

## The world of professional measurement within hand's reach

*Ergonomically designed to be the smallest size possible: multi-purpose multimeter clamps that offer more!*

F01 - F03  
F05 - F07

RMS  
Multimeter  
Clamps



- Measurements: voltage, current, resistance, temperature, power, frequency, ...
- Measures RMS for all current, sinusoidal and distorted
- Ergonomically designed and user-friendly
- Auto AC/DC, Auto-range, Hold, Backlighting functions...
- Optimal safety: V-live protection, EN 61010-1, 600V Cat III

 **CHAUVIN  
ARNOUX**

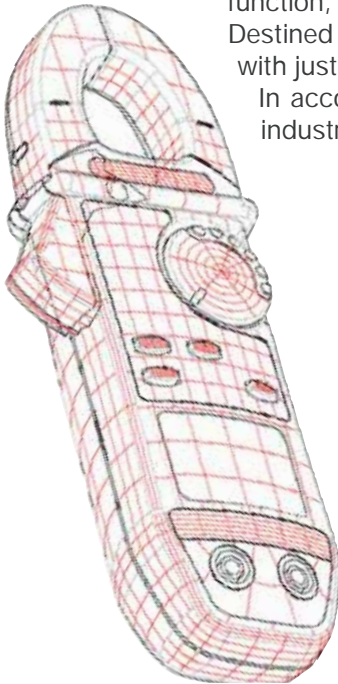
## A multitude of measurements in a pocket-sized instrument

High performance and small size, this is what characterizes the new family of F01 - F03 - F05 - F07 clamps by Chauvin Arnoux.

To top off the advantages of "small diameter" multimeter clamps (pocket-sized, attractively priced, ease in handling and ergonomic design...), this new generation of clamps offers all of the capacities of measurement you've been dreaming of: AC/DC measurement of course, and temperature, power, frequency measurement... as well as out-of-the-ordinary functions like inrush measurement, programmable adapter function, and more.

Destined for professionals in measurement, their numerous functions are accessed with just a few keys, for more comfort and safety.

In accordance with EMC standards, these clamps are perfectly suited for use in industrial environments.



*With the latest in high-technology, the F01, F03, F05, and F07 multimeter clamps are built upon the concept of direct cable clamping without the need to shut off the installation and, all this, in complete safety.*

### Select your clamp

Function/Model	F01	F03	F05	F07
RMS AC current	•	•	•	•
DC current		•	•	•
RMS AC+DC current				•
RMS AC voltage	•	•	•	•
DC voltage	•	•	•	•
RMS AC+DC voltage				•
Auto AC/DC	•	•	•	•
Auto-range	•	•	•	•
Resistance	•	•	•	•
Continuity/buzzer	•	•	•	•
Diode		•	•	•
Power			•	
Power factor			•	
Phase rotation (2-wire)			•	
Temperature (int, ext, °C, °F)		•		•
Frequency (Hz)			•	•
Adapter (AC/DC)				•
Min/Max/Peak		•	•	•
Hold	•	•	•	•
Inrush Current			•	•
V-Live (V)	•	•	•	•
Automatic stop select	•	•	•	•
Backlighting		•	•	•
Battery indicator <sup>(1)</sup>	•	•	•	•
Buzzer for over-range	•	•	•	•

<sup>(1)</sup> Remaining time expressed in hours on models F03/F05/F07



**AC**

**F01**

- RMS
- AC/DC voltage
- AC current
- Continuity
- Hold



**Temperature**

**F03**

- RMS
- AC/DC voltage
- AC/DC current
- Resistance/continuity
- Diode test
- Temperature
- Hold
- Min./Max.
- Backlighting

**Power**



**F05**

- RMS
- AC/DC voltage
- AC/DC current
- Resistance/continuity
- Power/Power Factor
- Diode test
- Phase rotation (2-wire)
- Frequency
- Hold
- Min./Max.
- Backlighting

**TRMS**



**F07**

- TRMS
- AC/DC (AC+DC) voltage
- AC/DC (AC+DC) current
- Resistance/continuity
- Diode test
- Temperature
- Frequency
- Physical quantities
- Hold
- Min./Max.
- Backlighting

## ■ All the effectiveness of measurement well in hand

No matter which model is used, each of these multimeter clamps provides **the measurement's RMS**. Each accepts all currents, even the most distorted, for the best results!

The **F07** clamp offers a TRMS result, taking the DC component of the signal into account.

The **F01**, which is particularly financially attractive and very easy to use, measures AC current and AC/DC voltage, as well as continuity up to 400  $\Omega$ !

The **F03**, **F05** and **F07** clamps are equipped with a Hall-effect cell for making all AC and DC current measurements.



