

FLUKE®

374 FC/375 FC/376 FC

Clamp Meters

Users Manual

September 2015 Rev. 3, 4/23

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Introduction

The Fluke 374 FC/375 FC/376 FC (the Product) measures true-rms ac current and voltage, dc current and voltage, inrush current, resistance, and capacitance. The 375 FC and 376 FC also measure frequency and dc millivolts. The detachable iFlex (Flexible Current Probe) that is included with the 376 FC (optional with the 374 FC and 375 FC) expands the measurement range to 2500 A ac. The Flexible Current Probe provides increased display flexibility and allows measurements of awkward sized conductors and improved wire access. The illustrations in this manual show the 376 FC.

Contact Fluke

Fluke Corporation operates worldwide. For local contact information, go to our website:

www.fluke.com

To register your product, view, print, or download the latest manual or manual supplement, go to our website.

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fluke-info@fluke.com.

Safety Information

A **Warning** identifies conditions and procedures that are dangerous to the user. A **Caution** identifies conditions and procedures that can cause damage to the Product or the equipment under test.

General Safety Information in the printed Safety Information document that ships with the Product. It can also be found online at www.fluke.com. More specific safety information is listed in this manual where applicable.

Replacement Part List

Table 1 lists the available replacement parts.

Table 1. Replacement Parts

| Item | Qty. | Fluke Part or Model Number |
|---------------------------------|-------------|-----------------------------------|
| Battery, AA 1.5 V | 2 | 376756 |
| Battery Door Assembly | 1 | 4696918 |
| Test lead set | 1 | TL75 |
| Flexible current probe i2500-10 | 1 | 3676410 |
| Flexible current probe i2500-18 | 1 | 3798105 |
| Magnet strap | 1 | 669952 |
| STRAP 9 INCHES | 1 | 669960 |
| Soft Case | 1 | 3752958 |

The Product

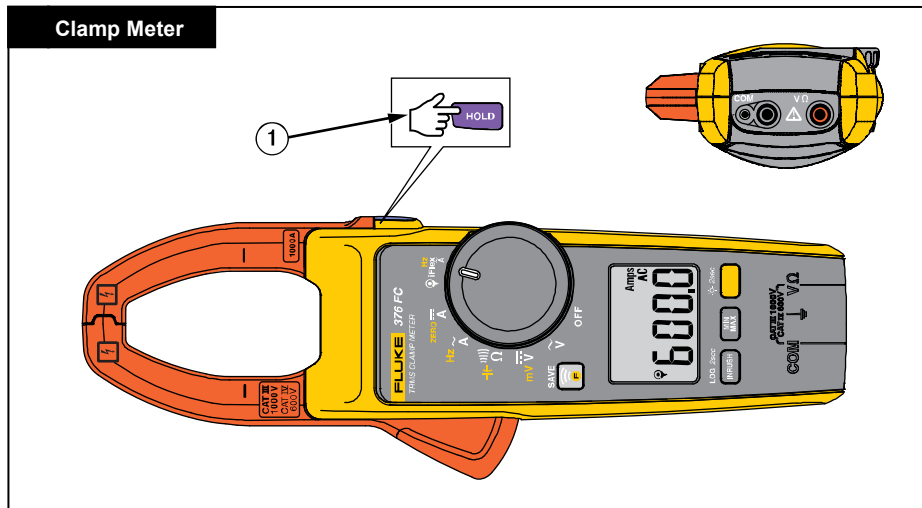
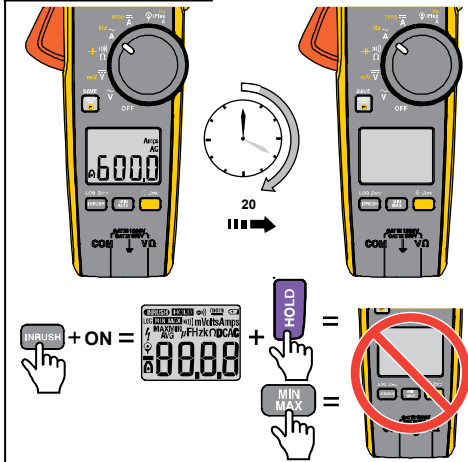


