



The World's **Sixth Sense**®

# 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.*



CHECK OUT OUR **NEW**  
FLIR THERMAL CAMERAS AND  
TEST INSTRUMENTS!

*FLIR cameras are used weekly at our customers' facilities to verify that energized electrical connections are not overheating. We have also used FLIR cameras in the truck repair shop to identify blockages in cooling systems. Our FLIR camera has also been used to pinpoint roof leaks in our old admin building. Very valuable!*

**-Lisa Phillips,  
Electrical Engineer, Altorfer Power Systems**



*With FLIR, we located several electrical hot spots that could have shut buildings or areas down and were able to repair ahead of time on our schedule with no failure. We also located two roof leaks that the roofers could not find and repair on their own.*

**- Facilities Manager, Fortune 500  
Telecommunications Services Company**

## INTRODUCING FLIR'S NEW, EXCLUSIVE INFRARED GUIDED MEASUREMENT (IGM™) TECHNOLOGY

IGM technology, driven by a FLIR Lepton® thermal camera core, allows FLIR to develop unique products that help you to visually pinpoint potential issues — instantly and efficiently – before, during, and after work is performed.



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.



*292 organizations saved their customer or organization an average of \$774,250 with their FLIR product.*

**-TechValidate survey of FLIR users**



OUR LATEST INNOVATIONS **NEW**

Leveraging our 50-year history as the world's largest supplier of thermal imaging technology to military, government, and commercial customers, FLIR introduces a new line of test & measurement instruments built upon our commitment to innovation, quality, and reliability.



**FLIR DM284**  
Imaging True RMS  
multimeter with IGM

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**FLIR ONE PRO**

3rd generation thermal accessory  
for mobile devices



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**FLIR C3**

Pocket thermal imaging camera  
with Wi-Fi connectivity



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**FLIR Exx-Series**

Advanced thermal imaging cameras  
with laser distance meter and MSX



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**AX8**

Thermal imaging sensor for  
continuous monitoring



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**FLIR MR40**

Pocket-sized, easy-to-use  
moisture pen + flashlight

## FLIR ONE PRO® Thermal Imaging Camera Attachment

The all new FLIR ONE Pro is a must-have for any inspector or contractor's toolbox. Combining enhanced high resolution MSX™ imagery with powerful measurement tools and report generation capability, the FLIR ONE Pro works almost as hard as you do. With our exclusive VividIR™ image processing, the FLIR ONE Pro gives you the sharpest mobile thermal image you've ever seen. One size fits all with our brand new adjustable connector — ensuring that your FLIR ONE Pro will fit your phone or tablet, even with its rugged case still in place so you don't have to choose between protecting your phone and thermal vision.

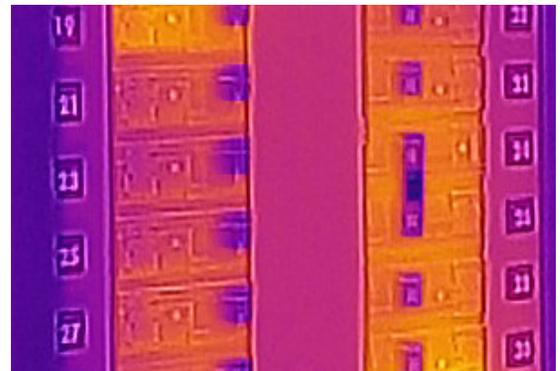
### Key Features:

- MSX-enhanced thermal images provide stunning detail to help you identify problem areas easier
- VividIR advanced image processing delivers true super-resolution image enhancement for stunningly crisp imagery and fine detail
- Ruggedized design that can withstand a 1.8-meter drop
- OneFit™ adjustable connector adapts your FLIR ONE Pro to fit with almost any phone case
- Measure the temperature of any spot in a scene between -4°F and 248°F (-20° to 120°C), and detect temperature differences as small as 0.18° F (0.1° C)
- One-touch reporting lets you share thermal images and videos to the social media platform of your choice
- Explore additional features like FLIR ONE Panorama™, FLIR ONE TimeLapse™, and FLIR ONE CloseUp™ functions



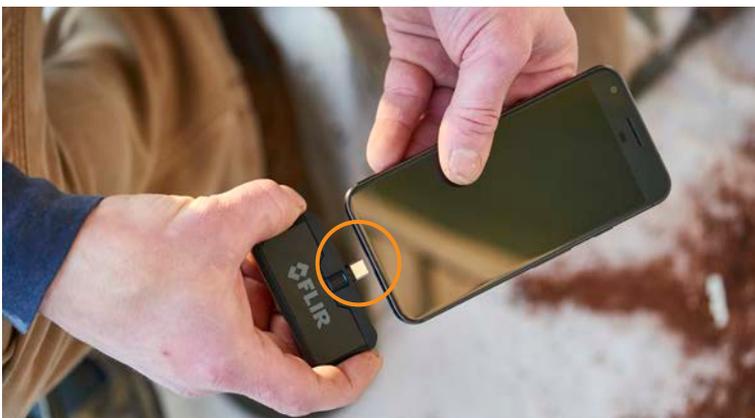
Available Late Q2 , 2017

| Specifications           |  |
|--------------------------|--|
| IR resolution            | 160 x 120 (19,200 pixels)  |
| Thermal sensitivity      | 150mK  |
| HFOV/VFOV                | 55° ± 1° / 43° ± 1°  |
| Object temperature range | -20°C to 120°C   |
| Accuracy                 | ±3°C or ±5%, typical percent of the difference between ambient and scene temperature. Applicable 60s after start-up when the unit is within 15°C to 35°C and the scene is within 5°C to 120°C. |
| Focus                    | Fixed 15cm - Infinity  |
| Frame rate               | 8.7Hz  |
| Battery life             | 1h   |
| Charging                 | Female micro USB-C (5V/1A)   |
| Interface                | Male Lightning (iOS), Male micro USB-C (Android)   |



Use FLIR ONE to check overheating breakers or missing insulation behind walls.

◀ OneFit adapts your FLIR ONE to fit with almost any phone case



## FLIR C2 and FLIR C3 Full-featured, Pocket-sized Thermal Cameras

**NEW**

The FLIR C3 and C2 are your go-to tool for building inspections, facilities maintenance, HVAC, or electrical repair. The C2 includes MSX<sup>®</sup> 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 one you choose, you'll be ready anytime to find hot fuses, cold air leaks, plumbing issues, and more.

