FLUKE®

TECHNICAL DATA

Fluke 279 FC True-rms Digital Thermal Multimeter

4 ways the Fluke 279 FC will make your job easier

1. Find the problem faster

Scan with the thermal imager to find electrical problems rapidly and from a safe distance. Check hot spots on high-voltage equipment and transformers; identify heating of fuses, wires, insulators, connectors, splices and switches. The 279 FC now allows you to save, recall and review saved images on the meter. You'll be certain that you have the image you need before moving on.

2. Work in places you couldn't even reach before

The iFlex flexible ac current probe lets you work in tight, hard-to-reach spaces spots. Make accurate current measurements up to 2500 A ac, in spaces that would be impossible to reach with a conventional clamp.

3. Fix almost everything

The 279 FC is a full-featured, true-rms digital multimeter. All the basics you need in a DMM, plus advanced capabilities: motor drive (ASD) measurements, min/max recording, display hold and more. Safety rated 1000 V CAT III, 600 V CAT IV.

4. Find the next problem before it happens

With Fluke Connect, you can save and send all your measurements to the cloud. Compare readings with past measurements. Spot trends that indicate small problems before they become big trouble.

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™ PROBE INCLUDED
Both 279 FC models include the iFlex flexible current probe. Get into tight, hard to reach spaces for measurements 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.
- Save measurements and images while communicating wirelessly with a smart phone up to 20 feet (6.1m) away (no obstructions)
- Review saved images on the 279 FC before sharing with Fluke Connect. Save, delete, compare and share after viewing on the meter.
- Image resolution–102x77
- 3.5 in (8.89cm) color LCD screen
- Rechargeable lithium ion battery allows for a for a full work day (10+ hours) under normal conditions. FLUKE-279FC I/B model includes second battery; always have one in the meter, one in the charger.
- 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 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 %, whichever is greater, at 25 °C (ambient) for target temperatures below 20 °C, add 0.05 °C for each °C
	Emissivity	0.95 fixed
Image performance	Resolution	102 x 77
	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)	

Detailed specifications (continued)		
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
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 Package Contents

Ordering information

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

FLUKE-279FC I/B Thermal Multimeter
Includes 279 FC True-rms Thermal Multimeter, 18 in (45.72 cm) iFlex Flexible Current Probe, TL175 test leads, two rechargeable lithium ion batteries and one charger, soft carrying case and hanging strap

Optional accessories
Fluke i2500-10 Fluke i2500-10 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