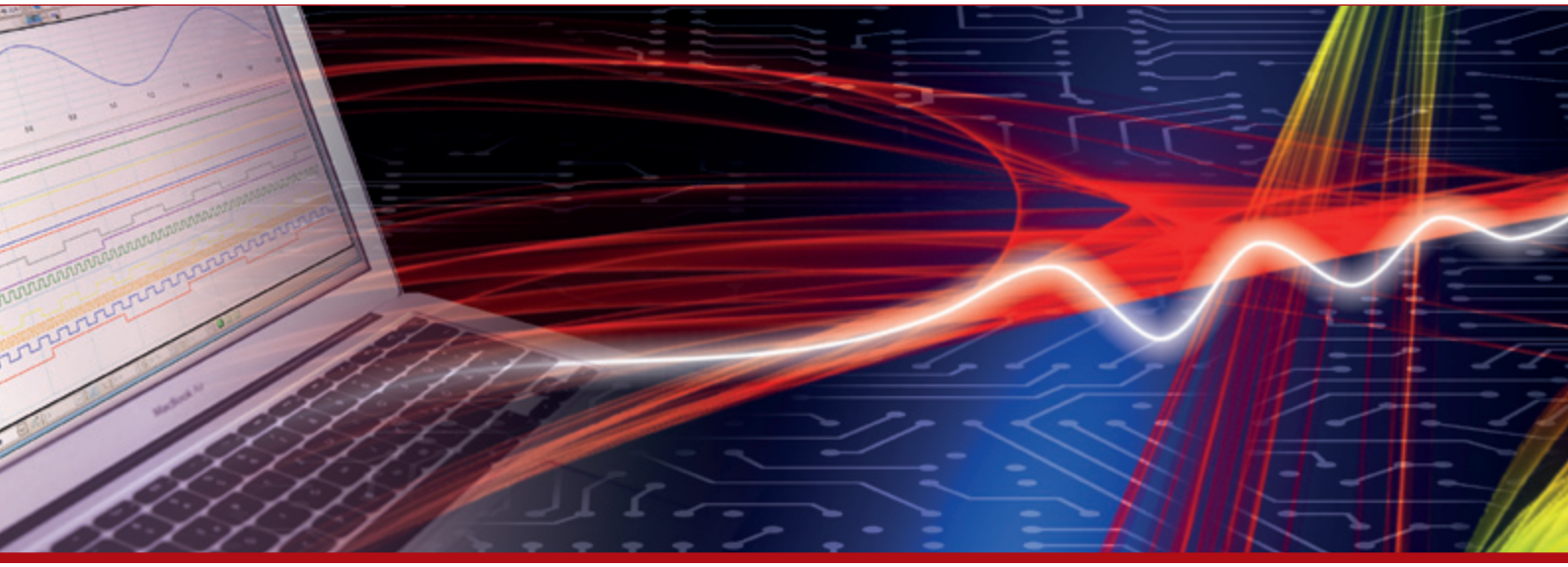
Product Datasheet - Technical Specifications



More information in our Web-Shop at ▸ **www.meilhaus.com**

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FLIR DM166: Thermal Imaging TRMS Multimeter with IGM

P/N: DM166

Document identity

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Website

http://www.flir.com

Customer support

http://support.flir.com

Part number	DM166
Part name	Thermal Imaging TRMS Multimeter with IGM

The FLIR DM166 is FLIR's most affordable multimeter with built-in thermal imaging to date—a must-have tool for commercial electricians and automation, electronics, and HVAC technicians. Featuring Infrared Guided Measurement (IGM) powered by an 80 × 60 FLIR thermal imager, the FLIR DM166 visually guides you to the precise location of temperature anomalies and potential problems fast, safely, and efficiently. The feature-packed multimeter is an ideal tool for troubleshooting and diagnosing complex issues in both high and low-voltage applications.

Troubleshoot faster:

- One tool gets the job done.
- Equipped with IGM to quickly scan for overheating components.
- Broad DMM test functions to troubleshoot and diagnose the fault.
- The unique combination of onboard thermal imaging and traditional DMM test functions makes troubleshooting easier.

Work safer:

- Identify energized and potentially faulty equipment from a safe distance.
- Non-contact temperature measurement.
- Integrated non-contact voltage detection.
- CAT III—600 V, CAT IV—300 V safety ratings.

Diagnose problems more efficiently and effectively:

- Rich feature set covers both high– and low-voltage applications.
- 600 V AC/DC voltage measurements and 10 A AC/DC current measurements.
- Variable-frequency drive (VFD) measurement function.
- Measures resistance up to 60 MΩ, frequency up to 50 kHz, capacitance up to 10 000 µF, and continuity/diode.