### Key Features:

- Captures Thermal Measurements from -10°C to 150°C (14 to 302°F)
- Pocket Portable: keep it on you and at your side, ready for immediate use so you don't miss an opportunity
- Brilliant 3" intuitive touch screen with auto orientation for easy viewing
- Fully Radiometric: save thermal image JPEGs instantly, then conveniently adjust and analyze them later with FLIR Tools to isolate temperature measurements on any pixel and create convincing reports
- MSX-enhanced thermal images provide stunning detail to help you identify problem areas easier
- FLIR's 2-10 warranty covers parts and labor for two years and the detector for ten
- Wi-Fi enabled for instant peer-to-peer image sharing (C3 only)
- Picture-in-Picture (C3 only)
- Area measurement box measures hottest or coldest spot (max./min.) (C3 only)



| Specifications           | FLIR C2   | FLIR C3                 |
|--------------------------|---|-------------------------|
| IR resolution            | 80 x 60 (4,800 pixels)  |                         |
| Thermal sensitivity      | <0.10°C   |                         |
| Field of view            | 41° x 31°   |                         |
| Object temperature range | -10°C to +150°C (14 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       | N/A   | IR area on visual image |
| Area                     | N/A   | Box with max. or min.   |
| Wi-Fi                    | N/A   | Standard 802.11 b/g/n   |

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

Now you can afford the ultimate inspection tool and gain a competitive advantage. The E4, E5, E6, and E8 infrared cameras are powerful and extremely cost-effective troubleshooting tools. Blow customers away with dramatic MSX thermal images that clearly reveal problems

### Key Features:

- 3" color LCD display
- Wi-Fi connectivity to mobile devices via FLIR Tools Mobile app
- Simple button navigation
- On-board 640 x 480 Digital Camera
- Fully automatic, lightweight, easy to use, weighs only 1.2lbs
- 2% accuracy
- File format: Radiometric jpg
- Swapable Li-ion Battery with 4 hour life
- Simultaneous storage of IR/ Visual/MSX images
- Picture-in-Picture image
- Area Box Measurement mode
- Each includes power supply/charger with four plugs, rechargeable battery, FLIR Tools software, USB cable, and hard transport case. E8 also includes extra battery and external battery charger
- FLIR's 10-5-2 warranty provides a 10-year warranty on the IR detector, 5-year protection on field-replaceable batteries, and 2-year coverage on parts and labor

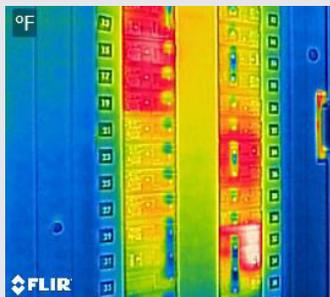


| Specifications            | FLIR E4  | FLIR E5                  | FLIR E6                   | FLIR E8                   |
|---------------------------|--|--------------------------|---------------------------|---------------------------|
| IR resolution             | 80 x 60 (4,800 pixels)   | 120 x 90 (10,800 pixels) | 160 x 120 (19,200 pixels) | 320 x 240 (76,800 pixels) |
| Thermal sensitivity       | <0.15°C  | <0.10°C                  | <0.06°C                   | <0.06°C                   |
| Digital camera resolution | 640 x 480  |                          |                           |                           |
| Temperature range         | -20 to 250°C (-4 to 482°F)   |                          |                           |                           |
| Measurement modes         | 3 modes: 1 Spot (center); 1 Area Box (Min/Max); Isotherm (above/below) |                          |                           |                           |
| Frame rate                | 9Hz  |                          |                           |                           |
| Field of view             | 45° x 34°  |                          |                           |                           |
| Focus                     | Focus free   |                          |                           |                           |

## What is MSX®?

### NEW Exclusive MSX® Thermal Imaging Technology Made Affordable for Everyday Use

Multi-Spectral Dynamic Imaging (MSX) for easier interpretation of an image - adds visible spectrum 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 back to a visual image for detail.



Breaker Panel



Missing Insulation



Warm Drain Pipe in Wall

## 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.

With up to 161,472 pixel resolution and a larger, more vibrant LCD screen than any other pistol-grip thermal camera, Exx-Series cameras make it easier than ever to identify hot spots, discover potential points of failure, and diagnose problems – even at a distance. Avoid costly shutdowns and lost production time through regular predictive maintenance routines with these rugged, intuitive cameras.

Offering superior sensitivity and a true 42° field of view in a user-friendly, handheld platform, Exx-Series cameras can detect even subtle indications of building deficiencies and moisture intrusion, and provide on-screen area measurement so you can easily quantify and document air leaks, moisture, and other building problems.

### Key Features:

- Interchangeable, auto-calibrating lenses
- Up to 464 x 348 (161,472 pixels) IR resolution
- Our best MSX® image enhancement adds depth and detail to images
- UltraMax™ processing for 4x pixel resolution
- Vibrant 4" touchscreen with 160° viewing angle
- True 42° field of view
- Laser-assisted autofocus
- Streamlined reporting features
- Rapid-response touch screen with intuitive new user interface
- Convenient menu buttons 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 (E85, E95)
- Wide temperature ranges, up to 1,500°C (E95)



| Specifications  | FLIR E75   | FLIR E85  | FLIR E95   |
|---|--|---|--|
| IR Resolution   | 320 x 240 (76,800 pixels)  | 384 x 288 (110,592 pixels)  | 464 x 348 (161,472 pixels)   |
| Thermal Sensitivity   | < 0.03°C @ 30°C  |   |  |
| Object Temperature Range                                    | -20°C to 120°C (-4°F to 248°F)<br>0°C to 650°C (32°F to 1,200°F)<br>Optional 300°C to 1,000°C<br>(572°F to 1,830°F)* | -20°C to 120°C (-4°F to 248°F)<br>0°C to 650°C (32°F to 1200°F)<br>300°C to 1,200°C<br>(572°F to 1,830°F) | -20°C to 120°C (-4°F to 248°F)<br>0°C to 650°C (32°F to 1,200°F)<br>300°C to 1,500°C<br>(572°F to 1,830°F) |
| Image Frequency   | 30 Hz  |   |  |
| Field of View (FOV)   | 24° x 18° (18 mm lens), 42° x 32° (10 mm lens), 14° x 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   |   |  |
| UltraMax™   | Super-resolution process quadruples pixel count, activated in FLIR Tools+  |   |  |
| Laser Distance Measurement                                  | Yes, on-screen   |   |  |
| Laser Area Measurement (m <sup>2</sup> or ft <sup>2</sup> ) | No   | Yes   | Yes  |
| Measurement Presets   | No measurement, center spot, hot spot, cold spot, User Preset 1, User Preset 2                                       |   |  |
| Spotmeter   | 1 in live mode   | 3 in live mode  | 3 in live mode   |
| Area Box  | No   | 3 in live mode  | 3 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  |   |  |



Select FLIR meters communicate with Exx cameras via Bluetooth

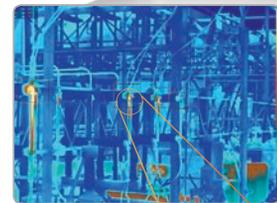


Mobile devices communicate with Exx cameras via WiFi

## FLIR T-Series High Performance Thermal Imaging Cameras

### Highest Resolution Highest Sensitivity & Widest Temperature Range

- Accurate, Reliable Readings** Maximum flexibility and efficiency for accuracy from farther away. Crisp thermal images with up to 307,200 pixels (640 x 480) for the best detection, pictures and temperature measurements from long range and up to 1.2 million pixels with ULTRAMAX™.
- ULTRAMAX Technology** - Enhances thermal resolution to create a higher definition radiometric JPEG with up to four times as many pixels and better distance accuracy than the native image.
- MSX Thermal Image Enhancement** Etches detail from the visible light camera onto the thermal image to help you see exactly where problems are without compromising the thermal image or temperature data.
- Flex Ergonomics** Scan targets up high, down low (like MCC's), and from tough angles while keeping the display in view. Rotating optical block lens moves 120° up or down.
- Wi-Fi Connectivity** Send images and data via iOS/Android devices to share images and critical information quickly using the FLIR Tools Mobile app.
- Bright 4.3" Touchscreen** Tap the screen or buttons to quickly access temperature measurement tools, parameters, image modes and more.
- METERLINK™ Technology** Wirelessly transmits extra diagnostic data from FLIR clamps, Multimeters and moisture meters directly to the camera for annotating thermal images to support further diagnostic testing.



