

# Professional High Performance TRMS Clamp-On Meter Models F01, F03, F05 & F07



The F01 – F07 series of clamp-on meters is a high performance line of clamp-on meters built into a rugged compact sized case, with exceptional ergonomic design and extraordinary measurement possibilities. These are definitely not your generic off-the-shelf clamp-on! They are designed to offer professional measurement possibilities rarely seen in a clamp-on meter.

Integrating a fast microprocessor sampling at a high rate, they are completely automatic and perform TRMS measurements on the most distorted waveforms. The Models F01 through F07 offer extraordinary measurement capabilities to the professional engineers and electricians who rely on professional measurement products.

Here are some interesting facts:

- All models automatically detect AC or DC in Voltage and Current – Just select the function.
- All models have a V-Live™ function to warn of the use of live circuits or elevated voltages. They also auto-range for the best resolution on a backlit 4000-count display and have Auto-Off to save the battery.
- Model F07 measures TRMS Voltage and Current and can incorporate the DC component of the signal for the Truest RMS.
- Models F07 and F05 measure in-rush currents from 1 cycle up to 10 cycles and frequency

- Model F05 measures Phase Rotation (using only two leads!), Power Factor and Power.
- Model F01 does not have a magnetic core in its jaws.
- All models are very ergonomic and can be operated with one hand.
- Other features, based on the model, include Temperature, Min/Max/Peak, AC/DC adaptor input enabling the use of accessories (large clamps, light sensors...)

The Models F01 – F07 are designed for the industrial environment and offer enhanced safety specifications. They conform to the demanding international safety standards with a 600V Cat. III rating and are CE marked.

## Features

- Compact hand-held size ultra practical and ergonomic design
- TRMS measurement
- 4kHz of bandwidth
- Crest factor of 3.5 at 600Arms and 900Vrms
- Peak function enables the capture of 500µs crest values
- Min/Max automatic capture of peak values at 100ms
- Transistor Test/Power/Hz/Phase Rotation Indicator/T°/Adapter/AC + DC (according to model)
- Temperature up to 1832°F (1000°C) (via K thermocouple)
- Continuity at programmable threshold from 1 to 40Ω
- Selectable V-Live™ function (buzzer warning of voltage >45V peak, considered to be hazardous)
- Battery life displayed directly in hours
- Backlit digital display
- EN 61010-1, EN 61010-2-032, 600V Cat. III

## Applications

- Electrical maintenance
- Electrical power distribution
- Safety lighting system maintenance
- Automotive test troubleshooting
- Industrial maintenance
- HVAC
- Phase identification



Model F05 monitoring volts, amps and watts on a control panel.



Model F03 measuring temperature on electronic circuit board using a K thermocouple.



### Model F01

- RMS
- AC/DC Voltage
- AC Current
- Continuity
- Hold
- Non-magnetic sensor



### Model F03

- RMS
- AC/DC Voltage
- AC/DC Current
- Resistance
- Continuity
- Diode Test
- Temperature
- Hold
- Min/Max
- Backlighting



### Model F05

- RMS
- AC/DC Voltage
- AC/DC Current
- Resistance
- Continuity
- Power/Power Factor
- Diode Test
- Inrush Current
- Phase Rotation
- Frequency
- Hold
- Min/Max
- Backlighting



