

# FLIR MR Series

Moisture Meter Systems

*Capture. Confirm. Report*



The World's **Sixth Sense**™

WE'RE LOOKING FOR

# TROUBLE

Let FLIR IGM™ (Infrared Guided Measurement) visually guide you to problems with the power of thermal imaging – so you'll know exactly where to measure

What if you could identify the precise location of a moisture problem that's behind a wall? Under the floorboards? In the ceiling? Now, locating moisture can be the easiest part of your day! Introducing FLIR IGM – or Infrared Guided Measurement – our thermal technology designed to save you time and guide you to the precise spot that may require further testing and investigation. With IGM, identifying problems before they're problems allows you to work faster, smarter, save time, and get to the next job.

- Find problems faster, get more done, and boost your credibility
- Scan for moisture issues from a distance with IGM – when targeting an area out of reach, or if safety is a concern
- Use IGM to show customers where problems are hiding, and prove they've been fixed after repairs



Infrared Guided Measurement



- Pin/Pinless Measurements
- Save up to 10,000 measurements
- Rechargeable battery
- Compatible with FLIR's full line of probe accessories

- Pin/Pinless Measurements
- Thermo hygrometer
- Advanced calculations
- Bluetooth capability
- METERLINK wireless technology
- Rechargeable battery
- Compatible with FLIR's full line of probe accessories

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Work Smarter, Not Harder.

Time is money and with IGM tools from FLIR, you can do a quick sweep of the work area, quickly find the problem area, and get to work.

MR176

# FINDING HIDDEN MOISTURE HAS NEVER BEEN THIS EASY

IGM™



## FLIR MR176 IMAGING MOISTURE METER PLUS IGM™: A 3-IN-1 MOISTURE METER WITH THERMO HYGROMETER

FLIR MR176 is a premium three-in-one moisture meter featuring IGM (Infrared Guided Measurement) technology. Equipped with an 80 x 60 FLIR Lepton thermal camera sensor that powers IGM, the MR176 visually guides you to the precise spot that needs further testing and investigation, giving you more flexibility and convenience than you have ever experienced before. Built tough with an industry-leading warranty, MR176 also features a pin/pinless moisture meter and thermo hygrometer – providing an ideal feature set for professionals who require environmental data from a wide range of applications.

For more information please visit [www.flir.com/MR176](http://www.flir.com/MR176)

### PERFECT FOR:

- Moisture Remediation
- Commercial/Healthcare
- Home Inspection
- HVAC/R
- Residential Roofing
- Pest Management

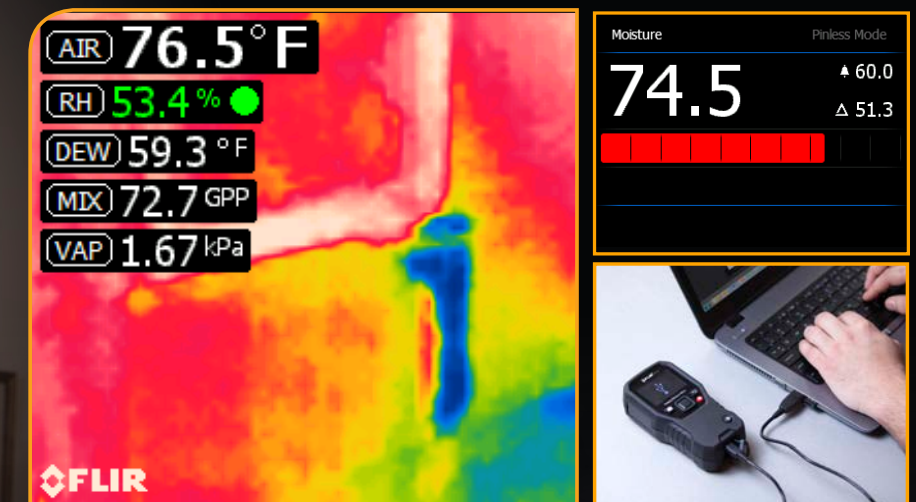


Field-replaceable sensor



### KEY BENEFITS & FEATURES:

- Customize display settings: moisture, temperature, relative humidity, dew point, vapor pressure, mixing ratio
- Lock-image setting prevents extreme temperatures from interfering with images while scanning
- Meter indicates when relative humidity readings have stabilized
- Images are saved to on-board memory with measurement values for reference or USB download later



Capture, Confirm, Report

### ACCESSORIES

For your jobs that require measurements in hard woods, dense materials, deep wall cavities, or through obstructions, FLIR has a quality line of probe accessories compatible with the MR176.

