



Y Series

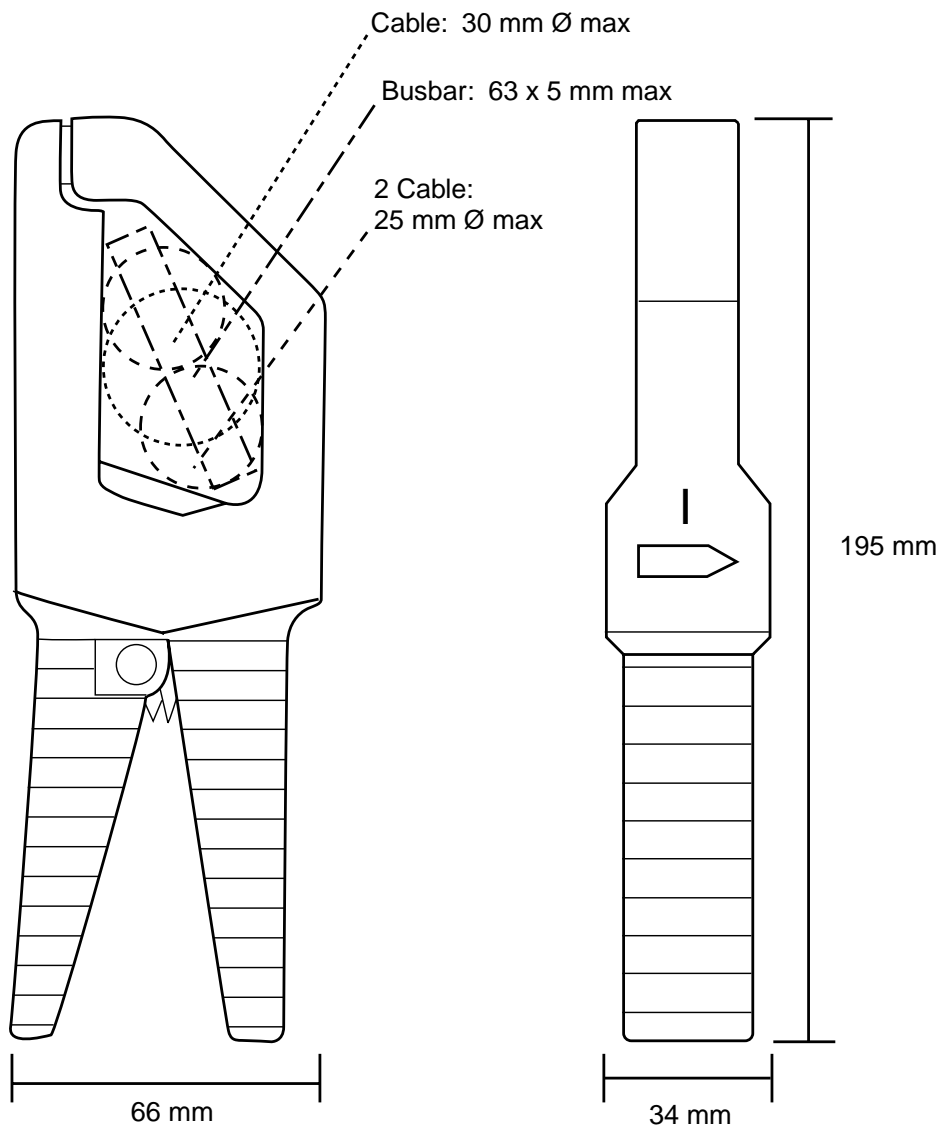
The Y series clamps are designed to be both rugged and versatile whilst remaining easy to use. The jaw design is such that cables are easily hooked onto and small busbars are easily gripped for current measurement up to 600 A AC.


There are two types of Y series clamp available :

The first acts as a current transformer (ratios of 100:1 or 1000:1), giving an output current that may be read by a multimeter, logging equipment or other suitable devices with current inputs in the appropriate range.

The other kind of Y series clamp has a DC voltage output proportional to the AC current measured (1 mV/A or 10 mV/A), allowing instruments without current ranges to measure, display and record currents on a DC voltage range.

