



E Series

The E series clamps use Hall effect technology for the measurement of AC and DC currents from several milliamps to over 100 A.

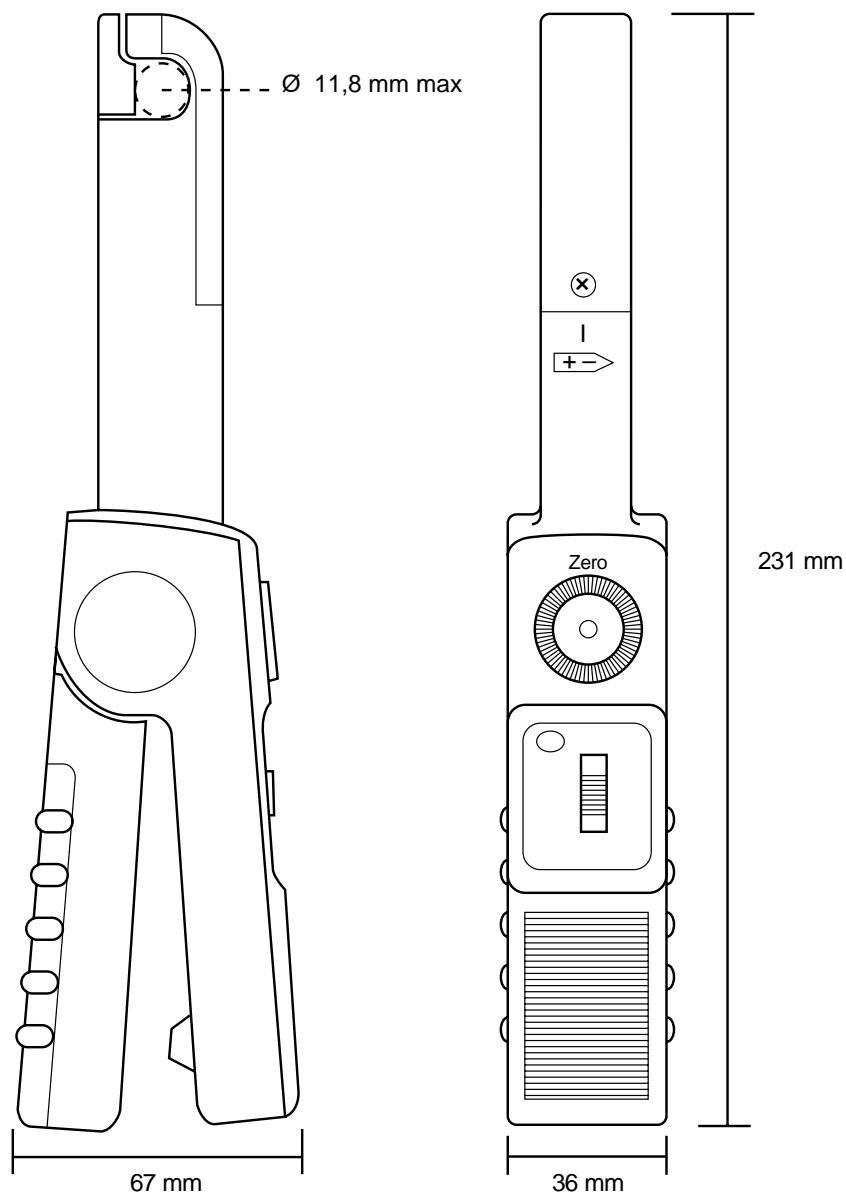
The elongated, narrow design of these clamps makes it possible to probe into tight spaces which comes into it's own when carrying out measurements in cable bundles or in other restrictive areas like circuit boards, motor controls or motor vehicle electric's.


Their inherent low phase shifting also goes to ensure reliable and accurate power measurements.

These clamps have a voltage output (mv) and their ability to measure AC and DC signals is useful for true RMS measurements.

Model E6N is the most sensitive and hence the most suited to low current measurement.

The E Series clamps all make excellent work mates for multimeters, recorders and logging equipment etc. Model E3N can be used directly linked up to an oscilloscope.



