CURRENT CLAMPS FOR AC CURRENT



"C100" series

The "C100" series is a range of thirteen transformer clamps with all the advantages of our old "C30" series clamps whilst incorporating considerable improvements, particularly in the field of safety, ergonomics and performance:

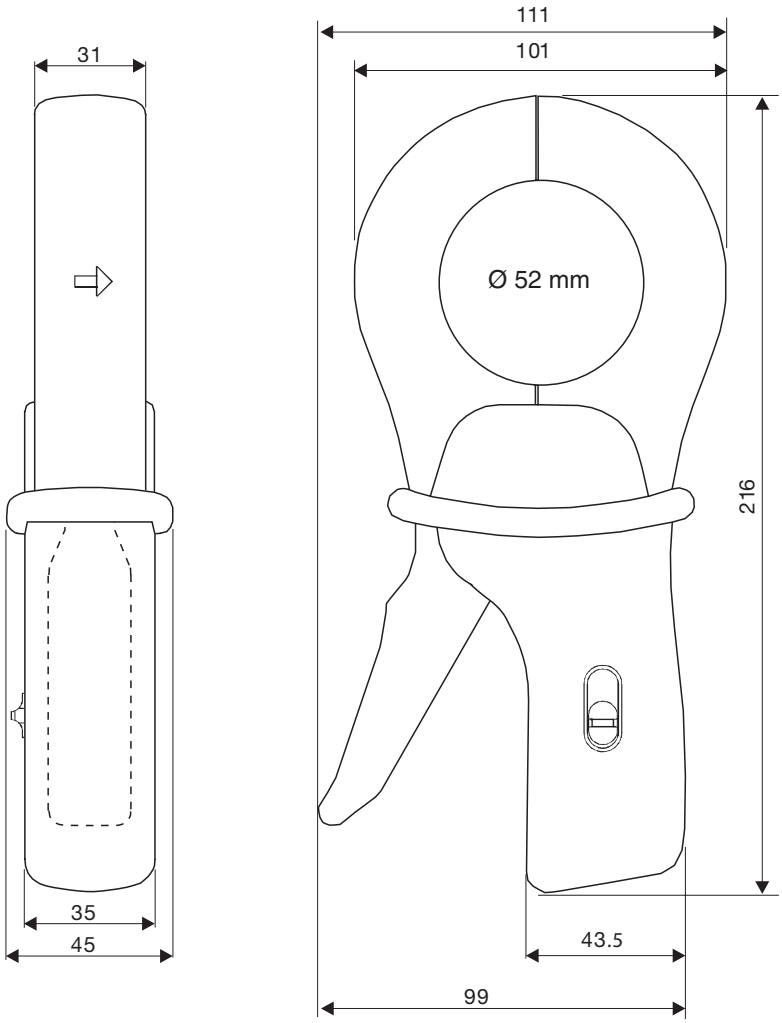
1,000 A measurement, excellent metrology, high accuracy, high level of linearity, symmetrical coil windings for minimum phase shift, pendular adjusting system for magnetic elements, maximum conductor diameter Ø 52 mm and also some models with µ-metal core specially made for wattmeter use.

Innovative design: excellent ergonomics, handle with finger grips, assisted opening system for jaws (patented system), IEC 1010 600 V CAT III safety (industry and services), antislip protection, conductor antipinching system...

All this technology and manufacturing quality has been combined to provide the best measurement possible without any complications.

A "C100" series clamp is compatible with any instrument (multimeter, wattmeter, recorder, oscilloscope...) for safe measurement of AC currents without shutting down the installation.

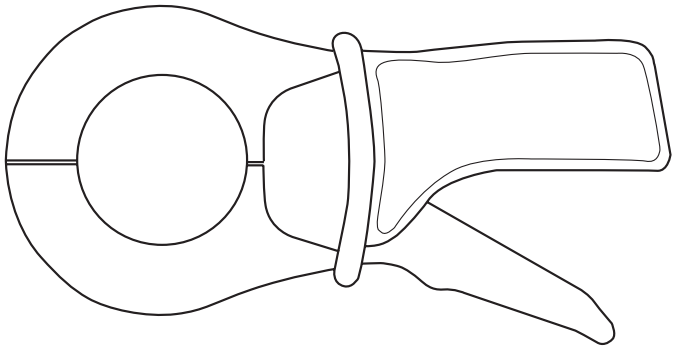
CURRENT CLAMPS FOR AC CURRENT



CURRENT CLAMPS FOR AC CURRENT

Model C100

Current	1,000 A
Ratio	1,000/1
Output	1 mA / A



Electrical specifications

- **Current range:**
  0.1 A AC .. 1,200 A AC
- **Turns Ratio:**
  1,000:1
- **Output signal:**
  1 mA AC / A AC (1 A for 1,000 A)
- **Accuracy and phase shift** (1)**:**

Primary current:	0.1 A .. 10 A	10 A	50 A (2)	200 A (2)	1,000 A (2)	1,200 A (2)
Accuracy in % of output signal	≤ 3 % + 0.1 mA	≤ 3 %	≤ 1.5 %	≤ 0.75 %	≤ 0.5 %	≤ 0.5 %
Phase shift	not specified	≤ 3 °	≤ 1.5 °	≤ 0.75 °	≤ 0.5 °	≤ 0.5 °

- **Bandwidth:**
  30 Hz .. 10 kHz (-3 dB)
- **Crest factor:**
  ≤ 6 for a current ≤ 3,000 A peak (500 Arms)
- **Maximum currents:**
  1,000 A continuous for a frequency ≤ 1 kHz (limitation proportional to the inverse of frequency beyond)
  1,200 A for 40 minutes max (interval between measurements > 20 minutes)
- **Load impedance:**
  ≤ 15 Ω
- **Operating voltage:**
  600 Vrms
- **Common mode voltage:**
  600V category III and pollution degree 2
- **Influence of adjacent conductor:**
  ≤ 1 mA / A at 50 Hz
- **Influence of conductor position in jaws:**
  ≤ 0.1 % of output signal for frequencies ≤ 400 Hz
- **Load influence:**
  From 5 Ω to 15 Ω
  < 0.5 % on measurement
  < 0.5 ° on phase
- **Influence of frequency** (3)**:**
  < 1 % of output signal from 30 Hz .. 48Hz
  < 0.5 % of output signal from 65 Hz .. 1kHz
  < 1 % of output signal from 1 kHz .. 5 kHz
- **Influence of crest factor:**
  < 1 % of output signal for crest factor ≤ 6 with current ≤ 3,000 A peak (500 Arms)
- **Influence of DC current superimposed on rated current:**
  < 1 % of output signal for a current ≤ 30 A DC

Mechanical specifications

- **Operating temperature:**
  -10°C to +50°C
- **Storage temperature:**
  -40°C to +70°C
- **Influence of temperature:**
  ≤ 0.1 % of output signal per 10 °K
- **Relative humidity for operation:**
  0 to 85 % RH with a linear decrease above 35 °C
- **Influence of relative humidity:**
  < 0.1 % of output signal from 10 % to 85 % RH
- **Operating altitude:**
  0 to 2,000 m
- **Max. jaw opening:**
  52mm
  patented progressive opening system
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 mm
- **Casing protection rating:**
  IP40 (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g, in accordance with IEC 68-2-27
- **Vibration resistance:**
  5/15 Hz 1.5 mm
  15/25 Hz 1 mm
  25/55 Hz 0.25 mm (IEC 68-2-6)
- **Self-extinguishing capability:**
  Casing and jaws: UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Weight:**
  550 g
- **Colour:**
  Dark grey case with red jaws
- **Output:**
  Safety sockets (4mm)

Safety specifications

- **Electrical safety:**
  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 degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**
  EN 50081-1: class B

  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
  - Radiated field: IEC 1000-4-3
  - Fast transients: IEC 1000-4-4
  - Magnetic field at 50/60Hz: IEC 1000-4-8

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, no DC components, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement, load impedance 5 Ω (5 VA)

(2) Accuracy class in accordance with IEC185: 5 VA - class 0.5 - 48 Hz .. 65 Hz

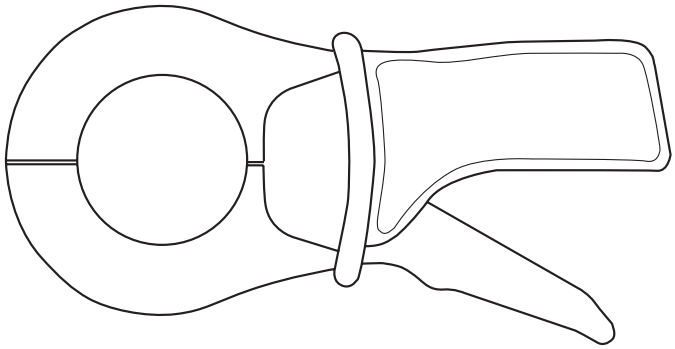
(3) Out of frequency domain

To order	Reference
AC current clamp model **C100** with operating manual	P01120301

CURRENT CLAMPS FOR AC CURRENT

Models C102 and C103

Current	1,000 A
Ratio	1,000/1
Output	1 mA / A



Description

An electronic voltage-limiting system protects output of clamp when operating, if the secondary circuit is opened.

