F200 - F400 - F600 Series
AC, DC and AC+DC TRMS Clamp Multimeters

11 Models with 1,000 V CAT IV
Safety for Every Type of Use!

True InRush

- Current: 2,000 A AC / 3,000 A DC
- Voltage: 1,000 V AC/DC
- Clamping diameter: 60 mm
- Large 10,000-count display
- Automatic AC/DC detection

- Min, Max, Peak
- RELative and differential measurements
- Power values
- THD & Harmonics
- 3-year warranty

11 Models with 1,000 V CAT IV
Safety for Every Type of Use!
For Professional Use

- For electricians, clamp multimeters are ideal tools for any work in the field. Simple to use, they offer all the necessary functions in a single, compact solution.

- The F200 Series meets the needs of self-employed electricians and small and medium-sized business and industries in the electrical sector.

- For medium and high-power work, the F400 and F600 Series provide maximum safety whatever the measurement conditions and type of installation.

- With its large clamping diameter and current measurements up to 3,000 A, the F600 Series is perfect for working on electrical power distribution and transmission applications.

Safe and Robust

1,000 V CAT IV, an unprecedented level of safety for clamp multimeters!
Users can be sure of working in total safety and in compliance with the applicable standards.
The instruments’ IP54 protection safeguards them against dust, in particular, thus guaranteeing that safety is maintained over time.
The mechanical design of these clamps enables them to pass the standard test for falls from a height of 2 metres.

Performance

All the clamps in the F200, F400 and F600 Series benefit from a fast 12-bit TRMS digital acquisition system offering high measurement accuracy.
Thanks to their large bandwidth and high crest factor, these clamps provide accurate measurements whatever the type of signal.

Ergonomics

The whole range has been designed for one-handed use, even when wearing protective gloves.
For maximum efficiency, each type of measurement has its own specific switch position.
The “1 key, 1 function” concept makes it even simpler to use.
In addition, all these clamps are equipped with automatic detection of the type of signal (AC or DC) for current, voltage and power measurements.

All these clamp multimeters are equipped with automatic AC/DC detection.
Each key corresponds to a single function whatever the mode.
CATegory IV up to 1,000 V for greater safety.
The Quality of TRMS Measurements, Whatever the Type of Signal

A range offering unprecedented analytical and diagnostic functions!

**TRMS Version of Min and Max!**
The Min and Max are TRMS values calculated over a duration of up to 100 ms. This feature is particularly useful for sizing an installation, the diameter of a power cable, a thermal protection device, etc.

**Peak+ and Peak-**
Calculated over a period of 1 ms, the Peak+ and Peak- values help to characterize the distortion affecting the signal measured. For example, they may reveal variations in the installation's behaviour or even malfunctions.

**THD and Harmonics**
When seeking the causes of a malfunction, knowledge of the overall signal distortion (THD_r or THD_i) or frequential distortion (harmonic analysis) helps you to identify the precise corrective solution required: filtering, oversizing, etc. Harmonic analysis also contributes to fire prevention.

**ΔREL, for Quick Evaluation**
Comparison with a reference quantity is a quick way of evaluating and analysing your results. A signal's variations can be measured differentially or relatively. The first method indicates the difference between the value of reference and the value measured. The second method indicates the proportion. The ΔREL function can be applied to any type of measurement and can be used jointly with the Min, Max and Peak functions.

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**INNOVATION FROM CHAUVIN ARNOUX**

The TrueInRush function makes it easy to analyse both the inrush of a single motor and the inrush of a set of machines in operation.
The clamp automatically determines the type of signal and the level of current in the installation and then adapts the algorithm and measurement mode to capture the expected overcurrent.

Indeed, correct sizing of electrical installations in terms of both the conductors and the protective systems implemented is a recurrent problem.

Overcurrents usually occur when an installation or a machine is started up or when machinery is subjected to heavy loads.
The TrueInRush function enables you to size the installation correctly.
Choose Your Clamp Multimeter

This 11-model range of clamp multimeters meets all your needs in the field.