See the accessories page of this brochure to view our full line.



Pin or Pinless Measurements



Field Replaceable T/RH Sensor



**KEY BENEFITS & FEATURES:**

- Pinless technology for fast non-intrusive measurements
- External pin probe included for contact moisture measurements
- Easy targeting with laser pointer and display crosshairs
- Document thermal images and moisture readings on one screen
- Review images and generate reports with free FLIR Tools software
- 18-hour rechargeable battery

**PERFECT FOR:**

- Moisture Remediation
- Building/Remodeling
- Commercial/Healthcare
- HVAC/R
- Commercial Roofing
- Residential Roofing
- Home Inspection
- Pest Management
- Flooring Installation

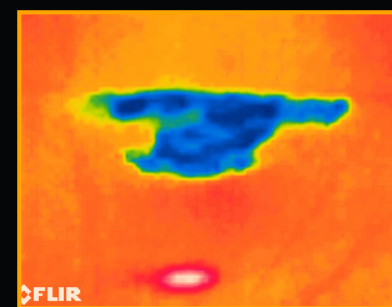
MR160

# THE MOISTURE METER REINVENTED

## FLIR MR160 IMAGING MOISTURE METER WITH IGM™

The FLIR MR160 is a pin and pinless meter designed to show general contractors and building professionals exactly where to measure. Equipped with an 80 x 60 FLIR Lepton thermal camera sensor that powers IGM technology, the MR160 lets you see invisible cold temperature patterns associated with moisture evaporation, visually guiding you to the precise spot that needs further testing and investigation. Built tough with an industry-leading warranty, the MR160 can serve as your go-to troubleshooting tool right out of the box—or as the perfect complement to any high resolution thermal camera you already own—helping you find hidden moisture issues and capture reliable data more efficiently.

For more information please visit [www.flir.com/MR160](http://www.flir.com/MR160)



Clockwise from top:  
Thermal image guides you to moisture  
Pin probe included  
Download images



## ACCESSORIES



For your jobs that require measurements in hard woods, dense materials, deep wall cavities, or through obstructions, FLIR has a quality line of probe accessories compatible with the MR160. See the accessories page of this brochure to view our full line.

MR77

# MOISTURE DETECTION GOES WIRELESS

## FLIR MR77 MOISTURE METER WITH THERMO HYGROMETER

The FLIR MR77 Moisture Meter performs all the critical and advanced measurements restoration and drying professionals demand. Equipped with a pinless moisture sensor and pin probe for non-intrusive or intrusive readings, temperature and relative humidity sensor, and IR thermometer, the MR77 has all the sensors you need in one convenient tool. Built rugged with field-replaceable sensors, the MR77 is engineered to reduce downtime and help you get more done in less time.

For more information please visit [www.flir.com/MR77](http://www.flir.com/MR77)



Clockwise from top: Integrated pinless moisture sensor; Connect METERLiNK cameras and MR77; View measurements on smart devices

### ACCESSORIES

FLIR offers a quality line of probe accessories compatible with the MR77. See the accessories page of this brochure to view our full line.



### PERFECT FOR:

- Moisture Remediation
- HVAC

### KEY BENEFITS

- Bluetooth capability and METERLiNK technology for advanced documentation
- Manually store readings and recall up to 20 measurement points
- Durable rubber overmolded pocket-sized design
- Industry-leading limited lifetime warranty



MR60

# ALL THE FUNCTIONALITY YOU NEED

## FLIR MR60 MOISTURE METER PRO

The FLIR MR60 Moisture Meter Pro is an easy-to-use pin and pinless moisture meter with advanced functionality and a full-color display to meet all your professional measurement needs. An integrated pinless sensor and an external pin probe provide the flexibility to take either destructive or non-destructive measurements. Conveniently save screenshots of your measurements as a CSV file with the date, time, and settings.