With UltraMax™



Without UltraMax™



ULTRAMAX™ at 8X zoom

### 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 T420                           | FLIR T440                             | FLIR T620   | FLIR T640                           |
|---------------------|-------------------------------------|---------------------------------------|---|-------------------------------------|
| IR Resolution       | 320 × 240 (76,800 pixels)           |                                       | 640 × 480 (307,200 pixels)  |                                     |
| Temperature Range   | -20°C to 650°C<br>(-4°F to 1,202°F) | -20°C to 1,200°C<br>(-4°F to 2,192°F) | -40°C to 650°C (-40°F to 1,202°F)<br>Optional: to 2,000°C (3,632°F) | -40°C to 2,000°C (-40°F to 3,632°F) |
| Thermal Sensitivity | <0.04°C @ 30°C                      |                                       | <0.03°C @ 30°C  |                                     |
| Display Size        | 3.5"                                |                                       | 4.3"  |                                     |
| Auto Focus          | Manual & Automatic                  |                                       | Manual/Automatic/Continuous   |                                     |
| Viewfinder          | No                                  |                                       | Yes   |                                     |

## The Infrared Training Center

The 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
- Popular ITC courses:** Indoor Electrical Surveys using IR Thermography, Outdoor Electrical Surveys using IR Thermography, Building Inspection, Condition Monitoring
- Come to classes at our training center or at one of our many regional locations  
 On-site training at your facility 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) or call 1.866.872.4647
- New to thermography?  
 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)

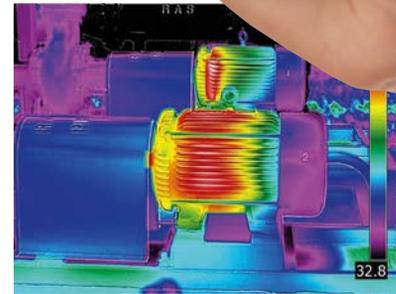


## FLIR AX8 Thermal Imaging Sensor

### Continuous Condition and Safety Monitoring

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, process and manufacturing areas, data centers, energy generation and distribution, transportation and mass transit, storage facilities and refrigeration warehouses.

| Specifications                     |  |
|------------------------------------|--|
| IR resolution                      | 80 × 60 (4,800 pixels)   |
| Thermal sensitivity/NETD           | < 0.10°C @ +30°C (+86°F) / 100 mK  |
| Field of view (FOV)                | 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  |
| Emissivity correction              | Variable from 0.01 to 1.0  |
| External optics/windows correction | Automatic, based on input of optics/window transmission and temperature  |
| Alarm functions                    | Automatic alarms on any selected measurement function. A maximum of 5 alarms can be set                            |
| Alarm output                       | Digital Out, store image, file sending (ftp), email (SMTP), notification   |
| Web interface                      | Yes  |
| Storage media                      | Built-in memory for image storage  |
| Ethernet, connector type           | M12 8-pin X-coded  |
| Ethernet, video streaming          | Yes  |
| Ethernet, power                    | Power over Ethernet, PoE IEEE 802.3af class 0  |
| 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   |



Also available as a kit that includes the sensor and accessories (Model # 71201-0101-KIT)

## FLIR IR Windows

### Faster and Safer Thermal Surveys

- 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
- Integrity and environmental ratings of cabinets are intact even after installation
- Windows are sized to match dimensions of standard knockout punches
- Easy to install with no screws involved



| Model Size                    | IRW-2C/2S 2" Window | IRW-3C/3S 3" Window            | IRW-4C/4S 4" Window |
|-------------------------------|---------------------|--------------------------------|---------------------|
| NEMA Environment Type         |                     | Type 4/12 (outdoor/indoor)     |                     |
| Automatically Grounded        |                     | Yes                            |                     |
| Maximum Operating Temperature |                     | 500°F/260°C                    |                     |
| Body Material - IRW-xC Type   |                     | Anodized Aluminum              |                     |
| Body Material - IRW-xS Type   |                     | AISI grade 316 stainless steel |                     |

## FLIR TG165/TG167 Spot Thermal Cameras

**Find an unseen world of problems ordinary meters miss**

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 exclusive Lepton® micro thermal camera, the TG165 and TG167 help you identify heat patterns so you can pinpoint areas for 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.

**NEW**

The Original  
**IGM™**  
INFRARED GUIDED  
MEASUREMENT



**Key Features:**

- TG165 with 50°x38.6° wide field-of-view for building inspections
- TG167 with 25°x19.6° tighter FOV for electrical/mechanical scans
- Captures temperatures from -25°C to 380°C (13°F to 716°F)
- True thermal detection – best-in-class image quality
- Portable design with balanced, contoured grip
- Tripod mount and lanyard connection
- Simple to operate – intuitive buttons and menu
- Rugged and reliable – withstands a 2-meter drop
- Dual laser pointers to frame area of interest
- Convenient pull-trigger activates lasers and freezes images
- Micro SD card & mini-USB port for downloading images and charging



## FLIR TG54/TG56 Spot IR Thermometers

**Easily take measurements in hard-to-reach spots from farther away**

The TG54 and TG56 Spot IR (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:**

- Take non-contact surface temperature measurements with IR sensor
- 24:1 or 30:1 spot ratio to measure smaller targets from a safer distance
- 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
- Stunning visual high and low alarms
- Rugged, industrial design that can withstand a three meter drop
- Bright LED worklight to help you see your target in poor lighting conditions
- Tool-less battery compartment



| Spot IR 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 Milliseconds                           |      |
| Spectral Response            | 5 to 14 microns                             |      |



## FLIR VP50 Non-Contact Voltage (NCV) Detector + Flashlight

Reliably detects voltages on the latest tamperproof outlets and electrical systems



### Key Features:

- Safe CAT IV-1000V rating and toolbox tough with rubber reinforced case and buttons, and a low-profile detection tip
- Vibration and red LED alarms alert users to the presence of voltage in noisy areas
- Versatile High/Low sensitivity modes detect voltage on industrial equipment and low-voltage installations
- Powerful LED worklight always at the ready to illuminate poorly lit locations
- Inspection light at the probe tip facilitates testing in dark areas
- Long run time capable with power saving Low Battery Indication and Auto Power Off
- Rugged double molded design
- Includes 2 AAA batteries, user manual and limited lifetime warranty