1/ MEASUREMENT RANGE
3 series identifiable by their first digit for 3 measurement ranges
- The F200 Series for currents up to 600 A AC / 900 A DC
- The F400 Series for average currents up to 1,000 A AC / 1,500 A DC
- The F600 Series for high currents up to 2,000 A AC / 3,000 A DC

All the models also innovate by proposing as standard features:
- AC and DC voltage measurement up to 1,000 V
- Resistance and audible continuity
- Min / Max analysis
- True InRush overcurrent measurement

2/ TYPE CURRENT & FUNCTIONS
Each series comprises 3 or 4 models.
The last digit in each clamp’s name corresponds to different applications and levels of analysis.
So the F201, F401 and F601 clamps, for example, offer the same functions but with different measurement ranges.

The Adapter function helps to extend the instrument’s possibilities through the use of measurement probes (luxmeter, Infrared temperature sensor, tachometer, etc.) with voltage output (AC or DC).
A cleverly-designed system allows users to read the quantity measured directly.

Phase rotation
To determine the phase order, a “2-wire” microprocessor-based measurement system avoids the constraints and faults linked to instruments equipped with resistive or capacitive technologies when using protective accessories (gloves, mats, etc.) or isolating transformers.

Ripple
The ripple is a parameter that enables you to assess the quality of the smoothing on currents which are rectified and then smoothed. The lower the ripple factor, the greater the efficiency of the smoothing.
If switching power supplies are involved, the voltage supplied includes residual ripple, particularly at high frequency.
This ripple is harmful for electronic equipment, so it should be kept to a minimum.
The F200 clamps are ideal for low-power or medium-power low-voltage applications: maintenance of tertiary or industrial electrical installations or installed machines, power supply diagnostics and/or sizing, commissioning of air-conditioning and heating systems, work on electric vehicles, etc.

<table>
<thead>
<tr>
<th>Display resolution</th>
<th>F201</th>
<th>F203</th>
<th>F205</th>
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</thead>
<tbody>
<tr>
<td>Measurements displayed</td>
<td>6,000 cts</td>
<td>6,000 cts</td>
<td>6,000 cts</td>
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<tr>
<td>Display backlighting</td>
<td>x 1</td>
<td>x 1</td>
<td>x 1</td>
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<tr>
<td>Acquisition method</td>
<td>TRMS</td>
<td>TRMS</td>
<td>TRMS</td>
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<table>
<thead>
<tr>
<th>Automatic AC/DC detection</th>
<th>F201</th>
<th>F203</th>
<th>F205</th>
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<tbody>
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<tr>
<td>AC+DC</td>
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<td>Hz</td>
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<td>Resistance/audible continuity</td>
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<td>Temperature (°C / °F)</td>
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<tr>
<td>Adapter function</td>
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<tr>
<td>2-wire phase rotation</td>
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<tr>
<td>W, var, VA, PF</td>
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<tr>
<td>THDf / THDr</td>
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<tr>
<td>Min. / Max.</td>
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<td>Peak+ / Peak-</td>
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<td>True InRush</td>
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<td>∆REL</td>
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Complete display of F200 Series models
The F400 Series is designed for medium-power low-voltage applications in sectors such as LV electricity production and distribution, industry, railways, etc. It is also suitable for lift/elevator technicians and other lifting and transport specialists.

The main applications for the clamps in this series are maintenance, testing, monitoring, diagnostics and connection.

<table>
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<th>Display resolution</th>
<th>10,000 cts</th>
<th>10,000 cts</th>
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<td>Acquisition method</td>
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<tr>
<td>Automatic AC/DC detection</td>
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<td>V</td>
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<td>Hz</td>
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<tr>
<td>Resistance/audible continuity</td>
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<tr>
<td>T° (°C / °F)</td>
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<tr>
<td>Adapter function</td>
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<td>2-wire phase rotation</td>
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<td>Harm0… Harm25</td>
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<tr>
<td>Min. / Max.</td>
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<tr>
<td>Peak+ / Peak-</td>
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<tr>
<td>True InRush</td>
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<td>PC software (included) / Bluetooth</td>
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</table>

Complete display for F401, F403, F405, F601, F603 & F605
The F600 Series is designed for the high-power LV market in sectors such as electrical power distribution, chemical and petrochemical industries, metallurgy, transport, etc.
Applications: maintenance, testing, monitoring, diagnostics, sizing, connection, etc.