For more information please visit [www.flir.com/MR60](http://www.flir.com/MR60)

### PERFECT FOR:

- Moisture Remediation
- HVAC

### KEY BENEFITS

- 11 material group selections for pin-based readings
- Programmable high-moisture alarm with audible and visual alerts in color
- Internal rechargeable battery with USB-based international charger
- Optional probe accessories for application-specific needs

### ACCESSORIES

The MR60 is compatible with FLIR's full line of external moisture probes so you have the flexibility to expand your meter as needed. See the accessories page of this brochure to view our full line.



Date	Time	Reading	Type	Pinless Mode	Reference	Group	File
12/15/15	12:00:44	93.7				Group 6	FLIR0128.BMP
12/15/15	16:23:19	80.8		Pinless Mode	27.1	Group 6	FLIR0129.BMP
12/15/15	16:23:25	98.2		Pinless Mode	27.1	Group 6	FLIR0130.BMP
12/15/15	16:23:36	11.3		Pin Mode		Group 6	FLIR0131.BMP
12/15/15	16:23:46	0		Pin Mode		Group 6	FLIR0132.BMP
12/15/15	16:23:45	27.7		Pinless Mode	27.1	Group 6	FLIR0133.BMP
12/15/15	16:23:51	98.1		Pinless Mode	27.1	Group 6	FLIR0134.BMP
12/15/15	16:23:59	41.1		Pinless Mode	27.1	Group 6	FLIR0135.BMP
12/15/15	16:24:04	54		Pinless Mode	27.1	Group 6	FLIR0136.BMP
12/15/15	16:24:37	38.6		Pinless Mode	27.1	Group 6	FLIR0137.BMP
12/11/15	9:52:05	76.8		Pinless Mode	73.5	Group 6	FLIR0138.BMP
12/11/15	9:52:19	0		Pinless Mode	73.5	Group 6	FLIR0139.BMP
12/11/15	9:52:29	0		Pinless Mode	73.7	Group 6	FLIR0140.BMP
12/11/15	9:52:35	18.2		Pinless Mode	74.7	Group 6	FLIR0141.BMP
12/11/15	9:52:47	0		Pinless Mode	74.7	Group 6	FLIR0142.BMP



Clockwise from top: Pinless mode; MR02 pin probe included; USB download; Save as .CSV file in Excel

# COMPLETE YOUR MOISTURE SYSTEM WITH FLIR PROBE ACCESSORIES

## FLIR MOISTURE METER 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.



**MR04 EXTENSION POLE**  
Easily probe large and out-of-reach areas with telescoping pole that extends up to 52". Compatible with MR05, MR06, and MR08. Fits in MR08 shoulder case. 1/4-20 thread.



**MR07 HAMMER PROBE**  
Stainless steel body with rubber grips for comfortable, long-lasting use. 2-inch insulated pins are one piece (nut and pin). Sandblasted hardened steel pins with abrasion-resistant coating ensures long life.



**MR05\* IMPACT PROBE**  
Robust probe penetrates hard material. Replaceable pins for varying hard materials. Use with extension pole (MR04).



**MR08 HAMMER/WALL PROBE**  
Comfortably hammer probe into vertical, angled, or inverted surfaces. Included 2, 4, and 6-inch probes for varying sensing depths. Get down below carpet pads and subfloor.



**MR06\* WALL CAVITY PROBE**  
Penetrate into wall cavities for insulation moisture. Easily knock through drywall with impact plate 4- and 6- inch pins included for varying depths.



**MR09 BASEBOARD PROBE**  
Probe behind baseboards, wall trim, and crown molding without requiring removal. Get measurements in hard-to-reach areas. Long, thin, flexible probes minimize needed space.

# FLIR MOISTURE KITS OFFER THE COMPLETE SOLUTION AND SAVE YOU MONEY!



SAVE \$75



**MR160-KIT5 FLIR MR160 PRO KIT**  
Combines our MR160 *Imaging Moisture Meter with IGM* and our MR08 Hammer and Wall Cavity Combo Probe.

SAVE \$570



**MR176-KIT6 REMEDIATION KIT**  
Combines our MR176 *Imaging Moisture Meter with IGM* and our MR08 Hammer and Wall Cavity Combo Probe. Includes FLIR E6 Thermal Imager.

SAVE \$150



**MR176-KIT5 MR176 PRO KIT**  
Includes MR176 *Imaging Moisture Meter Plus with IGM*, MR08 Hammer and Wall Cavity Combo Probe, an extra MR01, and a field-replaceable Temperature & Relative Humidity sensor.