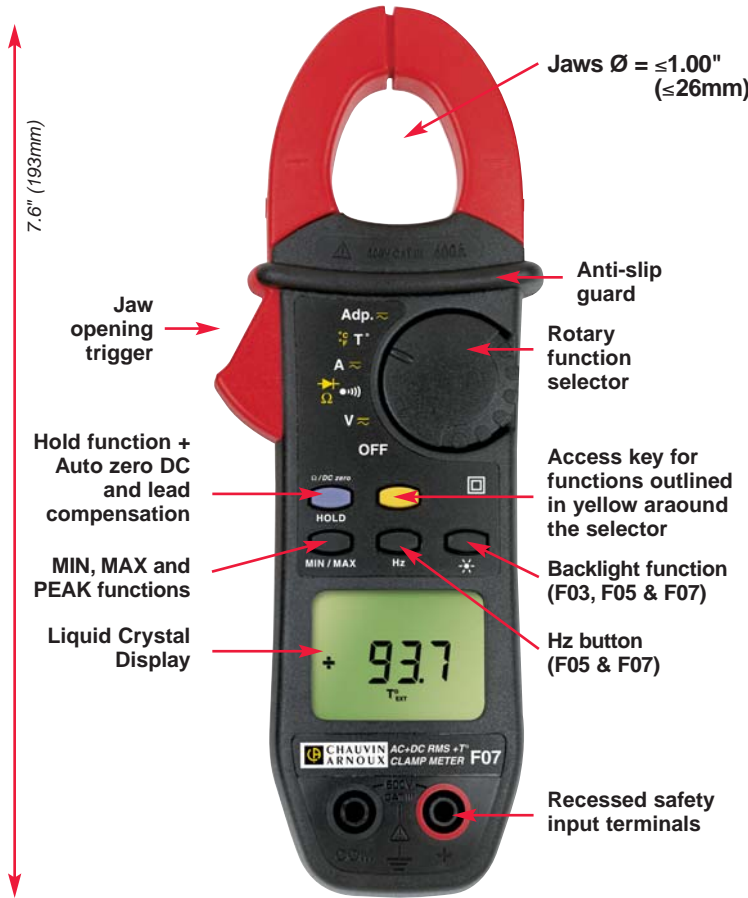
### Model F07

- TRMS
- AC/DC (AC + DC) Voltage
- AC/DC (AC + DC) Current
- Resistance
- Continuity
- Diode Test
- Inrush Current
- Temperature
- Frequency
- Physical Quantities (via adaptor)
- Hold
- Min/Max
- Backlighting

# Specifications

MODELS		F01	F03	F05	F07
<b>ELECTRICAL</b>					
Measurement Range	40V	0.2 to 39.99V	0.2 to 39.99V	0.2 to 39.99V	0.2 to 39.99V
	400V	40.0 to 399.9V	40.0 to 399.9V	40.0 to 399.9V	40.0 to 399.9V
	4000V	400 to 600V	400 to 600V (400 to 900V pk)	400 to 600V (400 to 900V pk)	400 to 600V (400 to 900V pk)
Accuracy	40V	1% of Reading + 5cts	1% of Reading + 5cts	1% of Reading + 5cts	1% of Reading + 5cts
	400V	1% of Reading + 2cts	1% of Reading + 2cts	1% of Reading + 2cts	1% of Reading + 2cts
	4000V	1% of Reading + 2cts	1% of Reading + 2cts	1% of Reading + 2cts	1% of Reading + 2cts
<b>CONTINUITY (•))</b>					
Measurement Range		0.0 to 399.9Ω	0.0 to 399.9Ω	0.0 to 399.9Ω	0.0 to 399.9Ω
Accuracy		1% of Reading + 2cts	1% of Reading + 2cts	1% of Reading + 2cts	1% of Reading + 2cts
<b>RESISTANCE-OHMS (Ω)</b>					
Measurement Range	400Ω	0.0 to 399.9Ω	0.0 to 399.9Ω	0.0 to 399.9Ω	0.0 to 399.9Ω
	4000Ω	–	400 to 3999Ω	400 to 3999Ω	400 to 3999Ω
	40kΩ	–	–	4.00 to 39.99kΩ	4.00 to 39.99kΩ
Accuracy		–	1% of Reading + 2cts	1% of Reading + 2cts	1% of Reading + 2cts
<b>DIODE (→)</b>					
Measurement Range	4V	–	0 to 3.199V	0 to 3.199V	0 to 3.199V
<b>CURRENT (A ≈)</b>					
Measurement Range	40A	0.20 to 39.99A	0.20 to 39.99A	0.20 to 39.99A	0.20 to 39.99A
	400A	40.0 to 399.9A	40.0 to 399.9A	40.0 to 399.9A	40.0 to 399.9A
	4000A	400 to 600A pk	400 to 600A pk	400 to 600A pk	400 to 600A pk
Accuracy	40A	1.5% of Reading + 10cts	1.5% of Reading + 10cts	1.5% of Reading + 10cts	1.5% of Reading + 10cts
	400A	1.5% of Reading + 2cts	1.5% of Reading + 2cts	1.5% of Reading + 2cts	1.5% of Reading + 2cts
	4000A	1.5% of Reading + 2cts	1.5% of Reading + 2cts	1.5% of Reading + 2cts	1.5% of Reading + 2cts
Resolution	40A	10mA	10mA	10mA	10mA
	400A	100mA	100mA	100mA	100mA
	4000A	1A	1A	1A	1A
<b>INRUSH FUNCTION</b>					
Range for Use		–	–	≥5A pk for the first period of the signal	
Accuracy		–	–	5% + 0.5A	
Capture Time		–	–	0.5 to 10 periods of the signal frequency (8 to 160ms at 60Hz)	
<b>POWER (W)</b>					
Measurement Range	4000W	–	–	5 to 3999W	–
	40kW	–	–	4.00 to 39.99kW	–
	400kW	–	–	40.0 to 240kW	–
<b>POWER FACTOR CALCULATION (PF)</b>					
Measuring Range	1.00	–	–	0.20 to 0.49 0.50 to 1.00	–
Accuracy		–	–	5% of Reading + 2cts 2% of Reading + 2cts	–
<b>FREQUENCY (Hz)</b>					
Measuring Range	40Hz	–	–	10.00 to 39.99Hz	10.00 to 39.99Hz
	400Hz	–	–	40.0 to 399.9Hz	40.0 to 399.9Hz
	4000Hz	–	–	400 to 3999Hz	400 to 3999Hz
	40kHz	–	–	4.00 to 19.99kHz	4.00 to 19.99kHz
Accuracy	40Hz to 40kHz	–	–	0.4% of Reading + 1ct	0.4% of Reading + 1ct
<b>GENERAL</b>					
Display	4 digits, 9999 counts, 3 decimal points, “+” and “–” signs (DC and peak measurement)				
Operating Temperature	32° to 122°F (0° to 50°C); 90% RH				
Storage Temperature	-40° to 158°F (-40° to 70°C); 90% RH				
Power Source	9V Alkaline battery (type IEC 6LF22, 6LR61 or NEDA 1604)				
Jaw Opening	≤1.00" (≤26mm)				
Dimensions	2.76 x 7.6 x 1.46" (70 x 193 x 37mm)				
Weight	9.17 oz (260g)				
<b>SAFETY</b>					
Safety Rating	EN 62020-1, EN 61010-2-032, 600V Cat. III				
CE Mark	Yes				