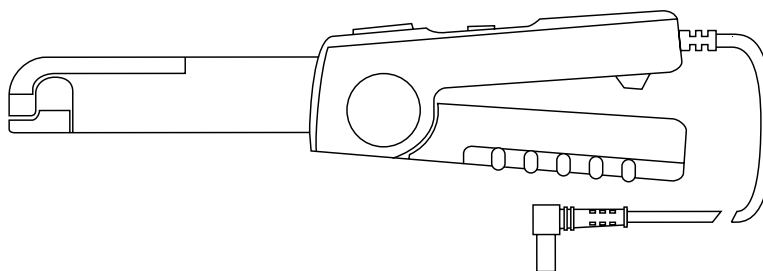
Title :	
E series	
Drawing N°	Drawn:
Manufactured by:  CHAUVIN ARNOUX	

Clamp-on AC/DC current probe

Model E1N

E series

Current	2 A AC/DC	150 A AC/DC
Output	1 mV/mA	1 mV/A



Electrical Specification

Current Range:

50 mA...150 A AC/DC on two ranges

Output signal:

1 mV/mA and 1 mV/A AC or DC

Accuracy and phase shift (1):

Range	1 mV/mA (1 V/A)	1 mV/A
Current range	50 mA...2 A DC 50 mA...1.5 A AC	500 mA...150 A
% Accuracy of output signal	2% ±20 mV	<ul style="list-style-type: none"> 500 mA...100 A AC/DC : 1.5% ±30 µV 100...150 A DC : 3% 100...120 A AC : 3%
Frequency range	DC...2 kHz	DC...8 kHz
Phase shift	DC...65 Hz : 3°	DC...65 Hz : 1°
Min. load impedance	≥ 10 kΩ	≥ 2 kΩ
Noise	DC...1 Hz : 3 mV 1 Hz...10 kHz : 10 mV 10...100 kHz : 18 mV	DC...1 Hz : 3 µV 1 Hz...10 kHz : 10 µV 10...100 kHz : 18 µV

Safety Specification

Electrical:

600 V category III, pollution: 2
300 V category IV, pollution: 2

Electromagnetic Compatibility

(EC Stamp):

EN 50081-1: class B

EN 50082-2:

- Electrical discharge IEC 1000-4-2
- Radial Field IEC 100-4-3
- Rapid Transients IEC 1000-4-4
- Magnetic Field to 50/60 Hz IEC 1000-4-8

Working voltage:

600 Vrms max

Common mode voltage:

600 Vrms max

Battery:

9 V Alkaline (NEDA 1604A, IEC 6LR61)

Battery life:

70 Hrs approx.

Typical consumption:

6 mA

Battery level indicator:

Green LED when > 6.5 V

Max. jaw insertion capacity:

11.8 mm

Zero adjustment:

20 turn potentiometer (± 1.5 A min)

Drop test:

1 m on a 38 mm container of oak on concrete, test in accordance with IEC 1010

Mechanical shock:

100 g, in accordance with IEC 68-2-27

Vibration:

10/55/10 Hz, 0.15 mm
test in accordance with IEC 68-2-6

Casing protection:

IP20 in accordance with IEC 529

Self-extinguishing ability:

Casing : UL94 V2

Dimensions:

231 x 36 x 67 mm

Weight:

330 g with batteries

Colour:

Dark grey

Output:

Via 1.5 m double-wound cable with reinforced or double insulation, ended with two elbowed 4mm male safety plugs.

Mechanical Specification

Operating temperature:

0° to +50°C

Storage temperature:

-30° to +80°C

Temperature influence:

< 0.2% per °C

Operating relative humidity:

+10° to +30°C : 85 ±5% RH (without condensation)

+40° to +50°C : 45 ±5% RH (without condensation)

Operating altitude:

0 to 2000 m

(1) Reference Conditions : 23°C ±5°K, 20 to 75% RH, 48 to 65 Hz, external magnetic field < 40 A/m, no current carrying conductor nearby, centred test sample, load impedance 1 MΩ