Dual Voltage Range

| Technical Summary/ Features |                            |
|-----------------------------|----------------------------|
| Voltage Ranges              | 90 to 1000V<br>24 to 1000V |
| Category Rating             | CAT IV-1000V               |
| Frequency Range             | 45 - 65Hz                  |
| Built-in Flashlight         | LED (60 Lumens)            |
| Vibrating Indication        | Yes                        |
| On/Off Switch               | Yes                        |
| Warranty                    | Limited Lifetime*          |



## FLIR Test Accessories



TA12 General Purpose Accessory Case



TA80 CAT IV Silicone Test Probes



TA50 Magnetic Hanging Strap for DM9x Series



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 DM284

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

The FLIR CM174 is the first clamp meter equipped with a built-in thermal imager that can quickly lead you to problems you can't see with a standard clamp meter. Featuring Infrared Guided Measurement (IGM) technology, the 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:

- Thermal resolution 80 x 60 (4,800 pixels)
- Conquer cluttered wires and cables – IGM can quickly guide you in the right direction
- All-in-one tool – carry just one device and always have access to thermal imaging
- Work safely – scan a panel or cabinet for hazards using IGM without direct contact
- Center-point temperature to confirm hot spot
- Amperage and voltage measurements
- 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, Smart Diode with Disable

| Specifications              | Range                             | Basic Accuracy |
|-----------------------------|-----------------------------------|----------------|
| AC/DC Voltage               | 1000V                             | ±1.0%          |
| VFD AC Voltage              | 1000V                             | ±1.0%          |
| LoZ Mode AC Voltage         | 1000V                             | ±1.0%          |
| LoZ Mode DC Voltage         | 1000V                             | ±1.0%          |
| DC Current                  | 600.0A                            | ±2.0%          |
| AC Current                  | 600.0A                            | ±2.0%          |
| VFD AC Current              | 600.0A                            | ±2.0%          |
| Inrush AC Current           | 600.0A                            | ±3.0%          |
| Inrush AC Current Threshold | Min 0.5A , Integration Time 100ms |                |
| Frequency                   | 60.00kHz                          | ±0.1%          |
| Resistance                  | 6000Ω                             | ±1.0%          |
| Continuity                  | 600.0Ω                            | ±1.0%          |
| Capacitance                 | 1000μF                            | ±1.0%          |
| Diode                       | 1.5V                              | ±1.5%          |

## FLIR CM72/CM74 Commercial 600A Clamp Meters

### Key Features:

- Made with a narrow jaw for easy access to wiring in crowded panels and cabinets
- Slim clamp design makes it convenient to carry in your back pocket
- Dual bright high-powered LED worklights guide you to your target in poor lighting conditions
- Advanced electrical features including: True RMS, LoZ, VFD Mode (CM74 only), Inrush (CM74 only), Smart Diode with Disable
- Expandable to 3000A AC with TA72 & TA74 Flex Clamp Accessories (sold separately)
- Min / Max, Hold and Auto Power Off with Disable
- Premium gold-tipped silicone test lead accessories included
- Large digit LCD display with bright backlight
- Rubberized double molded hand grips reduce slippage

| Electrical Measurements | CM72 Max Range | CM74 Max Range | Basic Accuracy |
|-------------------------|----------------|----------------|----------------|
| AC/DC Voltage           | 600.0V         | 1000V          | ±1.0%          |
| VFD AC Voltage          | -              | 1000V          | ±1.0%          |
| LoZ Mode AC/DC Voltage  | 600.0V         | 1000V          | ±1.0%          |
| DC Current              | -              | 600.0A         | ±2.0%          |
| AC Current              | 600.0A         | 600.0A         | ±2.0%          |
| VFD AC Current          | 600.0A         | 600.0A         | ±2.0%          |
| Inrush AC Current       | -              | 600.0A         | ±3.0%          |
| Frequency               | 60.00kHz       | 60.00kHz       | ±0.1%          |
| Resistance              | 6000Ω          | 6000Ω          | ±1.0%          |
| Continuity              | 600.0Ω         | 600.0Ω         | ±1.0%          |
| Capacitance             | 1000μF         | 1000μF         | ±1.0%          |
| Diode                   | 1.5V           | 1.5V           | ±1.5%          |



## FLIR CM82/CM83/CM85 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 bargraph, integrated non-contact voltage detector, min/max/average, auto power off, data hold, peak hold, relative, DCA zero, and battery status

### Model CM82

- 600A True RMS AC/DC Current Measurement

### Model CM83 (600A) / CM85 (1000A)

- True RMS AC/DC Current Measurement
- FLIR Tools Mobile connects the FLIR CM83 to compatible smartphones and tablets via Bluetooth for remote viewing and sharing
- METERLiNK technology wirelessly embeds electrical clamp meter readings into radiometric infrared images captured with compatible FLIR Thermal Cameras
- Includes: CAT IV Silicone Test Leads, 6 AAA Batteries, User Manual/CD, and Limited Lifetime Warranty



| Specifications            | CM82                               | CM83                               | CM85                             | Basic Accuracy |
|---------------------------|------------------------------------|------------------------------------|----------------------------------|----------------|
| AC/DC Current             | 600A                               | 600A                               | 1000A                            | ±2%            |
| AC/DC Voltage             | 1000V                              | 1000V                              | 1000V                            | ±1% / 0.7%     |
| AC VFD Voltage            | 1000V                              | 1000V                              | 1000V                            | ±1%            |
| Harmonics                 | 1st-25th Order                     | 1st-25th Order                     | 1st-25th Order                   | ±5%            |
| Total Harmonic Distortion | 0.0 to 99.9%                       | 0.0 to 99.9%                       | 0.0 to 99.9%                     | ±3%            |
| Inrush Current            | 600ACA<br>(Integration Time 100ms) | 600ACA<br>(Integration Time 100ms) | 1000ACA (Integration Time 100ms) | ±3%            |
| Active Power              | 10kW to 600kW<br>(10V, 5A min)     | 10kW to 600kW<br>(10V, 5A min)     | 10kW to 1000kW<br>(10V, 5A min)  | ±3%            |
| Diode Test                | 0.4 to 0.8V                        | 0.4 to 0.8V                        | 0.4 to 0.8V                      | ±0.1V          |
| Capacitance               | 3.999mF                            | 3.999mF                            | 3.999mF                          | ±1.9%          |
| Resistance                | 99.99kΩ                            | 99.99kΩ                            | 99.99kΩ                          | ±1%            |
| Continuity Threshold      | 30Ω                                | 30Ω                                | 30Ω                              | ±1%            |
| Frequency                 | 20.00Hz to 9.999kHz                | 20.00Hz to 9.999kHz                | 20.00Hz to 9.999kHz              | ±0.5%          |
| Bluetooth Range Max       | —                                  | 32ft (10m)                         | 32ft (10m)                       | —              |
| Jaw Opening               | 1.45in (37mm, 1000MCM)             | 1.45in (37mm, 1000MCM)             | 1.77in (45mm)                    | —              |
| Category Rating           | CAT IV-600V, CAT III-1000V         |                                    |                                  |                |
| Battery Type              | 6 x AAA                            |                                    |                                  |                |
| Warranty                  | Limited Lifetime*                  |                                    |                                  |                |

\* When registered within 60 days of purchase.

