

# Fluke 3000 FC Series Test Tools

## Technical Data

### Now compatible with Fluke Connect™ Mobile App

#### Start building tomorrow's test tool system today with the Fluke 3000 FC Digital Multimeter.

The new Fluke Connect system of test tools communicates with the new Fluke Connect mobile app on your Android™ or iOS smart device, allowing you to share live measurements, monitor readings from safe distances, and get your job done easier than ever before. The wireless digital multimeter functions as the mobile hub, displaying readings from up to three meter modules tools simultaneously from up to 20 meters away. The Fluke Connect meters also give you the flexibility to build your wireless test tool system how you want when you want.

#### Fluke 3000 FC Test Tools (Not compatible with Fluke CNX test tools)

- Wireless Digital Multimeter
- iFlex True-rms AC Current Clamp Meter
- True-rms AC Current Clamp Meter
- AC Voltage Meter
- K-Type Temperature Meter
- AC/DC Current Clamp Meter Module
- 2000 A DC Current Clamp Meter
- 4-20 mA DC Current Clamp Meter
- DC Voltage Meter
- PC Adapter

#### Productivity

- Communicate with your iOS (4s and later) and Android™ (4.3 and up) devices with the new Fluke Connect mobile app
- Wireless technology allows connectivity between your phone, PC, and all Fluke Connect enabled test tools
- Let your team see what you see in an instant with ShareLive™ video call
- Save money and time by taking multiple measurements simultaneously
- Isolate intermittent events or record signal fluctuations without even being there using the log function on the meters



Built with  
**FLUKE  
CONNECT™**

#### See it. Save it. Share it. All the facts, right in the field.

Fluke Connect with ShareLive™ is the only wireless measurement system that lets you stay in contact with your entire team without leaving the field. The Fluke Connect mobile app is available for Android™ (4.3 and up) and iOS (4s and later) and works with over 20 different Fluke products—the largest suite of connected test tools in the world. And more are on the way. Go to the Fluke website to find out more.

Make the best decisions faster than ever before by viewing all temperature, mechanical, electrical and vibration measurements for each equipment asset in one place. Get started saving time and increasing your productivity.

Download the app at:



Smart phone not included with purchase.

## Productivity (continued)

- View results on your computer with the PC Adapter
- Work with fewer interruptions by recording multiple sessions before downloading. Data is saved to a PC in .csv format (comma separated variable) file format for easy viewing at your convenience
- Capture readings at different intervals, with user-set recording intervals from one second to one hour
- Future proof your investment by adding functionality to the 3000 FC DMM when you need it

## Convenience

- Send and communicate test data to your manager and coworkers to assess abnormal system response in seconds
- Have all asset test results at your fingertips after downloading to your PC for future asset performance tracking and reliability programs
- See multiple measurements on one screen at one time (DMM and three meter modules, Ti200/300/400 and five meter modules)
- No more writing data down. Capture up to 65,000 sets of min/max/avg readings over single or multiple logging sessions using the recording capability. Each reading and session is time stamped

- Avoid awkward or uncomfortable measurement positions. Set up the measurement once, step back and read it as many times as you want, when you want
- View up to 6 live readings at once on the Fluke Connect mobile app or a PC to get a complete understanding of the situation
- Easily see backlit displays in dark or dimly lit work environments
- Choose auto or manual ranging
- Use the optional TPak Magnetic Hanger for even more hands-free working
- Integrated holster protects the meters, while probe holders keep accessories organized

## Safety

- Be in multiple places at once, reducing the risk of arc flash by separating yourself from hazardous measurement situations
- Fluke 3000 FC meets Measurement Category 1000 V CAT III and Category IV 600 V safety standards: AC Current Clamp Meter and AC/DC Current Clamp Meter Module 600 V CAT III; AC Voltage Meter, DC Voltage Meter, and iFlex Clamp Meters 600 V CAT IV/1000 CAT III

(RF connection time (binding time) can take up to 1 minute.)

## General specifications

### Fluke 3000 FC Series Wireless Multimeter

#### Detailed specifications (Not compatible with Fluke CNX test tools)

For all specifications: accuracy is specified for one year after calibration, at operating temperatures of 18 °C to 28 °C, with relative humidity at 0 % to 90 %. Accuracy specifications take the form of  $\pm$  ([ % of Reading ] + [ Number of least significant digits ]).