Measuring the level of illumination

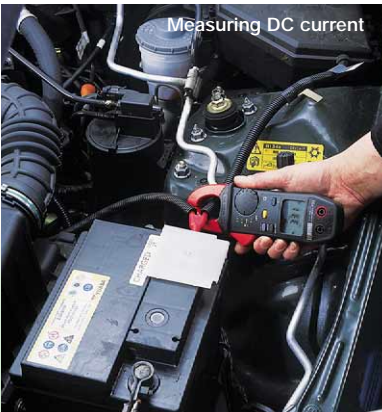
*With the **F07** clamp's adapter function, measuring physical quantities becomes extremely simple: a direct reading of the measurement is provided by a read-in made by scale factor decades.*

## ■ More than just simple multimeters!

Combining advanced technology with an ideal size, each clamp enlarges the scope of its functions by offering more measurement possibilities within a single instrument.

Judge for yourself: AC/DC ammeter/ voltmeter and ohmmeter of course, yet frequency meter (models **F05** and **F07**), wattmeter (**F05**), thermometer (**F03** and **F07**), as well as hygrometer and tachometer, etc ... (model **F07**) by adding the adapted probes.

The world of professional measurement is within hand's reach!



Measuring DC current

*The **F03**, **F05** and **F07** are equipped with the technology needed to measure any DC current, as shown here on a vehicle battery.*



Current measurement on a transformer outlet

*Using a **F07** clamp with an Ampflex is an excellent way to combine safety and accessibility on large diameters.*



Measuring power

*With its **W** position, the **F05** clamp transforms itself into a wattmeter and measures both the active power and the power factor in single-phase systems. The  $\odot$  mode indicates the phase order in a three-phase system. With the original "2-wire" method (Pfisterer license), it's quick and practical.*

## ■ And there's more...

The **F05** clamp indicates phase order and rotation direction in a three-phase system.

Available on the **F03**, **F05** and **F07** models, the Min/Max key gives the minimum and maximum values for AC or DC measurements, as well as the signal's crest values.

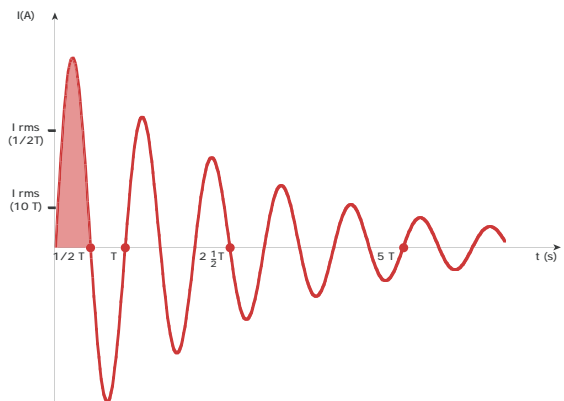
The **F05** and **F07** are equipped with an "Inrush current" function which is accessed with the Min/Max key. This function measures changes in motor inrush current without the need for a graphic display. It also defines the amplitude/time relation to aid you in selecting your motor's protection range. Another plus. When in resistance mode, the semiconductor test (or diode test) validates the smooth running of diverse components and can detect any possible short-circuits or power cuts.



Measuring inrush current on motors

When starting, certain loads (like those of motors), heating resistors and lighting systems require a strong rush of current which can trigger the safety system and even damage the installation.

With their Inrush function, the **F05** and **F07** analyze this rush of current by measuring the signal's RMS between 10 ms and 200 ms.



*The Inrush function automatically gives the RMS for a calculated sinusoid on  $\frac{1}{2}$ , 1, 2  $\frac{1}{2}$ , 5 and 10 signal cycles.*

## ■ User-friendliness and additional safety

With the ohmmeter function, the Hold key on the **F03**, **F05** and **F07** clamps automatically makes lead resistance compensation ( $\Omega$  Zero), assuring the reliability of all measurements without complex adjustments.

Likewise when in DC ammeter mode, the instruments can automatically correct drift in DC measurement (DC Zero) by simply pressing a key.

The clamps' built-in **V-live** function assures the user's safety: the buzzer goes off to warn that a voltage considered hazardous, superior to 45 V crest, has been detected.



Measuring temperature

*By adding a simple sensor, the Temperature function on the **F03** and **F07** clamps measures surface and ambient temperatures in °C or °F.*

*Because they are so small and so easy to handle, these **F01** / **F03** / **F05** / **F07** clamps can really go anywhere !*

## ■ An exceptional ergonomic design

The **F01** - **F03** - **F05** - **F07** multimeter clamp range, designed equally for high-performance and aesthetics, differs from other tools due to its simplicity of use and ease in handling.

Each of these clamps are sly as a fox: to save on battery use, it automatically turns itself off after a few minutes of inactivity. Robust and light-weight, it is intended to be used as a professional, all-terrain instrument.

Before beginning the measurement campaign (**F03**/**F05**/**F07**), the user can check the battery, shown in hours, to assure that its charge is sufficient.

On each of the models, the **Hold** function freezes the measurement being made so to facilitate making measurements under different types of circumstances and reading the results, which are stored by this function, later on.

Digital, the 4 models offer a **LCD** screen with a 4000 count display equipped with clear symbolic for good readability.

On the **F03**, **F05** and **F07** models, the built-in **back-lit screen**, with both automatic extinction and the possibility to be turned off with the  $\times$  key, provides improved reading comfort.