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

The FLIR CM4X Clamp Meter series includes three affordable True RMS meters designed for commercial and residential electricians. The CM42 and CM44 feature AC clamp measurement, and the CM46 offers both AC and DC measurements, and center-point temperature readings.

### 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
- Tough, over-molded, easy grip design and slim, portable size
- Durable to withstand a 2-meter drop, and operates at -10°C to 50°C (14°F to 122°F)
- Built to accept up to a 30mm max conductor
- Electrical field detection (NCV) determines if voltage is present and relative strength of the field



| Measurements                                    | CM42      | CM44                               | CM46                               | Basic Accuracy |
|---|-----------|------------------------------------|------------------------------------|----------------|
| DC Voltage                                      | 600 V     | 600 V                              | 600 V                              | ±1.0%          |
| AC Voltage (Digital Low Pass Filter/VFD)        | 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)<br>(100-400 Hz) | 400 A     | 400 A                              | 400 A                              | ±1.8%<br>±2.0% |
| Accu-Tip Clamp-On AC Current                    | 60 A      | 60 A                               | 60 A                               | ±1.5%          |
| Clamp-On DC Current                             | —         | —                                  | 400 A                              | ±2.0%          |
| Accu-Tip Clamp-On DC Current                    | —         | —                                  | 60 A                               | ±2.0%          |
| Frequency                                       | 50-400 Hz | 50-400 Hz                          | 50-400 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%          |
| DCμA  | —         | 2000 μA                            | 2000 μA                            | ±1.0%          |
| 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%          |

| General Meter         |                             |
|-----------------------|-----------------------------|
| Display               | 3-5/6 digits 6000 counts    |
| Operating Temperature | -10°C to 50°C (14 to 122°F) |
| Continuity            | 10Ω < & < 250Ω              |
| Recording             | Min / Max / Avg             |
| Backlight LCD         | Yes                         |
| Certifications        | UL, CE                      |
| Category              | CAT IV 300V / CAT III 600V  |
| Jaw Opening           | 30 mm Max                   |
| Warranty              | Limited Lifetime            |
| Battery Type          | 2x AAA                      |



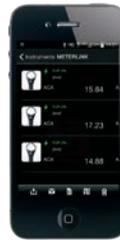
Accu-Tip enables more accurate amperage measurements

## FLIR CM55/CM57 Flexible Clamp Meters

**FLIR Flexible Clamp Meters with Bluetooth® are ergonomic tools designed to simplify your work every day.**

**Key Features:**

- 3000A AC True RMS current measurements
- Convenient 10" or 18" flexible clamp with locking mechanism
- Inrush current for equipment start-up spikes
- Bluetooth to mobile devices for remote viewing
- Data recording for trend analysis transferable via Bluetooth®
- Bright LED work lights for easy inspection and navigation
- Limited Lifetime Warranty with Registration



CM55

CM57

| Specifications                 | CM55   | CM57   |
|--------------------------------|--|--|
| Maximum AC Current             | 3000A AC   | 3000A AC   |
| AC Response                    | True RMS   | True RMS   |
| AC Current Ranges & Resolution | 30.00A, 300.0A, 3000A  | 30.00A, 300.0A, 3000A  |
| Basic AC Current Accuracy      | ± 3.0% + 5 digits  | ± 3.0% + 5 digits  |
| Maximum Resolution             | 0.01A  | 0.01A  |
| AC Current Bandwidth           | 45Hz – 500Hz (sine wave)   | 45Hz – 500Hz (sine wave)   |
| Inrush Current                 | Min 0.5A, 100mS  | Min 0.5A, 100mS  |
| Data Record Mode               | 20000 points, 1 min Sample Rate  | 20000 points, 1 min Sample Rate  |
| Detailed Accuracy              | 30.00 A ±(3.0% + 5 digits)<br>300.0 A ±(3.0% + 5 digits)<br>3000 A ±(3.0% + 5 digits)<br>30.00 A ±(3.0% + 5 digits)<br>300.0 A ±(3.0% + 5 digits)<br>3000 A ±(3.0% + 5 digits) | 30.00 A ±(3.0% + 5 digits)<br>300.0 A ±(3.0% + 5 digits)<br>3000 A ±(3.0% + 5 digits)<br>30.00 A ±(3.0% + 5 digits)<br>300.0 A ±(3.0% + 5 digits)<br>3000 A ±(3.0% + 5 digits) |
| Positional Error               | 0.6" (15mm) 2.0%   | 1.4" (35mm) 1.0%   |
| (Distance from optimum)        | 1.0" (25mm) 2.5%   | 2.0" (50mm) 1.5%   |
|                                | 1.4" (35mm) 3.0%   | 2.4" (60mm) 2.0%   |

## FLIR TA72/TA74 Flexible Clamp Adaptors

**Designed to add capabilities, simplify challenges and get the best readings with your existing meter**

**Key Features:**

- Adds 3000A AC current measurements to existing meters
- Convenient 10" or 18" flexible clamp with locking mechanism
- AC voltage probe output for universal compatibility
- Banana plug connections fit most meters
- Switchable AC current range: 30A, 300A, 3000A
- Bright LED work lights for easy inspection
- Limited lifetime warranty with registration

| Specifications                           | TA72/TA74   |
|--|---|
| Maximum AC Current                       | 3000A AC  |
| AC Current Ranges & Resolution           | 30.00A, 300.0A, 3000A   |
| Basic AC Current Accuracy (full scale)   | ± 3.0% + 5 digits   |
| Measurement Rate                         | 1.5 samples per second, nominal   |
| AC Current Bandwidth                     | 45Hz – 500Hz (sine wave)  |
| Detailed Accuracy                        | 30.00 A ±(3.0% + 5 digits)<br>300.0 A ±(3.0% + 5 digits)<br>3000 A ±(3.0% + 5 digits) |
| Positional Error (Distance from optimum) | 1.4" (35mm) 1.0%  |
|  | 2.0" (50mm) 1.5%  |
|  | 2.4" (60mm) 2.0%  |



TA72

TA74

## 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 Infrared Guided Measurement that visually shows you where hot spots are so you can pinpoint where to investigate further. 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 x 120 resolution thermal imaging
- Verify issues with trusted readings every time, even with complex measurements
- 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
- Durable and drop tested with 10-year warranty



