

Product Datasheet - Technical Specifications



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Industrial Thermal Imaging Multimeter with Datalogging, Wireless Connectivity, and IGM

P/N: DM285

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Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

Disclaimer

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Part number	DM285
Part name	Industrial Thermal Imaging Multimeter with Datalogging, Wireless Connectivity, and IGM
<p>The FLIR DM285 is an industrial, all-in-one true RMS digital multimeter and thermal imager that can show you exactly where a temperature anomaly is for faster troubleshooting. Featuring Infrared Guided Measurement (IGM) powered by a built-in 160 × 120 FLIR thermal imager, the meter visually guides you to the precise location of a problem. You'll pinpoint issues faster, more safely, and efficiently. Ideal for inspecting industrial electrical, mechanical, HVAC/R, and electronic systems, and can be used for benchtop electronics and in the field. The FLIR DM285 uniquely features Bluetooth METERLiNK, and is compatible with the new FLIR InSite workflow management tool that allows you to prepare efficient survey routes, maintain accurate documentation, share information with clients, and file instant reports.</p>	
<p>Work safer and smarter:</p> <ul style="list-style-type: none"> Thermal imaging allows you to quickly scan for overheating system components, then use the DMM test functions to troubleshoot and diagnose the fault. Non-contact temperature measurement identifies energized and potentially faulty equipment from a safe distance. Wirelessly connect to the FLIR InSite professional workflow management tool to streamline inspections and simplify data collection, sharing, and reporting. Onboard data storage for both electrical parameter data and thermal images. 	
<p>Troubleshoot challenging problems more efficiently and effectively:</p> <ul style="list-style-type: none"> Fully loaded with features for high- and low-voltage applications. 18-function DMM including VFD mode, true RMS, LoZ, NCV, a built-in worklight, and a laser pointer. Measures voltage, current, frequency, resistance, continuity, diode, capacitance, and temperature. Intuitive menu for ease of use. 	
<p>Design and functionality:</p> <ul style="list-style-type: none"> An all-in-one tool that's built to last. Durable and drop tested with a 10-year warranty. Quick and easy battery changes with the "no tool" battery compartment. Upgraded display with an improved viewing angle. 	
Static datalogging and storage	
Data storage interval, configurable	1–99 seconds
Readings per memory set	40 000
Maximum number of memory sets	10
Thermal image storage	
Maximum number of images	100



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Connectivity	
Wireless technology	Bluetooth BLE
Communications protocol	METERLiNK
Thermal imaging	
Detector type	FLIR Lepton; micro-bolometer focal plane array (FPA)
Infrared (IR) imaging resolution (V × H)	160 × 120 pixels
IR imaging field of view (V × H)	57° × 44°
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)
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	Dashes are displayed for approximately 30 seconds while the temperature reading stabilizes
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	1000 V AC RMS or 1000 V DC ± 1%/0.09%
AC/DC mV	600.0 mV ± 1%/0.5%
VFD AC V	1000 V AC RMS, 45–65 Hz, ± 1%
AC/DC LoZ V	1000 V AC RMS or 1000 V DC ± 2.0%
AC/DC A	10.00 A AC RMS or 10.00 A DC ± 1.5%/1.0%
AC/DC mA range	400.0 mA ± 1.5%/1.0%
AC/DC μA range	4000 μA AC RMS or 4000 μA DC ± 1.0%
Frequency counter	100.00 kHz ± 0.1%
Resistance	6.000 MΩ ± 0.9%, 50.00 MΩ ± 3.0%
Continuity check threshold	20–200Ω
Diode test	1.500 V ± 0.9%
Capacitance	10.00 mF ± 1.9%
Temperature, type K thermocouple	–40 to 400°C DMM ± (1.0% + 3°C)/IGM ± (1.0% + 5°C) (–40 to 752°F DMM ± (1.0% + 5.4°F)/IGM ± (1.0% + 9°F))



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Electrical measurement	
Measuring rate	3 samples per second
Accuracy is given as \pm (% of reading)	
Meter data	
Category rating	CAT IV—600 V, CAT III—1000 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 \times AA Energizer L91 Lithium (Li/FeS ₂) batteries or optional TA04 lithium polymer rechargeable battery system
Battery life, Energizer L91 lithium batteries	Approximately 12 hours constant IGM
Battery life, TA04 lithium polymer batteries	Approximately 12 hours constant IGM
Auto power off	Default: 10 minutes
Environmental data	
Operating ambient temperatures and relative humidity (RH)	-10 to 30°C (14–86°F), <85% RH; 30 to 40°C (86–104°F), <75% RH; 40–50°C (104 to 122°F), <45% RH
Storage temperature and RH	-20 to 60°C (-4 to 140°F), 0–80% RH (without batteries)
Temperature coefficient	0.1 \times (specified accuracy)/°C, <18°C (64.4°F), >28°C (82.4°F)
Operating altitude	2000 m (6560 ft.)
Pollution degree	2
EMC	EN61326-1
Meter physical data	
Weight	537 g (18.9 oz.)
Dimensions (L \times W \times H)	200 mm \times 95 mm \times 49 mm (7.9 in. \times 3.7 in. \times 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	DM285 FLIR meter, TA82 premium test leads, TA70 alligator clips, TA60 thermocouple probe with adapter, TA84 test lead holder storage/tripod accessory, 3 \times AA Energizer batteries, English-only quick start guide
Packaging weight	1.3 kg (2.8 lb.)
Packaging dimensions (H \times W \times L)	33 cm \times 14 cm \times 11 cm (13 in. \times 5.5 in. \times 4.33 in.)
Carton weight	16.5 kg (36.4 lb.)



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Shipping information	
Carton dimensions (H x W x L)	65 cm x 30 cm x 56 cm (25.6 in. x 11.8 in. x 22.0 in.)
Carton quantity	12
EAN-13	0793950372876
UPC-12	793950372876
Country of origin	Taiwan
Tariff code	9027504020

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

Included in the box	
DM285 Industrial Thermal Imaging Multimeter with Datalogging, Wireless Connectivity, and IGM	
TA82 Premium Silicone Test Leads	
TA84 Test Lead Storage/Tripod Accessory	
TA60 Thermocouple Adapter with Type K Probe	
TA70 CAT IV Insulated Alligator Probes (Slip On)	
Soft-sided carrying case	

Supplies & accessories:

- TA04-KIT; Lithium Polymer Rechargeable Battery Kit
- TA10; Protective case for DM9x and IM7x Series
- TA10-F; Protective Case for DM9x and TA72/74 Series
- TA15; Universal Soft Sided Case
- TA16; Pouch for FLIR Multimeters
- TA42; TA42 Belt Clip
- TA50; Magnetic Hanging Strap for DM9x, IM7x Series
- TA52; TA52 Magnetic Meter Mount
- 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