TECHNICAL DATA

Fluke 279 FC Thermal Multimeter

Find. Repair. Validate. Report.

The 279 FC is a full-featured digital multimeter with integrated thermal imaging and is designed to increase your productivity and confidence. The thermal multimeter helps you find, repair, validate, and report many electrical issues quickly so that you are confident problems are solved.

Locate the problem immediately

Thermal imaging multimeters are a first-line troubleshooting tool for electrical equipment that can check hot spots on high-voltage equipment and transformers, detect heating of fuses, wires, insulators, connectors, splices and switches. Scanning with the 279 FC's thermal imager reveals many electrical issues rapidly and from a safe distance. By combining two tools into one, the thermal multimeter lightens the load and increases productivity.

Expanded functionality

Compatible with iFlex® (a flexible current clamp) to expand your measurement capabilities and get into tight, hard to reach spaces for current measurement (up to 2500 A AC). The large full-color LCD screen makes for easier and clearer viewing of images and readings. The 10 hour+ rechargeable battery keeps you going all day long under normal conditions.

Communicate your results

With built-in Fluke Connect®, transmit results wirelessly to a smartphone and save time on reporting to validate work is complete. Troubleshoot better by instantly trending and monitoring measurements live on your smartphone screen. Create and email reports right from the field.

1000 V CAT III 600 V CAT IV · True RMS

CAMERA
Built-in thermal imager

DISPLAY
Full-color LCD screen provides clean, crisp readings

iFLEX®
Expand your measurement capabilities–get into tight, hard to reach spaces for current measurement (up to 2500 A AC)

FLUKE CONNECT
Transmit results wirelessly to your smartphone with Fluke Connect

FLUKE CONNECT®

Product highlights

- Full-featured multimeter with built-in thermal imager
- 15 measurement functions including: AC voltage with low-pass filter, DC voltage, Resistance, Continuity, Capacitance, Diode test, Min/Max/Avg, AC current (with iFlex), Frequency
- Thermal imaging reveals many electrical issues quickly and safely, eliminating the need for time-consuming testing and validation
- Two-in-one tool is designed to increase productivity–no need to go back to the truck or office to retrieve a shared camera or wait for the thermographer–do more in less time!
- iFlex expands your measurement capabilities–get into tight, hard to reach spaces for current measurement (up to 2500 A AC)
- Designed for durability, built to withstand a 3 m (9.8Ft) drop, double insulated with raised rubber holster for increased protection
- Save measurements and images while communicating wirelessly with a smart phone up to 20 feet/6.1 m away (no obstructions)
- Image resolution–80 x 60
- 3.5"/8.89 cm color LCD screen
- Rechargeable lithium ion battery allows for a for a full work day (10+ hours) under normal conditions
- Assembled in the USA
- Three year standard warranty
- Auto power off to save battery power
- CAT III 1000 V, CAT IV 600 V measurement category
- Optional accessories: Fluke i2500-10 or i2500-18 iFlex® Flexible Current Probes, Fluke BC500 AC Power Charger and Fluke BP500 Lithium-ion Battery 3000 mAh

Specifications

AC voltage		
Range[1]/resolution	600.0 mV / 0.1 mV 6.000 V / 0.001 V 60.00 V / 0.01 V 600.0 V / 0.1 V 1000 V / 1 V	
Accuracy[2, 3, 4, 5]	45 Hz to 65 Hz	1.0 % + 3
	65 Hz to 200 Hz	4.0 % + 3
	200 Hz to 500 Hz	15 % + 3
AC mV		
Range[1]/resolution	600.0 mV / 0.1 mV	
Accuracy[2, 3, 4]	45 Hz to 500 Hz	1.0 % + 3

[1] AC voltage ranges are specified from 1 % of range to 100 % of range.
[2] Crest factor of ≤ 3 at full scale up to 500 V, decreasing linearly to crest factor < 1.5 at 1000 V.
[3] For non-sinusoidal waveforms, add – (2 % of reading + 2 % full scale) typical, for crest factor up to 3.
[4] Do not exceed 10^7 V-Hz.
[5] Full-time low pass filter

DC voltage		
Range/resolution	6.000 V / 0.001 V 60.00 V / 0.01 V 600.0 V / 0.1 V 1000 V / 1 V	
Accuracy	6 V, 60 V, 600 V	0.09 % + 2
	1000 V	0.15 % + 2
DC mV		
Range/resolution	600.0 mV / 0.1 mV	
Accuracy	0.09 % + 2	
Continuity		
Range/resolution	600 Ω / 1 Ω	
Accuracy	Meter beeps at < 25 Ω, beeper detects opens or shorts of 600 µs or longer	

Detailed specifications (continued)

Resistance		
Range/resolution	600.0 Ω / 0.1 Ω 6.000 kΩ / 0.001 kΩ 60.00 kΩ / 0.01 kΩ 600.0 kΩ / 0.1 kΩ 6.000 MΩ / 0.001 MΩ 50.00 MΩ / 0.01 MΩ	
Accuracy	600 Ω	0.5 % + 2
	6 kΩ to 600 kΩ	0.5 % + 1
	50 MΩ	1.5 % + 3
Diode test		
Range/resolution	2.000 V / 0.001 V	
Accuracy	1 % + 2	
Capacitance		
Range/resolution	1000 nF / 1 nF 10.00 µF / 0.01 µF 100.0 µF / 0.1 µF 9999 µF[1] / 1 µF	
Accuracy	1000 nF thu 100 µF	1.2 % + 2
	9999 µF	10 % typical

[1]In the 9999 µF range for measurements to 1000 µF, the measurement accuracy is 1.2 % + 2.