**NEW**



### Thermal Imaging

|               |                                  |
|---------------|----------------------------------|
| IR Resolution | 160 x 120 (19,200 pixels)        |
| Sensitivity   | ≤ 150 mK                         |
| Emissivity    | 4 Presets with Custom Adjustment |
| Accuracy      | 3°C or 3.5%                      |
| Range         | -10°C to 150°C (14°F to 302°F)   |
| FOV (w x h)   | 46° x 35°                        |
| Laser Pointer | Yes                              |
| Focus         | Fixed                            |

| Measurements     | Range                                     | Accuracy                                 |
|------------------|---|--|
| AC / DC Volts    | 1000V                                     | 1% / 0.09%                               |
| AC / DC mVolt    | 600.0mV                                   | 1% / 0.5%                                |
| VFD              | 1000V                                     | ±1.0%                                    |
| AC / DC LoZ V    | 1000V                                     | ±1.5%                                    |
| AC / DC Amps     | 10.00A                                    | ±1.5%                                    |
| AC / DC mAmps    | 400.0mA                                   | ±1.5%                                    |
| AC / DC μAmps    | 4,000μA                                   | ±1.0%                                    |
| Resistance       | 50 MΩ                                     | 0.9%                                     |
| Continuity       | Yes                                       | Yes                                      |
| Capacitance      | 10.00mF                                   | 1.9%                                     |
| Diode            | Yes                                       | Yes                                      |
| Min/Max/Avg      | Yes                                       | Yes                                      |
| Flex Clamp Range | 3000A AC (Optional TA72/74)               | ± 3.0% + 5 digits                        |
| Frequency Range  | 99.99kHz                                  | 0.1%                                     |
| Thermocouple     | Type K -40°F to 752°F<br>(-40°C to 400°C) | ±1.0% + 5.4°F (DMM)<br>±1.0% + 9°F (IGM) |



Thermal scan of an electrical panel



Also available as a kit (DM284-FLEX-KIT) that includes 3,000A Flex Clamp and rechargeable battery.

## FLIR DM90/DM92/DM93 True RMS Industrial Multimeters

Our world-class digital Multimeters Offer variable frequency drive filtering to help you accurately analyze non-traditional sine waves and noisy signals.

### Key Features:

- LoZ eliminates ghost voltage readings caused by long wires that share a conduit
- Powerful LED worklight for performing tests in dim lighting
- Durable double-molded construction and IP54 rating (DM92/DM93: 2m drop test, DM90: 3m drop test)
- True RMS Voltage and Current, Bright White LED Backlight, Analog Bargraph, Min, Max, Average, Auto Power Off, Data Hold, Relative
- **DM90 additional features:** AC/DC  $\mu$ A Current
- **DM92/93 additional features:** Auto AC/DC Voltage, Recording, Peak Hold; Manually store and recall up to 99 readings

| Technical Summary    | Max Range   | Basic Accuracy |
|----------------------|---|----------------|
| DC Voltage           | 1000.0V   | $\pm 0.05\%$   |
| AC Voltage           | 1000.0V   | $\pm 0.5\%$    |
| VFD Voltage          | 1000.0V   | $\pm 0.5\%$    |
| DC Current           | 10.000A   | $\pm 0.2\%$    |
| AC Current           | 10.000A   | $\pm 1.0\%$    |
| Resistance           | 40.00M $\Omega$   | $\pm 0.2\%$    |
| Continuity Threshold | 30 $\Omega$   | $\pm 0.2\%$    |
| Frequency            | 100.00kHz   | $\pm 5$ Digits |
| Capacitance          | 40.00mF   | $\pm 0.9\%$    |
| Temperature          | -328 to 2192 $^{\circ}$ F,<br>-200 to 1200 $^{\circ}$ C | $\pm 1.0\%$    |
| Diode Test           | 2V  | $\pm 1.5\%$    |

## FLIR IM75 Insulation & DMM Combo with METERLiNK

An advanced multifunction digital Multimeter and premier handheld insulation tester for installation, troubleshooting and maintenance professionals.

### Key Features:

- Advanced Insulation Modes
- Multiple resistance insulation test level ranges
- LED indicator with Compare Mode
- Transmit readings to METERLiNK-enabled FLIR thermal imaging cameras, or view real-time readings on Android or iOS devices with free FLIR Tools Mobile app
- Extremely bright LED worklights in a flood pattern to illuminate test areas and targets
- Durable double-molded construction (IP54, 2m Drop Test)

| Technical Summary        | MAX Range                   | Basic Accuracy |
|--------------------------|-----------------------------|----------------|
| Insulation Resistance    | 4M to 20G $\Omega$          | $\pm 1.5\%$    |
| Insulation Test Voltages | 50, 100, 250, 500 and 1000V | $\pm 3.0\%$    |
| DC Voltage               | 1000.0V                     | $\pm 0.1\%$    |
| AC Voltage               | 1000.0V                     | $\pm 1.5\%$    |
| VFD AC Voltage           | 1000.0V                     | $\pm 1.5\%$    |
| Earth Bond Resistance    | 40 $\Omega$ to 40K $\Omega$ | $\pm 1.5\%$    |
| Capacitance              | 10 mF                       | $\pm 1.2\%$    |
| Frequency (ACV)          | 40kHz                       | +/- 5 digits   |
| Diode Test               | 2V                          | $\pm 1.5\%$    |
| Continuity               | 400.0 $\Omega$              | $\pm 0.5\%$    |



### DM93 Additional Features:

- Data Record captures electrical measurements and provides wireless data transfer
- Integrated Bluetooth technology connects the FLIR DM93 to the FLIR Tools Mobile app on compatible mobile device for remote viewing and sharing
- METERLiNK technology wirelessly sends the electrical readings to compatible FLIR infrared cameras, embedding the data into live and saved thermal images



## 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 x 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 cross hair 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 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:

- Pocket size
- Sleek design for getting into corners
- 3-meter drop tested
- IP54 splash-proof rated
- Clear LCD display
- Replaceable pins, 2nd set included
- Calibration/ pin check integrated in cap
- Audible indication of measured range (5-12%, 13- 60%, 60+ %)
- Measurement 'Hold' function
- Auto Power Off'
- Lanyard cap retention
- Limited lifetime warranty

Available Q2 , 2017

## FLIR MR77 Moisture Meter

Rugged, feature-packed moisture meter incorporating a pinless sensor and a wired pin probe to capture moisture readings up to 0.75" 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:

- Field replaceable temperature and relative humidity sensor
- 2 Meter Drop-Tested rubber overmolded pocket-sized design
- Industry-leading limited lifetime warranty with registration
- 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 your image with FLIR Thermal Cameras





MR05 Impact Probe

MR09 Baseboard Probe

MR06 Wall Cavity Probe

MR07 Hammer Probe



MR08 Hammer/Wall Probe Combo



MR08 Hammer/Wall Probe Combo complete with pins and case

## Upgrade your Moisture meter

### FLIR Moisture probe 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 an obstruction like sub floor through hardwood flooring. Designed for everyday job site use, we focused on durability of the system (probe, pins and cord), ease of use, and versatility.