Thermal imaging	
Detector type	FLIR Lepton; micro-bolometer focal plane array (FPA)
Infrared (IR) imaging resolution (V × H)	80 × 60 pixels
IR imaging field of view (V × H)	50° × 38°
IR imaging spectral response	8–14 µm
Thermal sensitivity	150 mK (0.15°C)
IR image capture frequency	9 Hz
IR image color palettes	Rainbow, Iron, Gray scale
Laser pointer type	Class I (red)

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Thermal imaging	
Laser pointer power	<0.4 mW
IR temperature measurement range	–10 to 150°C (14–302°F)
Over- and under-range indication	OL
Temperature reading stabilization	No startup delay
IR temperature resolution	0.1°C (0.1°F)
IR temperature accuracy	±3°C (5.4°F) or ± 3% of the reading (whichever is greater) for temperatures > 25°C (77°F), ±5°C for temperatures –10°C to 25°C (14–77°F)
Distance-to-spot (D:S) ratio	30:1
Emissivity adjustment	0.95 maximum, 4 presets plus a custom setting (0.10–0.99)
Targeting	Displayed cross-hairs pinpoint the center of the measurement spot
Hold	Image with measurement

Electrical measurement	
Display count	6000
AC/DC V	600 V AC RMS or 600 V DC ± 0.7%/0.5%
AC/DC mV	600.0 mV ± 1%/0.3%
VFD AC V	600 V AC RMS, 10–100Hz, ± 1%
AC/DC A	10.00 A AC RMS or 10.00 A DC ± 1.0%/0.7%
AC/DC mA range	600.0 mA ± 1.0%/0.7%
AC/DC µA range	6000 uA AC RMS or 6000 uA DC ± 1.5%/1.0%
Frequency counter	50 kHz ± 0.03%
Resistance	6.000 MΩ ± 0.9%, 60.00 MΩ ± 1.5%
Continuity check threshold	30–480 Ω
Diode test	3.000 V ± 0.9%
Capacitance	2.000 mF ± 2.0%, 10.00 mF ± 5.0%
Temperature, type K thermocouple	–40 to 400°C DMM ± (1.0% + 1.5°C) (–40 to 752° F DMM ± (1.0% + 3°F))
Measuring rate	5 samples per second
Accuracy is given as ± (% of reading)	

Meter data	
Category rating	CAT IV—300 V, CAT III—600 V
IP rating	IP40
Drop test	3 m (9.8 ft.)
Warranty	https://www.flir.com/testwarranty
Calibration cycle	Once per year, recommended

Certifications	
Certifications	C-UL-US, CE, RCM
Safety standards compliance	IEC 61010-1 CAT IV—600 V, CAT III—1000 V

Power system	
Power requirements	3 × AA Energizer L91 lithium (Li/FeS_2) batteries or optional TA04 lithium polymer rechargeable battery system
Battery life, Energizer L91 LIithium batteries	Approximately 22 hours constant IGM

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Power system	
Battery life, TA04 lithium polymer batteries	Approximately 22 hours constant IGM
Auto power off	5 minutes (default), 10 minutes, 20 minutes, and off selectable

Environmental data	
Operating temperature	–10 to 50°C (14–122°F)
Operating Humidity	80% to 31°C; decreasing linearly to 50% at 31–50°C
Storage temperature and relative humidity (RH)	–20 to 60°C (–4 to 140°F), 0–80% RH (without batteries)
Temperature coefficient	Nominal 0.15 × (specified accuracy)/°C at –10°C to 18°C (14–64.4°F) or 28–50°C (82.4–122°F), or as otherwise specified
Operating altitude	2000 m (6560 ft.)
Pollution degree	2
EMC	EN61326-1

Meter physical data	
Weight	428.3 g (15.1 oz.)
Dimensions (L × W × H)	190 mm × 86.4 mm × 48.3 mm (7.5 in. × 3.4 in. × 1.9 in.)
Material	Polycarbonate/ABS
Color	Gray, black, and blue

Shipping information	
Packaging type	Color box with view of product in clamshell
Packaging contents	DM166, 3 × L91 lithium batteries (AA), high-quality silicone test leads, soft carrying case
Packaging weight	1.3 kg (2.9 lb.)
Packaging dimensions (H × W × L)	33 cm × 14 cm × 11 cm (12.6 in. × 5.5 in. × 4.3 in.)
Carton weight	16.5 kg (36.4 lb.)
Carton dimensions (H × W × L)	65 cm × 30 cm × 56 cm (25.6 in. × 11.8 in. × 22.0 in.)
Carton quantity	12
EAN-13	0793950391662
UPC-12	793950391662
Country of origin	Taiwan
Tariff code	9027504020

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

Included in the box	
DM166 Thermal Imaging TRMS Multimeter with IGM	
TA80 Premium Silicone Test Leads	
Soft carrying case	

Supplies & accessories:

- TA04-KIT; Lithium Polymer Rechargeable Battery Kit

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- TA15; Universal Soft Sided Case
- TA16; Pouch for FLIR Multimeters
- TA50; Magnetic Hanging Strap for DM9x, IM7x Series
- TA60; Thermocouple probe with adapter
- TA70; CAT IV Insulated Alligator Probes
- TA72; Large Universal Flex Current Probe Accessory (25 cm)
- TA74; Large Universal Flex Current Probe Accessory (45 cm)
- TA80; CAT IV Silicone Test Leads