

## TECHNICAL DATA

# Fluke 317/319 Clamp Meters



## Key features

The two models are economic, compact and offer a range of special features:

- Unique 40A high-precision low current measurement--0.01A high-resolution, 1.6% high-precision measurement
- The clamps are slim, lightweight, and portable, making them ideal for use in small, confined spaces
- The large backlight display facilitates readings in dark environments
- Starting current (inrush) functionality (319) allows measurement of the starting current of electrical and lighting equipment, for example. (319)
- Current frequency measurement
- Precision down to 0.01A and 0.1V
- 1000A/600A AC/DC current measurement (319/317)
- 600V AC/DC voltage measurement
- 4000Ω resistance measurement
- Continuity beeper
- Auto off function enhances battery life, meaning the instrument can work when you need it screen store 'hold' function for capturing a measurement result on the screen
- One year warranty

## Product overview: Fluke 317/319 Clamp Meters

The Fluke 317 and 319 are designed with ergonomic concepts, shaped to fit your hand and to access tight spots easily. These small and rugged clamp meters are ideally suited for current measurements up to 1000 A (319) in tight cable compartments. The Fluke 317 and 319 also offer AC/DC current measurements and has a higher resolution for loads below

40 A. In addition to a compact package with a strong feature set, the Fluke 319 also equip with In-rush current and Frequency functions for testing motors, lighting, etc.

## Specifications: Fluke 317/319 Clamp Meters

| General specifications        |                                                                       |                                        |
|-------------------------------|-----------------------------------------------------------------------|----------------------------------------|
| Digital display               | 6000 count resolution                                                 |                                        |
| Low battery Indication        | Displays a signal when the batteries are below their required voltage |                                        |
| Power source                  | Three AAA IEC LR03 batteries                                          |                                        |
| Clamp opening size            | 1.45 in (37 mm)                                                       |                                        |
| Jaw diameter                  | 1.45 in (37 mm)                                                       |                                        |
| Dimensions (L x W x H)        | 9.21 in x 2.95 in x 1.37 in                                           |                                        |
|                               | (234.0 mm x 75.0 mm x 34.8 mm)                                        |                                        |
| Weight                        | Approximately 13.5 oz (384 g) (batteries included)                    |                                        |
| Auto range                    | Available in Ohms                                                     |                                        |
| Safety                        | CE                                                                    |                                        |
|                               | EN/IEC 61010-1 and IEC 61010-2-032                                    |                                        |
|                               | Measurement Category: 600V CAT III                                    |                                        |
| 317 Electrical specifications |                                                                       |                                        |
| Current AC                    | Range                                                                 | 40.00 A, 600.0 A                       |
|                               | Resolution                                                            | 0.01 A, 0.1 A                          |
|                               | Accuracy                                                              | 1.6% $\pm$ 6 digit (50-60 Hz) {40 A}   |
|                               |                                                                       | 2.5% $\pm$ 8 digit (60-500 Hz) {40 A}  |
|                               |                                                                       | 1.5% $\pm$ 5 digit (50-60 Hz) {600 A}  |
|                               |                                                                       | 2.5% $\pm$ 5 digit (60-500 Hz) {600 A} |
|                               | Crest Factor add 2% into spec for CF > 2                              | 3.0 Max @ 500 A, 2.5 Max @ 600 A       |
| AC response                   | rms                                                                   |                                        |
| Current DC                    | Range                                                                 | 40.00 A, 600.0 A                       |
|                               | Resolution                                                            | 0.01 A, 0.1 A                          |
|                               | Accuracy                                                              | 1.6% $\pm$ 6 digit (40 A)              |
|                               |                                                                       | 1.5% $\pm$ 5 digit (600 A)             |
| Voltage AC                    | Range                                                                 | 600.0 V                                |
|                               | Resolution                                                            | 0.1 V                                  |
|                               | Accuracy                                                              | 1.5% $\pm$ 5 digit (20-500Hz)          |
|                               | AC response                                                           | rms                                    |

|                                      |                                          |                                                    |
|--------------------------------------|------------------------------------------|----------------------------------------------------|
| Voltage DC                           | Range                                    | 600.0 V                                            |
|                                      | Resolution                               | 0.1 V                                              |
|                                      | Accuracy                                 | 1% $\pm$ 4 digit                                   |
| Resistance                           | Range                                    | 400.0 $\Omega$ , 4000 $\Omega$                     |
|                                      | Resolution                               | 0.1 $\Omega$ , 1 $\Omega$                          |
|                                      | Accuracy                                 | 1% $\pm$ 5 digit                                   |
| Continuity                           | $\leq$ 30 $\Omega$                       |                                                    |
| Inrush                               | Integration time                         | N/A                                                |
| Frequency                            | Range                                    | N/A                                                |
|                                      | Accuracy                                 | N/A                                                |
|                                      | Trigger Level                            | N/A                                                |
| <b>319 Electrical specifications</b> |                                          |                                                    |
| Current AC                           | Range                                    | 40.00 A, 600.0 A, 1000 A                           |
|                                      | Resolution                               | 0.01 A, 0.1 A, 1 A                                 |
|                                      | Accuracy                                 | 1.6% $\pm$ 6 digit (50-60 Hz) {40 A}               |
|                                      |                                          | 2.5% $\pm$ 8 digit (60-500 Hz) {40 A}              |
|                                      |                                          | 1.5% $\pm$ 5 digit (50-60 Hz) {600/1000 A}         |
|                                      |                                          | 2.5% $\pm$ 5 digit (60-500 Hz) {600/1000 A}        |
|                                      | Crest Factor add 2% into spec for CF > 2 | 3.0 Max @ 500 A, 2.5 Max @ 600 A, 1.4 Max @ 1000 A |
| AC response                          | rms                                      |                                                    |
| Current DC                           | Range                                    | 40.00 A, 600.0 A, 1000 A                           |
|                                      | Resolution                               | 0.01 A, 0.1 A, 1 A                                 |
|                                      | Accuracy                                 | 1.6% $\pm$ 6 digit (40 A)                          |
|                                      |                                          | 1.5% $\pm$ 5 digit (600/1000 A)                    |
| Voltage AC                           | Range                                    | 600.0 V                                            |
|                                      | Resolution                               | 0.1 V                                              |
|                                      | Accuracy                                 | 1.5% $\pm$ 5 digit (20-500Hz)                      |
|                                      | AC response                              | rms                                                |
| Voltage DC                           | Range                                    | 600.0 V                                            |
|                                      | Resolution                               | 0.1 V                                              |
|                                      | Accuracy                                 | 1% $\pm$ 4 digit                                   |