fig01.emf

Auto Power Off



Backlight

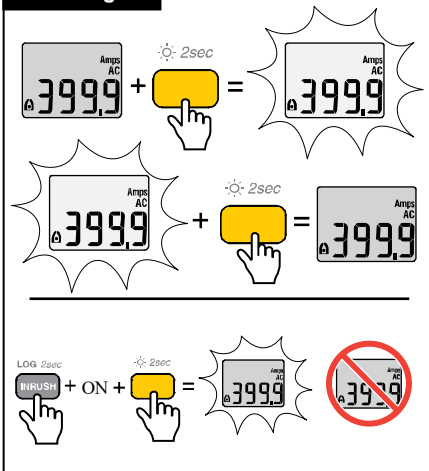
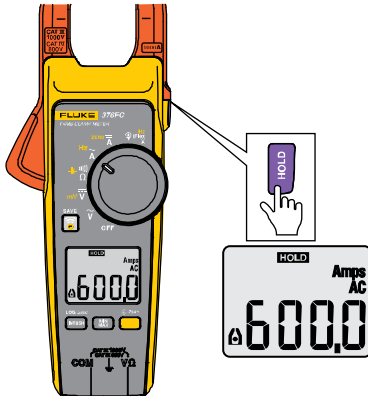


fig02_3.emf

Display Hold



MIN MAX AVG

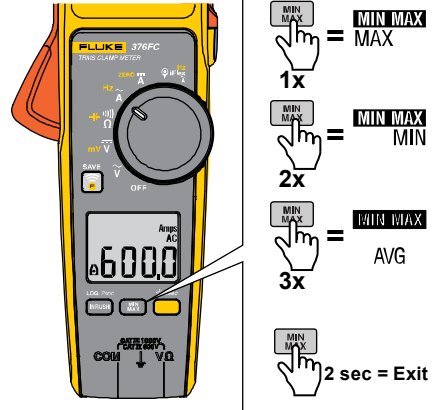
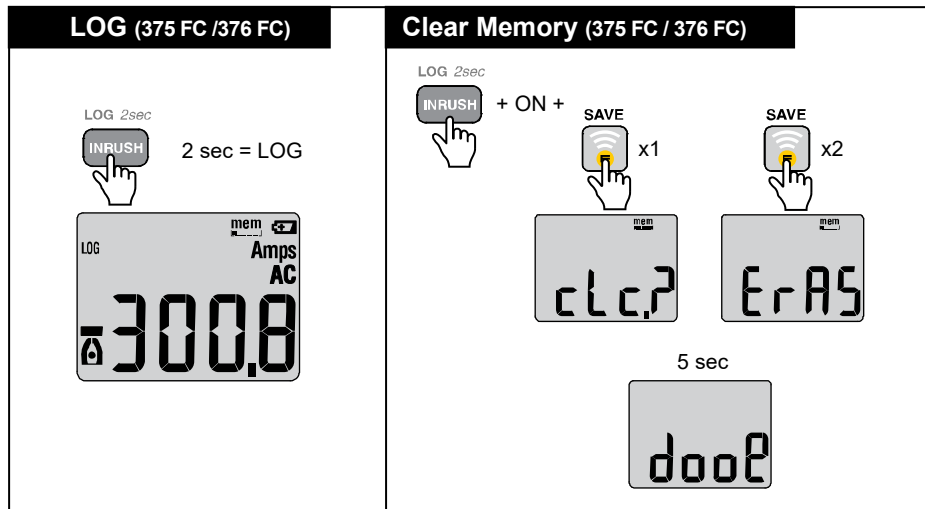