Each clamp **automatically** selects the type of signal to measure (**AC** or **DC**) and the measurement range (auto-range). Thus, the user doesn't have to think twice. It is nevertheless possible to manually change the range on the **F03**, **F05** and **F07** clamps by pressing on the yellow key.

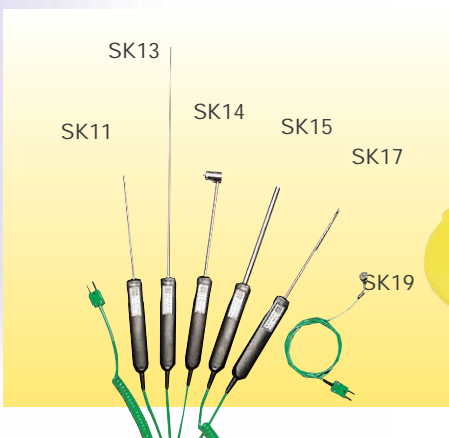


Current measurement on a small bus

## Accessories associated with all kinds of measurements

Compared to other multimeter clamps, the **F03**, **F05** and **F07** make it possible to carry out numerous unusual measurements. A whole range of safety accessories have been perfected in order to perform these measures and to meet up to any kind of situation.

Literature is available upon request.



# Specifications

- **Display:** 4000 counts
- **Voltages (in 3 ranges)**
  - ➔ AC from 0.20 V to 600 V rms./ 900 V peak
  - ➔ DC from 0.20 V to 600 V
  - Accuracy\*: 1% R + 2 ct
  - Impedance: 1 MΩ
- **Currents (in 3 ranges)**
  - ➔ AC from 0.20 A to 400.0 A rms. / 600 A peak
  - ➔ DC from 0.20 A to 400.0 A
  - Accuracy\*: 1.5%R + 2 ct
- **Bandwidth:** 1 kHz
- **Crest factor:** 3.5
- **Résistances :**
  - ➔ F01 from 0.2 to 400 (in 1 range)
  - ➔ F03 from 0.2 to 4000 (2 ranges)
  - ➔ F05/F07 from 0.2 to 40.00 kΩ (3 ranges)
  - Accuracy\*: 1%R + 2cts
- **Continuity** at programmable thresholds from 1 to 40
- **Min/Max:** 100 ms typ.
- **Peak:** 500 μs typ.
- **V live :** > 45 V peak ± 2 V
- **Frequencies from 10.00 Hz to 19.99 kHz**  
Accuracy\*: 0.4%R + 1 ct
- **External temperature from -50°C to 1000°C**  
Accuracy: 1%R + 1.5°C (via K thermocouple, optional)
- **AC Powers from 5 W to 240 kW**  
Typical accuracy: 2 %R + 2 ct
- **Power factor:** 0.20 to 1.00
- **Phase angle rotation:**  
2-wire frequency range method:  
50 or 60 Hz ± 3 Hz
- **Inrush current :**  
Calculated on RMS voltage at  $\frac{1}{2}$ , 1, 2<sup>1/2</sup>, 5  
and 10 signal cycles - Frequency range: 15 to 70 Hz
- **Adapter function**  
Input signal: 0.5 mV to 4.000 V
  - Typical accuracy: 1 %R ± 2 ct
  - Programmable scale factor for direct reading of the value from 0.001 to 100 000 for all sensors in connection with decades (output/input). For example: 1 mV/100Lux

\* Accuracy of the best range

- **Dimensions:** 70 x 193 x 37 mm
- **Weight:** 260 g
- **Power supply:** standard 9 V battery 6LF22  
Operating radius: ≈25 000 measurements at 10 s  
Flashing battery level indicator: battery life < 1h
- **Clamping diameter** < 26 mm

- **Standards**  
EN 61010-1/EN 61010-2-032 - 600 V Cat III poll.2
- **Operating conditions:** 0 to 50 °C / 90 % RH
- **Storing conditions:** - 40 to 70 °C / 90 % RH
- **Impermeability:** IP 40
- **Electromagnetic compatibility** EN 61326-1, ed. 97+A1

## To order

	Ref.
F01 Clamp .....	P01.1209.01Z
F03 Clamp .....	P01.1209.03Z
F05 Clamp .....	P01.1209.05Z
F07 clamp .....	P01.1209.07Z

Delivered in blister-pack with carrying case, a set of 2 test probe leads, 9 V battery, and user's manual (+ an adapter for k thermocouple for models F03 and F07, + a crocodile clip for model F05)

### ■ Accessories

Set of 2 safety plug leads (IEC1010) .....	P01.2950.88
Set of 2 crocodile clips (IEC1010) .....	P01.1018.48
Set of 2 test probe leads IP2X .....	P01.2951.57

### ■ Spares

Set of 2 test probe leads (IEC1010) .....	P01.2950.84
Carrying case n°7 .....	P01.2985.32
Adapter for K thermocouple .....	P01.1017.80 (Models F03 and F07)



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