#### AC voltage

Range <sup>1</sup>	Resolution	Accuracy <sup>2,3,4</sup>	
		45 Hz to 500 Hz	500 Hz to 1 kHz
600.0 mV	0.1 mV	1.0 % + 3	2.0 % + 3
6.000 V	0.001 V		
60.00 V	0.01 V		
600.0 V	0.1 V		
1000 V	1 V		

<sup>1</sup> All ac voltage ranges are specified from 1 % of range to 100 % of range.

<sup>2</sup> Crest factor of  $\leq 3$  at full scale up to 500 V, decreasing linearly to crest factor  $< 1.5$  at 1000 V.

<sup>3</sup> For non-sinusoidal waveforms, add  $\pm$  (2 % of reading + 2 % full scale) typical, for crest factor up to 3.

<sup>4</sup> Do not exceed  $10^7$  V-Hz.

#### DC voltage, continuity, resistance, diode test and capacitance

Function	Range	Resolution	Accuracy
mV	600.0 mV	0.1 mV	0.09 % + 2
V	6.000 V	0.001 V	0.09 % + 2
	60.00 V	0.01 V	
	600.0 V	0.1 V	
	1000 V	1 V	0.15 % + 2
$\Omega$	600 $\Omega$	1 $\Omega$	Meter beeps at $< 25 \Omega$ , beeper detects opens or shorts of 250 $\mu\text{s}$ or longer.
$\Omega$	600.0 $\Omega$	0.1 $\Omega$	0.5 % + 2
	6.000 k $\Omega$	0.001 k $\Omega$	0.5 % + 1
	60.00 k $\Omega$	0.01 k $\Omega$	
	60.00 k $\Omega$	0.1 k $\Omega$	
	600.0 k $\Omega$	0.001 M $\Omega$	
	50.00 M $\Omega$	0.01 M $\Omega$	1.5 % + 3
Diode test	2.000 V	0.001 V	1 % + 2
$\mu\text{F}$	1000 nF	1 nF	1.2 % + 2
	10.00 $\mu\text{F}$	0.01 $\mu\text{F}$	
	100.0 $\mu\text{F}$	0.1 $\mu\text{F}$	
	9999 $\mu\text{F}$ <sup>1</sup>	1 $\mu\text{F}$	10 % typical

<sup>1</sup> In the 9999  $\mu\text{F}$  range for measurements to 1000  $\mu\text{F}$ , the measurement accuracy is 1.2 % + 2.

#### AC and DC current

Function	Range <sup>1</sup>	Resolution	Accuracy
mA AC (45 Hz to 1 kHz)	60.00 mA	0.01 mA	1.5 % + 3
	400.0 mA <sup>3</sup>	0.1 mA	
mA DC <sup>2</sup>	60.00 mA	0.01 mA	0.5 % + 3
	400.0 mA <sup>3</sup>	0.1 mA	

<sup>1</sup> All ac current ranges are specified from 5 % of range to 100 % of range.

<sup>2</sup> Input burden voltage (typical): 400 mA input 2 mV/mA.

<sup>3</sup> 400.0 mA accuracy specified up to 600 mA overload.



## Frequency

Range	Resolution	Accuracy <sup>[1]</sup>
99.99 Hz	0.01 Hz	0.1 % + 1
999.9 Hz	0.1 Hz	
9.999 kHz	0.001 kHz	
99.99 kHz	0.01 kHz	

<sup>1</sup> Frequency is specified up to 99.99 kHz in volts and up to 10 kHz in amps.