# Construction

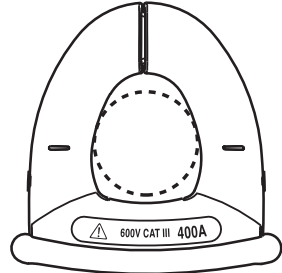


All models are supplied with test leads and a soft carrying case

# Selection Chart

MODELS	F01	F03	F05	F07
RMS AC Current	400A	400A	400A	400A
DC Current	-	400A	400A	400A
RMS AC + DC Current	-	-	-	400A
RMS AC Voltage	400V	600V	600V	600V
DC Voltage	400V	600V	600V	600V
RMS AC + DC Voltage	-	-	-	600V
Auto AC/DC Selection	•	•	•	•
Auto-Ranging	•	•	•	•
Resistance	400Ω	4000Ω	40kΩ	40kΩ
Continuity/Buzzer	•	•	(w/adj. threshold)	(w/adj. threshold)
Diode Test	-	•	•	•
Power	-	-	40kW	-
Power Factor (Degrees)	-	-	40 to 240	-
Phase Rotation (2-wire)	-	-	•	-
Temperature Measurement (int, ext, °F, C°)	-	-58 to +1832° F (-50 to +1000°C)	-	-58 to +1832° F (-50 to +1000°C)
Frequency (Hz)	-	-	20kHz	20kHz
Adapter (AC/DC)	-	-	-	•
Min/Max/Peak	-	•	•	•
Hold	•	•	•	•
Inrush Current	-	-	0.5 to 10 cycles selectable	0.5 to 10 cycles selectable
V-Live Hazardous Voltage Indicators <sup>(1)</sup>	•	•	•	•
Auto Off	•	•	•	•
Backlight	-	•	•	•
Battery Indicator <sup>(2)</sup>	•	•	•	•
Buzzer for Over-Range	•	•	•	•

<sup>(1)</sup> Indicates voltage higher than instrument rating  
<sup>(2)</sup> Remaining time expressed in hours on Models F03, F05 and F07



## ORDERING INFORMATION CATALOG NO.

**TRMS Clamp-On Meter Model F01** (TRMS, 400AAC 600VAC/DC, Ohms, Continuity) . . . . . **Cat. #2129.51**  
**TRMS Clamp-On Meter Model F03** (TRMS, 400AAC/DC, 600VAC/DC, Ohms, Continuity, Temperature) . . . . . **Cat. #2129.52**  
**TRMS Clamp-On Meter Model F05** (TRMS, 400AAC/DC, 600VAC/DC, Hz, Power (kW), Phase Rotation, Ohms, Continuity) . . . . . **Cat. #2129.53**  
**TRMS Clamp-On Meter Model F07** (TRMS, 400AAC/DC, 600VAC/DC, Hz, Ohms, Continuity, Temperature) . . . . . **Cat. #2129.54**  
 All meters are supplied with a soft carrying case, set of two test probe leads, 9V battery and user manual.  
 (An adapter for K thermocouple for Models F03 and F07; an alligator clip for Model F05.)



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