fig04_5.emf



fig_16.emf

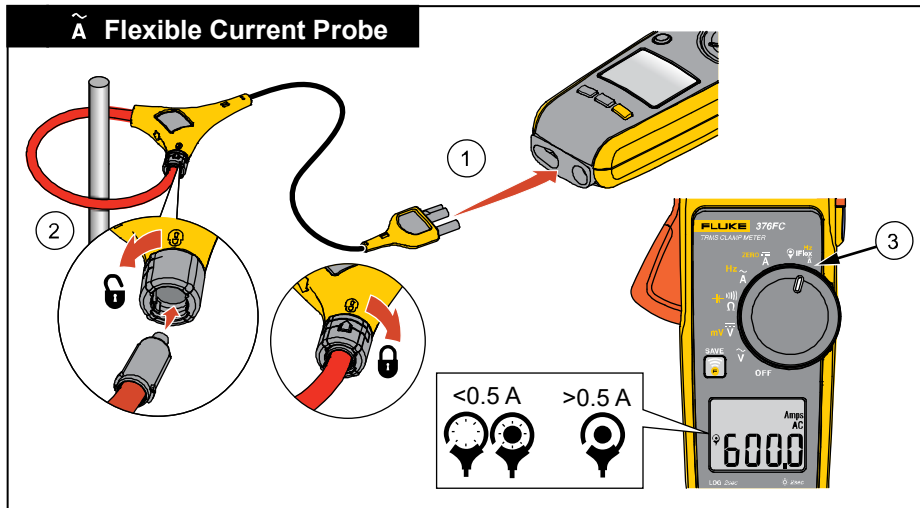


fig06.emf

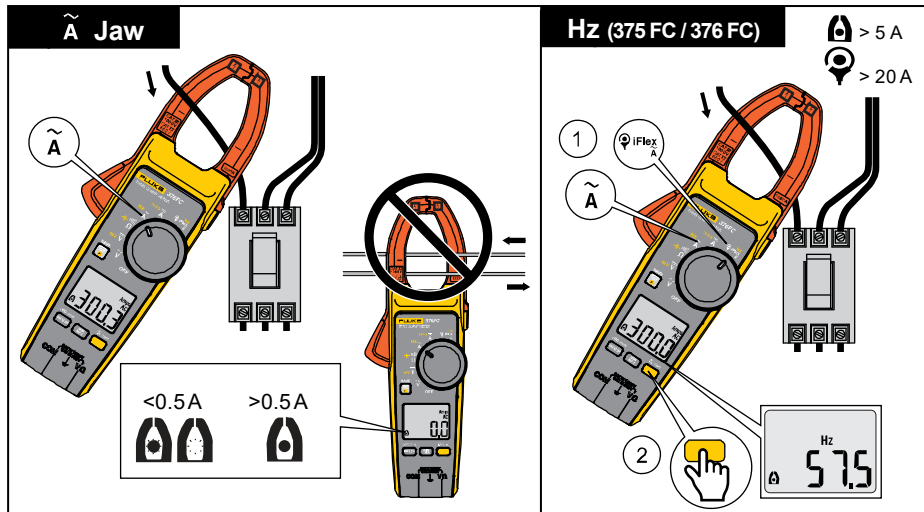


fig07.emf