Electrical specifications

- **Current range:**
  0.1 A AC .. 1,200 A AC
- **Turns Ratio:**
  1,000:1
- **Output signal:**
  1 mA AC / A AC (1 A for 1,000 A)
- **Accuracy and phase shift** (1)**:**

Primary current:	0.1 A .. 10 A	10 A	50 A (2)	200 A (2)	1,000 A (2)	1,200 A (2)
Accuracy in % of output signal	≤ 3 % + 0.1 mA	≤ 3 %	≤ 1.5 %	≤ 0.75 %	≤ 0.5 %	≤ 0.5 %
Phase shift	not specified	≤ 3 °	≤ 1.5 °	≤ 0.75 °	≤ 0.5 °	≤ 0.5 °

- **Bandwidth:**
  30 Hz .. 10 kHz (-3 dB)
- **Crest factor:**
  ≤ 6 for a current ≤ 3,000 A peak (500 Arms)
- **Maximum currents:**
  1,000 A continuous for a frequency ≤ 1 kHz (limitation proportional to the inverse of frequency beyond)
  1,200 A for 40 minutes max (interval between measurements > 20 minutes)
- **Load impedance:**
  ≤ 15 Ω
- **Max. voltage output:**
  Limited to 30 V peak max.
- **Operating voltage:**
  600 Vrms
- **Common mode voltage:**
  600V category III and pollution degree 2
- **Influence of adjacent conductor:**
  ≤ 1 mA / A at 50 Hz
- **Influence of conductor position in jaws:**
  ≤ 0.1 % of output signal for frequencies ≤ 400 Hz
- **Load influence:**
  From 5 Ω to 15 Ω
  < 0.5 % on measurement
  < 0.5 ° on phase
- **Influence of frequency** (3)**:**
  < 1 % of output signal from 30 Hz .. 48Hz
  < 0.5 % of output signal from 65 Hz .. 1kHz
  < 1 % of output signal from 1 kHz .. 5 kHz
- **Influence of crest factor:**
  < 1 % of output signal for a crest factor ≤ 6 with current ≤ 3,000 A peak (500 Arms)
- **Influence of DC current superimposed on rated current:**
  < 1 % of output signal for a current ≤ 30 A DC

Mechanical specifications

- **Operating temperature:**
  -10°C to +50°C
- **Storage temperature:**
  -40°C to +70°C
- **Influence of temperature:**
  ≤ 0.1 % of output signal per 10 °K
- **Relative humidity for operation:**
  0 to 85 % RH with a linear decrease above 35 °C
- **Influence of relative humidity:**
  < 0.1 % of output signal from 10 % to 85 % RH
- **Operating altitude:**
  0 to 2,000 m
- **Max. jaw opening:**
  53 mm, patented progressive opening system
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 mm
- **Casing protection rating:**
  IP40 (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g (IEC 68-2-27)
- **Vibration resistance:**
  5/15 Hz 1.5 mm -15/25 Hz 1 mm - 25/55 Hz 0.25 mm (IEC 68-2-6)
- **Self-extinguishing capability:**
  Casing and jaws: UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Mass:**
  550 g
- **Colours:**
  Dark grey case with red jaws
- **Output:**
  C102: Safety sockets (4 mm)
  C103: two-wire cable with reinforced insulation or double insulation, length 1.5 m, terminated by 2 insulated elbowed male banana plugs (4 mm)

Safety specifications

- **Electrical safety:**
  Instrument with double insulation or reinforced insulation between the primary, the secondary and the grippable part located under the guard as per IEC 1010-1 & IEC 1010-2-032
  - 600 V category III, pollution degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**
  EN 50081-1: class B

  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
  - Radiated field: IEC 1000-4-3
  - Fast transients: IEC 1000-4-4
  - Magnetic field at 50 Hz: IEC 1000-4-8

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, no DC components, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement, load impedance 5 Ω (5 VA).

(2) Accuracy class in accordance with IEC185: 5 VA - class 0.5 - 48 .. 65 Hz.

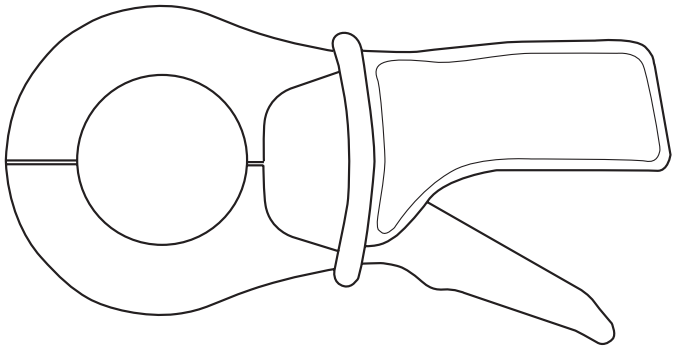
(3) Out of reference domain.

To order	Reference
AC current clamp model **C102** with operating manual	P01120302
AC current clamp model **C103** with operating manual	P01120303

CURRENT CLAMPS FOR AC CURRENT

Models C106 and C107

Current	1,000 A
Output	1 mV / A



Electrical specifications

- **Current range:**
  0.1 A AC .. 1,200 A AC
- **Output signal:**
  1 mV AC / A AC (1 V for 1,000 A)
- **Accuracy and phase shift** (1)**:**

Primary current:	0.1 A .. 10 A	10 A	50 A	200 A	1,000 A	1,200 A
Accuracy in % of output signal	≤ 3 % + 0.1 mV	≤ 3 %	≤ 1.5 %	≤ 0.75 %	≤ 0.5 %	≤ 0.5 %
Phase shift	not specified	≤ 3 °	≤ 1.5 °	≤ 0.75 °	≤ 0.5 °	≤ 0.5 °

- **Bandwidth:**
  30 Hz .. 10 kHz
- **Crest factor:**
  ≤ 6 for a current ≤ 3,000 A peak (500 Arms)
- **Maximum currents:**
  1,000 A continuous for a frequency ≤ 1 kHz (limitation proportional to the inverse of frequency beyond)
  1,200 A for 40 minutes max (interval between measurements > 20 minutes)
- **Output impedance:**
  1 Ω ± 1 %
- **Load impedance:**
  ≥ 1 MΩ and ≤ 100 pF
- **Operating voltage:**
  600 Vrms
- **Common mode voltage:**
  600V category III and pollution degree 2
- **Influence of adjacent conductor:**
  ≤ 1 mA / A at 50 Hz
- **Influence of conductor position in jaws:**
  ≤ 0.1 % of output signal for frequencies ≤ 400 Hz
- **Load influence:**
  On receiver, for an input impedance of 100Ω:
  ≤ 1 % on measurement, no measurement on phase
  On receiver, for an input impedance of 1 kΩ:
  ≤ 0.1 % on measurement, no measurement on phase
- **Influence of frequency** (2)**:**
  < 1 % of output signal from 30 Hz .. 48Hz
  < 0.5 % of output signal from 65 Hz .. 1kHz
  < 1 % of output signal from 1 kHz .. 5 kHz
- **Influence of crest factor:**
  < 1 % of output signal for crest factor ≤ 6 with current ≤ 3,000 A peak (500 Arms)
- **Influence of DC current superimposed on rated current:**
  < 1 % of output signal for a current ≤ 30 A DC

Mechanical specifications

- **Operating temperature:**
  -15°C to +50°C
- **Storage temperature:**
  -40°C to +70°C
- **Influence of temperature:**
  ≤ 0.1 % of output signal per 10 °K
- **Relative humidity for operation:**
  0 to 85 % RH with a linear decrease above 35 °C
- **Influence of relative humidity:**
  < 0.1 % of output signal from 10 % to 85 % RH
- **Operating altitude:**
  0 to 2,000 m
- **Max. jaw opening:**
  53mm
  patented progressive opening system
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 mm
- **Casing protection rating:**
  IP40 (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g (IEC 68-2-27)
- **Vibration resistance:**
  5/15 Hz 1.5 mm
  15/25 Hz 1 mm
  25/55 Hz 0.25 mm (IEC 68-2-6)
- **Self-extinguishing capability:**
  Casing and jaws: UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Weight:**
  550 g
- **Colour:**
  Dark grey case with red jaws
- **Output:**
  C106: safety sockets (4 mm)
  C107: Two-wire cable with reinforced insulation or double insulation, length 1.5 m, terminated by 2 insulated elbowed male banana plugs (4mm)

Safety specifications

- **Electrical safety:**
  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 degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**
  EN 50081-1: class B
  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
  - Radiated field: IEC 1000-4-3
  - Fast transients: IEC 1000-4-4
  - Magnetic field at 50/60Hz: IEC 1000-4-8

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, no DC components, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement.

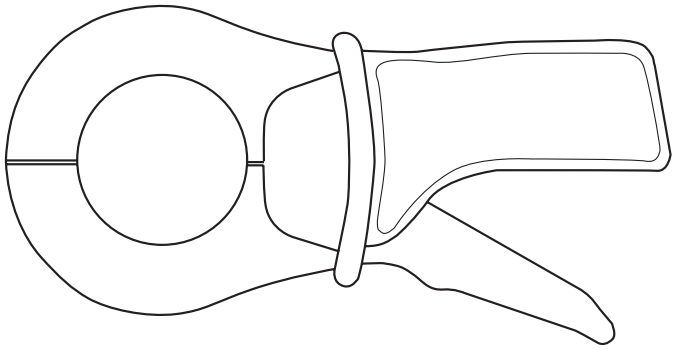
(2) Out of reference domain.

To order	Reference
AC current clamp model **C106** with operating manual	P01120304
AC current clamp model **C107** with operating manual	P01120305

CURRENT CLAMPS FOR AC CURRENT

Models C112 and C113

Current	1,000 A
Ratio	1,000/1
Output	1 mA / A



Description

Thanks to their excellent technical performance (phase shift and linearity), these µ-metal core clamps are highly recommended for wattmeter use.

These clamps are protected at output against overvoltages.

