

TECHNICAL DATA

Fluke 279 FC True-rms Digital Thermal Multimeter





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





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, hardto-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.



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

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		
 ¹AC voltage ranges are specified from 1 % of range to 100 % of range. ²Crest factor of ≤ 3 at full scale up to 500 V, decreasing linearly to crest factor < 1.5 at 1000 V. ³For non-sinusoidal waveforms, add - (2 % of reading + 2 % full scale) typical, for crest factor up to 3. ⁴Do not exceed 10² 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 μ s or longer			

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Specifications



Detailed specifications (continued)

Range/resolution 600.0 f/ 0.0 h 600.0 kf / 0.0 h 600.0 h	Resistance		
Bind Bind<		600.0 Ω / 0.1 Ω	
Source and Source	Kange/resolution	6.000 kΩ / 0.001 kΩ 60.00 kΩ / 0.01 kΩ	
n n n n n Bide test 50 M 1.5 % + 3 Range/resolution 2.000 V / 0.001 V . Accuracy 1 % + 2 . Capacitance . . . Range/resolution 1 % + 2 . . Accuracy 1 % + 2 . . . Capacitance . <td>6.000 MΩ / 0.001 MΩ</td> <td></td>		6.000 MΩ / 0.001 MΩ	
BOMQ1.6 % + 3Biology ISolow V/ 0.001 VAccuracy2.000 V/ 0.001 VCapacitanceBange/resolution1000 nP / 1 n P 1000 pP / 01 pP 1000 pP / 01 pP 1000 pP / 01 pP 	Accuracy	600 Ω	0.5 % + 2
Dide testRange/resolution2.000 V / 0.001 VAccuracy0Accuracy0CapacitanceRange/resolution1000 nF / 1 n F 100.0 µF / 0.1 µF 9099 µF / 1 µFAccuracy1000 nF thu 100 µF909 nF / 1 µF1.2 % + 2Accuracy1000 nF thu 100 µF100 nF thu 100 µF1.2 % + 2Accuracy999 nF / 1 µF'' the 999 µF resourcests to 1000 rF1.0 % typical'' the 999 µF resourcests to 1000 rF1.0 % typical'' the 999 µF resourcests to 1000 rF1.0 % typical'' the 999 µF resourcests to 1000 rF3.0 % + 5Accuracy999 PF / 0.1 HzAccuracy0.1 % + 1Accuracy0.1 % + 1Accuracy0.0 % resolution1000 crosol fill (if unbalance)Accuracy1.1 % timpedance (nominal)Accuracy0.0 % resolution100 V rmsDrue concacteristicsAccuracy1.0 % resolutionAccuracy1.0 % resolution100 V resolution1.0 % resolution100 V re		6 kΩ to 600 kΩ	0.5 % + 1
Range/resolution2.000 V / 0.001 VAccuracy1 % + 2Capacitance1000 nF / 1 nF 10.00 µF / 0.01 µF 10.00 µF / 0.00 µFAccuracy0999 µF / 1 µF 9999 µF / 1 µFAccuracy099.9 µF / 0.1 % 200.01 µF 200.01 µF 200.00 µF 200.01 µF 200		50 MΩ	1.5 % + 3
Accuracy 1 % + 2 Capacitance Range/resolution 1000 nF / 1 nF 1000 µF / 01 µF 1000 µF / 01 µF 12 % + 2 Accuracy 1000 nF thu 100 µF 100 0 µF / 01 µF 10 % typical '' hate 9809 µF ange for measurements to 1000 µF 10 % typical 10 % typical '' hate 9809 µF ange for measurements to 1000 µF 10 % typical 10 % typical '' hate 9809 µF ange for measurement sourements to 100 µF 30 % + 5 10 % Accuracy 99.9 9 µZ / 0.1 µZ 30 % + 5 Accuracy 99.9 9 µZ / 0.1 µZ 30 % + 5 Accuracy 99.9 µZ / 0.1 µZ 30 % + 5 Accuracy 0 1 % + 1 10 M ∩ < 100 µF	Diode test		
