

## Fluke CNX 3000 Series Test Tools

### The Fluke Wireless Team

## Technical Data

The new Fluke wireless troubleshooting team lets you see live measurements from multiple modules simultaneously and remotely on a single screen. This customizable tool set, built with the durability, reliability and quality you've come to expect from Fluke tools, will change the way you work.

Wireless multimeter displays readings from up to three wireless modules, plus the meter from up to 20 meters away. Add a laptop and review ten measurements at once.



### Fluke CNX 3000 Series

- Digital Multimeter
- AC Voltage Module
- AC True-rms Current Clamp Module
- iFlex True-rms AC Current Clamp Module
- K-Type Temperature Module
- PC Adapter

### Productivity

- 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 modules
- 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
- Choose the module(s) that work best for your applications

### Convenience

- No more run-around. See up to four measurements (DMM and 3 modules) on one screen, in one place at the same time.

- No more writing data down. Capture up to 65000 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
- Identify up to 10 placed modules with meter or PC and choose only the ones you need
- View up to 10 live readings at once on 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

- Increase safety by taking readings in a separate location than the point of measurement
- Fluke CNX meets Measurement Category 1000 V CAT III and Category IV 600 V safety standards: AC current clamp 600 V CAT III; AC Voltage Module and iFlex Clamp Meters 600 V CAT IV / 1000 CAT III

# Specifications

## Fluke CNX 3000 Series Wireless Multimeter

### Detailed specifications

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</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  $-(2 \text{ \% of reading} + 2 \text{ \% full scale})$  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 $\mu\text{s}$ 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 $\Omega$    |                                                                                               |
|               | 600.0 k $\Omega$                | 0.1 k $\Omega$     |                                                                                               |
|               | 6.000 M $\Omega$                | 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                                                                                       |
| $\mu\text{F}$ | 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.

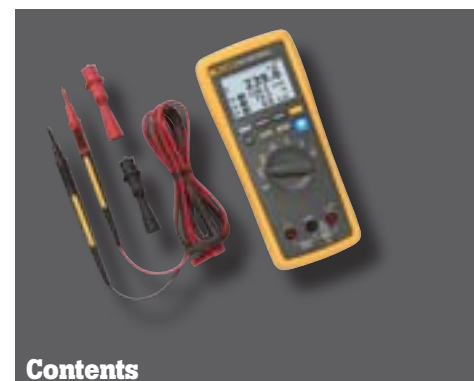
### AC and DC current

| 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              | 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.



Contents

## 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 k $\Omega$ unbalance)           |               | Normal Mode Rejection         |
|-------------------------------|-----------------------------------|---------------------------|----------------------------------------------------------------|---------------|-------------------------------|
| $\overline{\sim}$ V           | 1100 V rms                        | > 10 M $\Omega$ < 100 pF  | > 120 dB at dc, 50 Hz or 60 Hz                                 |               | > 60 dB at 50 Hz or 60 Hz     |
| $\sim$ V                      | 1100 V rms                        | > 10 M $\Omega$ < 100 pF  | > 60 dB, dc to 60 Hz                                           |               |                               |
| $\sim$ mV                     | 1100 V rms                        | > 10 M $\Omega$ < 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 M $\Omega$                                                | 50 M $\Omega$ |                               |
| $\Omega$ / $\rightarrow$      | 1100 V rms                        | < 2.7 V dc                | < 0.7 V dc                                                     | < 0.9 V dc    | < 350 mA                      |
| $\rightarrow$ / $\rightarrow$ | 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

|                                                       |                                                                                                                                                                                     |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum voltage between any terminal and earth ground | 1000 V dc 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)                                         | Update rate: 4/sec<br>Volts, amps, ohms: 6000 counts<br>Frequency: 10,000 counts<br>Capacitance: 1,000 counts                                                                       |
| Battery type                                          | Three AA Alkaline batteries, NEDA 15A IEC LR6                                                                                                                                       |
| Battery life                                          | 300 hours minimum                                                                                                                                                                   |
| RF communications                                     | 2.4 GHZ ISM Band                                                                                                                                                                    |
| RF communication range                                | 20 meters                                                                                                                                                                           |
| Temperature                                           | Operating: -10 °C to 50 °C<br>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<br>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 : T68-FWCS IC:6627A-FWCS |
| Safety compliance                                     | US ANSI: ANSI/ISA 61010-1 / (82.02.01): 3 <sup>rd</sup> edition<br>CSA: CAN/CSA-C22.2 No 61010-1-12: 3 <sup>rd</sup> edition<br>CE European: IEC/EN 61010-1:2010                    |
| Certifications                                        | CSA, FCC, CE                                                                                                                                                                        |
| Ingress Protection (IP) rating                        | IP54                                                                                                                                                                                |
| 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 CNX 3000 Series AC 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        |                         |                 |

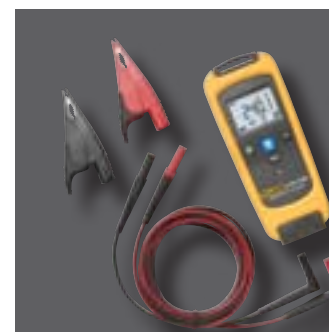
<sup>1</sup> All ac voltage ranges are specified from 1 % of range to 100 % of range.

