



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

## P/N: DM286

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### Document identity

Publ. No.: DM286  
Commit: 92334  
Language: en-US  
Modified: 2023-06-13  
Formatted: 2023-06-13

### Website

<http://www.flir.com>

### Customer support

<http://support.flir.com>

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Part number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | DM286                                                                                  |
| Part name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Industrial Thermal Imaging Multimeter with Datalogging, Wireless Connectivity, and IGM |
| <p>The FLIR DM286 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 using the added clarity of FLIR MSX thermal images. Ideal for inspecting industrial electrical, mechanical, HVAC/R, and electronic systems, and can be used for benchtop electronics and in the field. The FLIR DM286 features compatibility with the METERLiNK app.</p> |                                                                                        |
| <p>Work safer and smarter:</p> <ul style="list-style-type: none"><li>• Thermal imaging allows you to quickly scan for overheating system components, then use the DMM test functions to troubleshoot and diagnose the fault.</li><li>• Non-contact temperature measurement identifies energized and potentially faulty equipment from a safe distance.</li><li>• Wirelessly connect to the METERLiNK App for data visualization, alarms, and report creation.</li><li>• Onboard data storage for both electrical parameter data and thermal images.</li></ul>                                                                                                                                |                                                                                        |
| <p>Troubleshoot challenging problems more efficiently and effectively:</p> <ul style="list-style-type: none"><li>• Fully loaded with features for high- and low-voltage applications.</li><li>• 18-function DMM including VFD mode, true RMS, LoZ, NCV, a built-in worklight, and a laser pointer.</li><li>• Measures voltage, current, frequency, resistance, continuity, diode, capacitance, and temperature.</li><li>• Intuitive menu for ease of use.</li></ul>                                                                                                                                                                                                                          |                                                                                        |
| <p>Design and functionality:</p> <ul style="list-style-type: none"><li>• An all-in-one tool that's built to last.</li><li>• Durable and drop tested with a 10-year warranty.</li><li>• Quick and easy battery changes with the "no tool" battery compartment.</li><li>• Upgraded display with an improved brightness.</li></ul>                                                                                                                                                                                                                                                                                                                                                              |                                                                                        |
| Static datalogging and storage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                        |
| Data storage interval, configurable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1–99 seconds                                                                           |
| Readings per memory set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 40 000                                                                                 |
| Maximum number of memory sets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10                                                                                     |



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|                                          |                                                                                                                                                                                                              |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Thermal image storage</b>             |                                                                                                                                                                                                              |
| Storage media                            | eMMC 4 GB                                                                                                                                                                                                    |
| Image file format                        | Radiometric                                                                                                                                                                                                  |
| Maximum number of images                 | Up to 30,000                                                                                                                                                                                                 |
| Recording                                | 10 s in QVGA resolution                                                                                                                                                                                      |
| <b>Connectivity</b>                      |                                                                                                                                                                                                              |
| Wireless technology                      | Bluetooth BLE                                                                                                                                                                                                |
| Communications protocol                  | METERLiNK                                                                                                                                                                                                    |
| <b>Thermal imaging</b>                   |                                                                                                                                                                                                              |
| Detector type                            | FLIR Lepton; micro-bolometer focal plane array (FPA)                                                                                                                                                         |
| Infrared (IR) imaging resolution (V × H) | 160 × 120 pixels, Lepton 3.5                                                                                                                                                                                 |
| 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                      | <0.39 mW                                                                                                                                                                                                     |
| Laser wavelength                         | 640 to 660 nm                                                                                                                                                                                                |
| IR temperature measurement range         | –5 to 300°C (23 to 572°F)                                                                                                                                                                                    |
| 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)                                                                     |
| 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                                                                                                                                                                                       |
| Image modes                              | <ul style="list-style-type: none"><li>Thermal MSX: Show Multi Spectral Dynamic Imaging images.</li><li>Thermal: Show thermal images only.</li><li>Digital camera: Show digital camera images only.</li></ul> |
| <b>Worklight</b>                         |                                                                                                                                                                                                              |
| LED                                      | ×1                                                                                                                                                                                                           |
| <b>Visual imaging</b>                    |                                                                                                                                                                                                              |
| Resolution                               | 2 MP (1600 × 1200 pixels)                                                                                                                                                                                    |
| Focus                                    | Fixed                                                                                                                                                                                                        |
| Field of view                            | >71° × >56°                                                                                                                                                                                                  |