Electrical specifications

- **Current range:**
  0.001 A AC .. 1,200 A AC
- **Turns Ratio:**
  1,000:1
- **Output signal:**
  1 mA AC / A AC (1 A for 1,000 A)
- **Accuracy and phase shift** (1)**:**

Primary current:	1 mA .. 100 mA	0.1 A .. 1 A	1 A .. 10 A	10 A .. 100 A	100 A .. 1,200 A
Accuracy in % of output signal	≤ 3 % + 5 µA	≤ 2 % + 3 µA	≤ 1 %	≤ 0.5 %	≤ 0.3 %
Phase shift	not specified	not specified	≤ 2°	≤ 1°	≤ 0.7°

- **Bandwidth:**
  30 Hz .. 10 kHz
- **Crest factor:**
  ≤ 6 for a current ≤ 2,000 A peak (300 Arms)
- **Maximum currents:**
  1,000 A continuous for a frequency ≤ 1 kHz (limitation proportional to the inverse of frequency beyond)
  1,200 A for 40 minutes max (interval between measurements > 20 minutes)
- **Load impedance:**
  ≤ 1 Ω
- **Max. voltage output:**
  Limited to 30 V peak max.
- **Operating voltage:**
  600 Vrms
- **Common mode voltage:**
  600V category III and pollution degree 2
- **Influence of adjacent conductor:**
  ≤ 0.5 mA / A at 50 Hz
- **Influence of conductor position in jaws:**
  ≤ 0.1 % of output signal for frequencies ≤ 400 Hz
- **Load influence:**
  From 1 Ω to 5 Ω
  < 0.1 % on measurement
  < 0.2 ° on phase
- **Influence of frequency** (2)**:**
  < 0.5 % of output signal from 30 Hz .. 48Hz
  < 1 % of output signal from 65 Hz .. 1kHz
  < 2 % of output signal from 1 kHz .. 5 kHz
- **Influence of crest factor:**
  < 1 % of output signal for a crest factor ≤ 6 with current ≤ 2,000 A peak (300 Arms)
- **Influence of DC current superimposed on rated current:**
  < 1 % of output signal for a current ≤ 15 A DC

Mechanical specifications

- **Operating temperature:**
  -10°C to +50°C
- **Storage temperature:**
  -40°C to +70°C
- **Influence of temperature:**
  ≤ 0.2 % of output signal per 10 °K
- **Relative humidity for operation:**
  0 to 85 % RH with a linear decrease above 35 °C
- **Influence of relative humidity:**
  < 0.1 % of output signal from 10 % to 85 % RH
- **Operating altitude:**
  0 to 2,000 m
- **Max. jaw opening:**
  53 mm, patented progressive opening system
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 mm
- **Casing protection rating:**
  IP40 (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g (IEC 68-2-27)
- **Vibration resistance:**
  5/15 Hz 1.5 mm, 15/25 Hz 1 mm, 25/55 Hz 0.25 mm (IEC 68-2-6)
- **Self-extinguishing capability:**
  Casing and jaws: UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Mass:**
  550 g
- **Colours:**
  Dark grey case with red jaws
- **Output:**
  C112: Safety sockets (4 mm)
  C113: two-wire cable with reinforced insulation or double insulation, length 1.5 m, terminated by 2 insulated elbowed male banana plugs (4 mm)

Safety specifications

- **Electrical safety:**
  Instrument with double insulation or reinforced insulation between the primary, the secondary and the grippable part located under the guard as per IEC 1010-1 & IEC 1010-2-032
  - 600 V category III, pollution degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**
  EN 50081-1: class B

  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
  - Radiated field: IEC 1000-4-3
  - Fast transients: IEC 1000-4-4
  - Magnetic field at 50 Hz: IEC 1000-4-8

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, no DC components, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement, load impedance 1 Ω (1 VA)

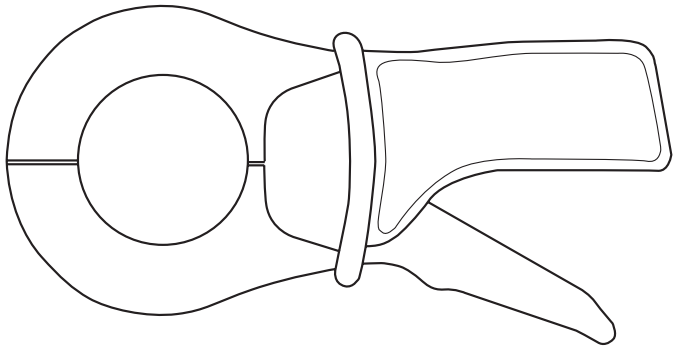
(2) Out of reference domain

To order	Reference
AC current clamp model **C112** with operating manual	P01120314
AC current clamp model **C113** with operating manual	P01120315

CURRENT CLAMPS FOR AC CURRENT

Models C116 and C117

Current	1,000 A
Output	1 mV / A



Description

Thanks to their excellent technical performance (phase shift and linearity), these µ-metal core clamps are highly recommended for wattmeter use.

Electrical specifications

- **Current range:**
  0.001 A AC .. 1,200 A AC
- **Output signal:**
  1 mV AC / A AC (1 V for 1,000 A)
- **Accuracy and phase shift** (1)**:**

Primary current:	1 mA .. 100 mA	0.1 A .. 1 A	1 A .. 10 A	10 A .. 100 A	100 A .. 1,200 A
Accuracy in % of output signal	≤ 3 % + 5 µA	≤ 2 % + 3 µA	≤ 1 %	≤ 0.5 %	≤ 0.3 %
Phase shift	not specified	not specified	≤ 2 °	≤ 1 °	≤ 0.7 °

- **Bandwidth:**
  30 Hz .. 10 kHz
- **Crest factor:**
  ≤ 6 for a current ≤ 2,000 A peak (300 Arms)
- **Maximum currents:**
  1,000 A continuous for a frequency ≤ 1 kHz (limitation proportional to the inverse of frequency beyond)
  1,200 A for 40 minutes max (interval between measurements > 20 minutes)
- **Output impedance:**
  1 Ω ± 1 %
- **Load impedance:**
  ≥ 1 MΩ and ≤ 100 pF
- **Max. voltage output:**
  Limited to 30 V peak max.
- **Operating voltage:**
  600 Vrms
- **Common mode voltage:**
  600V category III and pollution degree 2
- **Influence of adjacent conductor:**
  ≤ 0.5 mA / A at 50 Hz
- **Influence of conductor position in jaws:**
  ≤ 0.1 % of output signal for frequencies ≤ 400 Hz
- **Load influence:**
  On receiver, for an input impedance of 100 Ω:
  ≤ 1 % on measurement, no measurement on phase.
  On receiver, for an input impedance of 1 kΩ:
  ≤ 0.1 % on measurement, no measurement on phase.
- **Influence of frequency** (2)**:**
  < 0.5 % of output signal from 30 Hz .. 48Hz
  < 1 % of output signal from 65 Hz .. 1kHz
  < 2 % of output signal from 1 kHz .. 5 kHz
- **Influence of crest factor:**
  < 1 % of output signal for a crest factor ≤ 6 with current ≤ 2,000 A peak
- **Influence of DC current superimposed on rated current:**
  < 1 % of output signal for a current ≤ 15 A DC

Mechanical specifications

- **Operating temperature:**
  -10°C to +50°C
- **Storage temperature:**
  -40°C to +70°C
- **Influence of temperature:**
  ≤ 0.2 % of output signal per 10 °K
- **Relative humidity for operation:**
  0 to 85 % RH with a linear decrease above 35 °C
- **Influence of relative humidity:**
  < 0.1 % of output signal from 10 % to 85 % RH
- **Operating altitude:**
  0 to 2,000 m
- **Max. jaw opening:**
  53 mm, patented progressive opening system
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 mm
- **Casing protection rating:**
  IP40 (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g (IEC 68-2-27)
- **Vibration resistance:**
  5/15 Hz 1.5 mm
  15/25 Hz 1 mm
  25/55 Hz 0.25 mm (IEC 68-2-6)
- **Self-extinguishing capability:**
  Casing and jaws: UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Mass:**
  550 g
- **Colours:**
  Dark grey case with red jaws
- **Output:**
  C116: Safety sockets (4 mm)
  C117: two-wire cable with reinforced insulation or double insulation, length 1.5 m, terminated by 2 insulated elbowed male banana plugs (4 mm)

Safety specifications

- **Electrical safety:**
  Instrument with double insulation or reinforced insulation between the primary, the secondary and the grippable part located under the guard as per IEC 1010-1 & IEC 1010-2-032
  - 600 V category III, pollution degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**
  EN 50081-1: class B

  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
  - Radiated field: IEC 1000-4-3
  - Fast transients: IEC 1000-4-4
  - Magnetic field at 50 Hz: IEC 1000-4-8

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, no DC components, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement, load impedance ≥ 1 MΩ and ≤ 100 pF

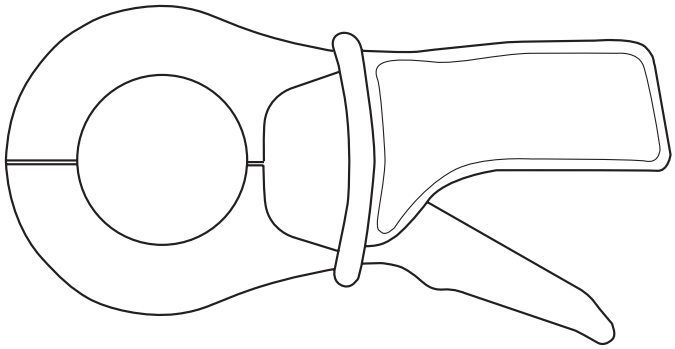
(2) Out of reference domain

To order	Reference
AC current clamp model **C116** with operating manual	P01120316
AC current clamp model **C117** with operating manual	P01120317

CURRENT CLAMPS FOR AC CURRENT

Model C122

Current	1,000 A
Ratio	1,000/5
Output	5 mA / A



Description

An electronic voltage-limiting system protects output of clamp when operating, if the secondary circuit is opened.