There is also a model available specifically for direct use with oscilloscopes.

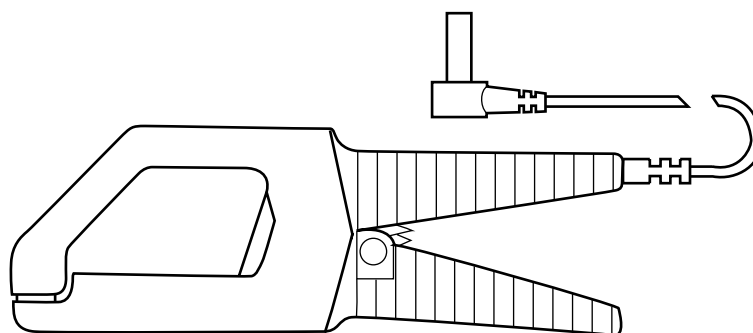


Title :	
Y SERIES	
Drawing N°	Drawn:
Manufactured by:	 CHAUVIN ARNOUX

Clamp-on AC current probe

Model Y1N

Current	600 A AC
Ratio	1000/1
Output	1 mA/A



■ Electrical Specification

Current range:

4...600 A AC

Current transformation ratio:

1000:1

Output signal:

1 mA AC/A AC

Accuracy (1):

Primary current	4 A	25 A	100 A	250 A	500 A	600A (2)
% Accuracy of output signal	4.5% +0.5 mA	4.5%	3.5%	3%	3%	3%
Phase shift	non-specified	4°	2°	2°	2°	2°

Class 3 at 1.25 VA

Bandwidth:

48...1000 Hz

Load impedance:

5 Ω max

Overload:

700 A for 10 min

Max. Tension at output

(Secondary circuit open):

Electronic protection circuit limiting tension to 10 V peak max.

Working voltage:

600 Vrms

Common mode voltage:

600 Vrms

Influence of adjacent and parallel conductors:

< 30 mA/A at 50 Hz

Influence of conductor positioning in jaws:

±1.5%

■ Mechanical specification

Operating temperature:

-15°...+50°C

Storage temperature:

-40°...+85°C

Temperature Influence:

< 0.1% for every 10°K

Operating altitude:

0 to 2000 m

Max. jaw opening:

33 mm

Max. clamp jaw insertion capacity:

Cable : 30 mm Ø max

Busbar : 63 x 5 mm

Casing protection:

IP20 in accordance with IEC529

Drop test:

1.5 m (IEC 68-2-32)

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

Self-extinguishing ability:

UL 94V0

Dimensions:

66 x 195 x 34 mm

Weight:

420 g

Colour:

Dark grey

Output:

Via 1.5 m double-wound lead with reinforced or double insulation and two 4mm elbowed male safety plugs

■ Safety Specification

Electrical:

Double or reinforced insulation between the primary and secondary circuits and the outer casing in accordance with IEC 1010-2-032.

- 600 V category III, pollution: 2

- 300 V category IV, pollution: 2

Electromagnetic Compatibility

(E.M.C.):

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 ± 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 : 5Ω.

(2) 600 A for 10 minutes max.

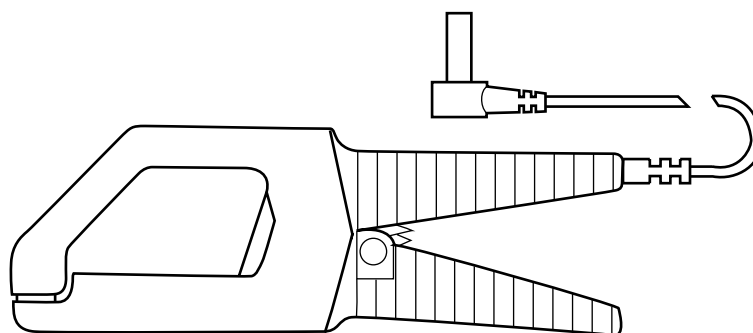
To order	Reference
Clamp-on AC current probe model Y1N with user's manual	P01.1200.01A

Clamp-on AC current probe

Model Y2N

Y series

Current	600 A AC
Ratio	1000/1
Output	1 mA/A



■ Electrical Specification

Current range:

4...600 A AC

Current transformation ratio:

1000:1

Output signal:

1 mA AC/A AC

Accuracy (1):

Primary current	4 A	25 A	100 A	250 A	500 A	600A (2)
% Accuracy of output signal	3% +0.5 mA	3%	1.5%	1%	1%	1%
Phase shift	non-specified	3°	1.5°	1°	1°	1°

Class 1 to 1.25 VA

Bandwidth:

48...1000 Hz

Load impedance:

5 Ω max

Overload:

700 A for 10 min

Max. tension at output:

(Secondary circuit open):

Electronic protection circuit limiting voltage to 10 V peak max.

Working voltage:

600 Vrms

Common mode voltage:

600 Vrms

Influence of adjacent and parallel conductors:

< 30 mA/A at 50 Hz

Influence of conductor positioning in the clamp's jaws:

< 1%

■ Mechanical Specification

Operating Temperature:

-15°...+50°C

Storage temperature:

-40°...+85°C

Temperature Influence:

< 0.1% for every 10°K

Operating Altitude:

0 to 2000 m

Max. jaw opening:

33 mm

Max. clamp jaw insertion capacity :

Cable: 30 mm Ø max

Busbar: 63 x 5 mm

Casing protection:

IP20 in accordance with IEC529

Drop test:

1.5 m (IEC 68-2-32)

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

Self-extinguishing ability:

UL94 V0

Dimensions:

66 x 195 x 34 mm

Weight:

420 g

Colour:

Dark grey

Output:

Via 1.5 double-wound lead with reinforced or double insulation and two 4 mm elbowed safety plugs

■ Safety Specification

Electrical:

Double or reinforced insulation between the primary and secondary circuits and the outer casing in accordance with IEC 1010-2-032.

- 600 V category III, pollution: 2

- 300 V category IV, pollution: 2

Electromagnetic Compatibility

(E.M.C.):

EN 50081-1: class B

EN 50082-2:

- Electrical discharge IEC 1000-4-2

- Radial Field IEC 100-4-3

- Rapid Transits IEC 1000-4-4

- Magnetic Field to 50/60 Hz IEC 1000-4-8

(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 5Ω.

(2) 600 A for 10 minutes max.

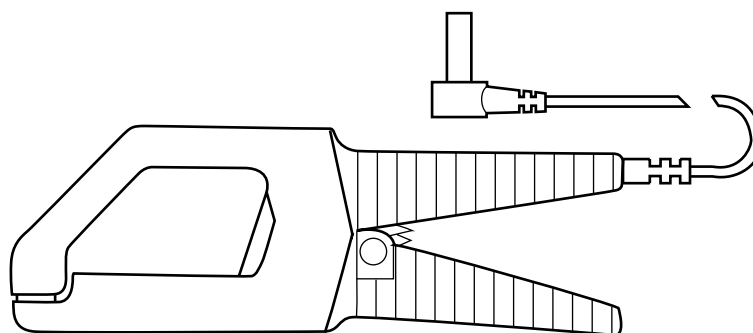
To order	Reference
Clamp-on AC current probe model Y2N with user's manual	P01.1200.28A

Clamp-on AC current probe

Model Y3N

Y series

Current	600 A AC
Ratio	100/1
Output	10 mA/A



■ Electrical Specification

Current range:

4...600 A AC

Current transformation ratio:

100:1

Output ratio:

10 mA AC/A AC

Accuracy (1):

Primary current	4 A	25 A	100 A	250 A	500 A	600A (2)
% Accuracy of output signal	5% +5 mA	5%	3%	3%	3%	3%
Phase shift	non-specified	6°	5°	3°	3°	3°

Class 3 at 2.5 VA

Bandwidth:

48...1000 Hz

Load impedance:

0.1 Ω max

Overload:

700 A for 10 min

Max. tension at output

(Secondary circuit open):

Electronic circuit protection limits voltage to 10 V peak max.