| Part Number                             | MR05 Impact Probe | MR06 Wall Cavity Probe | MR07 Hammer Probe | MR08 Hammer/Wall Probe Combo | MR09 Baseboard Probe |
|---|-------------------|------------------------|-------------------|------------------------------|----------------------|
| Impact Plate (to use your own hammer)   | ✓                 | ✓                      | —                 | ✓                            | —                    |
| Integrated Slide Hammer                 | —                 | —                      | ✓                 | ✓                            | —                    |
| Insulated Pins (included)               | —                 | 4" & 6"                | 2x2"              | 2x2", 4" & 6"                | —                    |
| Extension Pins                          | —                 | ✓                      | —                 | ✓                            | —                    |
| Shoulder Case (included)                | —                 | —                      | ✓                 | ✓                            | —                    |
| Works with MR77, MR160, MR176           | ✓                 | ✓                      | ✓                 | ✓                            | ✓                    |
| No Slip Rubber Grips                    | ✓                 | ✓                      | ✓                 | ✓                            | ✓                    |
| Replaceable Pins                        | ✓                 | ✓                      | ✓                 | ✓                            | —                    |
| Detachable Cord with Durable Connection | ✓                 | ✓                      | ✓                 | ✓                            | ✓                    |
| 2 Year Warranty                         | ✓                 | ✓                      | ✓                 | ✓                            | ✓                    |

## EX350 Series True RMS Multimeters with LPF and LoZ

Professional meters loaded with advanced features and functions including Low Pass Filter (LPF) and Low Impedance (LoZ)

### Key Features:

- Low Pass Filter (LPF) for accurate measurement of variable frequency drive signals
- LoZ prevents false readings caused by ghost voltages
- Built-in Non-contact AC Voltage Detector (NCV) with LED indicator
- CAT III-600V rating

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

**NEW**



EX350



EX355  
with Temperature

## 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

### Key Features:

- LoZ prevents false readings caused by ghost voltages
- Built-in Non-contact AC Voltage Detector (NCV) with LED indicator
- 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 bargraph for viewing trends

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

**NEW**



Model EX360  
Electrical DMM

Model EX365  
Industrial DMM

Model EX363  
HVAC DMM



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

## 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

### Key Features:

- 1.18" (30mm) jaw size accommodates conductors up to 350MCM
- LoZ prevents false readings caused by ghost voltages
- $\mu$ A function for HVAC flame rod current measurements
- Built-in Non-contact AC Voltage Detector (NCV) with LED indicator
- 6000 count backlit LCD display
- Min/Max captures highest and lowest readings
- Convenient LED worklight for viewing in dimly lit area

| Specifications                   | EX650   | EX655   |
|----------------------------------|---|---|
| AC Current (Max Res.)            | 6A, 60A, 600A (0.001A)                              | 60A, 600A (0.01A)                                   |
| DC Current                       | —   | 60A, 600A (0.01A)                                   |
| Basic accuracy                   | ACA: $\pm 2.5\%$ of rdg                             | ACA: $\pm 2.5\%$ of rdg;<br>DCA: $\pm 2.5\%$ of rdg |
| AC/DC $\mu$ A Current (Max Res.) | 600 $\mu$ A (0.1 $\mu$ A)                           | 600 $\mu$ A (0.1 $\mu$ A)                           |
| DC Voltage (Max Res.)            | 1000V (0.1mV)                                       | 1000V (0.1mV)                                       |
| AC Voltage (Max Res.)            | 750V (1mV)  | 750V (1mV)  |
| Basic accuracy                   | ACV: $\pm 1.2\%$ of rdg;<br>DCV: $\pm 0.8\%$ of rdg | ACV: $\pm 1.2\%$ of rdg;<br>DCV: $\pm 0.8\%$ of rdg |
| Non-Contact Voltage (NCV)        | 100 to 1000V  | 100 to 1000V  |
| Resistance (Max Res.)            | 60M $\Omega$ (0.1 $\Omega$ )                        | 60M $\Omega$ (0.1 $\Omega$ )                        |
| Capacitance (Max Res.)           | 60mF (0.01nF)                                       | 60mF (0.01nF)                                       |
| Frequency (Max Res.)             | —   | 10Hz to 1MHz (0.01Hz)                               |
| Temperature (Max Res.)           | —   | -40 to 1832°F (1°F)<br>-40 to 1000°C (1°C)          |
| Continuity Beeper                | Yes   | Yes   |
| Diode Test                       | Yes   | Yes   |

## MA443/MA445 True RMS 400A Clamp Meters + NCV

Pocket-sized meter with built-in Non-Contact Voltage detector and choice of AC or AC/DC Current model

### Key Features:

- 1.2" (30mm) jaw size accommodates conductors up to 500MCM
- 4000 count backlit LCD display
- Built-in flashlight illuminates work area
- CAT III-600V category rating

| Specifications          | MA443   | MA445   |
|-------------------------|---|---|
| AC Current              | 4.000A, 40.00A, 400.0A (1mA)                    | 40.00A, 400.0A (10mA)                           |
| DC Current              | —   | 40.00A, 400.0A (10mA)                           |
| Current accuracy        | AC: $\pm 1.8\%$                                 | AC: $\pm 2.5\%$ , DC: $\pm 2.0\%$               |
| DC Voltage              | 400.0mV, 4V, 40, 400V 600V (0.1mV)              | 400.0mV, 4V, 40, 400V 600V (0.1mV)              |
| AC Voltage              | 4V, 40V, 400V 600V(0.1mV)                       | 4V, 40V, 400V 600V(0.1mV)                       |
| Basic accuracy          | AC: $\pm 1.2\%$ DC: $\pm 0.8\%$                 | AC: $\pm 1.2\%$ DC: $\pm 0.8\%$                 |
| Resistance ( $\Omega$ ) | 400, 4k, 40k, 400k, 4M, 40M (0.1 $\Omega$ )     | 400, 4k, 40k, 400k, 4M, 40M (0.1 $\Omega$ )     |
| Capacitance             | 40nF, 400nF, 4 $\mu$ F, 40 $\mu$ F, 400 $\mu$ F | 40nF, 400nF, 4 $\mu$ F, 40 $\mu$ F, 400 $\mu$ F |
|                         | 4mF, 40mF (0.01nF)                              | 4mF, 40mF (0.01nF)                              |
| Frequency               | 10Hz to 1MHz (0.01Hz)                           | 10Hz to 1MHz (0.01Hz)                           |
| Temperature             | -40° to 1832°F/-40° to 1000°C (1°F/°C)          | -40° to 1832°F/-40° to 1000°C (1°F/°C)          |



Model EX650

Model EX655



Model MA443

Model MA445



**MA160 True RMS 200A AC Open Jaw Clamp Meter**

**NEW**

**0.6" (16mm) open-jaw design provides quick current measurements in tight locations without breaking the circuit**

- Built-in Non-Contact Voltage (NCV) detector with audible alert and LED indicator
- 2000 count, 2-level backlit LCD display
- Relative Mode for Capacitance
- Zero and offset adjustment
- Complete with test leads, two AA batteries



**MA260 True RMS 200A AC Open Jaw Clamp Meter**

**NEW**

**0.6" (16mm) open-jaw design provides quick current measurements in tight locations without breaking the circuit**

- Built-in Non-Contact Voltage (NCV) detector with audible alert and LED indicator
- Smart auto-sensing technology enables the meter to recognize the input and automatically switch to the correct mode of operation
- 10,000 count backlit LCD display
- Complete with test leads and two AAA batteries; 1-year warranty