Electrical specifications

- **Current range:**
  1 A AC .. 1,200 A AC
- **Turns Ratio:**
  1,000:5
- **Output signal:**
  5 mA AC / A AC (5 A for 1,000 A)
- **Accuracy and phase shift** (1)**:**

Primary current:	1 A .. 20 A	20 A	50 A (2)	200 A (2)	1,000 A (2)	1,200 A (2)
Accuracy in %	≤ 6 % + 0.5 mA	≤ 5 %	≤ 3 %	≤ 1.5 %	≤ 1 %	≤ 1 %
Phase shift	not specified	≤ 3 °	≤ 3 °	≤ 1.5 °	≤ 1 °	≤ 1 °

- **Bandwidth:**
  30 Hz .. 10 kHz
- **Crest factor:**
  ≤ 6 for a current ≤ 3,000 A peak (500 A_{RMS})
- **Maximum currents:**
  1,000 A continuous for a frequency ≤ 1 kHz (limitation proportional to the inverse of frequency beyond)
  1,200 A for 40 minutes max (interval between measurements > 20 minutes)
- **Load impedance:**
  ≤ 0.6 Ω
- **Impedance of connection leads:**
  ≤ 40 mΩ
- **Max. voltage output:**
  Limited to 30 V peak max.
- **Operating voltage:**
  600 V_{RMS}
- **Common mode voltage:**
  600V category III and pollution degree 2
- **Influence of adjacent conductor:**
  ≤ 1 mA / A at 50 Hz
- **Influence of conductor position in jaws:**
  ≤ 0.2 % of output signal for frequencies ≤ 400 Hz
- **Load influence:**
  From 0.2 Ω to 0.6 Ω
  < 0.5 % on measurement
  < 0.5 ° on phase
- **Influence of frequency** (3)**:**
  < 1 % of output signal from 30 Hz .. 48Hz
  < 0.5 % of output signal from 65 Hz .. 1kHz
  < 1 % of output signal from 1 kHz .. 5 kHz
- **Influence of crest factor:**
  < 1 % of output signal for a crest factor ≤ 6 with current ≤ 3,000 A peak (500 A_{RMS})
- **Influence of DC current superimposed on rated current:**
  < 1 % of output signal for a current ≤ 30 A DC

Mechanical specifications

- **Operating temperature:**
  -10°C to +50°C
- **Storage temperature:**
  -40°C to +70°C
- **Influence of temperature:**
  ≤ 0.1 % of output signal per 10 °K
- **Relative humidity for operation:**
  0 to 85 % RH with a linear decrease above 35 °C
- **Influence of relative humidity:**
  < 0.2 % of output signal from 10 % to 85 % RH
- **Operating altitude:**
  0 to 2,000 m
- **Max. jaw opening:**
  53 mm, patented progressive opening system
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 mm
- **Casing protection rating:**
  IP40 (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g (IEC 68-2-27)
- **Vibration resistance:**
  5/15 Hz 1.5 mm
  15/25 Hz 1 mm
  25/55 Hz 0.25 mm (IEC 68-2-6)
- **Self-extinguishing capability:**
  Casing and jaws: UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Mass:**
  550 g
- **Colours:**
  Dark grey case with red jaws
- **Output:**
  Safety sockets (4mm)

Safety specifications

- **Electrical safety:**
  Instrument with double insulation or reinforced insulation between the primary, the secondary and the grippable part located under the guard as per IEC 1010-1 & IEC 1010-2-032
  - 600 V category III, pollution degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**
  EN 50081-1: class B

  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
  - Radiated field: IEC 1000-4-3
  - Fast transients: IEC 1000-4-4
  - Magnetic field at 50 Hz: IEC 1000-4-8

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, no DC components, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement, load impedance 0.2 Ω (5 VA)

(2) Accuracy class in accordance with IEC185: 5 VA - class 1 - 48 .. 65 Hz

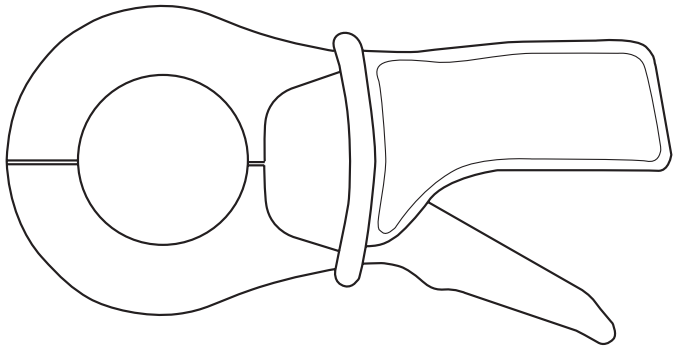
(3) Out of reference domain

To order	Reference
AC current clamp model **C122** with operating manual	P01120306

CURRENT CLAMPS FOR AC CURRENT

Model C148

Current	250 A AC	500 A AC	1,000 A AC
Ratio	250:5	500:5	1,000:5
Output	20 mA / A	10 mA / A	5 mA / A



Description

An electronic voltage-limiting system protects output of clamp when operating, if the secondary circuit is opened.

Electrical specifications

- **Current range:**
  1 A AC .. 300 A AC
  1 A AC .. 600 A AC
  1 A AC .. 1,200 A AC
- **Turns ratio:**
  250:5
  500:5
  1,000:5
- **Output signal:**
  20 mA AC / A AC (5 A for 250 A)
  10 mA AC / A AC (5 A for 500 A)
  5 mA AC / A AC (5 A for 1,000 A)
- **Accuracy and phase shift** (1)**:**
- 250 A calibre

Primary current:	1 A .. 5 A	5 A	12.5 A (2)	50 A (2)	250 A (2)	300 A (2)
Accuracy in %	≤ 10 % + 2 mA	≤ 10 %	≤ 5 %	≤ 2.5 %	≤ 2 %	≤ 2 %
Phase shift	not specified	not specified	≤ 10 °	≤ 10 °	≤ 10 °	≤ 10 °

- 500 A calibre

Primary current:	1 A .. 10 A	10 A	25 A (3)	100 A (3)	500 A (3)	600 A (3)
Accuracy in %	≤ 6 % + 1 mA	≤ 6 %	≤ 3 %	≤ 2 %	≤ 1 %	≤ 1 %
Phase shift	not specified	≤ 6 °	≤ 4 °	≤ 3 °	≤ 2.5 °	≤ 2.5 °

- 1,000 A calibre

Primary current:	1 A .. 20 A	20 A	50 A (4)	200 A (4)	1,000 A (4)	1,200 A (4)
Accuracy in %	≤ 6 % + 0.5 mA	≤ 5 %	≤ 3 %	≤ 1.5 %	≤ 1 %	≤ 1 %
Phase shift	not specified	≤ 5 °	≤ 3 °	≤ 1.5 °	≤ 1 °	≤ 1 °

- **Bandwidth:**
  48 Hz .. 1 kHz
- **Crest factor:**
- 250 A calibre: ≤ 6 with current ≤ 750 A peak
- 500 A calibre: ≤ 6 with current ≤ 1,500 A peak
- 1,000 A calibre: ≤ 6 with current ≤ 3,000 A peak
- **Maximum currents:**
  1,200 A for frequencies ≤ 1 kHz for 30 minutes max (interval between measurements > 15 minutes)
- **Load impedance:**
- 250 A calibre: ≤ 0.2 Ω
- 500 A calibre: ≤ 0.4 Ω
- 1,000 A calibre: ≤ 0.4 Ω
- **Impedance of connection leads:**
  ≤ 40 mΩ
- **Maximum output voltage (secondary open):**
  Limited to 30 V peak max.
- **Operating voltage:**
  600 VRMS
- **Common mode voltage:**
  600V category III and pollution degree 2
- **Influence of adjacent conductor:**
- 250 A calibre: ≤ 15 mA / A at 50 Hz
- 500 A calibre: ≤ 10 mA / A at 50 Hz
- 1,000 A calibre: ≤ 1 mA / A at 50 Hz
- **Influence of conductor position in jaws:**
  For frequencies ≤ 400 Hz
- 250 A calibre: ≤ 0.6 % of output signal
- 500 A calibre: ≤ 0.4 % of output signal
- 1,000 A calibre: ≤ 0.2 % of output signal
- **Load influence:**
- 250 A calibre:
  from 25 mΩ to 0.2 Ω
  < 2 % on measurement
  < 4° on phase
- 500 A calibre:
  from 50 mΩ to 0.4 Ω
  < 1 % on measurement
  < 2° on phase
- 1,000 A calibre:
  from 50 mΩ to 0.4 Ω
  < 0.5 % on measurement
  < 0.5° on phase
- **Influence of frequency** (5)**:**
  250 A calibre:
  < 1 % of output signal from 65 Hz .. 100Hz
  < 5 % of output signal from 100 Hz .. 1 kHz
- 500 A calibre:
  < 1 % of output signal from 65 Hz .. 1 kHz
- 1,000 A calibre:
  < 0.5 % of output signal from 65 Hz .. 100Hz
  < 1 % of output signal from 100 Hz .. 1 kHz
- **Influence of crest factor:**
  < 1 % of output signal for crest factor ≤ 6 with current:
  ≤ 750 A peak (calibre 250 A)
  ≤ 1,500 A peak (calibre 500 A)
  ≤ 3,000 A peak (1,000 A calibre)
- **Influence of DC current superimposed on rated current:**
  < 1 % of output signal for a current ≤ 30 A DC