CapacitanceRange/resolution1000 nF / 1 nF 100.0 µF / 0.01 µF 100.0 µF / 0.01 µF 9999 µF / 1 µFAccuracy1000 nF thu 100 µF 9999 µF / 1 µFAccuracy1000 nF thu 100 µF 9999 µF / 1 µFAccuracy1000 nF thu 100 µF 9999 µF / 1 µFAccuracy10% typicalCauracy10% typicalCauracy99.9 A / 0.1 A 2500 A / 1 A (with iFlex)Accuracy99.9 A / 0.1 A 2500 A / 1 A (with iFlex)Accuracy45 Hz 050 HzAccuracy3.0 % + 5Prequency99.9 Hz / 0.01 Hz 39.9 Hz / 0.1 HzAccuracy0.1 % + 1Accuracy0.1 % + 1Accuracy10.1 % 100 clos PFCommon mode rejection ratio (1 K0 unbalance)> 10 M0 < 100 pF	Range/resolution	2.000 V / 0.001 V	
Range/resolution1000 nF / 1 nF 1000 µF / 001 µF 1000 µF / 001 µF 1000 µF / 001 µF 9999 µF / 1µP12 % + 2Accuracy1000 nF /hu 100 µF 9999 µF / 1µP12 % + 2I* ube 9999 µF ange for measurements to 1000 µF / 1 µP 9999 µF / 1 µP10 % typical'' ube 9999 µF ange for measurements to 1000 µF / 1 µP 2000 µF / 0.1 µF 2000 µF / 0.1 µF10 % typicalAccuracy45 Hz to 500 Hz 2000 µF / 0.1 Hz 2000 µF / 0.1 Hz 2000 µF / 0.1 Hz3.0 % + 5Accuracy99.99 Hz / 0.01 Hz 399.9 Hz / 0.1 Hz3.0 % + 5Range/resolution99.99 Hz / 0.01 Hz 399.9 Hz / 0.1 Hz3.0 % + 5Accuracy99.99 Hz / 0.1 Hz3.0 % + 5Accuracy99.99 Hz / 0.1 Hz3.0 % + 5Accuracy99.99 Hz / 0.1 Hz3.0 % + 5Accuracy09.99 Hz / 0.01 Hz5.0 % A 10.0 % FAccuracy09.99 Hz / 0.1 Hz3.0 % + 5Accuracy10.0 V rms3.0 MA 10.0 PFAccuracy10.0 V rms3.1 0 MG < 100 PF	Accuracy	1 % + 2	
10:00 µF / 0.01 µF 1999 µF / 1 µF 1.2 % + 2 2000 nF / 0.1 µF 10 % typical 10 % typical 10 % typical "n the 9899 µF / 1 µF 10 % typical "n the 9899 µF / 1 µF 10 % typical "n the 9899 µF / 1 µF 10 % typical "n the 9899 µF / 1 µF 10 % typical "n the 9899 µF / 1 µF 10 % typical "n the 9899 µF / 1 µF 10 % typical "n the 9899 µF / 1 µF 10 % typical "Scorent" 500 Å / 1 Å (with 1Flex) Accuracy 80.99 Å / 0.1 Å2 Scorent" 500 Å / 1 Å (with 1Flex) Accuracy 0.99 Å / 0.1 Å2 Accuracy 1.0 % 100 µF Accuracy 1.0 % 10.0 PF Accuracy 1.0 % 100 µF Accuracy 1.001 mode rejection ratio 1000 V rms Deveload protection 1000 V rms 100 µF Arand mode rejection ratio 100 M < 1	Capacitance		
999 μF 10 % typical "In the 9909 μF range for measurements to 1000 pt. the measurement accuracy is 1.2 % + 2. Ac current Range/resolution 999.9 A / 0.1 A 2500 Å / 1 A (with if lex) Accuracy 45 Hz to 500 Hz 3.0 % + 5 Frequency 99.9 9 Hz / 0.01 Hz 99.9 9 Hz / 0.1 Hz 3.0 % + 5 Accuracy 0.1 % + 1	Range/resolution	10.00 μF / 0.01 μF 100.0 μF / 0.1 μF	
In the 9999 µF range for measurement so 1000 µF, the measurement accuracy is 1.2 % + 2. AC current Range/resolution 999.9 A / 0.1 A 2500 A / 1 A (with iPlex) Accuracy 45 Hz to 500 Hz 3.0 % + 5 Frequency 99.9 9 Hz / 0.1 Hz 999.9 Hz / 0.1 Hz 3.0 % + 5 Accuracy 99.9 Hz / 0.1 Hz 999.9 Hz / 0.1 Hz 3.0 % + 5 Accuracy 0.1 % + 1	Accuracy	1000 nF thu 100 μF	1.2 % + 2