**CB10 AC Circuit Breaker Finder/Receptacle Tester**

**3-in-1 tester locates circuit breakers and tests receptacle wiring.**

- Quickly locate 110V to 125VAC circuit breakers and fuses
- Variable sensitivity adjustment to pinpoint correct circuit breaker
- Bright red and green LEDs indicate if receptacle is either correctly wired or one of six fault conditions
- Simply plug the GFCI transmitter into an outlet and trace for the correct breaker at the electrical box



ONLY \$39<sup>99</sup>

**LT40/LT45 LED Light Meters**

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

- Model LT40 measures light intensity of white LED lights
- LT45 measures both white and color 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
- Model LT40 measures white LED lights
- Model LT45 measures white, red, yellow, green, blue, and purple LED lights
- Manually store/recall up to 99 readings



Model LT40



Model LT45

**BR250 Video Borescope/Wireless Inspection Camera**

**Detachable wireless 3.5" color display can be viewed from a remote location up to 32ft**

- Captured video and still images with date/time stamp can be played back on the wireless monitor or your PC
- Mini water-proof (IP67) 9mm camera head for high resolution viewing
- Two bright LED lamps with dimmer to illuminate viewed object
- SD memory card captures JPEG images or video for viewing on your PC



ONLY \$249<sup>99</sup>

**BR80 Video Borescope Inspection Camera**

**17mm camera diameter and 2.4" Color TFT LCD Monitor with lightweight, handheld design to easily find, diagnose, and solve problem**

- 39" (1m) 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



## RD300 Refrigerant Leakage Detector

**Ideal for detecting leakages from air-conditioning units and cooling systems that use all standard refrigerants**

- Detects all standard refrigerants using a heated diode sensor
- LED light at probe tip (with on/off switch) for working in dimly lit areas
- LEDs display user-selectable High/Medium/Low levels with sensitivity of 0.25/0.50/0.99 oz per year
- Audible and Visual alert with mute button
- Field-replaceable sensor (RD300-S) and LED light tip (RD300-L)



## CO240 Handheld Indoor Air Quality CO<sub>2</sub> Meter

**Dual display of CO<sub>2</sub> level and Humidity, Measures Carbon Dioxide (CO<sub>2</sub>)**

- Maintenance free NDIR (non-dispersive infrared) CO<sub>2</sub> sensor
- Audible CO<sub>2</sub> warning alarm when level exceeds user set point
- Min/Max CO<sub>2</sub> value recall function
- Software for on-line (real-time) data streaming to a PC
- Automatic Baseline Calibration function



## AN100/AN200 CFM/CMM Thermo-Anemometer + IR Thermometers

**Simultaneous display of Ambient Temperature and Air Flow/Air Velocity**

- Up to 8 easy-to-set area dimensions (ft<sup>2</sup> or cm<sup>2</sup>) are stored in the meter's internal memory
- 20-point average function for air flow
- Super large LCD backlit display
- AN200 features built-in non-contact IR Thermometer measuring remote surface temperatures to 500°F (260°C) with an 8:1 distance-to-spot ratio and laser pointer



AN200

## 45118/45158 Mini Thermo-Anemometers

**Pocket Air Velocity meters measure Air Velocity and Temperature or Windchill**

- Fold up protective housing extends to 9" for better reach
- Data hold to freeze most recent display
- Auto shutoff 15 minutes after last key is pressed
- Water resistant housing floats and drop-tested to 6 feet
- 45158 measures relative humidity and dew point



45118

## RHT20/RHT10 Humidity and Temperature USB Dataloggers

**USB interface for easy setup and data download to a PC**

- Datalogs 16,000 humidity and 16,000 temperature readings with a user-programmable sample rate
- Dew point indication via Windows® software (included)
- User-programmable alarm thresholds for RH and temperature
- RHT10 features status indication via colored LEDs
- RHT20 features LCD display of current readings, Min/Max, and alarm status



RHT10

## 42509 Compact IR Thermometer

**Great for processes that require temperature control and monitoring**

- Dual laser for accurate target
- Fast and accurate measurements at 12" where the two lasers converge with 12:1 field of view
- Blue backlit dual LCD display changes to red backlit when reading exceeds high or low set points
- Exclusive 150 millisecond instantaneous response for capturing spikes in temperature



# Rebates & Promotions

**Spend:** Choose Your Gift:

- \$200 - \$799**
  - FLIR Tactical LED Flashlight
  - FLIR VP50 Voltage Detector/Flashlight
  - FLIR Meter Case
- \$800 - \$3,999**
  - Eotech BR80 Video Borescope
  - FLIR EX Camera Accessory Kit
  - FLIR Tooling Car Charger for FLIR EX-Series VP50 Voltage Detector
- \$4,000 - \$9,999**
  - FLIR FX Wireless HD Video Monitor
  - FLIR CM57 Fibre Optic Clamp Meter
  - FLIR TG130 Spot Thermal Camera
- \$10,000 - \$19,999**
  - FLIR MR60 Moisture Meter w/GSM
  - FLIR CM74 Clamp Meter w/GSM
  - FLIR C2 Compact Thermal Camera
- \$20,000 - \$34,999**
  - FLIR DM284-FLEX-KIT (DM, Flex clamp, rechargeable battery, pouch)
  - ITC Level 1 Certification
  - FLIR MR76 Moisture Meter w/GSM (also MR60 Hammer and Wall Cavity Combo Probe)
- \$35,000 - \$49,999**
  - FLIR EB Thermal Imager with MSX

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FLIR Commercial Systems, Inc.

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Email: \_\_\_\_\_

Phone: \_\_\_\_\_ Date of Purchase: \_\_\_\_\_

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Choose gift from the appropriate spending level:

| LEVEL I   | LEVEL II  | LEVEL III   | LEVEL IV   | LEVEL V  |
|---|---|---|--|--|
| \$200 - \$799   | \$800 - \$3,999   | \$4,000 - \$9,999   | \$10,000 - \$19,999  | \$20,000 - \$34,999  |
| <input type="checkbox"/> FLIR Tactical LED Flashlight<br><input type="checkbox"/> FLIR VP50 Voltage Detector/Flashlight<br><input type="checkbox"/> FLIR Meter Case | <input type="checkbox"/> Eotech BR80 Video Borescope<br><input type="checkbox"/> FLIR EX Camera Accessory Kit<br><input type="checkbox"/> FLIR Tooling Car Charger for FLIR EX-Series VP50 Voltage Detector | <input type="checkbox"/> FLIR FX Wireless HD Video Monitor<br><input type="checkbox"/> FLIR CM57 Fibre Optic Clamp Meter<br><input type="checkbox"/> FLIR TG130 Spot Thermal Camera | <input type="checkbox"/> FLIR MR60 Moisture Meter w/GSM<br><input type="checkbox"/> FLIR CM74 Clamp Meter w/GSM<br><input type="checkbox"/> FLIR C2 Compact Thermal Camera | <input type="checkbox"/> FLIR DM284-FLEX-KIT (DM, Flex clamp, rechargeable battery, pouch)<br><input type="checkbox"/> ITC Level 1 Certification<br><input type="checkbox"/> FLIR MR76 Moisture Meter w/GSM (also MR60 Hammer and Wall Cavity Combo Probe) |

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