

TECHNICAL DATA

# Fluke CNX™ 3000 Industrial System



## Key features

The CNX 3000 Industrial System provides measurement of all common electrical parameters.

**The CNX 3000 Wireless Multimeter offers:**

- True RMS AC and DC voltage measurements to 1000V
- True RMS 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 CNX i3000 iFlex AC Wireless Current Module offers:**

- True RMS AC current measurements to 2500 A
- 3% accuracy
- Memory recording up to 65,000 readings
- iFlex current probe allows you to get into tight, awkward spaces
- Backlit LCD display
- CAT III 1000, CAT IV 600 V, CAT III 1000 V; IP42

**The CNX v3000 AC Wireless Voltage Module offers:**

- True RMS AC voltage measurements to 1000V

- $\pm 1\%$  accuracy to 500 Hz,  $\pm 2\%$  accuracy to 1 kHz
- Memory recording up to 65,000 readings
- Backlit LCD display
- CAT IV 600 V, CAT III 1000 V; IP42

The CNX wireless system can track up to 10 measurement modules simultaneously, with results sent to a PC for detailed analysis.

## Product overview: Fluke CNX™ 3000 Industrial System

The Fluke CNX™ 3000 Industrial System lets you work on electrical panels faster, safer, easier.

Denergize the cabinet, connect the remote modules, close the cabinet and reenergize. The CNX™ 3000 Industrial System displays the readings wirelessly on the CNX multimeter.

Connect the three CNX i3000 iFlex AC Wireless Current Modules to your test points, and view the results from all three phases in 1/3 the time and cost of current test methods. Or connect the CNX v3000 AC Wireless Voltage Module and view both voltage and current measurements simultaneously. You'll get better answers, faster, and spend less time in full PPE.

From short distances, you can even view readings from modules through closed electrical panels. Plus the CNX remote modules capture up to 65,000 sets of time stamped min/max/avg readings, using the optional PC adapter. CNX 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 CNX™ 3000 Industrial System

### CNX 3000 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	Accuracy <sup>2 3</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		

**Notes:**
<sup>1</sup> All AC voltage ranges are specified from 1 % of range to 100 % of range.

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

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

**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 $\mu$ 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 $\Omega$	
	600.0 k $\Omega$	0.1 k $\Omega$	
	600.0 k $\Omega$	0.001 M $\Omega$	1.5 % + 3
	50.00 M $\Omega$	0.01 M $\Omega$	
Diode test	2.000 V	0.001 V	1 % + 2
$\mu$ F	1000 nF	1 nF	1.2 % + 2
	10.00 $\mu$ F	0.01 $\mu$ F	
	100.0 $\mu$ F	0.1 $\mu$ F	
	9999 $\mu$ F <sup>1</sup>	1 $\mu$ F	10 % typical

**Notes:**
<sup>1</sup> In the 9999  $\mu$ F range for measurements to 1000  $\mu$ 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	0.1 mA	

**Notes:**
<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>
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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	

**Notes:**

<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 V RMS	> 10 MΩ < 100 pF	> 120 dB at DC, 50 Hz or 60 Hz	> 60 dB at 50 Hz or 60 Hz
	1100 V RMS	> 10 MΩ < 100 pF	> 60 dB, DC to 60 Hz	
	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			<b>Full scale</b>	<b>Typical short circuit current</b>
	1100 V RMS	< 2.7 V DC	<b>To 6 MΩ:</b> < 0.7 V DC <b>50 MΩ:</b> < 0.9 V DC	< 350 mA
	1100 V RMS	< 2.7 V DC	<b>To 6 MΩ:</b> 2.000 V DC	< 1.1 mA
<b>Function</b>		<b>Overload Protection</b>	<b>Overload</b>	
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 ± 12 counts for changes > 350 mS in duration.
AC functions	The specified accuracy of the measurement function ± 40 counts for changes > 900 mS in duration.

**General Specifications**

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
Baery type	Three AA Alkaline baeries, NEDA 15A IEC LR6
Baery life	300 hours minimum
Temperature	Operating: -10 °C to 50 °C Storage: -40 °C to 60 °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
Temperature coefficient	0.1 X (specified accuracy) / °C (<18 °C or >28 °C)
Wireless frequency	2.4 GHz ISM Band 20 meter range
Size (HxWxL)	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)
Safety standards	US ANSI: ANSI/ISA 61010-1 / (82.02.01): 3rd edition CSA: CAN/CSA-C22.2 No 61010-1-12: 3rd edition CE European: IEC/EN 61010-1:2010
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 : T68-FWCS IC:6627A-FWCS
Ingress Protection (IP) rating	IP54
<b>Notes:</b>	
<ul style="list-style-type: none"> <li>• Accuracy is specified as <math>\pm</math> ([% of reading] + [number of least significant digits]).</li> <li>• All ranges are autoranging.</li> <li>• Accuracy is specified from 5 % to 100 % of the range obtained by autoranging, from 18 °C to 28 °C.</li> </ul>	