CURRENT CLAMPS FOR AC CURRENT

Model C148

Mechanical specifications

- **Operating temperature:**
  -10°C to +50°C
- **Storage temperature:**
  -40°C to +70°C
- **Influence of temperature:**
  ≤ 0.15 % of output signal per 10 °K
- **Relative humidity for operation:**
  0 to 85 % RH with a linear decrease above 35 °C
- **Influence of relative humidity:**
  From 10 % to 85 % RH
- 250 A calibre:
  < 0.6 % of output signal and < 2° on phase
- 500 A calibre:
  < 0.4 % of output signal and < 0.6° on phase
- 1,000 A calibre:
  < 0.2 % of output signal and < 0.2° on phase
- **Operating altitude:**
  0 to 2,000 m
- **Max. jaw opening:**
  53 mm, patented progressive opening system
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 mm
- **Casing protection rating:**
  IP40 (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g (IEC 68-2-27)
- **Vibration resistance:**
  5/15 Hz 1.5 mm
  15/25 Hz 1 mm
  25/55 Hz 0.25 mm (IEC 68-2-6)
- **Self-extinguishing capability:**
  UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Mass:**
  550 g
- **Colours:**
  Dark grey case with red jaws
- **Output:**
  Safety sockets (4mm)

Safety specifications

- **Electrical safety:**
  Instrument with double insulation or reinforced insulation between the primary, the secondary and the grippable part located under the guard as per IEC 1010-1 & IEC 1010-2-032
  - 600 V category III, pollution degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**
  EN 50081-1: class B

  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
  - Radiated field: IEC 1000-4-3
  - Fast transients: IEC 1000-4-4
  - Magnetic field at 50 Hz: IEC 1000-4-8

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement, load impedance:
- 250 A calibre: 0.1 Ω (2.5 VA)
- 500 A calibre: 0.2 Ω (5 VA)
- 1,000 A calibre: 0.2 Ω (5 VA)

(2) Accuracy class in accordance with IEC185: 2.5 VA - class 3 - 48-65 Hz

(3) Accuracy class in accordance with IEC185: 5 VA - class 3 - 48-65 Hz

(4) Accuracy class in accordance with IEC185: 5 VA - class 1 - 48-65 Hz

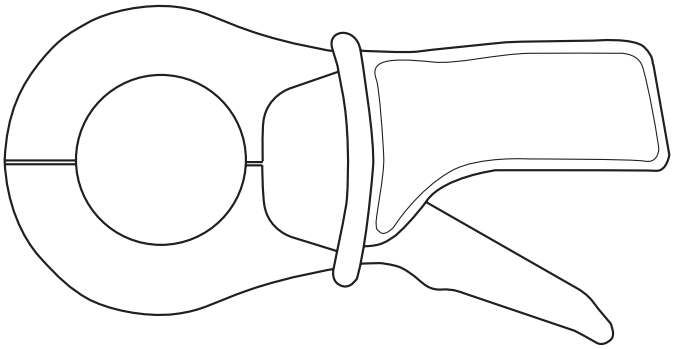
(5) Out of reference domain

To order	Reference
AC current clamp model **C148** with operating manual	P01120307

CURRENT CLAMPS FOR AC CURRENT

Model C160 (insulated AC current probe)

Current	30 A peak	300 A peak	2,000 A peak
Output	100 mV / A	10 mV / A	1 mV / A



Description

This 1,000 A AC clamp enables easy display and measurement of "current" curves. It fits any oscilloscope since it has a coaxial lead with BNC plug.

It produces a mV signal directly proportional to current. It offers 3 different sensitivities.

Electrical specifications

- **Current range:**
  0.1 A AC .. 10 A AC (30 A peak)
  1 A AC .. 100 A AC (300 A peak)
  1 A AC .. 1,000 A AC (2,000 A peak)
- **Output signal:**
  100 mV AC / A AC (1 V for 10 A)
  10 mV AC / A AC (1 V for 100 A)
  1 mA AC / A AC (1 V for 1,000 A)
- **Accuracy and phase shift** [1]**:**
- 10 A calibre

Primary current:	0.1 A .. 0.5 A	0.5 A .. 2 A	2 A .. 10 A	10 A .. 12 A
Accuracy in % of output signal	≤ 3 % + 10 mV	≤ 3 % + 10 mV	≤ 3 % + 10 mV	≤ 3 % + 10 mV
Phase shift	not specified	not specified	≤ 15 °	≤ 15 °

- 100 A calibre

Primary current:	0.1 A .. 5 A	5 A .. 20 A	20 A .. 100 A	100 A .. 120 A
Accuracy in % of output signal	≤ 2 % + 5 mV	≤ 2 % + 5 mV	≤ 2 % + 5 mV	≤ 2 % + 5 mV
Phase shift	not specified	≤ 15 °	≤ 10 °	≤ 5 °

- 1,000 A calibre

Primary current:	1 A .. 50 A	50 A .. 200 A	200 A .. 1,000 A	1,000 A .. 1,200 A
Accuracy in % of output signal	≤ 1 % + 1 mV	≤ 1 % + 1 mV	≤ 1 % + 1 mV	≤ 1 % + 1 mV
Phase shift	not specified	≤ 3 °	≤ 2 °	≤ 1 °

- **Bandwidth:**
  10 Hz .. 100 kHz (-3 dB) (depending on current value)
- **Rise/fall time from 10 % to 90 %:**
  3.5 µs
- **10 % delay time:**
  0.5 µs
- **Ampere second product:**
- 10 A calibre: 3.2 A.s
- 100 A calibre: 26 A.s
- 1,000 A calibre: 64 A.s
- **Maximum currents:**
  1,000 A permanent
  1,200 A for 40 minutes / 20 minutes shutdown for a frequency ≤ 1 kHz (limitation proportional to the inverse of one third of the frequency beyond that)
- **Insertion impedance (at 400 Hz / 10 kHz)**
- 10 A calibre: < 0.3 mΩ / < 6.6 mΩ
- 100 A calibre: < 0.3 mΩ / < 2 mΩ
- 1,000 A calibre: < 0.3 mΩ / < 1.6 mΩ
- **Output impedance at 1 kHz:**
- 10 A calibre: ≤ 515 Ω ± 10 %
- 100 A calibre: ≤ 515 Ω ± 10 %
- 1,000 A calibre: ≤ 515 Ω ± 10 %
- **Influence of temperature:**
  ≤ 150 ppm /k or 0.15 % of output signal per 10 °K
- **Influence of relative humidity:**
  < 0.1 % of output signal
- **Influence of adjacent conductor:**
  ≤ 1 mA / A at 50 Hz
- **Influence of DC current ≤ 30 A superimposed on rated current:**
  < 1%
- **Influence of conductor position in jaws:**
  ≤ 0.1 % of output signal for frequencies ≤ 400 Hz
- **Influence of frequency** [2]**:**
- 10 A calibre:
  < 10 % of output signal from 10 Hz .. 1kHz
  < 5 % of output signal from 1 kHz .. 10kHz
  < 20 % of output signal from 10 kHz .. 50 kHz
  3 dB of output signal from 50 kHz .. 100 kHz
- 100 A calibre:
  < 5 % of output signal from 10 Hz .. 1kHz
  < 3 % of output signal from 1 kHz .. 10kHz
  < 20 % of output signal from 10 kHz .. 50 kHz
  3 dB of output signal from 50 kHz .. 100 kHz
- 1,000 A calibre:
  < 1 % of output signal from 10 Hz .. 1kHz
  < 2 % of output signal from 1 kHz .. 10kHz
  < 10 % of output signal from 10 kHz .. 50 kHz
  3 dB of output signal from 50 kHz .. 100 kHz
- **Influence of crest factor:**
  < 1 % of output signal for crest factor ≤ 6 with current
- 10 A calibre: ≤ 30 A peak
- 100 A calibre: ≤ 300 A peak
- 1,000 A calibre: ≤ 3,000 A peak

CURRENT CLAMPS FOR AC CURRENT

Model C160 (insulated AC current probe)

Mechanical specifications

- **Max. jaw opening:**
  53 mm
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 mm
- **Operating temperature:**
  -10°C to +55°C
- **Storage temperature:**
  -40°C to +70°C
- **Relative humidity for operation:**
  0 to 85 % RH with a linear decrease above 35 °C
- **Operating altitude:**
  0 to 2,000 m
- **Casing protection rating:**
  IP30 with clamp open (IEC 529)
  IP40 with clamp closed (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g / 6 ms / half-period (IEC 68-2-27)
- **Protection against impacts:**
  IK04 0.5 J (EN 50102)
- **Vibration resistance:**
  5/15 Hz 1.5 mm peak
  15/25 Hz 1 mm peak
  25/55 Hz 0.25 mm peak (IEC 68-2-6)
- **Self-extinguishing capability:**
  Casing and jaws: UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Mass:**
  550 g
- **Colours:**
  Dark grey case with red jaws
- **Output:**
  Coaxial cable 2 m long, terminated by an insulated BNC connector

Safety specifications

- **Electrical safety:**
  Instrument with double insulation or reinforced insulation between the primary, the secondary and the grippable part located under the guard as per IEC 1010-1 & IEC 1010-2-032
  - 600 V category III, pollution degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**

  EN 50081-1: class B

  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
    without disturbance: 4 kV class 2 non-destructive: 15 kV class 4
  - Radiated field: IEC 1000-4-3
    without disturbance: 10 V/m performance criterion A
  - Fast transients: IEC 1000-4-4
    without disturbance: 1 kV class 2
    non-destructive: 2 kV class 3
  - Magnetic field at 50/60Hz: IEC 1000-4-8
    field of 400 A/m at 50 Hz: < 1 A

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz à 1,000 Hz, distortion factor < 1 % with no DC component, external magnetic field < 40 A/m, no DC components, no external conductor with circulating current, conductor centred for measurement, load impedance: ≥ 1 MΩ and < 100 pF