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

### General specifications

|                                |                                                                                                                                                                 |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LCD w/backlight                | 3½ digits, 6000 counts, updates 4/sec                                                                                                                           |
| Battery type                   | 2 AA, NEDA 15 A, IEC LR6                                                                                                                                        |
| Battery life                   | 400 Hours                                                                                                                                                       |
| Memory                         | Record up to 65000 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                                                                                                                                                |
| Temperature coefficient        | 0.1 X (specified accuracy)/°C (< 18 °C or > 28 °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<br>600 V Measurement Category (CAT) IV<br>EN/IEC 61010-2-030:2010<br>EN/IEC 61010-031:2002+A1:2008 |
| 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 1.4 cm (6.5 in x 2.5 in x 1.4 in)                                                                                                           |
| Weight                         | .22 kg (8 oz)                                                                                                                                                   |



### Contents

## Fluke CNX 3000 Series True-rms AC Current Clamp Module

### 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         | 20 meters                                                                                                           |
| 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                                                                         |
| EMC                            | EN 61326-1:2006                                                                                                     |
| Safety compliance              | EN/IEC 61010-1-030:2010 to 600 V Measurement Category (CAT) III<br>EN/IEC 61010-2-030:2010<br>EN/IEC 61010-032:2002 |
| Safety rating                  | CAT III 600 V                                                                                                       |
| Certifications                 | CSA, FCC T68-FWCS IC:6627A-FWCS                                                                                     |
| Ingress Protection (IP) rating | IP30                                                                                                                |
| 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)                                                                                                       |





## Fluke CNX 3000 Series iFlex True-rms AC Current Clamp Module

### General specifications

|                                |                                                                                                                                                                                       |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                          | 0.5 A to 2500 A AC                                                                                                                                                                    |
| Resolution                     | 0.1 A                                                                                                                                                                                 |
| Accuracy                       | 3 % ± 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                                                                                                                    |
| LCD w/backlight                | 3½ digits                                                                                                                                                                             |
| Log rate/interval              | 1 sec minimum/adjustable by PC or front panel                                                                                                                                         |
| 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         | 20 meters                                                                                                                                                                             |
| 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                                                                                                                                           |
| EMC                            | EN 61326-1:2006                                                                                                                                                                       |
| Safety compliance              | EN/IEC 61010-1:2010 to 1000 V Measurement Category (CAT) III<br>600 V Measurement Category (CAT) IV<br>EN/IEC 61010-2-030:2010<br>EN/IEC 610101-2-031:2002<br>EN/IEC 61010-2-032:2002 |
| Safety rating                  | CAT IV 600 V, CAT III 1000 V                                                                                                                                                          |
| Certifications                 | CSA, FCC T68-FWCS IC:6627A-FWCS                                                                                                                                                       |
| Ingress Protection (IP) rating | IP42                                                                                                                                                                                  |
| Jaw opening                    | 25.4 cm (10 in) coil                                                                                                                                                                  |
| Size (HxWxD)                   | 16.5 cm x 6.35 cm x 1.4 cm (6.5 in x 2.5 in x 1.4 in)                                                                                                                                 |
| Weight                         | .22 kg (8 oz)                                                                                                                                                                         |



## Fluke CNX 3000 Series 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         | 20 meters                                              |
| 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            |
| EMC                            | EN 61326-1:2006                                        |
| Safety compliance              | CAT I per IEC/EN 61010-1:2010, EN/IEC 61010-2-030:2010 |
| Certifications                 | CSA, FCC T68-FWCS IC:6627A-FWCS                        |
| Ingress Protection (IP) rating | IP30                                                   |
| Size (HxWxD)                   | 16.5 cm x 6.35 cm x 1.4 cm (6.5 in x 2.5 in x 1.4 in)  |
| Weight                         | .22 kg (8 oz)                                          |

### Ordering information

| Models                                            | Description                                                                                                       |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Kits</b>                                       |                                                                                                                   |
| FLK-CN3 Industrial Kit                            | Fluke CNX 3000 Industrial System includes Multimeter, 3 iFlex Clamp Modules, 1 Voltage Module and accessories     |
| FLK-CN3 3000 General Maintenance Kit              | Fluke CNX 3000 General Maintenance System includes Multimeter, iFlex Clamp Module, Voltage Module and accessories |
| FLK-CN3 3000 HVAC Kit                             | Fluke CNX 3000 HVAC Kit System includes Multimeter, AC Current Clamp Module, Temperature Module and accessories   |
| FLK-CN3 T3000 Kit                                 | Fluke CNX T3000 Kit includes Multimeter, Temperature Module and accessories                                       |
| FLK-CN3 I3000 Kit                                 | Fluke CNX I3000 Kit includes Multimeter, iFlex Clamp Module and accessories                                       |
| FLK-CN3 A3000 Kit                                 | Fluke CNX A3000 Kit includes Multimeter, AC Current Clamp Module and accessories                                  |
| FLK-CN3 V3000 Kit                                 | Fluke CNX V3000 Kit includes Multimeter, Voltage Module and accessories                                           |
| <b>Modules</b>                                    |                                                                                                                   |
| FLK-CN3 3000 Series Digital Multimeter            | FLK-CN3 3000 Digital Multimeter and accessories                                                                   |
| FLK-CN3 3000 Series iFlex AC Current Clamp Module | FLK-CN3 3000 iFlex Module and iFlex Clamp                                                                         |
| FLK-CN3 3000 Series AC Current Clamp Module       | FLK-CN3 3000 AC Current Clamp Module                                                                              |
| FLK-CN3 3000 Series AC Voltage Module             | FLK-CN3 3000 AC Voltage Module and accessories                                                                    |
| FLK-CN3 3000 Series K-Type Temperature Module     | FLK-CN3 3000 K-Type Temperature Module and accessory                                                              |



**Fluke.** *The Most Trusted Tools in the World.*

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