



**SDL800 Vibration Meter + Datalogger**

Records vibration using a remote sensor and save in Excel® format to SD card

- Remote vibration sensor with magnetic adapter on 1.2 m (47.2 in) cable
- Wide frequency range of 10 Hz to 1 kHz
- Basic accuracy of ±(5% + 2 digits); meets ISO2954
- RMS, Peak Value or Max Hold measurement modes
- Adjustable data sampling rate
- Stores 99 readings manually and continuous datalogging via SD memory card



**BR250-4 Video Borescope/ Wireless Inspection Camera**

Detachable wireless 89 mm (3.5 in) color display can be viewed from a remote location up to 9.75 m (32 ft)

- Captured video and still images on SD memory card with date/time stamp can be played back on the wireless monitor or your PC
- Mini waterproof (IP67) 4.5 mm camera head for high resolution viewing
- Four bright LED lamps with dimmer to illuminate viewed object



**RPM33 Combination Contact/ Laser Photo Tachometer**

All-in-one tool quickly measures RPM, surface speed, and length

- Large 5-digit backlit LCD display
- Microprocessor based with quartz crystal oscillator to maintain high accuracy
- Store/recall 10 data sets in memory with 4 parameters (measurement, max, min and average)
- Provides wide RPM (photo and contact) and Linear Surface Speed/Length (contact) measurements
- Laser guided for greater distance non-contact measurements up to 0.5 m (1.6 ft)



**VB450 Vibration Meter**

Measure vibration levels in industrial machinery to check for misalignment, poor balancing, and more

- Remote vibration sensor with magnetic adapter on 0.2 m (7.9 in) coiled cable
- Wide frequency range, from 10 Hz to 1500 Hz
- Measures velocity (RMS), acceleration (Peak), and displacement (Peak-to-Peak)
- Automatic data hold, auto power off, and low battery indicator



**BR80 Video Borescope/ Inspection Camera**

17 mm camera diameter and 61 mm (2.4 in) color TFT LCD monitor with lightweight, handheld design to easily find, diagnose, and solve problems

- 1 m (39 in) flexible, gooseneck cable retains configured shape
- Mini waterproof (IP67) camera head and cable
- Four bright LED lamps with dimmer to illuminate viewed object
- Glare-free close-up field of view
- 180° image rotation feature



DT40M/DT60M/DT100M Laser Distance Meters

Laser measurements up to 100 m (330 ft)

- Three models to choose from:
  - Model DT40M — 0.05 to 40 m (2 in to 131 ft)
  - Model DT60M — 0.05 to 60 m (2 in to 196 ft)
  - Model DT100M — 0.05 to 100 m (2 in to 330 ft)
- Automatically calculates Area and Volume
- Indirect measurement using Pythagorean theorem
- Continuous mode with min/max function
- Displays Sum (+) / Difference (-) of multiple readings
- Memory automatically stores 20 data points
- Built-in bubble level

DT100M



STW515 Stopwatch/  
Clock with Backlit  
Display

Digital LCD stopwatch offers calendar, elapsed timer, split-time, and two competitor timer

- 1/100th second resolution for 30 minutes. 1 second resolution up to 24 hours
- 12 or 24 hour clock format
- Timing capacity: 23 hrs, 59 mins, and 59.99 secs
- Basic accuracy: ±3 seconds/day
- Backlight turns off after 5 seconds
- Water resistant housing and includes a snap-away neck strap

NEW



HW30 HeatWatch™  
Humidity/Temperature  
Stopwatch

Digital UP/DOWN timer displays temperature, humidity, and heat index

- Programmable heat index alarm
- Calendar mode displays day, date and time
- Stopwatch/chronograph mode with 1/100 second resolution
- Fastest/slowest/average Lap recall
- 99-lap counter with 30-lap/split memory
- 10-hour countdown timer with audible beeper warning for the last 5 seconds



CG206 Coating  
Thickness Tester

Automatic recognition of ferrous and non-ferrous substrates

- Smart automatic substrate recognition
- Magnetic induction for ferrous substrates
- Eddy current measurement for non-ferrous substrates
- Easy-to-use menu system
- Two working modes: Direct and Group
- Memory stores 1500 readings (30 Group readings)
- Substrate Zeroing and one- or two-point calibration function
- 8-level adjustable backlight
- USB interface includes software



CG204 Coating Thickness Tester

Take non-invasive coating thickness measurements of ferrous and non-ferrous substrates

