

a283 FC

Wireless AC/DC Current Clamp

Instructions

Introduction

The Fluke a283 FC Wireless AC/DC Current Clamp (the Product or Clamp) is a wireless True-RMS current clamp with a thin jaw to fit into tight spaces.

The Clamp measures up to 60 A. You can wirelessly connect to a 283 FC Meter and view the Clamp measurements on the Meter display.

Contact Fluke

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

To register your product, or to view, print, or download the latest manual or manual supplement, go to our website: www.fluke.com/productinfo.

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Safety Information

A **Warning** identifies hazardous 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.

Warning

To prevent possible electrical shock, fire, or personal injury:

- **Read all safety information before you use the Product.**
- **Do not alter the Product and use only as specified, or the protection supplied by the Product can be compromised.**
- **Carefully read all instructions.**
- **Do not use the Product if it operates incorrectly.**
- **Do not touch voltages >30 V ac rms, 42 V ac peak, or 60 V dc.**
- **Do not work alone.**
- **Limit operation to the specified measurement category, voltage, or amperage ratings.**
- **Do not exceed the Measurement Category (CAT) rating of the lowest-rated individual component of a Product, probe, or accessory.**
- **Use Product-approved Measurement Category (CAT), voltage, and amperage-rated accessories (probes, test leads, and adapters) for all measurements.**
- **Do not make connections on hazardous live conductors in damp or wet environments.**
- **Comply with local and national safety codes. Use personal protective equipment (approved rubber gloves, face protection, and flame-resistant clothes) to prevent shock and arc blast injury where hazardous live conductors are exposed.**
- **Do not operate the Product with covers removed or the case open. Hazardous voltage exposure is possible.**

- **Do not use a current measurement as an indication that a circuit is safe to touch. A voltage measurement is necessary to know if a circuit is hazardous.**
- **Do not use the Product around explosive gas, vapor, or in damp or wet environments.**
- **Use only specified replacement parts.**
- **Have an approved technician repair the Product.**
- **Disable the Product if it is damaged.**
- **Use the Clamp only on insulated conductors. Use caution around bare conductors or bus bars. To prevent electrical shock, do not touch the conductor.**
- **Hold the Product behind the tactile barrier.**
- **Before each use, examine the Product. Look for cracks or missing pieces of the clamp housing or output cable insulation. Also look for loose or weakened components. Carefully examine the insulation around the jaws.**
- **Do not use the Product above its rated frequency.**
- **Batteries contain hazardous chemicals that can cause burns or explode. If exposure to chemicals occurs, clean with water and get medical aid.**
- **Repair the Product before use if the battery leaks. Battery leakage may create a shock hazard or damage the Product.**
- **Remove the batteries if the Product is not used for an extended period of time, or if stored in temperatures above 50 °C. If the batteries are not removed, battery leakage may result.**
- **The battery door must be closed and locked before you operate the Product.**
- **Do not disassemble or crush battery cells and battery packs.**
- **Do not put battery cells and battery packs near heat or fire. Do not put in sunlight.**

Symbols

The table below is a list of the symbols that can be used on the Product or in this document.

Symbol	Description
	Consult user documentation.
	WARNING. HAZARDOUS VOLTAGE. Risk of electric shock.
	WARNING. RISK OF DANGER.
	Power ON/OFF
	Double Insulated
	Battery
CAT III	Measurement Category III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.
CAT IV	Measurement Category IV is applicable to test and measuring circuits connected at the source of the building's low-voltage MAINS installation.
CE	Conforms to European Union directives.
	This product complies with the WEEE Directive and its marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Do not dispose of this product as unsorted municipal waste. For information about take-back and recycling programs available in your country, see the Fluke website.

Batteries

To install or replace the batteries:

1. Turn off the Product.
2. Use a Phillips head screwdriver to remove the screw in the battery door.
3. Lift off the battery door.
4. Install the two AAA batteries or replace. Use the correct battery orientation.
5. Install the battery door and tighten the screw.

Pair Clamp with 283 FC Meter

For information about how to wirelessly pair the Clamp to the Meter, see the *283 FC True-RMS 1500 V Multimeter Users Manual* at www.fluke.com.

How to Use

The maximum distance for operation between the Meter and Clamp is 10 m (33 ft).

Operation with Auto Power Off

For quick current measurements or short-term tests:

1. Push and release .

The green power light turns on and slowly blinks.

2. Pair the Clamp with the 283 FC Meter.

The blue LED turns on and slowly blinks simultaneously with the power light to indicate that the Clamp and Meter are paired.

3. Position the Clamp jaw around the conductor.

The Clamp starts to send data to the Meter within range when the signal light below  blinks blue.

4. When the test is done, push and release .

The green power light turns off.

Note

The Clamp automatically turns off after 20 minutes without any operation.

Operation with Auto Power Off Disabled

To monitor current measurements or long-term tests:

1. Push and release both   at the same time.

The green power light turns on and is steady (no blinking).

2. Pair the Clamp with the 283 FC Meter.

The blue LED turns on and slowly blinks to indicate that the Clamp and Meter are paired.

3. Position the Clamp jaw around the conductor.

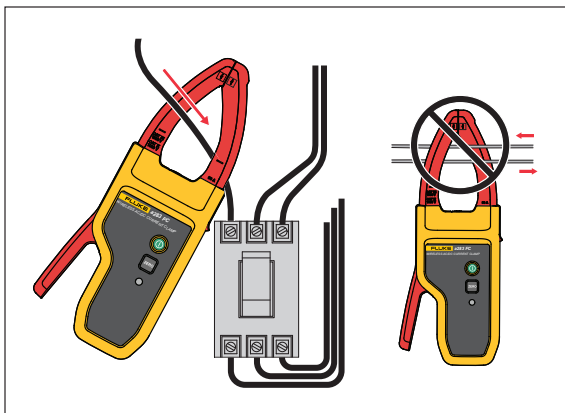
The Clamp starts to send data to the Meter within range.