AC current 999.9 A / 0.1 A 2500 A / 1 A (with iFlex) Accuracy 99.9 A / 0.1 A 2500 A / 1 A (with iFlex) 3.0 % + 5 Accuracy 3.0 % + 5 3.0 % + 5 Frequency 99.9 9 Hz / 0.01 Hz 99.9 Hz / 0.1 Hz 99.9 Hz / 0.1 Hz 3.0 % + 5 Accuracy 0.1 % 1 1 Input characteristics 0.1 % 1 1 Accuracy 0.1 % 1 5 Input impedance (nominal) > 10 MΩ < 100 pF		9999 μF	10 % typical
Range/resolution999.9 Å / 0.1 Å 2500 Å / 1 Å (with iflex)Accuracy3.0 % + 5ForquencyForquencyForquencyBange/resolution99.99 Hz / 0.01 HzAccuracy99.99 Hz / 0.01 HzAccuracy0.1 % + 1Total colspan="2">Total colspan="2">Colspan="2"Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"	$^1 In$ the 9999 μF range for measurements to 1000 $\mu F,$	the measurement accuracy is 1.2 % + 2.	'
Accuracy 45 Hz to 500 Hz 3.0 % + 5 Frequency 99.99 Hz / 0.01 Hz 99.99 Hz / 0.1 Hz Range/resolution 99.99 Hz / 0.1 Hz 99.99 Hz / 0.1 Hz Accuracy 0.1 % + 1 1000 Common mode rejection ratio 1000 Common mode rejection ratio Ac voltage Input impedance (nominal) > 10 MΩ < 100 pF	AC current		
Frequency 99.9 Hz / 0.01 Hz Range/resolution 99.9 Hz / 0.1 Hz Accuracy 0.1 % + 1 Input characteristics Input impedance (nominal) > 10 MΩ < 100 pF AC voltage Input impedance (nominal) > 60 dB, DC to 60 Hz Overload protection 1100 V rms DC voltage Input impedance (nominal) > 10 MΩ < 100 pF	Range/resolution		
Range/resolution99.99 Hz / 0.01 Hz 99.9 Hz / 0.1 HzAccuracy0.1 % + 1Input characteristicsAC voltageAC voltageInput impedance (nominal)> 10 MΩ < 100 pF	Accuracy	45 Hz to 500 Hz	3.0 % + 5
999.9 Hz / 0.1 Hz Accuracy 0.1 % + 1 Input characteristics Input impedance (nominal) > 10 MΩ < 100 pF Common mode rejection ratio > 60 dB, DC to 60 Hz Input (1 kΩ unbalance) DC voltage Input impedance (nominal) > 10 MΩ < 100 pF DC voltage Input impedance (nominal) > 10 MΩ < 100 pF DC voltage Input impedance (nominal) > 10 MΩ < 100 pF Orman mode rejection ratio > 60 dB at DC, 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 > 60 dB at S0 Hz or 60 Hz Overload protection 1100 V rms AC mV/DC mV Input impedance (nominal) > 10 MΩ < 100 pF Common mode rejection ratio > 10 00 V rms AC mode protection 100 V rms Common mode rejection ratio > 10 00 PF Common mode rejection ratio > 10 00 V rms AC mV/DC mV Input impedance (nominal) > 10 0 V rms Orent mode rejection ratio > 60 dB at S0 Hz or 60 Hz Input impedance	Frequency		
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AC voltageInput impedance (nominal)> 10 MΩ < 100 pFCommon mode rejection ratio (1 kΩ unbalance)> 60 dB, DC to 60 HzOverload protection1100 V rmsDC voltageInput impedance (nominal)> 10 MΩ < 100 pF	Accuracy	0.1 % + 1	
Common mode rejection ratio (1 kΩ unbalance)> 60 dB, DC to 60 HzOverload protection1100 V rmsDC voltageInput impedance (nominal)> 10 MΩ < 100 pF	Input characteristics		
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DC voltageInput inpedance (nominal)> 10 MΩ < 100 pFCommon mode rejection ratio (1 kΩ unbalance)> 120 dB at DC, 50 Hz or 60 HzNormal mode rejection> 60 dB at 50 Hz or 60 HzOverload protection1100 V rmsAC mV/DC mVInput impedance (nominal)> 10 MΩ < 100 pF			> 60 dB, DC to 60 Hz