Working voltage:

600 Vrms

Common mode voltage:

30 Vrms

Influence of adjacent and parallel conductors:

< 30 mA/A at 50 Hz

Influence of conductor positioning in the clamp's jaws:

±1%

■ Mechanical Specification

Operating Temperature:

-15°...+50°C

Storage temperature:

-40°...+85°C

Temperature Influence:

< 0.1% for every 10°K

Operating altitude:

0 to 2000 m

Max. clamp jaw opening:

33 mm

Max. clamp jaw insertion capacity:

Cable : 30 mm Ø max

Busbar : 63 x 5 mm

Casing protection:

IP20 in accordance with IEC529

Drop test:

1.5 m (IEC 68-2-32)

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

Self-extinguishing ability:

UL 94V0

Dimensions:

66 x 195 x 34 mm

Weight:

420 g

Colour:

Dark grey

Output:

Via 1.5 m double wound lead with reinforced or double insulation and two 4 mm elbowed male safety plugs.

■ Safety Specification

Electrical:

Double insulation or reinforced insulation between the primary and secondary circuits and the outer casing in accordance with IEC 1010-2-032.

- 600 V category III, pollution: 2

- 300 V category IV, pollution: 2

Electromagnetic Compatibility

(E.M.C.):

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 ± 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 0.1 Ω.

(2) 600 A for 10 minutes max.

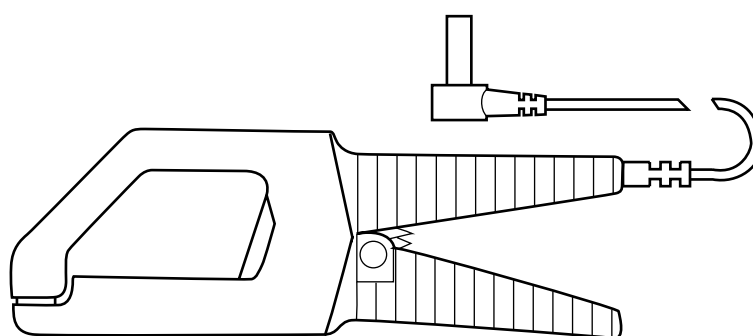
To order	Reference
Clamp-on AC current probe model Y3N with user's manual	P01.1200.29A

Clamp-on AC current probe

Model Y4N

Y series

Current	600 A AC
Output	1 mV DC/A AC



■ Electrical Specification

Current range:

4...600 A AC

Output signal:

1 mV DC/A AC

Accuracy (1):

Primary current	2 A	25 A	100 A	250 A	500 A	600 A (2)
% Accuracy of output signal	5% +0.5 mV DC	5%	2%	1%	1%	2%

Bandwidth:

48...1000 Hz (error : add 2% to reference)

Load impedance:

> 100 kΩ max

Overload:

700 A for 10 min

Working voltage:

600 Vrms

Common mode voltage:

600 Vrms

Influence of adjacent and parallel conductors:

< 30 mA/A at 50 Hz

Influence of conductor positioning in the clamp's jaws:

±1%

■ Mechanical Specification

Operating Temperature:

-15°...+50°C

Storage Temperature:

-40°...+85°C

Temperature Influence:

< 0.1% for every 10°K

Operating Altitude:

0 to 2000 m

Max. jaw opening:

33 mm

Max. clamp jaw insertion capacity:

Cable : 30 mm Ø max

Busbar : 63 x 5 mm

Casing protection:

IP20 in accordance with IEC529

Drop test:

1.5 m (IEC 68-2-32)

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

Self-extinguishing ability:

UL 94V0

Dimensions:

66 x 195 x 34 mm

Weight:

420 g

Colour :

Dark grey

Output:

Via 1.5 m double-wound lead with double or reinforced insulation and two 4 mm elbowed male safety plugs

■ Safety Specification

Electrical:

Double or reinforced insulation between the primary and secondary circuits and the outer casing in accordance with IEC 1010-2-032.

- 600 V category III, pollution: 2

- 300 V category IV, pollution: 2

Electromagnetic compatibility

(E.M.C.):

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 ± 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 10 MΩ.