## Input characteristics

Function	Overload Protection	Input Impedance (nominal)	Common Mode Rejection Ratio (1 kΩ unbalance)	Normal Mode Rejection
$\overline{\text{V}}$	1100 V rms	> 10 MΩ < 100 pF	> 120 dB at dc, 50 Hz or 60 Hz	> 60 dB at 50 Hz or 60 Hz
$\sqrt{\text{V}}$	1100 V rms	> 10 MΩ < 100 pF	> 60 dB, dc to 60 Hz	
$\overline{\text{mV}}$	1100 V rms	> 10 MΩ < 100 pF	> 120 dB at dc, 50 Hz or 60 Hz	> 60 dB at 50 Hz or 60 Hz
Open circuit test voltage			Full scale voltage	Typical short circuit current
			To 6 MΩ      50 MΩ	
$\Omega/\text{--}\text{--}\text{--}$	1100 V rms	< 2.7 V dc	< 0.7 V dc      < 0.9 V dc	< 350 mA
$\text{m}\Omega/\text{--}\text{--}\text{--}$	1100 V rms	< 2.7 V dc	2.000 V dc	< 1.1 mA

Function	Overload Protection	Overload
mA	Fused, 44/100 A, 1000 V FAST Fuse	600 mA overload for 2 minutes maximum, 10 minutes rest minimum

## MIN/MAX recording

Function	Accuracy
DC functions	The specified accuracy of the measurement function $\pm 12$ counts for changes > 350 ms in duration.
AC functions	The specified accuracy of the measurement function $\pm 40$ counts for changes > 900 ms in duration.

## General specifications (Not compatible with Fluke CNX test tools)

Maximum voltage between any terminal and earth ground	1000 V dc or ac rms
Ω fuse protection from A inputs	0.44 A (44/100 A, 440 mA), 1000 V FAST Fuse, Fluke specified part only
Display (LCD)	Update rate: 4/sec Volts, amps, ohms: 6000 counts Frequency: 10,000 counts Capacitance: 1,000 counts
Battery type	Three AA Alkaline batteries, NEDA 15A IEC LR6
Battery life	250 hours minimum
RF communications	2.4 GHZ ISM Band
RF communication range	Open air, unobstructed: Up to 20m Obstructed, sheetrock wall: Up to 6.5m Obstructed, concrete wall, or steel electrical enclosure: Up to 3.5m
Temperature	Operating: -10 °C to 50 °C Storage: -40 °C to 60 °C
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: 2,000 m Storage: 12,000 m
Electromagnetic compatibility EMI, RFI, EMC, RF	EN 61326-1:2013, EN 61326-2-2:2013, ETSI EN 300 328 V1.7.1:2006, ETSI EN 300 489 V1.8.1:2008, FCC Part 15 Subpart C Sections 15.207, 15.209, 15.249, FCCID : FCC: T68-FDMMBLE IC: 6627A-FDMMBLE
Safety compliance	ANSI/ISA 61010-1 / (82.02.01): 3 <sup>rd</sup> edition CAN/CSA-C22.2 No 61010-1-12: 3 <sup>rd</sup> edition UL 61010-1: 3 <sup>rd</sup> edition IEC/EN 61010-1:2010
Certifications	cCSAus, FCC, CE
Ingress Protection (IP) rating	IP54
Pollution Degree	2
Size (H x W x L)	4.75 cm x 9.3 cm x 20.7 cm (1.87 in x 3.68 in x 8.14 in)
Weight	340 g (12 oz)

## Fluke a3000 FC Wireless AC Current Clamp Meter

A fully functional true-rms current clamp meter that wirelessly relays measurements to other Fluke Connect™ enabled master units, listed below.

- Fluke 3000 FC DMM
- Fluke TiX560/520 Infrared Camera
- Fluke Ti200/300/400 Infrared Camera
- PC via optional pc3000 FC Adapter
- Fluke Connect Mobile app

### a3000 FC main features include:

- True-rms ac clamp meter
- Measure up to 400 A ac
- Use as a standalone meter or as part of the system
- Logging function for recording and saving up to 65,000 readings
- Inrush function