ControlControlControlResistance/capacitanceOpen circuit test voltage> 120 dB at DC, 50 Hz or 60 HzNormal mode rejection> 60 dB at 50 Hz or 60 HzOverload protection1100 V rmsAC mV/DC mVInput impedance (nominal)> 10 MΩ < 100 pF		Overload protection	1100 V rms
I kΩ unbalance)Normal mode rejection> 60 dB at 50 Hz or 60 HzOverload protection1100 V rmsAC mV/DC mVInput impedance (nominal)> 10 MΩ < 100 pF	DC voltage	Input impedance (nominal)	> 10 MΩ < 100 pF
New YDC mVInput impedance (nominal)> 10 MΩ < 100 pFCommon mode rejection ratio (1 kΩ unbalance)> 120 dB at DC, 50 Hz or 60 HzNormal mode rejection> 60 dB at 50 Hz or 60 HzVoerload protection1100 V rmsResistance/capacitanceOpen circuit test voltageFull scale voltage to 6 MΩ Full scale voltage 50 MΩ< 350 mA			> 120 dB at DC, 50 Hz or 60 Hz
AC mV/DC mVInput impedance (nominal)> 10 MΩ < 100 pFCommon mode rejection ratio (1 kΩ unbalance)> 120 dB at DC, 50 Hz or 60 HzNormal mode rejection> 60 dB at 50 Hz or 60 HzOverload protection1100 V rmsResistance/capacitanceOpen circuit test voltage< 2.7 V dc		Normal mode rejection	> 60 dB at 50 Hz or 60 Hz
Common mode rejection ratio (1 kΩ unbalance)> 120 dB at DC, 50 Hz or 60 HzNormal mode rejection 0verload protection> 60 dB at 50 Hz or 60 HzResistance/capacitanceOpen circuit test voltage Full scale voltage to 6 MΩ Full scale voltage 50 MΩ< 2.7 V dc < 0.9 V dc		Overload protection	1100 V rms
I kΩ unbalance)I kΩ unbalance)Normal mode rejection> 60 dB at 50 Hz or 60 HzOverload protection1100 V rmsResistance/capacitanceOpen circuit test voltage< 2.7 V dc	AC mV/DC mV	Input impedance (nominal)	> 10 MΩ < 100 pF
Overload protection1100 V rmsResistance/capacitanceOpen circuit test voltage< 2.7 V dc		Common mode rejection ratio (1 kΩ unbalance)	> 120 dB at DC, 50 Hz or 60 Hz
Resistance/capacitance Open circuit test voltage < 2.7 V dc		Normal mode rejection	> 60 dB at 50 Hz or 60 Hz
Full scale voltage to 6 MΩ Full scale voltage 50 MΩ< 0.7 V dc < 0.9 V dc		Overload protection	1100 V rms
Full scale voltage 50 MΩ< 0.9 V dcTypical short circuit current< 350 mA	Resistance/capacitance	Open circuit test voltage	< 2.7 V dc
Overload protection 1100 V rms			
		Typical short circuit current	< 350 mA
Continuity/diode test Open circuit test voltage < 2.7 V dc		Overload protection	1100 V rms
	Continuity/diode test	Open circuit test voltage	< 2.7 V dc
Full scale voltage2.000 V dc		Full scale voltage	2.000 V dc
Typical short circuit current< 1.1 mA		Typical short circuit current	< 1.1 mA



Detailed specifications (continued)

MIN/MAX recording accuracy			
AC functions	40 counts for changes > 900 ms in dura	tion	
DC functions	12 counts for changes > 350 ms in dura	tion	
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	\pm 5 °C or \pm 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 o	r > 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 Iconic Engineering & Trading Company

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