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<thead>
<tr>
<th>F405/F605</th>
<th>F407/F607</th>
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Complete display for F407 & F607
**Model**

<table>
<thead>
<tr>
<th>F200 SERIES</th>
<th>F400 SERIES</th>
<th>F600 SERIES</th>
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<tbody>
<tr>
<td>F201</td>
<td>F401</td>
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<tr>
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<td>F403</td>
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<td>F205</td>
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<td>F605</td>
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<tr>
<td>F407</td>
<td>F607</td>
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</tbody>
</table>

**Clamping diameter**
- F200: 34 mm
- F400: 40 mm
- F600: 40 mm

**Display**
- LCD
- Backlit LCD
- Backlit LCD

**Resolution**
- 6,000 counts
- 10,000 counts
- 10,000 counts

**Number of values displayed**
- 1
- 1
- 3
- 1
- 3

**Type of acquisition**
- TRMS
- AC/DC
- AC, AC+DC
- TRMS
- TRMS
- TRMS

**Autorange**
- Yes
- Yes
- Yes
- Yes
- Yes
- Yes

**Automatic AC / DC detection**
- -
- -
- -
- -
- -
- -

**A AC**
- 0.25 to 600 A (900 A peak)
- 0.25 to 1,000 A (1,500 A peak)
- 0.25 to 2,000 A (3,000 A peak)

**A DC**
- 0.25 to 600 A
- 0.25 to 500 A
- 0.25 to 3,000 A

**Best accuracy**
- 1 % L + 3 ct.
- 1 % L + 3 ct.
- 1 % L + 3 ct.

**Hz**
- Current: 5.0 Hz to 3,000 Hz
- Voltage: 5.0 Hz to 20.00 kHz
- Voltage: 5.0 Hz to 20.00 kHz
- Voltage: 5.0 Hz to 20.00 kHz

**Ohm**
- 0.1 Ω to 59.99 kΩ
- 0.1 Ω to 99.99 kΩ
- 0.1 Ω to 99.99 kΩ

**Audiability**
- Yes
- Yes
- No
- Yes
- No
- No

**Continuity threshold**
- Adjustable from 1 to 599 Ω
- Adjustable from 1 to 999 Ω
- 40 Ω
- Adjustable from 1 to 999 Ω
- 40 Ω

**Open-circuit voltage**
- ≤ 8 V
- ≤ 8 V
- ≤ 8 V

**Frequency analysis**
- No
- No
- 25th order
- No
- 25th order

**Phase rotation**
- -
- Yes
- Yes
- -
- -

**Functions**
- True Inrush (Overcurrent measurement)
- Motor inrush
- Load change
- Hold
- Min. / Max.
- Peak / Peak-
- -
- -

**RELative ΔX / Differential ΔX/X (%)**
- -
- Yes / Yes
- Yes / Yes
- -
- Yes / Yes

**Auto Power Off**
- Yes
- Yes
- Yes
- -
- -

**Data recording**
- -
- -
- -

**Communication interface**
- -
- -

**Electrical safety as per IEC 61010**
- 600 V CAT IV
- 1,000 V CAT IV & CAT III
- 1,000 V CAT IV & CAT III

**Power supply**
- 1 x 9 V U22
- 4 x 1.5 V AA
- 4 x 1.5 V AA

**Dimensions & weight**
- 78 x 222 x 42 mm / 340 g
- 92 x 272 x 41 mm / 600 g
- 111 x 296 x 41 mm / 640 g

**STATE AT DELIVERY**

<table>
<thead>
<tr>
<th>F201</th>
<th>F203</th>
<th>F205</th>
<th>F401</th>
<th>F403</th>
<th>F405</th>
<th>F407</th>
<th>F601</th>
<th>F603</th>
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<tr>
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**For assistance and ordering**


**981.1135 – 04 – 07/2017 – Non contractual document. Confirm specifications before ordering.**