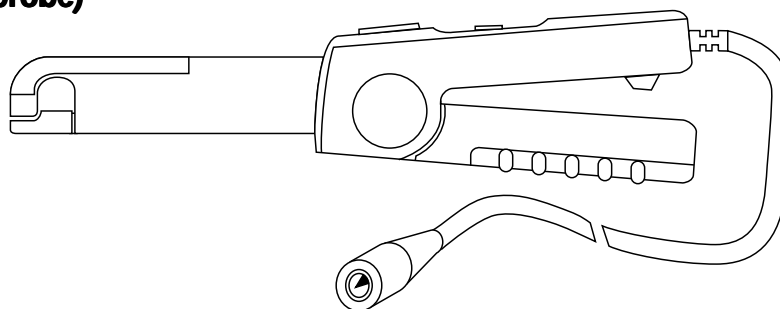
To order	Reference
Clamp on AC/DC current probe model E1N with battery and user's manual	P01.1200.30A

Clamp-on AC/DC current probe for oscilloscope use

Model E3N (Insulated current probe)

E series

Current	10 A peak	100 A peak
Output	100 mV/A	10 mV/A



Electrical Specification

Output signal:

In mV (1000 mV peak max)

Accuracy and phase shift (1):

Range	100 mV/A	10 mV/A
Current range	50 mA...10 A peak	1 A...100 A peak
% Accuracy of Output signal	3% \pm 5 mV	<ul style="list-style-type: none"> 500 mA...40 A peak: 4% \pm 500 μV 40...100 A peak : 15% max at 100 A
Frequency Range	DC...100 kHz (-3 dB)	
Phase shift	DC...65 Hz: < 1.5°	DC...65 Hz: < 1°
	$\geq 1 \text{ M}\Omega$ and $\leq 100 \text{ pF}$	
Insertion Impedance	0.01 Ω	
Noise	6 mV	600 μ V
Slew Rate	0.3 V/ μ s	20 mV/ μ s
Rise/Fall Time	3 μ s	4 μ s

Working voltage:

600 Vrms max

Common mode voltage:

600 Vrms max

Influence of adjacent conductor:

< 0.2 mA/A AC

Influence of conductor positioning in the clamp's jaws:

0.5% of the reading at 1 kHz

Battery:

9 V Alkaline (NEDA 1604A, IEC 6LR61)

Battery life:

55 Hrs approx.

Typical consumption:

8.6 mA

Battery level indicator:

Green LED when > 6.5 V

Overload indicator :

Red LED indicates the measured current is too high for the selected range.

Mechanical Specification

Operating temperature:

0° to +50°C

Storage temperature:

-30° to +80°C

Temperature Influence:

< 0.2% per °C

Operating Relative Humidity:

- +10° to +30°C: 85 \pm 5% RH (without condensation)
- +40° to +50°C: 45 \pm 5% RH (without condensation)

Operating altitude:

0 to 2000 m

Max. jaw insertion capacity:

11.8 mm \varnothing

Zero adjustment:

20 turn potentiometer

Drop test:

1 m on a 38 mm container of oak on concrete, test in accordance with IEC 1010

Mechanical shock:

100 g, in accordance with IEC 68-2-27

Vibration:

10/55/10 Hz, 0.15 mm
test in accordance with IEC 68-2-6

Casing protection:

IP20 in accordance with IEC 529

Self-extinguishing ability:

Casing : UL94 V2

Dimensions:

231 x 36 x 67 mm

Weight:

330 g with battery

Colour:

Dark grey

Output:

Via 2 m coaxial cable ended with BNC insulated plug.

Safety Specification

Electrical:

600 V category III, pollution: 2
300 V category IV, pollution: 2

Electromagnetic Compatibility

(EC Stamp):

- EN 50081-1: class B
- EN 50082-2:
 - Electrical Discharge IEC 1000-4-2
 - Radial Field IEC 100-4-3
 - Rapid transients IEC 1000-4-4
 - Magnetic Field to 50/60 Hz IEC 1000-4-8

(1) Reference Conditions: 23°C \pm 5°K, 20 to 75% RH, 48 to 65 Hz, external magnetic field < 40 A/m, no current carrying conductor nearby, centred test sample, load impedance 1 M Ω