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|                                  |                                                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Display</b>                   |                                                                                                                           |
| Display size                     | 7.1 cm (2.8 in.)                                                                                                          |
| Surface brightness (cd/m2)       | 500                                                                                                                       |
| Brightness                       | Low/Mid/Hi                                                                                                                |
| <b>Electrical measurement</b>    |                                                                                                                           |
| Display count                    | 6000                                                                                                                      |
| AC/DC V                          | 1000 V AC RMS $\pm$ (1.0% + 3)<br>1000 V DC $\pm$ (0.09% + 3)                                                             |
| AC/DC mV                         | AC 600.0 mV $\pm$ (1.0% + 3)<br>DC 600.0 mV $\pm$ (0.2% + 3)                                                              |
| VFD AC V                         | 1000 V AC RMS, (1.3% + 4) at 45–65 Hz                                                                                     |
| AC/DC LoZ V                      | 1000 V AC RMS or 1000 V DC ( $\pm$ 1.3% + 4)                                                                              |
| AC/DC A                          | 10.00 A AC RMS $\pm$ (1.5% + 3)<br>10.00 A DC $\pm$ (1.0% + 3)                                                            |
| AC/DC mA range                   | AC 400.0 mA $\pm$ (1.5% + 3)<br>DC 400.0 mA $\pm$ (1.0% + 3)                                                              |
| AC/DC $\mu$ A range              | 4000 $\mu$ A AC RMS $\pm$ (1.5% + 3)<br>4000 $\mu$ A DC $\pm$ (1.0% + 3)                                                  |
| NCV                              | Yes                                                                                                                       |
| Frequency counter                | 100.00 kHz $\pm$ (0.1% + 5)                                                                                               |
| Resistance                       | 6.000 M $\Omega$ $\pm$ (0.9% + 5), 60.00 M $\Omega$ $\pm$ (3.0% + 5)                                                      |
| Continuity check threshold       | 10–100 $\Omega$                                                                                                           |
| Diode test                       | 1.500 V $\pm$ 0.9%                                                                                                        |
| Capacitance                      | 10.00 mF $\pm$ (4.0% + 5)                                                                                                 |
| Temperature, type K thermocouple | –40 to 400°C DMM $\pm$ (1.0% + 3°C)/IGM $\pm$ (1.0% + 5°C) (–40 to 752°F DMM $\pm$ (1.0% + 5.4°F)/IGM $\pm$ (1.0% + 9°F)) |
| Measuring rate                   | 3 samples per second                                                                                                      |
| Over- and under-range indication | OL                                                                                                                        |
| <b>Meter data</b>                |                                                                                                                           |
| Category rating                  | CAT IV—600 V, CAT III—1000 V                                                                                              |
| IP rating                        | IP40                                                                                                                      |
| Drop test                        | 2 m (6.5 ft.)                                                                                                             |
| Warranty                         | Limited 10-year warranty<br><a href="https://www.flir.com/testwarranty">https://www.flir.com/testwarranty</a>             |
| Calibration cycle                | Once per year, recommended                                                                                                |
| <b>Certifications</b>            |                                                                                                                           |
| Certifications                   | ETL, FCC, CE, RCM, UKCA, FDA, EN60825, EN50689                                                                            |
| Safety standards compliance      | IEC 61010-1 CAT IV—600 V, CAT III—1000 V                                                                                  |



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|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Power system</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Power requirements                                        | FLIR TA04, Li-ion, 3050 mAh, replaceable                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Battery life                                              | Up to 6.5 hours constant IGM use with medium display luminance<br>Up to 10 hours constant Meter only use with medium display luminance                                                                                                                                                                                                                                                                                                                               |
| Auto power off                                            | For Meter: set to OFF, 2, 5, or 10 minutes<br>For Worklight only: set to OFF, 5, 15, or 30 minutes                                                                                                                                                                                                                                                                                                                                                                   |
| Battery documents                                         | For documents like MSDS, see:<br><a href="https://support.flir.com/resources/msds/">https://support.flir.com/resources/msds/</a>                                                                                                                                                                                                                                                                                                                                     |
| <b>Environmental data</b>                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Operating ambient temperatures and relative humidity (RH) | -10°C to 30°C (14°F to 86°F), < 85% RH<br>30°C to 40°C (86°F to 104°F), < 75% RH<br>40°C to 50°C (104°F to 122°F), <45% RH                                                                                                                                                                                                                                                                                                                                           |
| Storage temperature and RH                                | -20 to 60°C (-4 to 140°F), 0–80% RH (without battery)                                                                                                                                                                                                                                                                                                                                                                                                                |
| Temperature coefficient                                   | 0.1 × (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                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Declaration of conformity                                 | See: <a href="https://support.flir.com/resources/DoC/">https://support.flir.com/resources/DoC/</a>                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Meter physical data</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Weight                                                    | 569 g (1.25 lb.)                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Dimensions (L × W × H)                                    | 201 mm × 95.9 mm × 55.5 mm (7.9 in. × 3.78 in. × 2.2 in.)                                                                                                                                                                                                                                                                                                                                                                                                            |
| Material                                                  | Polycarbonate/ABS                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Color                                                     | Gray, black, and blue                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Display hardness                                          | Up to 2H                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Shipping information</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Packaging type                                            | Gift box                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Included in the box                                       | <ul style="list-style-type: none"><li>• 1 DM286 Industrial Thermal Imaging Multimeter</li><li>• 1 set of CAT IV-1000V Test Leads</li><li>• 1 set of CAT IV-1000V Alligator Probes</li><li>• 1 x Type-A to Micro-USB Cable (with Data transfer capability)</li><li>• 1 x K-type Thermocouple (-30°C ~ 260°C)</li><li>• 1 x Soft carrying case</li><li>• 1 x FLIR Quick Start Guide</li><li>• 1 x FLIR Warranty Card</li><li>• 2 x TA04 Rechargeable Battery</li></ul> |
| Packaging weight                                          | 1.4 kg (3.08 lb.)                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Packaging dimensions (H × W × L)                          | 10.5 cm × 15 cm × 28.5 cm (4.13 in. × 5.9 in. × 11.22 in.)                                                                                                                                                                                                                                                                                                                                                                                                           |



