FLIR MR176

Imaging Moisture Meter Plus with IGM™

The FLIR MR176 Imaging Moisture Meter Plus with IGM™ is an all-in-one tool equipped with a built-in thermal camera that can show you exactly where to measure moisture. Featuring **Infrared Guided Measurement (IGM)** technology, the MR176 helps you quickly scan and target moisture issues, visually guiding you to the spot where you can confidently take measurements and analyze readings. An integrated pinless sensor and an external pin probe provide the flexibility to take either non-intrusive or intrusive measurements. Coupled with a field-replaceable temperature and relative humidity sensor, and automatically calculated environmental readings, the MR176 delivers added convenience and ease of use, producing the right measurements — faster.

Visually identify hidden moisture with IGM.

Easily investigate moisture issues and troubleshoot quickly

- An 80 x 60, 4800-pixel Lepton® thermal imager powers IGM technology, visually indicating potential moisture areas via the color display
- Customize thermal images: select which measurements are integrated (moisture, temperature, relative humidity, dew point, vapor pressure, mixing ratio), and choose from one of four color palettes (Iron, Rainbow, Ice, Greyscale); a lock-image setting prevents extreme hot and cold temperatures from interfering with images while scanning for issues
- Equipped with a laser and cross hair to easily reference the exact location of the potential moisture issue seen in the thermal image

IGM technology guides you where to measure

Get precise readings.

Confidently take measurements and analyze readings

- Field-replaceable temperature/relative humidity sensor can simply be removed from meter and exchanged when needed, so you can continue to work and reduce downtime
- Progressive Environmental Stability Indicator removes response time error when you move through a site to different measurement locations, informing you when the relative humidity readings have reached a steady state
- Integrated pinless moisture measurements for fast detection, and external pin probe included with expandable probe options

Verify moisture with Pinless measurements

Convenient, flexible, and easy to operate.

Get more work done in less time

- Rugged, portable design with intuitive menu system
- Document readings and images to share via included USB cable
- Free FLIR Tools PC software quickly generates reports

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Specifications

FLIR MR176: Imaging Moisture Meter		
Imaging Detector	FLIR Lepton microbolometer	
Image Calibration	Automatic with manual lock scale option	
Thermal Image Resolution (W x H)	4800 pixels (80 x 60)	
Spectral Response	8 to 14µm	
Field of View (W x H)	51° x 38°	
Sensitivity	<150mK	
Detection Limit (Wet Area Detection @ 32ft (10m)	19.7in² (49cm²)	
Image Update Speed Frequency	9Hz	
Thermal Image Palettes	Iron, Rainbow, Ice, Greyscale	
Thermal Image Minimum Focus Distance	4" (10cm)	
Moisture Measurement	**Range**	**Basic Accuracy**
Pin Moisture	7% to 30%	±1.5% MC
	30% to 100%	Reference only
Pin Moisture Groups	9 Material Groups	
Pinless Moisture Range	0 to 100	Relative
Pinless Measurement Depth	0.75" (19mm) Max	
Measurement Resolution	0.1	
Response Time Pinless Mode	100ms	
Response Time Pin Mode	750ms	
Environmental Measurement	**Range**	**Basic Accuracy**
Relative Humidity	0 to 100%	2.5%RH
Air Temperature	32 to 122°F (0 to 50°C)	±1.1°F (±0.6°C)
Dew Point	-22 to 122°F (-30 to 50°C)	±1.8°F (±1.0°C)
Vapor Pressure	0.0 to 12.0kPa	±0.05kPa
Mixing Ratio	0 to 560GPP (0.0 to 80.0 g/kg)	±2GPP (0.25 g/kg)
General information		
Display Type	QVGA (320 x 240 pixel) 2.3" color TFT graphical display	
Drop Test	3m	
Saved Image File Format	BMP with measurement values overlaid	
Stored Image Capacity	9999 images	
Laser Orientation	Single laser pointer to center of thermal image	
Continuous Run Time	18 hours max	
Typical Usage*	4 work weeks	
Battery	3.7V, 3000mAh Li-ion rechargeable via micro USB	
Certification Standards	EN 61326 (EMC), EN 60825-1 Class 2 (Laser)	
Agency Approvals	CE, FCC Class B, RCM	
Includes	MR01 Replaceable Temperature and Relative Humidity Sensor, MR02 Standard Pin Probe, Quick Start Guide, International USB Charger, USB Cable	

*See FAQs at flir.com/MR176

2 YEAR FULL PRODUCT WARRANTY* | 10 YEAR DETECTOR WARRANTY*

Register within 60 days of purchase at www.flir.com/testwarranty

MR05

MR06

MR10

MR07

MR08

Ordering Information	UPC	EAN
MR176	793950371763	0793950371763
MR05 Impact Pin Probe	793950370056	0793950370056
MR06 Wall Cavity Probe	793950370063	0793950370063
MR07 Hammer Probe	793950370070	0793950370070
MR08 Hammer and Wall Cavity Probe Combo	793950370087	0793950370087
MR10 Protective Case	793950370117	0793950370117

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