(2) Out of reference domain

To order	Reference
AC current clamp model **C160** with operating manual	P01120308

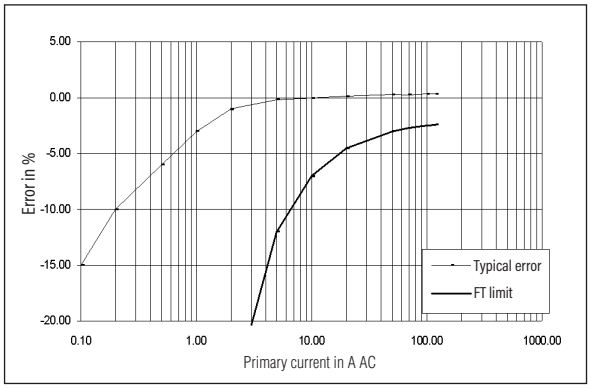
CURRENT CLAMPS FOR AC CURRENT

Model C160 (insulated AC current probe)

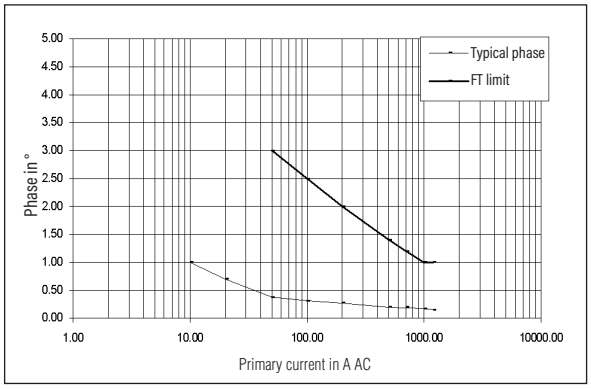
Curves at 50 Hz

1,000 A calibre

Error on measurement

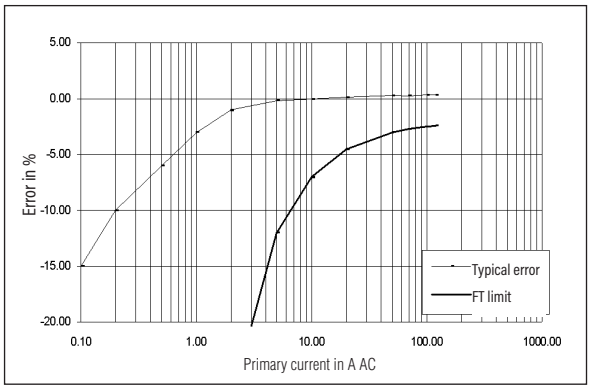


Phase shift

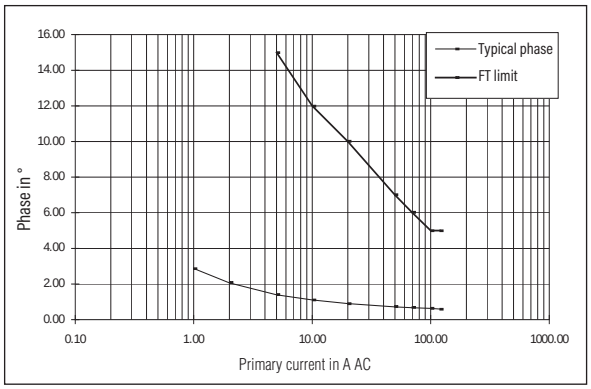


100 A calibre

Error on measurement

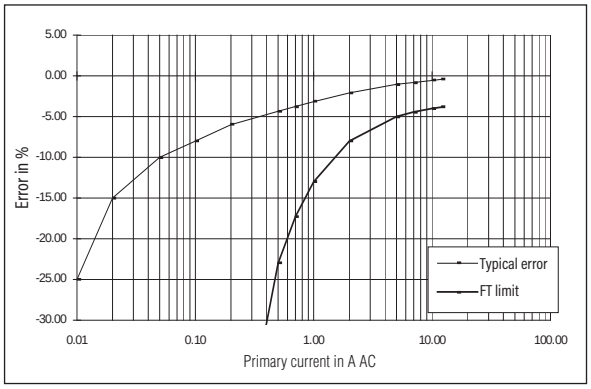


Phase shift

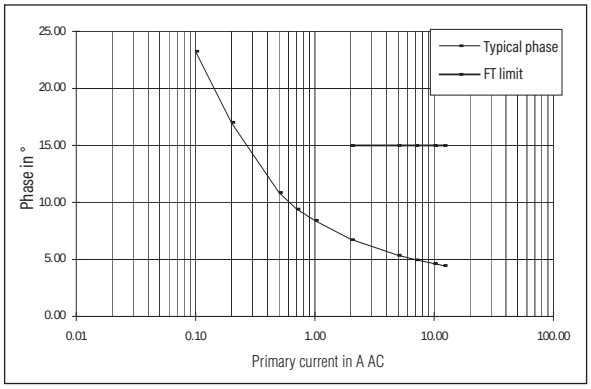


10 A calibre

Error on measurement



Phase shift

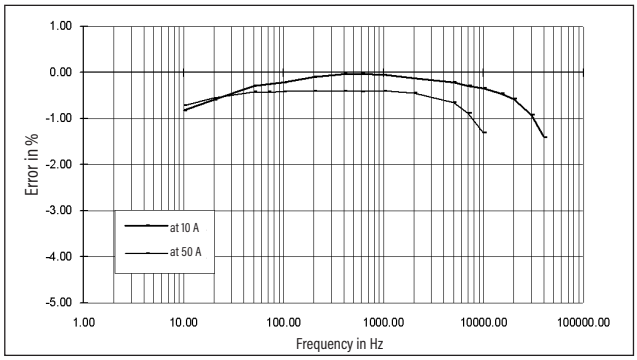


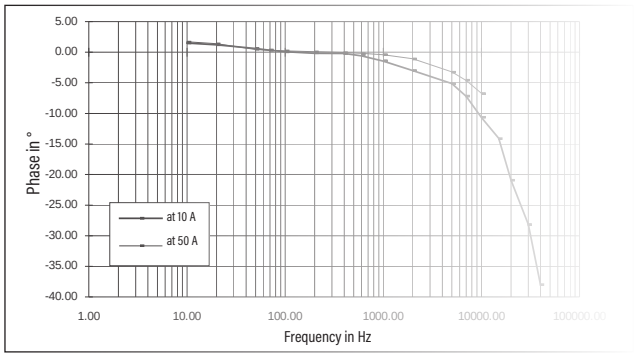
CURRENT CLAMPS FOR AC CURRENT

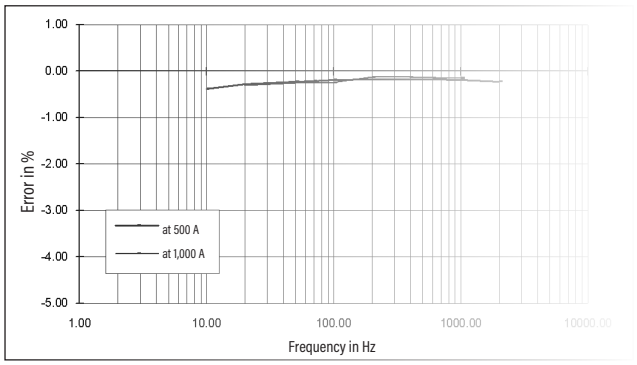
Model C160 (insulated AC current probe)

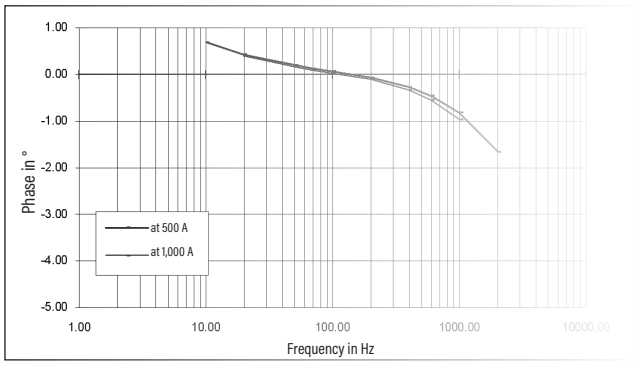
Frequency response (cont.)

