FLIR MR160

P/N: MR160

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Website

http://www.flir.com

Customer support

http://support.flir.com

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FLIR MR160: Imaging Moisture Meter	
Part number	MR160
Part name	Imaging Moisture Meter with IGM

The FLIR MR160 Imaging Moisture Meter is the first of its kind. Equipped with a built-in thermal camera, the FLIR MR160 is the only moisture meter with the power to show you exactly where to measure. Featuring Infrared Guided Measurement (IGM) technology, the FLIR MR160 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 intrusive or non-intrusive measurements. Built tough with an industry-leading warranty, the FLIR 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.

Identify and verify with one tool—the first-ever thermal imaging moisture meter:

- 80 × 60 Lepton thermal imager powers IGM technology.
- Document thermal images and moisture readings on one screen.
- Review images and generate reports with free FLIR Tools software.

Troubleshoot quickly—easily investigate insulation and moisture issues:

- Pinless technology for fast non-intrusive measurements.
- External pin probe included for contact moisture measurements.
- Easy targeting with the laser pointer and display cross-hairs.

Portable, tough and durable—drop-tested rugged design:

- Industry-leading warranty.
- Small form factor to conveniently carry with you.
- Internal rechargeable battery with USB.

Thermal imaging	
Imaging detector	FLIR Lepton, microbolometer focal plane array
Shutter	Integrated automatic shutter for auto flat field correction
Thermal image resolution (H × W)	4800 pixels (80 × 60)
Spectral response	8–14 µm

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Thermal imaging	
Field of view (horizontal × vertical)	51° × 38°
Upper scene range	127°C (260°F, 400 K)
Sensitivity	<150 mK
Image update speed frequency	9 Hz
Thermal image palettes	Iron, Rainbow, Ice, Greyscale
Thermal image minimum focus distance	10 cm (4″)

Moisture measurement	
Pin moisture via external probe range (accuracy)	0–100% WME ± 5%
Pin moisture groups	9 material groups
Pinless moisture range	0–100 relative measurement
Pinless moisture depth	1.9 cm (0.75″) maximum
Sample rate	10 Hz (approximate, both modes)
Measurement resolution	0.1
Response time—pinless	100 ms
Response time—pin mode	750 ms

General information	
Display type (W × H)	QVGA (320 × 240 pixels), 2.3″, 64 000 color, TFT graphical display
Warranty	https://www.flir.com/testwarranty
Saved image file format	BMP with measurement values overlaid
Stored image capacity	9999 images
Internal memory	4 GB

Laser	
Type	Visible class 2
Orientation	Single laser pointer to center of thermal image
Power output	1.0 mW (maximum)
Wavelength	650 ± 20 nm

Certifications	
Certification standards	EN61326 (EMC), EN61010 (battery, charger), EN60825-1 Class 2 (laser)
Agency approvals	CE, FCC Class B, RCM

Power system	
Power requirements	Integrated rechargeable battery
Continuous run time	18 hours maximum
Typical usage	4 work weeks
Auto power off	Programmable: off, 1, 5, or 20 minutes
Power adapter	100–240 V input/ 5 V 1 A output
Battery	3.7 V, 3000 mAh Li ion rechargeable via micro USB

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Environmental specifications	
Drop test	3 m (9.8′)
IP rating	IP54 dust-protected and splash-resistant
Operating temperature	0–50°C (32–122°F)
Storage temperature	–10 to +60°C (+14 to +140°F)
Operating humidity	≤90%, 0–30°C (32–86°F) ≤ 75%, 30–40°C (86–104°F) ≤ 45%, 40–50°C (104–122°F)
Storage humidity	90% relative humidity

Meter physical data	
Weight:	300 g (10.6 oz.)
Dimensions (H × W × L)	14 cm × 7.2 cm × 4.2 cm (5.5″ × 2.9″ × 1.7″)
Material	PC-ABS
Color	Gray, black