(2) 600 A for 10 minutes max

To order	Reference
Clamp-on AC current probe model Y4N with user's manual	P01.1200.05A

Clamp-on AC current oscilloscope probe

Model Y7N (Insulated AC current probe)

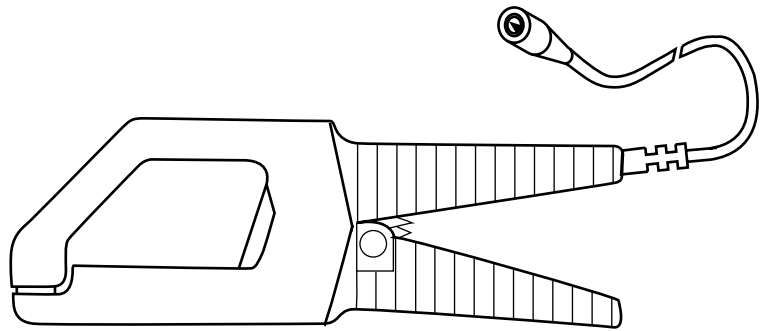
Y series

Current	1200 A peak
Output	1 mV/A

This 500 A AC probe can be used in the display and measurement of 'current' curves.

It comes with a coaxial cable ended with a BNC plug, thus making it the ideal tool for use in conjunction with oscilloscopes.

It supplies a mV output signal that is directly proportional to the measured current.



■ Electrical Specification

Current range:

1...500 A rms (1200 A peak)

Output signal:

1 mV AC/A AC (500 mV to 500 A)

Accuracy and phase shift (1):

Primary current	1...20 A	20...100 A	100...500 A
% Accuracy of output signal	≤ 5% +0.3 mV	≤ 5%	≤ 2%
Phase shift	non-specified	≤ 3°	≤ 1°

Bandwidth:

5 Hz...10 kHz (to -3 dB)

dV/dt:

0.24 mV/μs (typical)

Maximum currents:

500 A continuous for a frequency ≤ 2 kHz (Limitation is proportional to the inverse frequency beyond 2 KHz)

Load impedance:

≥ 1 MΩ and ≤ 47 pF

Output impedance:

≤ 100 Ω and ≤ 4.7 nF

Amps.Seconds product:

15 A.s

Rise/Fall time:

Rise time to 5A: 18μs

Fall time to 5A: 23μs

Working voltage:

600 V rms

Influence of an adjacent conductor:

≤ 5μV / A AC at 50Hz

■ Mechanical Specification

Operating Temperature:

-30° to +50 °C

Storage temperature:

-50° to +80 °C

Temperature Influence:

≤ 0.15% of output signal per 10 K

Operating Relative Humidity:

From 0 to 85 % RH with a linear decrease above 35°C

Operating Altitude:

0 to 2000 m

Clamp jaw insertion capacity:

Cable: 30 mm Ø max

Busbar: 1 busbar of 63 x 5 mm

Casing Protection:

IP 20 (IEC 529)

Drop test:

1.5m (IEC 68-2-32)

Mechanical Shock:

100 g (IEC 68-2-27)

Vibration:

10/55/10 Hz 0.15 mm (IEC 68-2-6)

Self-extinguishing ability:

UL94V0

Dimensions:

66 x 195 x 34 mm

Weight:

420 g

Colours:

Dark grey

Output:

Via 2 m coaxial cable ended with insulated BNC plug

■ Safety Specification

Electrical:

Double or reinforced device insulation between the primary and secondary circuits and the outer casing in accordance with IEC 1010-1 & IEC 1010-2-032

- 600V category III, pollution degree 2

- 300V category IV, pollution degree 2

Electromagnetic Compatibility

(E.M.C.):

EN 50081-1: Class B

EN 50082-2:

- Electrostatic Discharge: IEC 1000-4-2

- Radial Field: IEC 1000-4-3

- Rapid Transients: IEC 1000-4-4

- Magnetic Field to 50/60 Hz: IEC 1000-4-8

(1) Reference Conditions : 23 °C ± 5°K, 0 to 75 % RH, sinusoidal signal, Frequency from 45 to 65 Hz, no DC component, external magnetic field < 40 A/m, no AC magnetic field, centred test sample.

To order	Reference
Clamp-on AC current oscilloscope probe model Y7N with user's manual	P01.1200.75