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| Shipping information |               |
|----------------------|---------------|
| EAN-13               | 0793950382868 |
| UPC-12               | 793950382868  |
| Country of origin    | CN            |
| Tariff code          | 9030320000    |

| Technical support |                                                               |
|-------------------|---------------------------------------------------------------|
| Website           | <a href="http://support.flir.com">http://support.flir.com</a> |

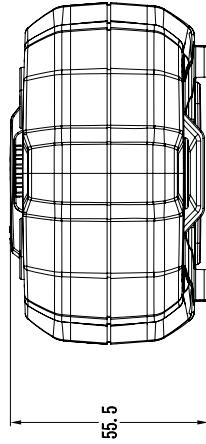
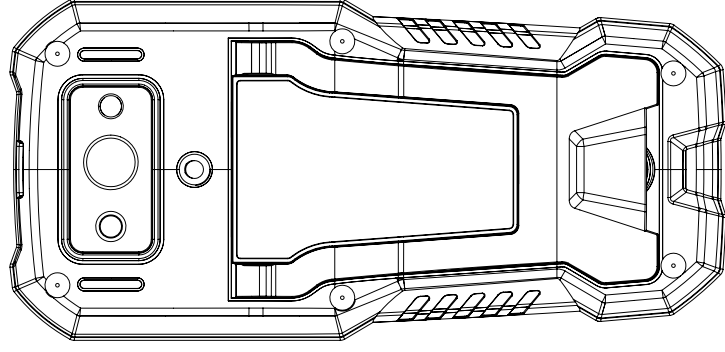
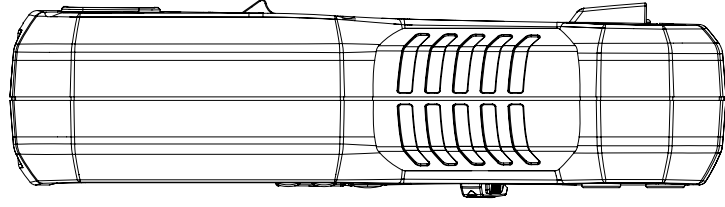
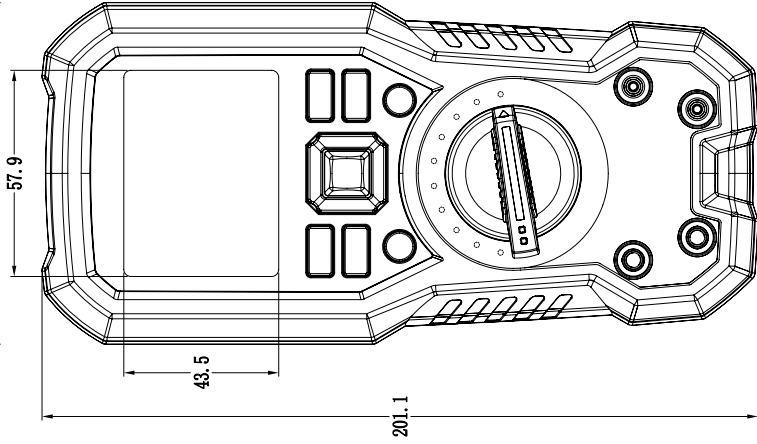
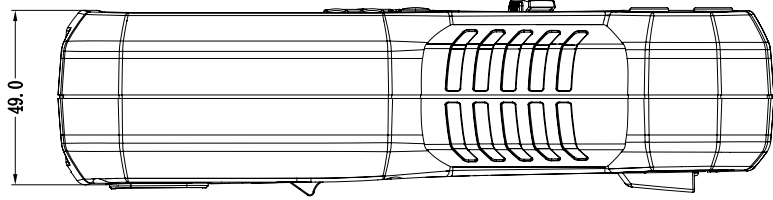
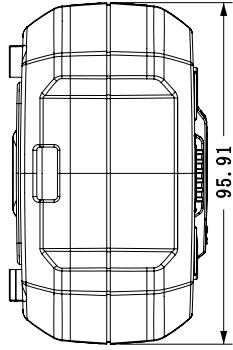
## Supplies & accessories:

- 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
- 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

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