1,000 A calibre

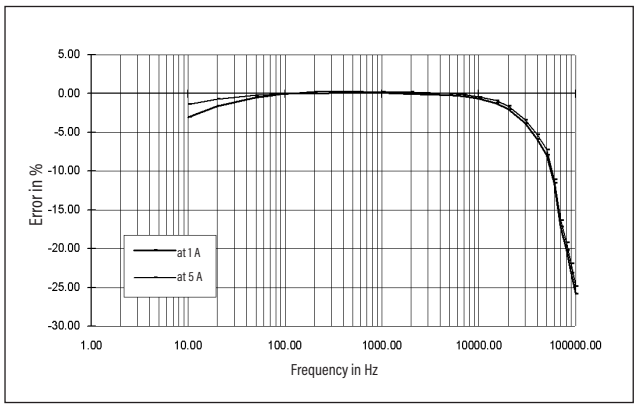


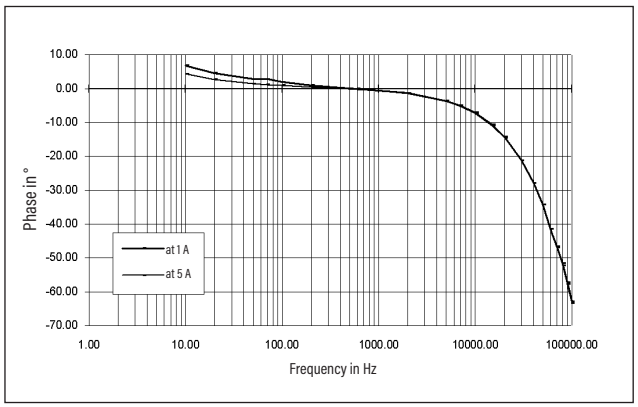


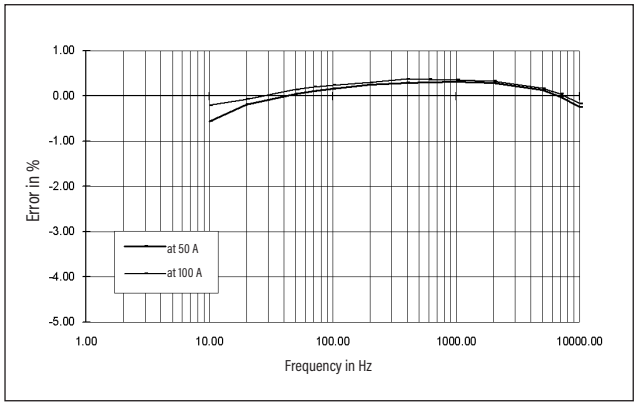


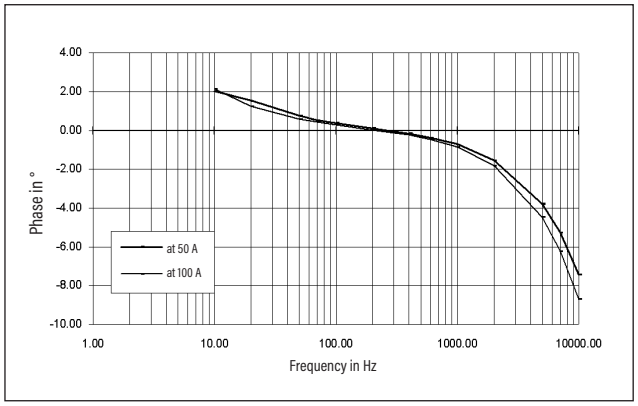


100 A calibre







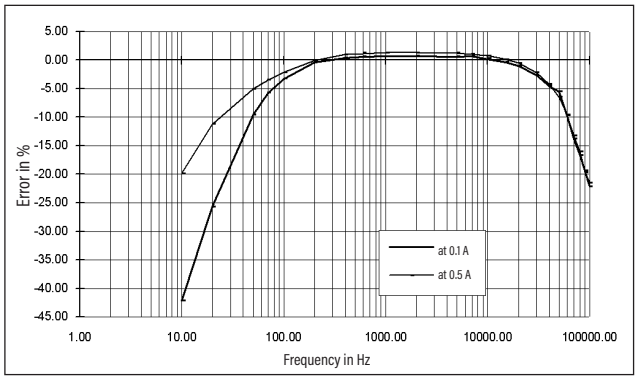


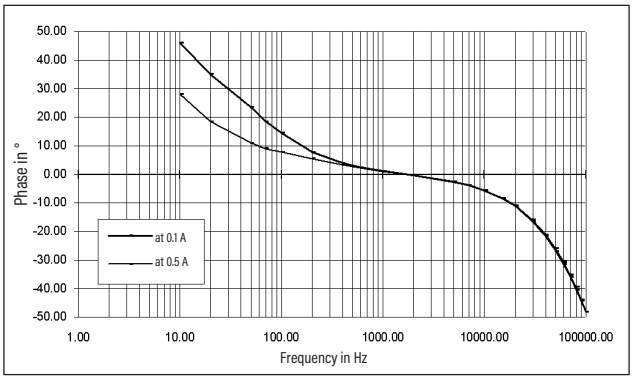
CURRENT CLAMPS FOR AC CURRENT

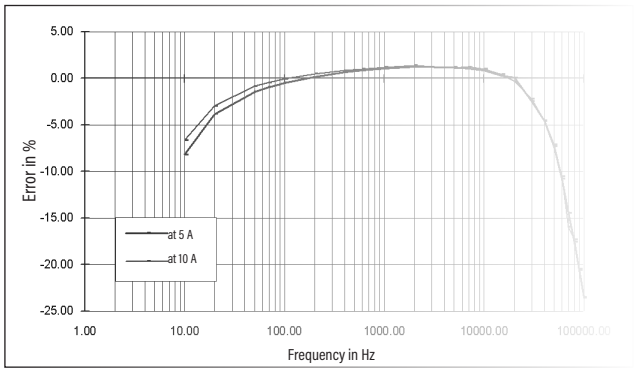
Model C160 (insulated AC current probe)

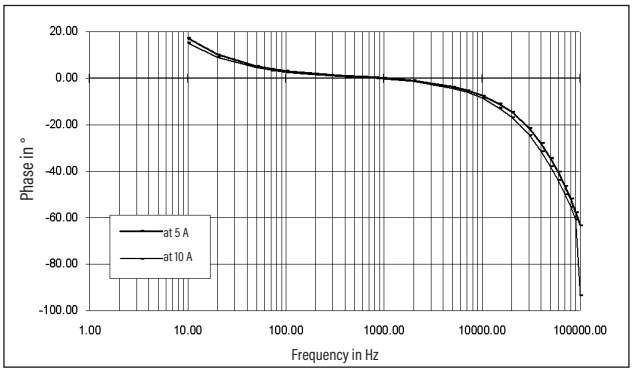
Frequency response (cont.)

10 A calibre



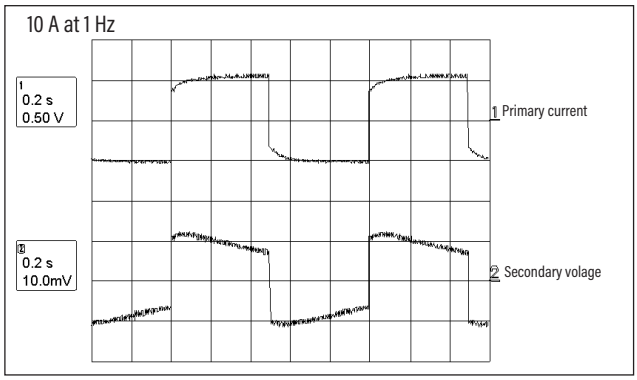


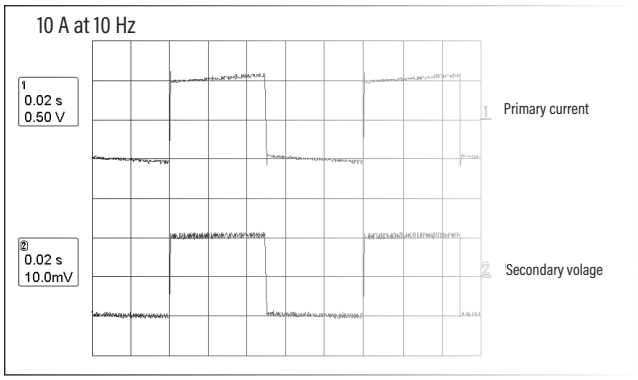


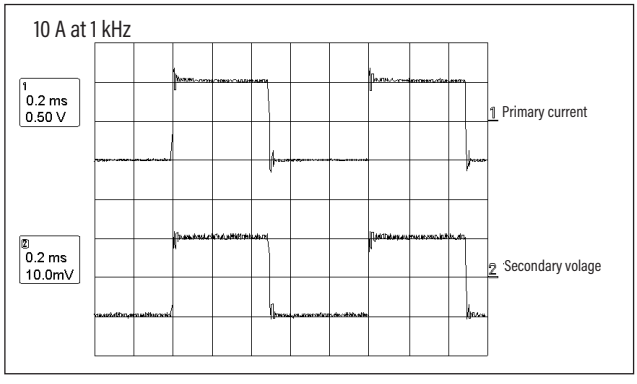


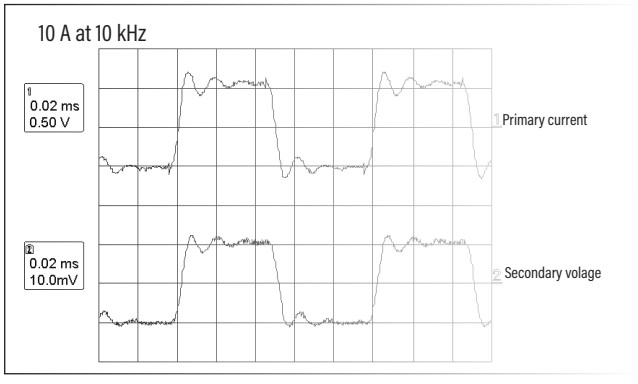
Response to a square signal

1,000 A calibre







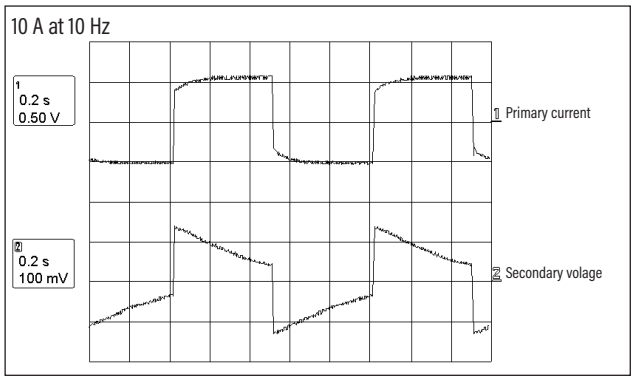


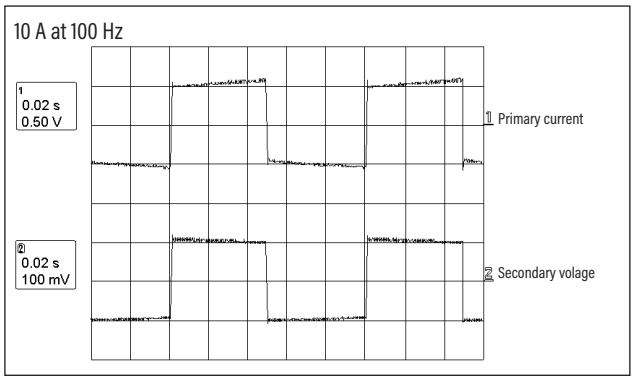
CURRENT CLAMPS FOR AC CURRENT

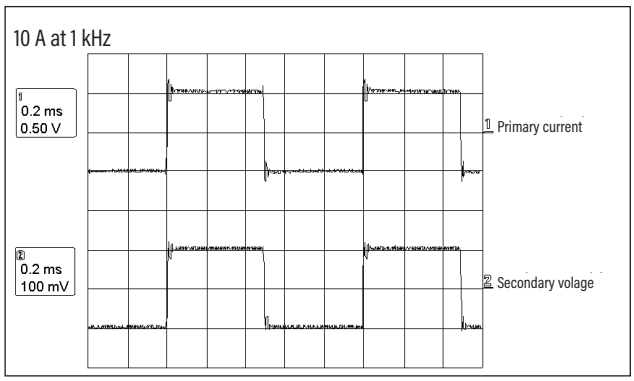
Model C160 (insulated AC current probe)