## a3000 FC general specifications

Range	0.5 A to 400.0 A
Resolution	0.1 A
Accuracy	400.0 A: 2 % ± 5 digits (10 Hz to 100 Hz), 2.5 % ± 5 digits (100 Hz to 500 Hz)
Inrush	Max displayed reading: 999.9A
Crest factor (50 Hz/60 Hz)	3 at 500 A, 2.5 at 600 A, 1.42 at 1000 A, add 2 % for C.F. > 2
LCD w/backlight	3½ digits
Log rate/interval	1 sec minimum/adjustable by PC
Battery type	2 AA, NEDA 15 A, IEC LR6
Battery life	400 hours
Memory	Record up to 65,000 readings
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
Operating temperature	-10 °C to +50 °C
Storage temperature	-40 °C to +60 °C
Temperature coefficient	Add 0.1 x (specified accuracy)/°C (< 18 °C or > 28 °C)
Operating humidity	90 % at 35 °C, 75 % at 40 °C, 45 % at 50 °C
Altitude	Operating: 2,000 m Storage: 12,000 m
EMC	EN 61326-1:2013
Safety compliance	IEC 61010-1, CAT III 600 V, CAT IV 300 V, 3rd edition
Safety rating	CAT III 600 V, CAT IV 300 V
Certifications	cCSAus, CE, FCC: T68-FBLE IC: 6627A-FBLE
Ingress Protection (IP) rating	IP30
Pollution Degree	2
Jaw opening	34 mm (1.33 in)
Size (HxWxD)	20.3 cm x 7.49 cm x 3.55 cm (8 in x 2.95 in x 1.4 in)
Weight	.22 kg (8 oz)

(Not compatible with Fluke CNX test tools)



## **Fluke pc3000 FC Adapter and Software**

### **Fluke 3000 FC Wireless Test Tools show real-time measurements from remote meter modules up to 20 meters away on your PC**

Fluke FC wireless test tools work together to help you troubleshoot faster. The pc3000 FC Adapter and Software help you understand the information you measure. When you need to get information back to a PC the pc3000 FC Adapter and Software wirelessly collects up to 65,000 sets of time stamped min/max/avg readings from FC remote meter modules. Software can display live readings from up to six meter modules simultaneously. Allows custom logging intervals and custom names for meter modules. Includes Windows SW3000 software.



### **Software requirements:**

Fluke pc3000 must be connected to the USB port in order to enable communication between FC meter modules and software. SW3000 will support up to two pc3000 FC Adapters.

### **OS Compatibility:**

Windows XP or later.

Not compatible with Fluke CNX test tools

RF connection time (binding time) can be up to one minute for all FC wireless tools.

## Ordering information

### Main units:

**FLK-3000FC** FC Wireless Digital Multimeter

### Meter modules:

**FLK-A3000FC** FC Wireless AC Current Clamp Meter

**FLK-A3001FC** FC Wireless iFlex AC Current Meter

**FLK-A3002FC** FC Wireless AC/DC Current Meter Module

**FLK-A3003FC** FC Wireless DC Current Clamp Meter

**FLK-A3004FC** FC Wireless DC 4-20mA Current Meter

**FLK-V3000FC** FC Wireless AC Voltage Meter

**FLK-V3001FC** FC Wireless DC Voltage Meter

**FLK-T3000FC** FC Wireless K-Type Temperature Meter

**FLK-PC3000FC** PC Adapter and Software

### Kits:

**FLK-3000 FC Industrial Kit** Fluke 3000 FC Industrial System includes multimeter, three iFlex clamp meters, one ac voltage meter, PC adapter and desktop software, accessories

**FLK-3000 FC General Maintenance Kit** Fluke 3000 FC General Maintenance System includes multimeter, iFlex clamp meter, ac voltage meter, dc voltage meter, PC adapter and desktop software, accessories

**FLK-3000 FC HVAC Kit** Fluke 3000 FC HVAC System includes multimeter, ac current clamp meter, temperature meter, PC adapter and desktop software, accessories

**FLK-T3000 FC Kit** Fluke t3000 FC Kit includes multimeter, temperature meter, accessories

**FLK-A3000 FC Kit** Fluke a3000 FC Kit includes multimeter, ac current clamp meter, accessories

**FLK-A3001 FC Kit** Fluke a3001 FC Kit includes multimeter, iFlex clamp meter, accessories

**FLK-V3000 FC Kit** Fluke v3000 FC Kit includes multimeter, ac voltage meter, accessories

**FLK-V3001 FC Kit** Fluke v3001 FC Kit includes multimeter, dc voltage meter, accessories

**FLK-V3003 FC Kit** Fluke v3003 FC Kit includes multimeter, ac voltage meter, dc voltage meter, accessories