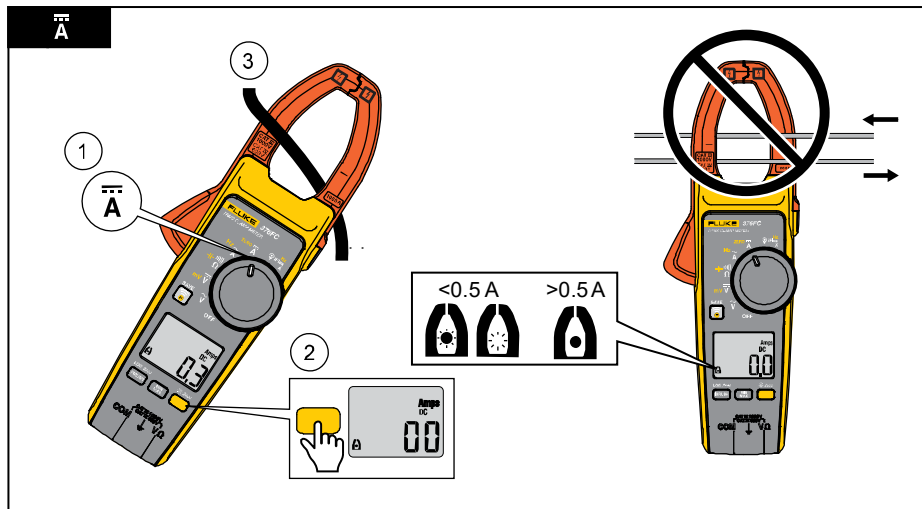


Fig08.emf

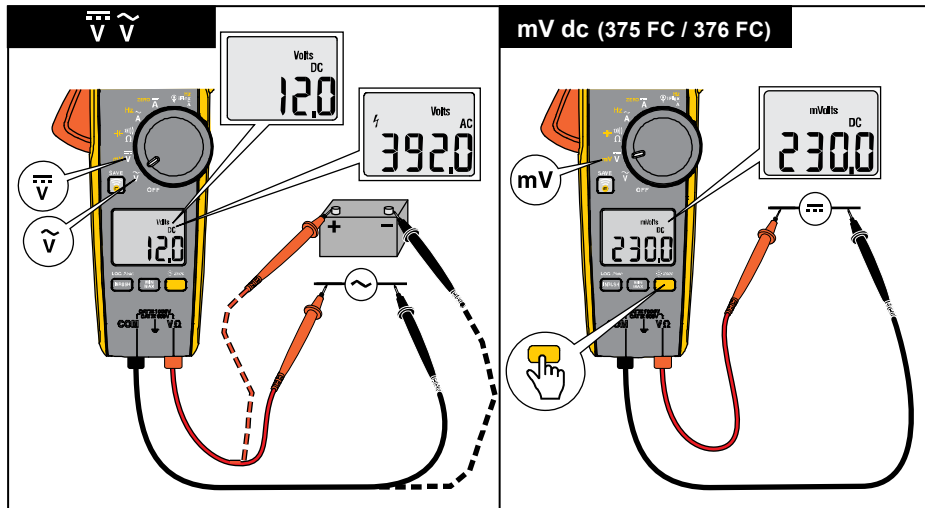


fig09_10.emf

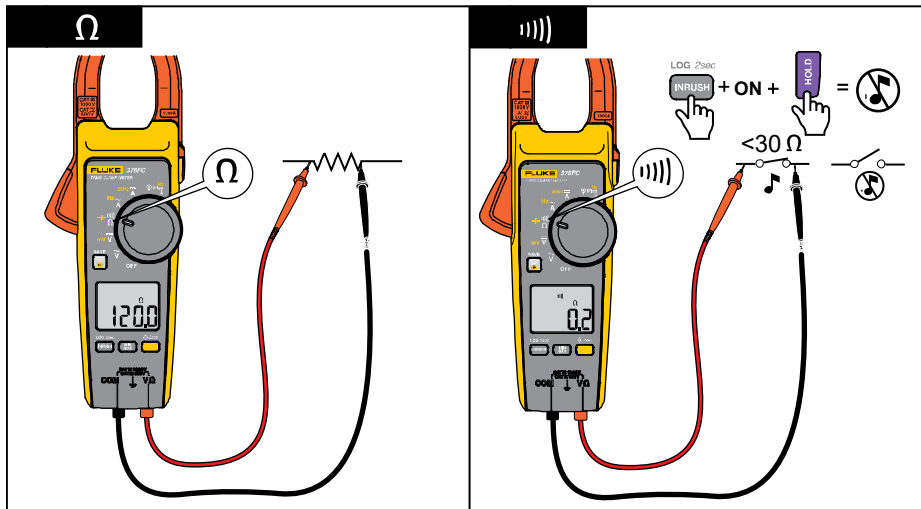