4. When the test is done, push and release ①.

The green power light turns off.

Note

When Auto Power Off is disabled, the Clamp continues to operate until the battery voltage level is <1.2 V.



DC Current Zero Adjustment

The output zero offset current of the Clamp may change due to residual magnetism and other environmental conditions.

To adjust the output dc current to zero:

1. Make sure that the Clamp is away from any current carrying conductors.
2. Push and release .

When the green power light quickly blinks, the zero adjustment is complete. When the red power light quickly blinks, the zero adjustment has failed.

Note

The Clamp can zero an output current > -6 A dc or <6 A dc.

Auto Power Off

To conserve battery power, the Clamp has an Auto Power Off feature and a Sleep Mode.

When Auto Power Off is disabled, the Clamp remains on and does not go to the Sleep Mode. See [Operation with Auto Power Off Disabled](#).

When Auto Power Off is enabled, the Clamp:

- Goes to the Sleep Mode if paired with a Meter and then disconnected from that Meter for >20 minutes, The blue LED is continuously on and the green LED is off.

Note

When connection with the meter is re-established, the clamp is reactivated.

- Automatically turns off if the Clamp is not paired with a Meter and there has been no operation for 20 minutes.

LEDs

System Status	Sleep Mode Status	① LED	Blue LED
Auto Power Off Disabled			
	Never	Steady Green	according to connection status
Auto Power Off Enabled			
Paired, connected to 283 FC Meter			
	Never	Blinking Green	Blinking Blue
Paired, not connected to 283 FC Meter:			
<20 min	Operating	Blinking Green	Off
>20 min	Sleep	Off	Steady Blue
Unpaired:			
<20 min	Operating	Blinking Green	Off
>20 min	Power off	Off	Off
Battery			
Battery voltage level >2.2 V.		Green	NA
Battery voltage level is <2.2 V and >2.0 V.		Orange	NA
Battery voltage level is <2.0 V and >1.2 V. Clamp turns off when battery voltage level is <1.2 V.		Red	NA

Maintenance

Periodically wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents to clean the Product.

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.

Specifications

Size	226.0 mm x 91.0 mm x 42.0 mm (8.9 in x 3.6 in x 1.7 in)
Jaw Opening	34 mm (1.34 in)
Weight	0.375 kg (13.2 oz)
Battery	2 AAA IEC LR03
Battery Life	>80 hours typical (Alkaline, 2 AAA)
Temperature	
Operating	-10 °C to 60 °C
Storage	-30 °C to 70 °C
Relative humidity	0 % to 90 %, 5 °C to 30 °C 0 % to 75 %, 30 °C to 40 °C 0 % to 45 %, 40 °C to 60 °C
Altitude	
Operating	2000 m
Storage	12 000 m
Electrical Accuracy	Accuracy is specified for 1 year after calibration, at operating temperatures of 18 °C to 28 °C, with relative humidity at 0 % to 75 %. Accuracy specifications take the form of $\pm$ ([% of Reading] + [Number of least significant digits]).

Temperature

CoefficientsAdd 0.1 x specified accuracy
for each °C >28 °C or <18 °C

AC Current

Range.....60.00 A
Resolution0.01 A
Accuracy1.5 % +15 digits
(45 Hz to 500 Hz)
<1 % range, unspecified

Crest Factor
(50 Hz/60 Hz).....3 @ 60.00 A

DC Current

Range.....60.00 A
Resolution0.01 A
Accuracy1.5 % +15 digits
<1 % range, unspecified

Ingress ProtectionIEC 60529: IP52

Safety

General.....IEC 61010-1: Pollution
Degree 2

Measurement..... IEC 61010-2-032
CAT III 1500 V/CAT IV 1000 V

Electromagnetic Compatibility (EMC)

InternationalIEC 61326-1, IEC 61326-2-2:
Portable Electromagnetic
Environment
CISPR 11: Group 1, Class A

Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.

Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.

Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

Emissions that exceed the levels required by CISPR 11 can occur when the equipment is connected to a test object.

Korea (KCC)Class A Equipment (Industrial
Broadcasting &
Communication Equipment)

*Class A: Equipment meets requirements for industrial
electromagnetic wave equipment and the seller or
user should take notice of it. This equipment is
intended for use in business environments and not to
be used in homes.*

USA (FCC).....47 CFR 15 subpart C

Wireless Radio

Frequency Range.....2400 MHz to 2483.5 MHz

Output Power<100 mW

Radio Frequency

Certification.....FCC ID: T68-TTBLE,
IC: 6627A-TTBLE

SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, Fluke declares that the radio equipment contained
in this Product is in compliance with European Union's Radio
Equipment Directive (RED). The full text of the EU
declaration is available at the following internet address:
www.fluke.com/red

LIMITED WARRANTY

This Fluke product will be free from defects in material and
workmanship for 1 year from the date of purchase. This
warranty does not cover fuses, disposable batteries, or
damage from accident, neglect, misuse, alteration,
contamination, or abnormal conditions of operation or
handling. Resellers are not authorized to extend any other
warranty on Fluke's behalf. To obtain service during the
warranty period, contact your nearest Fluke authorized
service center to obtain return authorization information,
then send the product to that Service Center with a
description of the problem.

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER
WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR
PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE IS NOT
LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR
CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM
ANY CAUSE OR THEORY. Since some states or countries do
not allow the exclusion or limitation of an implied warranty
or of incidental or consequential damages, this limitation of
liability may not apply to you.

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