AC current		
Range/resolution	999.9 A / 0.1 A 2500 A / 1 A (with iFlex)	
Accuracy	45 Hz to 500 Hz	3.0 % + 5
Frequency		
Range/resolution	99.99 Hz / 0.01 Hz 999.9 Hz / 0.1 Hz	
Accuracy	0.1 % + 1	
Input characteristics		
AC voltage	Input impedance (nominal)	> 10 MΩ < 100 pF
	Common mode rejection ratio (1 kΩ unbalance)	> 60 dB, DC to 60 Hz
	Overload protection	1100 V rms
DC voltage	Input impedance (nominal)	> 10 MΩ < 100 pF
	Common mode rejection ratio (1 kΩ unbalance)	> 120 dB at DC, 50 Hz or 60 Hz
	Normal mode rejection	> 60 dB at 50 Hz or 60 Hz
	Overload protection	1100 V rms
AC mV / DC mV	Input impedance (nominal)	> 10 MΩ < 100 pF
	Common mode rejection ratio (1 kΩ unbalance)	> 120 dB at DC, 50 Hz or 60 Hz
	Normal mode rejection	> 60 dB at 50 Hz or 60 Hz
	Overload protection	1100 V rms
Resistance / capacitance	Open circuit test voltage	< 2.7 V DC
	Full scale voltage to 6 MΩ Full scale voltage 50 MΩ	< 0.7 V DC < 0.9 V DC
	Typical short circuit current	< 350 mA
	Overload protection	1100 V rms
Continuity / diode test	Open circuit test voltage	< 2.7 V DC
	Full scale voltage	2.000 V DC
	Typical short circuit current	< 1.1 mA

Detailed specifications (continued)

MIN/MAX recording accuracy		
AC functions	40 counts for changes > 900 ms in duration	
DC functions	12 counts for changes > 350 ms in duration	
Infrared camera		
Infrared camera temperature	Range	–10 ˚C to 200 °C (14 °F to 392 °F)
	Measurement resolution	0.1 °C
	Temperature measurement	Yes, centerpoint
	Accuracy	±5 ˚C or ± 5 % (as tested at 25 ˚C, whichever is greater)
	Emissivity	0.95 fixed
Image performance	Resolution	80 x 60
	Image capture frequency	8 Hz
	Detector type	Uncooled vanadium oxide
	Thermal sensitivity (NETD)	≤ 200 mK
	Infrared spectral band	7.5 µm to 14 µm
	Distance to spot	162:1
	Field of view	36 ˚(w) x 27 ˚(h)
	Focus mechanism	Fixed focus
Image presentation	Palette	Ironbow
	Level and span	Auto
Image capture and data storage	Image capture	Image available for review before a save
	Storage medium	Internal memory stores up to 100 images
	Image transfer	Fluke Connect® / SmartView®
	File format	is2
	Display size	8.9 cm (3.5 in) diagonal
General specifications		
Maximum voltage between any terminal and earth ground	1000 V	
Display (LCD)	Update rate	4/sec
	Volts, amps, ohms	6000 counts
	Frequency	10000 counts
	Capacitance	1000 counts
Battery type	Fluke BP500 lithium ion battery	
Battery life	10 hours minimum	
RF communications	2.4 GHZ ISM Band	
RF communication range	Open air, unobstructed	Up to 20 m
	Obstructed, sheetrock wall	Up to 6.5 m
	Obstructed, concrete wall, or steel electrical enclosure	Up to 3.5 m
Temperature	Operating	–10 °C to 50 °C (14 °F to 122 °F)
	Storage	–20 °C to 60 °C (–4 °F to 140 °F)
Temperature coefficient	0.1 X (specified accuracy) / °C (< 18 °C or > 28 °C)	
Relative humidity	0 % to 90 % (0 °C to 35 °C) 0 % to 75 % (35 °C to 40 °C) 0 % to 45 % (40 °C to 50 °C)	
Altitude	Operating	2000 m
	Storage	12000 m

Detailed specifications (continued)

Certifications	CSA, FCC, CE
Size (H x W x L)	5.7 cm x 9.4 cm x 21.6 cm (2.3 in x 3.7 in x 8.5 in)
Weight	0.80 kg (1.75 lb)
Warranty	Three years

Figure 1. Fluke 279 FC with the iFlex Flexible Current Probe

Figure 2. Fluke 279 FC/iFlex TRMS Thermal Multimeter Kit

Ordering information

279 FC TRMS Thermal Multimeter
Includes 279 FC TRMS Thermal Multimeter, TL75 Test Leads, rechargeable lithium ion battery and charger

279 FC/iFlex TRMS Thermal Multimeter
Includes 279 FC TRMS Thermal Multimeter, 18" (45.72 cm) iFlex Flexible Current Probe, TL175 test leads, rechargeable lithium ion battery and charger, soft carrying case, hanging strap

Optional accessories
Fluke i2500-10 Fluke i2500-10 iFlex® Flexible Current Probe
Fluke i2500-18 Fluke i2500-18 iFlex® Flexible Current Probe
Fluke BC500 Fluke BC500 AC Power Charger
Fluke BP500 Fluke BP500 Lithium-Ion Battery 3000 mAh battery
Fluke C280 Carrying Case

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