- Automatic recognition of ferrous materials through magnetic induction, or non-ferrous materials through eddy current measurement
- Easy-to-use menu system
- Single and Continuous measurement modes plus Direct and Group working modes
- Memory stores 400 readings (80 Direct, 320 Group)
- User-programmable high/low alarms
- Min/max/average, one or two point calibration
- Low battery indicator



PH90 Waterproof pH Meter

Rugged meter with a replaceable Flat Surface Electrode for measuring the pH of liquids, semi-solids, and solids

- Simultaneous display of pH and temperature
- 2 or 3 point calibration automatically recognizes buffer solutions (order pH buffers separately)
- Features include automatic temperature compensation, data hold, min/max, auto power off
- Waterproof design (IP57) floats in water and protects the meter in wet environment
- PTS (percent of slope) tells user when to replace the electrode



EC400 Waterproof ExStik® II  
Conductivity/TDS/Salinity Meter

Accurately measures conductivity, total dissolved solids (TDS), or salinity plus temperature

- Three ranges of measurements, from tap water to wastewater and any aqueous solution
- Large 2000-count digital display offers analog bargraph to indicate sample trends
- Features Data hold, auto power off, low battery indication
- Units of measure include µS/cm, mS/cm, ppm, ppt, mg/L, and g/L
- Includes meter and Conductivity cell, protective sensor cap, sample cup with cap, four CR2032 button batteries, and 1.2 m (48 in) neckstrap. *Order Conductivity standards separately*
- IP57 rating



DO600 Waterproof ExStik®  
II Dissolved Oxygen Meter

Detect and measure oxygen concentration or saturation while also compensating for altitude

- Memory stores up to 25 data sets with dissolved oxygen (DO) and temperature reading
- Oxygen level displayed as % Saturation or Concentration (mg/L [ppm])
- Adjustable altitude compensation (0 to 20,000 ft in 1,000 ft increments)
- Adjustable salinity compensation, from 0 to 50 ppt
- Analog bar graph indicates trends
- Easy to replace screw-on membrane cap with optional extension cables
- IP57 rating



CL200 ExStik® Chlorine Meter

Take non-subjective, direct readings of Total Chlorine from 10 ppm down to 0.01 ppm

- Direct reading of Total Chlorine provides fast and easy measurements (less than 2 minutes)
- Unaffected by sample color or turbidity
- Memory stores, tags and recalls up to 15 readings
- US EPA-approved as an acceptable method for wastewater compliance monitoring of Total Chlorine
- Unique replaceable flat surface chlorine electrode eliminates clogged junctions or glass breakage



EC510 Waterproof ExStik® II Kit

Combination flat-surface pH electrode with autoranging high-accuracy conductivity cell

- Measures 5 parameters including conductivity, TDS, salinity, pH, and temperature using one electrode
- 9 units of measure: pH, µS/cm, mS/cm, ppm, ppt, mg/L, g/L, °C, °F
- Analog bargraph indicates trends
- Memory stores up to 25 labeled readings
- Fixed salinity ratio (0.5) and adjustable conductivity-to-TDS ratio from 0.4 to 1.0
- RENEW feature alerts user when electrode needs replacement
- IP57 rating



DO700 Waterproof Portable  
Dissolved Oxygen Kit

9-in-1 meter measures dissolved oxygen concentration and saturation, as well as pH, temperature, and more

- Automatic salinity compensation and manual barometric pressure compensation for DO measurements
- One button pH calibration (4, 7, and 10 pH) with choice of 3-point calibration for better accuracy
- Measures DO concentration/saturation, pH, mV, conductivity, TDS, salinity, resistivity and temperature
- Large backlit dual LCD display, auto power off, and rugged, waterproof housing
- IP57 rating





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PORTLAND  
Corporate Headquarters  
FLIR Systems, Inc.  
27700 SW Parkway Ave.  
Wilsonville, OR 97070  
USA  
PH: +1 866.477.3687

NASHUA  
FLIR Systems, Inc.  
9 Townsend West  
Nashua, NH 03063  
USA  
PH: +1 866.477.3687

CANADA  
FLIR Systems, Ltd.  
920 Sheldon Court  
Burlington, ON L7L 5K6  
Canada  
PH: +1 800.613.0507

LATIN AMERICA  
FLIR Systems Brasil  
Av. Antonio Bardella, 320  
Sorocaba, SP 18085-852  
Brasil  
PH: +55 15 3238 8070

www.flir.com  
NASDAQ: FLIR

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