|                                                                                                                                                                                                                                                                                                                          |                                                              |                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------|
| Resistance                                                                                                                                                                                                                                                                                                               | Range                                                        | 400.0 $\Omega$                                              |
|                                                                                                                                                                                                                                                                                                                          |                                                              | 4000 $\Omega$                                               |
|                                                                                                                                                                                                                                                                                                                          | Resolution                                                   | 0.1 $\Omega$                                                |
|                                                                                                                                                                                                                                                                                                                          |                                                              | 1 $\Omega$                                                  |
| Accuracy                                                                                                                                                                                                                                                                                                                 | 1% $\pm$ 5 digit                                             |                                                             |
| Continuity                                                                                                                                                                                                                                                                                                               | $\leq$ 30 $\Omega$                                           |                                                             |
| Inrush                                                                                                                                                                                                                                                                                                                   | Integration time                                             | 100 ms                                                      |
| Frequency                                                                                                                                                                                                                                                                                                                | Range                                                        | 5.0 - 500.0 Hz                                              |
|                                                                                                                                                                                                                                                                                                                          | Accuracy                                                     | 0.5% $\pm$ 5 digit                                          |
|                                                                                                                                                                                                                                                                                                                          | Trigger Level                                                | 10 - 100 Hz $\geq$ 5 A, 5 - 10 Hz, 100 - 500 Hz $\geq$ 10 A |
| <p>The accuracy specifications apply at 73 °F <math>\pm</math>41 °F (23 °C <math>\pm</math>5 °C)<br/>           Below 64 °F and above 82 °F (18 °C and above 28 °C) accuracy degrades at (0.1) times specification per °C.<br/>           True rms for ac V and ac A accuracy is specified from 5% to 100% of range.</p> |                                                              |                                                             |
| <b>Environmental specifications</b>                                                                                                                                                                                                                                                                                      |                                                              |                                                             |
| Operating temperature                                                                                                                                                                                                                                                                                                    | 14°F to 122°F (-10 °C to 50 °C)                              |                                                             |
| Storage temperature                                                                                                                                                                                                                                                                                                      | -40 °F to 140 °F (-40 °C to 60 °C)                           |                                                             |
| Operating humidity                                                                                                                                                                                                                                                                                                       | Non-condensing (< 50 °F) (< 10 °C)                           |                                                             |
|                                                                                                                                                                                                                                                                                                                          | 90% RH (50 °F to 86 °F) (10 °C to 30 °C)                     |                                                             |
|                                                                                                                                                                                                                                                                                                                          | 75% RH (86 °F to 104 °F) (30 °C to 40 °C)                    |                                                             |
|                                                                                                                                                                                                                                                                                                                          | 45% RH (104 °F to 122 °F) (40 °C to 50 °C)                   |                                                             |
|                                                                                                                                                                                                                                                                                                                          | (Without condensation)                                       |                                                             |
| Operating altitude                                                                                                                                                                                                                                                                                                       | 1 mile (2000 meters) above mean sea level                    |                                                             |
| Storage altitude                                                                                                                                                                                                                                                                                                         | 7 miles (12,000 meters) above mean sea level                 |                                                             |
| IP Rating                                                                                                                                                                                                                                                                                                                | IP40                                                         |                                                             |
| Vibration requirements                                                                                                                                                                                                                                                                                                   | Random MIL-PRF-28800F Class 2, 5-500 Hz, 30 minutes per axis |                                                             |
| Drop test requirements                                                                                                                                                                                                                                                                                                   | 3 ft (1 m) drop test, six sides, oak floor                   |                                                             |
| EMI, RFI, EMC                                                                                                                                                                                                                                                                                                            | Instrument unspecified for use in EMC field $\geq$ 0.1 V/m   |                                                             |
| Temperature coefficients                                                                                                                                                                                                                                                                                                 | 0.1x (specified accuracy)/ °C                                |                                                             |
|                                                                                                                                                                                                                                                                                                                          | (<64 °F or > 82° F)                                          |                                                             |
|                                                                                                                                                                                                                                                                                                                          | (<18 °C or > 28 °C)                                          |                                                             |

## Ordering information



### Fluke 317/319

The Fluke 317 and 319 are designed with ergonomic concepts, shaped to fit your hand and to access tight spots easily.

The Meter ships with:

- Test Leads
- Soft Carrying Case
- Three AAA batteries (Installed)
- 317/319 User Manual

These small and rugged clamp meters are ideally suited for current measurements up to 1000 A (319) in tight cable compartments. The Fluke 317 and 319 also offer AC/DC current measurements and has a higher resolution for loads below 40 A. In addition to a compact package with a strong feature set, the Fluke 319 also equip with In-rush current and Frequency functions for testing motors, lighting, etc



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