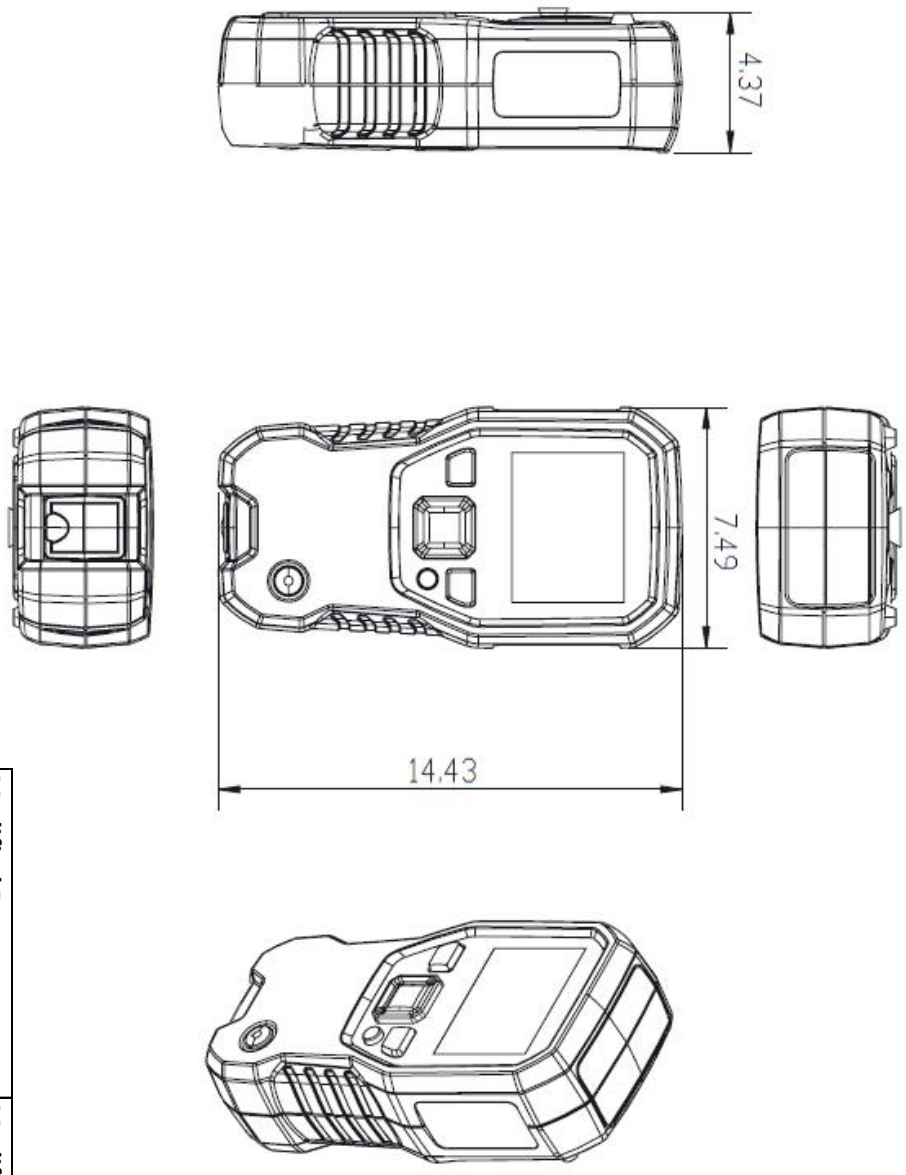
Shipping information	
Packaging type	Retail color box
Packaging contents	MR160, MR02 pin probe, quick start guide, international charger, warranty card, brochure cCard
Packaging weight	0.91 kg
Packaging dimensions (L × W × H)	12.1 cm × 14 cm × 33.1 cm
Inner carton quantity	4
Inner carton weight	4.1 kg
Inner carton dimensions (L × W × H)	26.7 cm × 61 cm × 15.9 cm
Master carton quantity	12
Master carton weight	13.3 kg
Master carton dimensions (L × W × H)	64 cm × 25.8 cm × 51.2 cm
EAN-13	0793950371602
UPC-12	793950371602
Country of origin	China
Tariff code	9025805000

Technical support	
Website	http://support.flir.com

Supplies & accessories:

- MR12; FLIR MR12: Ball probe moisture sensor accessory
- MR02; Replaceable External Moisture Pin Probe for MR77
- MR05; Impact Pin Moisture Probe
- MR06; Wall Cavity Probe
- MR07; Hammer Probe
- MR08; Hammer and Wall Cavity Probe Combo
- MR09; Baseboard probe
- MR10; EVA Protective case
- MR10-2; Protective case for FLIR Moisture Meters

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Modified Date	**Modified By**
Thursday, April 23, 2015	T&M Engineering
Description	
FLIR MR160 Imaging Moisture Meter	
Units	**Scale**
Centimeters	Not to Scale

Teledyne FLIR LLC
9 Townsend West, Nashua NH 03063 / Phone: 603.324.7800 / Fax: 603.324.7864

Declaration of Conformity

Extech Model: ***MR160***
Description: ***Imaging Moisture Meter***
Date of Issue: ***12-Jul-21***

We, Teledyne FLIR LLC, 9 Townsend West, Nashua, NH 03063 declare that a sample of the product listed above has been tested by a third party for CE marking

EMC Directive: **2014/30/EU**
Report Number: **R10604252-EMC**
Report Date of Issue: **5/6/2015**

Standards:
IEC 61326-1:2012 (2nd Edition)

RoHS Directive: **EU Directive 2015/863/EU (RoHS 3)**

The test reports show that the product fulfills the requirement in the EC EMC Directive and RoHS Directive for CE Marking. On this basis, together with the manufacturer's own documented production control, the manufacturer (or his European authorized representative) can in his EC Declaration of Conformity verify compliance with the EC EMC Directive and RoHS Directive.

Mark Sultzbach / QA Manager

Taipei, Taiwan July 29, 2021

UK Declaration of Conformity

Product: FLIR MR160

Name and address of the manufacturer: Teledyne FLIR LLC,
9 Townsend West,
Nashua, NH 03063

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration: FLIR MR160.

The object of the declaration described above is in conformity with the relevant statutory requirements applicable to the specific product:

Standards review between UK and EU

UK legislation refr.	UK designated standard*	EU regulation refr.	EU harmonised standard
EMC		**EMC**	
S.I. 2016 No. 1091	EN 61326-1:2013	2014/30/EU	EN 61326-1:2012(2nd Edition)
RoHS			
S.I. 2012 No. 3032	EN 50581:2012	2015/65/EU (RoHS)	EN 50581:2012

* https://www.gov.uk/guidance/designated-standards
Designated standards: EMC – consolidated list, version 1, 1 January 2021
Designated standards: RoHS – consolidated list, version 1, 1 January 2021

FLIR Commercial Systems
Quality Assurance

Hank Tsai

Hank Tsai
Quality Manager