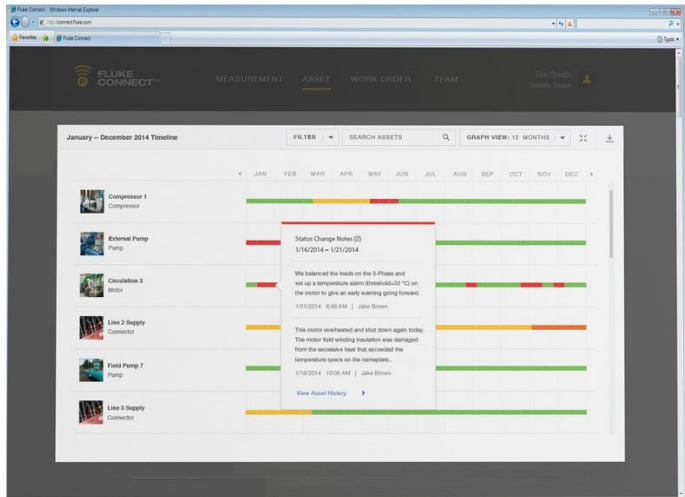


TECHNICAL DATA

# Fluke 3000 FC HVAC System





## Key features

### The Fluke 3000 FC HVAC System provides measurement of all common electrical parameters

The Fluke 3000 FC Series Wireless Multimeter with the Fluke Connect® app has all the essentials for convenient test and measurement troubleshooting:

- AC and DC voltage measurements to 1000 V
- AC and DC current with 0.01 mA resolution
- Continuity, resistance, diode test, capacitance and frequency measurements
- MIN/MAX recording
- CAT III 1000 V, Cat IV 600 V; IP54

The Fluke a3000 FC Wireless AC Current Clamp Module has all the essentials for convenient test and measurement troubleshooting:

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

With the Fluke t3000 FC Wireless K-Type Temperature Module you can:

- Use as a standalone meter or as part of the system
- Logging function for recording and saving up to 65,000 readings

## Product overview: Fluke 3000 FC HVAC System

### The Fluke FC Wireless HVAC System lets you work on electrical panels faster, safer, easier with remote current and temperature modules

Connect your FC AC Wireless Current Clamp Module to your test point, and view the results up to 20 meters away on the FC Wireless Digital Multimeter. Plus, you can connect the t3000 FC Wireless K-Type wireless temperature module and view remote temperature measurements.

You'll save time, with less run-around collecting multiple measurements. Use multiple modules for measurements on three-phase systems, as a stand-alone measurement tool or combine with other Fluke Connect™ modules as a system for multiple measurements.

From short distances, you can even view readings from modules through closed electrical panels. Plus no more writing down data as the Fluke Connect remote modules captures up to 65,000 sets of time stamped min/max/avg readings, using the optional PC adapter. Fluke Connect wireless test tools also offer increased safety by letting you view readings in a separate location from the test point.

Now you can take readings on moving machinery, with only the measurement module in harm's way.

# Specifications: Fluke 3000 FC HVAC System

## Fluke 3000 FC Series Wireless Multimeter

\* 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]).

Detailed Specifications		
AC Voltage		
Range <sup>1</sup> / 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 <sup>2 3 4</sup>	<b>45 Hz to 500 Hz</b>	1.0% + 3
	500 Hz to 1 kHz	2.0% + 3
1. All AC voltage ranges are specified from 1% of range to 100% of range. 2. Crest factor of $\square$ 3 at full scale up to 500 V, decreasing linearly to crest factor < 1.5 at 1000 V. 3. For non-sinusoidal waveforms, add $\pm$ (2% of reading + 2% full scale) typical, for crest factor up to 3. 4. Do not exceed 107 V-Hz.		
DC Voltage, Continuity, Resistance, Diode Test and Capacitance		
Function		
mV	<b>Range / Resolution</b>	600.0 mV / 0.1 mV
	Accuracy	0.09% + 2
V	<b>Range / Resolution</b>	6.000 V / 0.001 V 60.00 V / 0.01 V 600.0 V / 0.1 V 1000 V / 1 V
	Accuracy	0.09% + 2 0.15% + 2
)))	<b>Range / Resolution</b>	600 $\Omega$ / 1 $\Omega$
	Accuracy	Meter beeps at < 25 $\Omega$ , beeper detects opens or shorts of 250 $\mu$ s or longer.
$\Omega$	<b>Range / Resolution</b>	600.0 $\Omega$ / 0.1 $\Omega$ 6.000 k $\Omega$ / 0.001 k $\Omega$ 60.00 k $\Omega$ / 0.01 k $\Omega$ 600.0 k $\Omega$ / 0.1 k $\Omega$ 600.0 k $\Omega$ / 0.001 M $\Omega$ 50.00 M $\Omega$ / 0.01 M $\Omega$
	Accuracy	0.5% + 2 0.5% + 1 1.5% + 3

Diode test	<b>Range / Resolution</b>	2.000 V / 0.001 V
	Accuracy	1% + 2
μF	<b>Range / Resolution</b>	1000 nF / 1 nF 10.00 μF / 0.01 μF 100.0 μF / 0.1 μF 9999 μF <sup>1</sup> / 1 μF
	Accuracy	1.2% + 2 10% typical

<sup>1</sup> In the 9999 μF range for measurements to 1000 μF, the measurement accuracy is 1.2% + 2.

### AC and DC Current

Function

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





1. All AC current ranges are specified from 5% of range to 100% of range.
2. Input burden voltage (typical): 400 mA input 2 mV/mA.
3. 400.0 mA accuracy specified up to 600 mA overload.