### Fluke CNX i3000 iFlex AC Wireless Current Module

Specifications	
Range	2500 A AC
Resolution	0.1 A to 999.9, 1A from 1000 to 2500
Accuracy	3 % $\pm$ 5 digits
Crest factor (50 Hz/60 Hz)	3.0 at 1100 A, 2.5 at 1400 A, 1.42 at 2500 A, add 2 % for C.F. > 2
Display	3-1/2 digits, LCD w/backlight
Log rate/interval	1 sec minimum/adjustable by PC or front panel
Baery type	2 AA, NEDA 15 A, IEC LR6
Baery life	400 hours
Memory	Record up to 65,000 readings
RF communications	2.4 GHZ ISM Band
RF communication range	20 Meters
Operating temperature	-10 °C to +50 °C
Storage temperature	-40 °C to +60 °C
Operating humidity	90 % at 35 °C 75 % at 40 °C 45 % at 50 °C

EMC	EN 61326-1:2006
Safety compliance	EN/IEC 61010-1:2010 to 1000 V Measurement Category (CAT) III 600 V Measurement Category (CAT) IV EN/IEC 61010-2-030:2010 EN/IEC 610101-2-031:2002 EN/IEC 61010-2-032:2002
Pollution degree	2
Temperature coefficient	Add 0.1 X (specified accuracy) / °C per °C (<18 °C or >28 °C)
Safety rating	CAT IV 600 V, CAT III 1000 V
Certifications	CSA, FCC T68-FWCS IC:6627A-FWCS
Ingress Protection (IP) rating	IP42
Size (HxWxD)	16.5 cm x 6.35 cm x 3.56 cm (6.5 in x 2.5 in x 1.4 in)
Weight	.22 kg (8 oz)
Jaw opening	25.4 cm (10 in) coil

### Fluke CNX v3000 AC Wireless Voltage Module

Accuracy is specified as  $\pm$  ([% of reading] + [number of least significant digits]). All ranges are autoranging. Accuracy is specified from 5 % to 100 % of the range obtained by autoranging, from 18 °C to 28 °C.

AC Voltage			
Range <sup>1</sup>	Resolution	Accuracy <sup>2 3</sup>	
		45 Hz to 500 Hz	500 Hz to 1 kHz
6.000 V	0.001 V	1.0 % + 3	2.0 % + 3
60.00 V	0.01 V		
600.0 V	0.1 V		
1000 V	1 V		
<b>Notes:</b>			
<sup>1</sup> All AC voltage ranges are specified from 1 % of range to 100 % of range.			
<sup>2</sup> Crest factor of $\square$ 3 at full scale up to 500 V, decreasing linearly to crest factor $\square$ 1.5 at 1000 V.			
<sup>3</sup> For non-sinusoidal waveforms, add $-(2\%$ of reading + $2\%$ full scale) typical, for crest factor up to 3.			
General Specifications			
LCD w/backlight	3½ digits, 6000 counts, updates 4/sec		
Baery type	2 AA, NEDA 15 A, IEC LR6		
Baery life	400 hours		
Memory	Record up to 65,000 readings		
Unbound listen interval	5 seconds		
RF communications	2.4 GHZ ISM Band		
RF communication range	20 Meters		
Operating temperature	-10 °C to +50 °C		

Storage temperature	-40 °C to +60 °C
Operating humidity	90 % at 35 °C, 45 % at 40 °C, 45 % at 50 °C
EMC	EN 61326-1:2006
Safety compliance	EN/IEC 61010-1:2010 to 1000 V Measurement Category (CAT) III 600 V Measurement Category (CAT) IV EN/IEC 61010-2-030:2010 EN/IEC 61010-031:2002+A1:2008
Pollution degree	2
Temperature coefficient	0.1 X (specified accuracy) / °C (< 18 °C or > 28 °C)
Safety rating	CAT IV 600 V, CAT III 1000 V
Certifications	CSA, FCC T68-FWCS IC:6627A-FWCS
Ingress Protection (IP) rating	IP42
Size (HxWxD)	16.5 cm x 6.35 cm x 3.56 cm (6.5 in x 2.5 in x 1.4 in)
Weight	.22 kg (8 oz)

**Fluke.** *Keeping your world up and running.®*

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