Fig15.emf

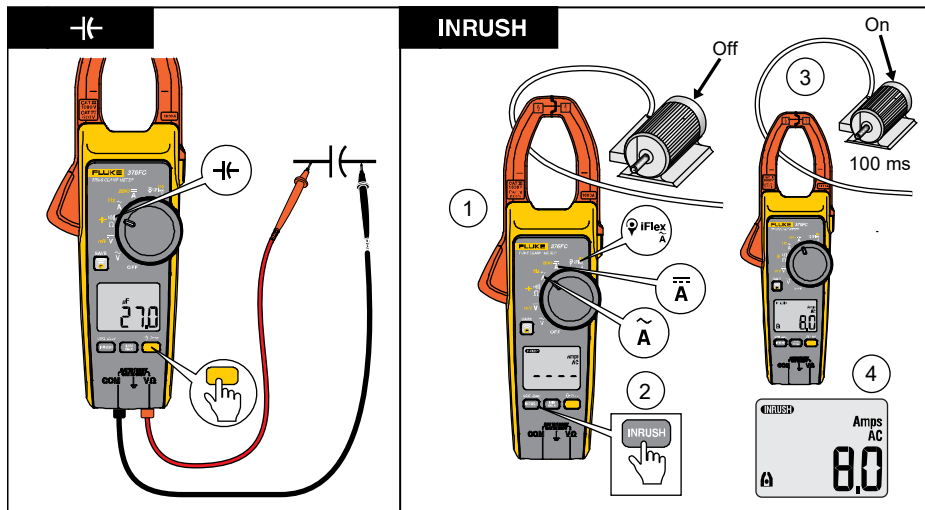


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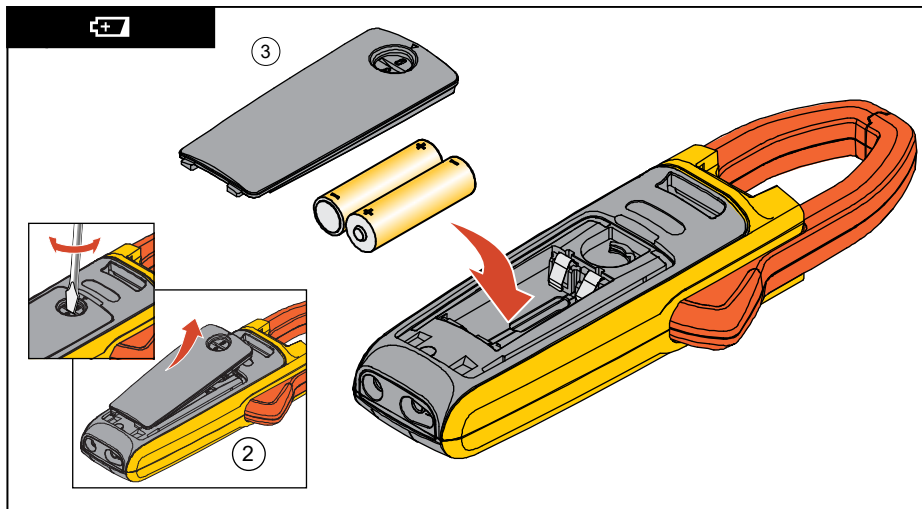