### Frequency

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

<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	
	1100 Vrms	> 10 MΩ < 100 pF	> 120 dB at DC, 50 Hz or 60 Hz	> 60 dB at 50 Hz or 60 Hz	
	1100 Vrms	> 10 MΩ < 100 pF	> 60 dB, DC to 60 Hz	> 60 dB at 50 Hz or 60 Hz	
	1100 Vrms	> 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	Typical short circuit current
	1100 Vrms	< 2.7 VDC	< 0.7 VDC	< 0.9 VDC	< 350 mA

	1100 Vrms	< 2.7 VDC	2.000 VDC	< 1.1 mA
<b>mA Function</b>				
Overload protection	Fused, 44/100 A, 1000 V FAST Fuse			
Overload	600 mA overload for 2 minutes maximum, 10 minutes rest minimum			
<b>MIN/MAX Recording Accuracy</b>				
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.			
<b>General Specifications</b>				
Maximum voltage between any terminal and earth ground	1000 VDC or AC rms			
$\Omega$ fuse protection from A inputs	0.44 A (44/100 A, 440 mA), 1000 V FAST Fuse, Fluke specified part only			
Display (LCD)	<b>Update rate</b>	4/sec		
	Volts, amps, ohms	6000 counts		
	Frequency	10,000 counts		
	Capacitance	1,000 counts		
Baery type	Three AA Alkaline baeries, NEDA 15A IEC LR6			
Baery life	250 hours minimum			
RF communications	2.4 GHZ ISM Band			
RF communication range	<b>Open air, unobstructed</b>	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	<b>Operating</b>	-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	<b>Operating</b>	2,000 m		
	Storage	12,000 m		
Electromagnetic compatibility EMI, RFI, EMC, RF	EN 61326-1:2006, EN 61326-2-2:2006 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): 3rd edition CAN/CSA-C22.2 No 61010-1-12: 3rd edition UL 61010-1: 3rd edition IEC/EN 61010-1:2010
Certifications	CSA, FCC, CE
Ingress Protection (IP) rating	IP54
Pollution Degree	2
Size (H x W x L)	4.75 x 9.3 x 20.7 cm (1.87 x 3.68 x 8.14 in)
Weight	340 g (12 oz)
Warranty	Three years
Not compatible with Fluke CNX test tools	

### Fluke a3000 FC Wireless AC Current Clamp Module

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	<b>Max displayed reading</b> 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	<b>Open air, unobstructed</b> 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	<b>Operating</b>	2,000 m
	Storage	12,000 m
EMC	EN 61326-1:2006	
Safety compliance	IEC 61010-1, 600 V CAT III, 3rd edition Pollution Degree 2	
Safety rating	CAT III 600 V	
Certifications	CSA, CE, FCC: T68-FBLE IC: 6627A-FBLE	
Ingress Protection (IP) rating	IP30	
Pollution Degree	2	
Jaw opening	34 mm (1.33 in)	
Size (H x W x D)	20.3 x 7.49 x 3.55 cm (8 x 2.95 x 1.4 in)	
Weight	.22 kg (8 oz)	
Warranty	Three years	
Not compatible with Fluke CNX test tools		

### Fluke t3000 FC Wireless K-Type Temperature Module

General Specifications		
Range K-Type	-200°C to 1372°C	
Resolution	0.1°C	
Accuracy	±[0.5% + 0.3°C] counts	
Input terminals	K-type mini	
LCD w/backlight	3 ½ 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	<b>Open air, unobstructed</b>	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	0.01% of reading +0.03°C per°C	
Temperature scale	ITS-90	
Operating humidity	90% at 35°C, 75% at 40°C, 45% at 50°C	





Altitude	<b>Operating</b>	2,000 m
	Storage	12,000 m
EMC	EN 61326-1:2006	
Safety compliance	IEC 61010-1, CAT I, 3rd edition Pollution Degree 2	
Certifications	CSA, CE, FCC: T68-FBLE IC: 6627A-FBLE	
Ingress Protection (IP) rating	IP42	
Pollution Degree	2	
Size (H x W x D)	16.5 x 6.35 x 1.4 cm (6.5 x 2.5 x 1.4 in)	
Weight	.22 kg (8 oz)	
Warranty	Three years	
Not compatible with Fluke CNX test tools		

## Ordering information



### **FLK-3000 FC HVAC**

Fluke 3000 FC HVAC System

Includes:

- Fluke 3000 FC Series Wireless Multimeter
- Fluke a3000 FC Wireless AC Current Clamp Module
- Fluke t3000 Thermocouple Thermometer
- TL175 Test Leads
- AC175 Alligator Clips
- 80PK-1 K-Type Bead Thermocouple
- Magnetic hanging strap



**Preventive maintenance simplified. Rework eliminated.**

Save time and improve the reliability of your maintenance data by wirelessly syncing measurements using the Fluke Connect™ system.

- Eliminate data-entry errors by saving measurements directly from the tool and associating them with the work order, report or asset record.
- Maximize uptime and make confident maintenance decisions with data you can trust and trace.
- Access baseline, historical and current measurements by asset.
- Move away from clipboards, notebooks and multiple spreadsheets with a wireless one-step measurement transfer.
- Share your measurement data using ShareLive™ video calls and emails.

Find out more at [flukeconnect.com](http://flukeconnect.com)



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**Smart phone wireless service and data plan not included with purchase. Fluke Connect is not available in all countries.**