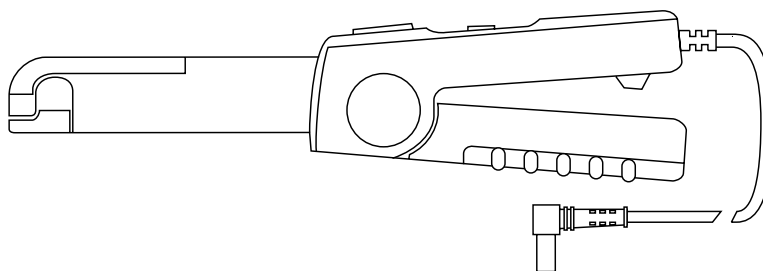
To order	Reference
Clamp-on AC/DC current probe model E3N for oscilloscope use, with battery and user's manual	P01.1200.43A

Clamp-on AC/DC current probe

Model E6N

E series

Current	2 A AC/DC	80 A AC/DC
Output	1 mV/mA	10 mV/A



Electrical Specification

Current range:

5 mA...80 A AC/DC on two ranges

Output signal:

1 mV/mA and 10 mV/A AC or DC

Accuracy and Phase shift (1):

Range	1 mV/mA (1 V/A)	10 mV/A
Current range	5 mA...2 A DC 5 mA...1.5 A AC	20 mA...80 A DC 20 mA...80 A AC
% Accuracy of output signal	2% \pm 5 mV	<ul style="list-style-type: none"> 20 mA...50 A DC: 4% \pm 200 μV 50 to 80 A DC: 12% 20 mA...40 A AC: 4% \pm 200 μV 40 to 60 A AC: 12%
Frequency range	DC...2 kHz	DC...8 kHz
Phase shift	DC...65 Hz: 1°	DC...65 Hz: 1°
Min. load impedance	> 10 k Ω	> 2 k Ω
Noise	DC...1 Hz: 2 mV 1 Hz...10 kHz: 10 mV 10...100 kHz: 10 mV	DC...1 Hz: 20 μ V 1 Hz...10 kHz: 100 μ V 10...100 kHz: 100 μ V

Overload:

120 A continuous

Working voltage:

600 Vrms max

Common mode voltage:

600 Vrms max

Battery:

9 V Alkaline (NEDA 1604A, IEC 6LR61)

Battery life:

70 Hrs approx.

Typical consumption:

6 mA

Battery level indicator:

Green LED when > 6.5 V

Mechanical Specification

Operating temperature:

0° to +50°C

Storage temperature:

-30° to +80°C

Temperature influence:

< 0.2% par °C

Operating Relative Humidity:

+10° to +30°C: 85 \pm 5% RH (without condensation)
+40° to +50°C: 45 \pm 5% RH (without condensation)

Operating Altitude:

0 to 2000 m

Max. jaw insertion capacity:

11.8 mm

Zero adjustment:

20 turn potentiometer (\pm 1.5 A min)

Drop test:

1 m on 38 mm of oak on concrete, test in accordance with IEC 1010

Mechanical shock:

100 g, in accordance with IEC 68-2-27

Vibration:

10/55/10 Hz, 0.15 mm
test in accordance with IEC 68-2-6

Casing protection:

IP20 in accordance with IEC529

Self-extinguishing ability:

Casing: UL94 V2

Dimensions:

231 x 36 x 67 mm

Weight:

330 g with battery

Colour:

Dark grey

Output:

Via 1.5 m double wound cable with reinforced or double insulation, ended with two elbowed 4 mm male safety plugs.

Safety Specification

Electrical:

600 V category III, pollution: 2
300 V category IV, pollution: 2

Electromagnetic Compatibility

(EC stamp):

EN 50081-1: class B

EN 50082-2:

- Electrical discharge IEC 1000-4-2
- Radial field IEC 100-4-3
- Rapid transients IEC 1000-4-4
- Magnetic field to 50/60 Hz IEC 1000-4-8

(1) Reference conditions : 23°C \pm 5°K, 20 to 75% RH, 48 to 65 Hz, external magnetic field < 40 A/m, no current carrying wire nearby, centred test sample, load impedance 1 M Ω

To order	Reference
Clamp-on AC/DC current probe model E6N with battery and user's manual	P01.1200.40A