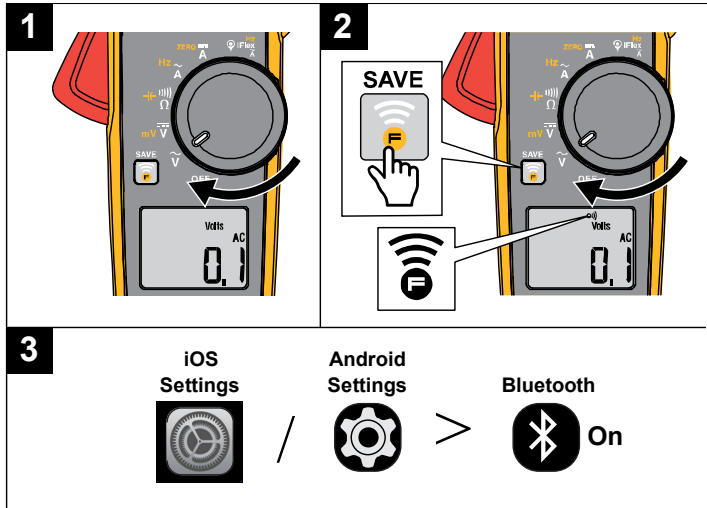
fig11_12.emf

Install Fluke Connect® App

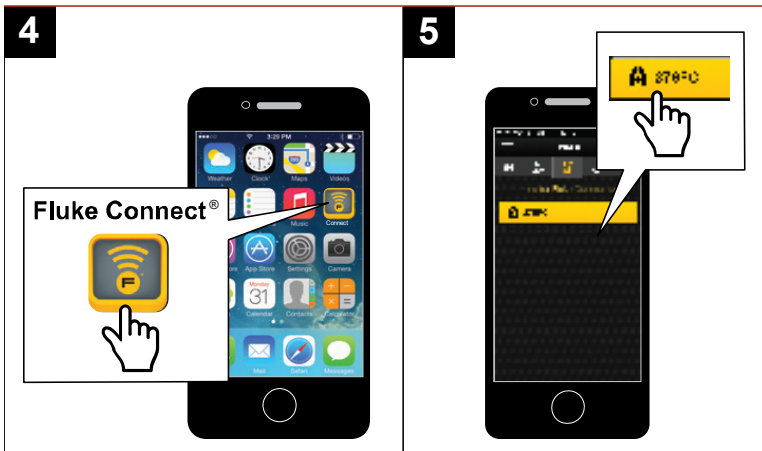


Install_Flukeconnect_App.jpg

Wireless Radio Setup



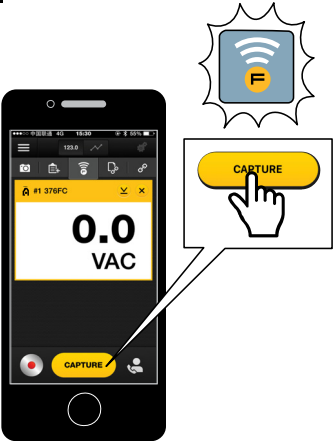
WirelessRadioSetup1-3.emf




WirelessRadioSetup4-5.emf

6

Blink = 4-5 s



7



SAVE

Go to www.flukeconnect.com

General Specifications

Safety specifications are in the printed Safety Information that shipped with the Product.

Size (L x W x H) 249 mm x 85 mm x 45 mm

Weight..... 410 g

Jaw Opening 34 mm

Flexible Current Probe Diameter 7.5 mm

Flexible Current Probe Cable Length
(head to electronics connector) 1.8 m

Temperature

Coefficients Add 0.1 x specified accuracy for each degree C >28 °C
or <18 °C

AC Current via Jaw

Range

374 FC and 375 FC 600.0 A

376 FC..... 999.9 A

Resolution 0.1 A

Accuracy 2 % \pm 5 digits (10 Hz to 100 Hz)
2.5 % \pm 5 digits (100-500 Hz)

Crest Factor (50 Hz/60 Hz)

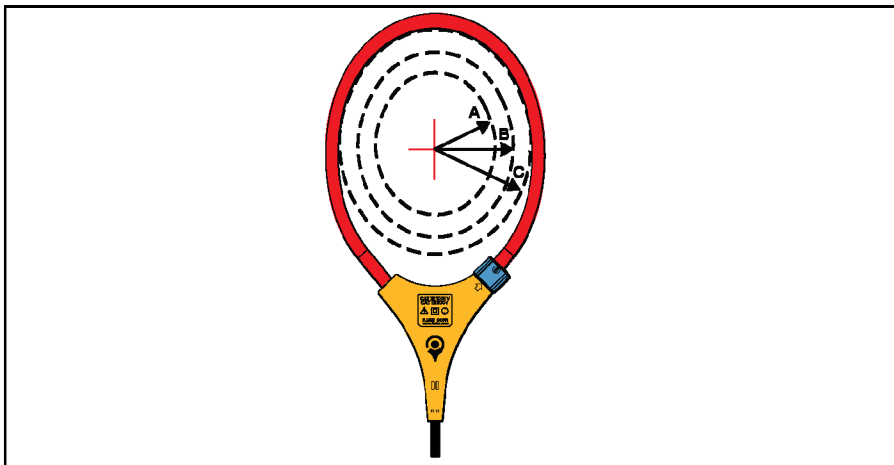
| | |
|-------------------------|---------------|
| 376 FC | 3 @ 500 A |
| | 2.5 @ 600 A |
| | 1.42 @ 1000 A |
| 374 FC and 375 FC | 2.5 @ 350 A |
| | 1.42 @ 600 A |