SAVE \$74



**MR160-KIT2 BUILDING INSPECTION KIT**  
Includes MR160 *Imaging Moisture Meter Plus with IGM*, a C2 Thermal Imager, MR08 Hammer & Wall Cavity Probe, an extra MR01, and a field-replaceable Temperature & Relative Humidity sensor.

Part Number	Description	UPC	MSRP (if purchased separately)	KIT PRICE	SAVINGS
MR176-KIT6	MR176 Remediation Kit	793950371718	\$3,894.98	\$3,325.00	\$570
MR160-KIT2	MR160 Building Inspection Kit	793950371619	\$1,473.98	\$1,399.99	\$74
MR176-KIT5	MR176 Pro Kit	793950371718	\$1,474.99	\$1,324.99	\$150
MR160-KIT5	MR160 Pro Kit	793950371619	\$999.99	\$924.99	\$75

\*FLIR recommends using the MR05 or MR06 to test moisture in concrete/building materials. Please review your instruction manual for complete details.

# PRODUCT COMPARISON

CHOOSE THE FLIR MOISTURE METER THAT'S RIGHT FOR YOU

	MR60	MR77	MR160	MR176
<b>THERMAL IMAGING</b>				
IR RESOLUTION (IGM)	—	—	4800 pixels (80 × 60)	4800 pixels (80 × 60)
PIN MOISTURE RANGE	7-30% ±1.5% MC 30-100% reference only (Wood)	7-30% ± 1.5% MC 30-100% reference only	0-100% WME (± 5%)	7%-30% ±1.5% MC 30-100% reference only
PINLESS MOISTURE RANGE	0-100 relative	0 to 99.9 relative	0-100 relative	0-100 relative
RELATIVE HUMIDITY	N/A	0 to 99% ±2.5%RH	N/A	0 to 100% ±2.5%RH
Field of view	—	—	51° × 38°	51° × 38°
Thermal image palettes	—	—	Iron*, Rainbow*, Ice, Gray*	Iron*, Rainbow*, Ice, Gray*
<b>DISPLAY</b>				
LCD with LED Backlight	—	Yes	—	—
Color QVGA Display	2.3" 64K TFT graphic	—	2.3" 64K TFT graphic	2.3" 64K TFT graphic
<b>MOISTURE DETECTION</b>				
Moisture Measurement	Pin and pinless	Pin and pinless	Pin and pinless	Pin and pinless
Pinless Moisture Depth	1.9 cm (0.75") maximum	1.9 cm (0.75 ) maximum	1.9 cm (0.75") maximum	1.9 cm (0.75") maximum
Pin Moisture Material Types	9 Wood Groups, 2 Construction Materials	9 Wood Groups	9 Wood Groups, 2 Construction Materials†	9 Wood Groups, 2 Construction Materials†
Compatible Accessories	MR02††, MR04, MR05, MR06, MR07, MR08, MR09	MR02††, MR04, MR05, MR06, MR07, MR08, MR09	MR02††, MR04, MR05, MR06, MR07, MR08, MR09	MR02††, MR04, MR05, MR06, MR07, MR08, MR09
<b>GENERAL</b>				
Laser Pointer	—	Yes, with IR Temp	Yes	Yes
Saved image file format	.BMP with values overlaid	—	.BMP with values overlaid	.BMP with values overlaid
.CSV Stored Data Format	Yes	—	Yes†	Yes†
Stored image capacity	9999 images	—	9999 images	9999 images
IR Temperature	—	-4 to 392°F, -20 to 200°C	—	—
Bluetooth	—	Yes	—	—
Temp RH Sensor Calculations	—	Vapor Pressure, Relative Humidity, Temperature, GPP, Dew Point	—	Vapor Pressure, Relative Humidity, Temperature, GPP, Dew Point
Battery	3.7 V, 2000 mAh Li ion rechargeable	1 x 9V	3.7 V, 2000 mAh Li ion rechargeable	3.7 V, 2000 mAh Li ion rechargeable
Drop Test	3m (9.8ft)	2m (6.5ft)	3m (9.8ft)	3m (9.8ft)

\* If not installed, download latest firmware update

† Available via firmware update Q3, 2016

†† MR02 pin probe included with delivery package

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