Note: Add 2 % for C.F. >2

AC Current via Flexible Current Probe

| | |
|---------------------------------|---------------------------------|
| Range | 2500 A |
| Resolution | 0.1 A (≤ 999.9 A) |
| | 1 A (≤ 2500 A) |
| Accuracy | 3 % ± 5 digits (5 – 500 Hz) |
| Crest Factor (50 Hz/60 Hz)..... | 3.0 @ 1100 A |
| | 2.5 @ 1400 A |
| | 1.42 @ 2500 A |
| | Add 2 % for C.F. >2 |

Position Sensitivity



ghn12.png

Figure 1. Position Sensitivity

Clamp Meters
General Specifications

| Distance from Optimum | i2500-10 Flex | i2500-18 Flex | Error |
|--|----------------------|----------------------|--------------|
| A | 0.5 in (12.7 mm) | 1.4 in (35.6 mm) | ±0.5 % |
| B | 0.8 in (20.3 mm) | 2.0 in (50.8 mm) | ±1.0 % |
| C | 1.4 in (35.6 mm) | 2.5 in (63.5 mm) | ±2.0 % |
| Measurement uncertainty assumes centralized primary conductor at optimum position, no external electrical or magnetic field, and within operating temperature range. | | | |

DC Current

Range

374 FC and 375 FC 600.0 A

376 FC 999.9 A

Resolution 0.1 A

Accuracy 2 % ±5 digits

374 FC/375 FC/376 FC

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AC Voltage

| | |
|------------------|--|
| Range | 1000 V |
| Resolution | 0.1 V (≤ 600.0 V) |
| | 1 V (≤ 1000 V) |
| Accuracy | (374 FC/375 FC) 1.5 % ± 5 digits (20 Hz to 500 Hz) |
| | (376 FC) 1 % ± 5 digits |

DC Voltage

| | |
|------------------|-------------------------|
| Range | 1000 V |
| Resolution | 0.1 V (≤ 600.0 V) |
| | 1 V (≤ 1000 V) |
| Accuracy | 1 % ± 5 digits |

mV dc (375 FC and 376 FC)

| | |
|------------------|--------------------|
| Range | 500.0 mV |
| Resolution | 0.1 mV |
| Accuracy | 1 % ± 5 digits |

Frequency via Jaw

Range

375 FC and 376 FC 5.0 Hz to 500.0 Hz

Resolution 0.1 Hz

Accuracy 0.5 % \pm 5 digits

Trigger Level 5 Hz to 10 Hz, \geq 10 A

10 Hz to 100 Hz, \geq 5 A

100 Hz to 500 Hz, \geq 10 A

Frequency via Flexible Current Probe

Range

375 FC and 376 FC 5.0 Hz to 500.0 Hz

Resolution 0.1 Hz

Accuracy 0.5 % \pm 5 digits

Trigger Level 5 Hz to 20 Hz, \geq 25 A

20 Hz to 100 Hz, \geq 20 A

100 Hz to 500 Hz, \geq 25 A

374 FC/375 FC/376 FC

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Resistance

Range

374 FC 6000 Ω

375 FC and 376 FC 60 k Ω

Resolution

374 FC 0.1 Ω ($\leq 600 \Omega$)

1 Ω ($\leq 6000 \Omega$)

375 FC and 376 FC 0.1 Ω ($\leq 600 \Omega$)

1 Ω ($\leq 6000 \Omega$)

10 Ω ($\leq 60 \text{ k}\Omega$)

Accuracy 1 % ± 5 digits

Capacitance

Range 1000 μF

Resolution 0.1 μF ($\leq 100 \mu\text{F}$)

1 μF ($\leq 1000 \mu\text{F}$)

Accuracy 1 % ± 4 digits

Product Disposal

Dispose of the Product in a professional and environmentally sound manner:

- Delete personal data on the Product before disposal.
- Remove batteries that are not integrated into the electrical system before disposal and dispose of batteries separately.
- If this Product has an integral battery, put the entire Product in the electrical waste.