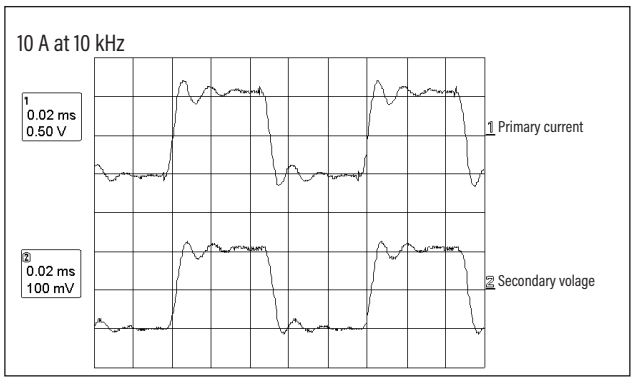
Response to a square signal (cont.)

100 A calibre

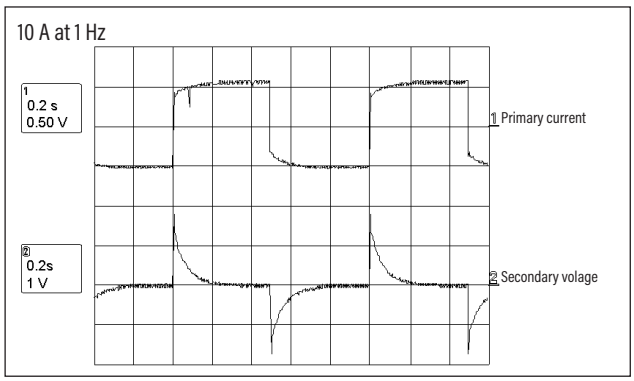


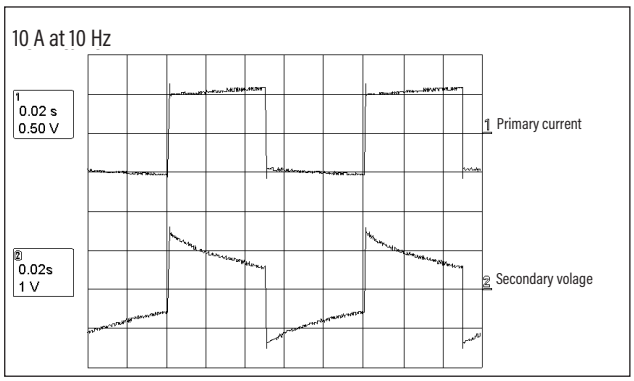


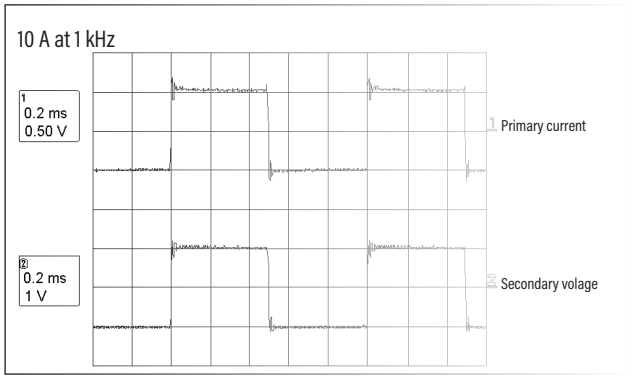


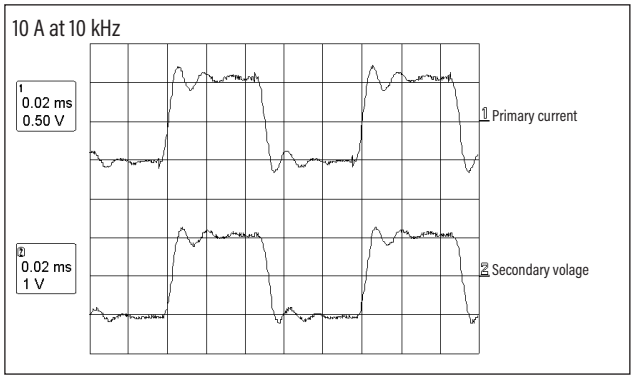


10 A calibre





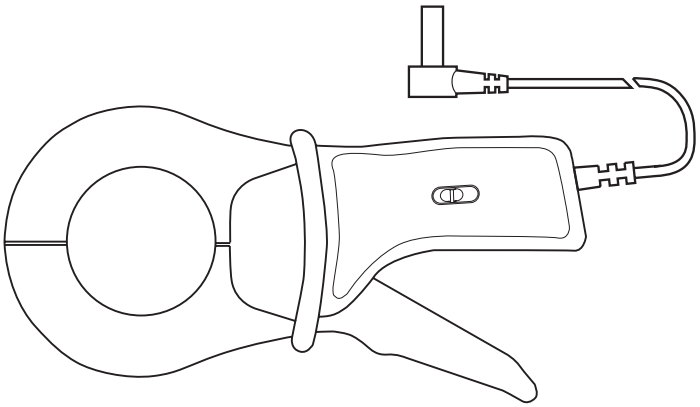




CURRENT CLAMPS FOR AC CURRENT

Model C173 (probe for leakage currents)

Current	1 A	10 A	100 A	1,000 A
Output	1 V / A	100 mV / A	10 mV / A	1 mV / A



Description

The C173 clamp measures leakage or differential currents from 1 mA upwards and can also be used with multimeters equipped with a range in mV AC.

The C173 clamp measures earth-loop currents and leakage currents. It also locates faults in circuits of single and three-phase networks.

For unearthed three-phase systems, use the optional Artificial Neutral.

Electrical specifications

- **Current range:**
  0.001 A AC.. 1.2 A AC
  0.01 A AC .. 12 A AC
  0.1 A AC .. 120 A AC
  1 A AC .. 1,200 A AC
- **Output signal:**
  1 V AC / A AC (1 V for 1 A)
  100 mV AC / A AC (1 V for 10 A)
  10 mV AC / A AC (1 V for 100 A)
  1 mV AC / A AC (1 V for 1,000 A)
- **Accuracy and phase shift** [1]**:**
- 1 A calibre

Primary current:	0.001 A .. 0.01 A	0.01 A .. 0.1 A	0.1 A .. 1 A	1 A .. 1.2 A
Accuracy in % of output signal	≤ 3 % + 1 mV	≤ 3 % + 1 mV	≤ 0.7 % + 1 mV	≤ 0.7 % + 1 mV
Phase shift	not specified	not specified	≤ 10 °	≤ 10 °

- 10 A calibre

Primary current:	0.01 A .. 0.1 A	0.1 A .. 1 A	1 A .. 10 A	10 A .. 12 A
Accuracy in % of output signal	≤ 1 % + 0.2 mV	≤ 0.5 % + 0.2 mV	≤ 0.5 %	≤ 0.5 %
Phase shift	not specified	≤ 5 °	≤ 2 °	≤ 2 °

- 100 A calibre

Primary current:	0.1 A .. 1 A	1 A .. 10 A	10 A .. 100 A	100 A .. 120 A
Accuracy in % of output signal	≤ 1 % + 0.2 mV	≤ 0.5 % + 0.2 mV	≤ 0.3 %	≤ 0.2 %
Phase shift	not specified	≤ 2 °	≤ 1 °	≤ 1 °

- 1,000 A calibre

Primary current:	1 A .. 10 A	10 A .. 100 A	100 A .. 1,000 A	1,000 A .. 1,200 A
Accuracy in % of output signal	≤ 1 % + 0.2 mV	≤ 0.5 % + 0.2 mV	≤ 0.2 %	≤ 0.2 %
Phase shift	not specified	≤ 2 °	≤ 1 °	≤ 1 °

- **Bandwidth:**
  10 Hz .. 3 kHz
- **Crest factor:**
- 1 A calibre: ≤ 3 for I ≤ 3 A peak (1 Arms)
- 10 A calibre: ≤ 3 for I ≤ 30 A peak (10 Arms)
- 100 A calibre: ≤ 3 for I ≤ 300 A peak (100 Arms)
- 1,000 A calibre: ≤ 3 for I ≤ 1700 A peak (500 Arms)
- **Maximum currents:**
  1,000 A continuous for a frequency ≤ 500 Hz (limitation proportional to the inverse of 1/2 of frequency beyond)
- **Load impedance:**
  ≥ 10 MΩ and ≤ 47 pF
- **Output impedance:**
- 1 A calibre: 10 kΩ ± 10 %
- 10 A calibre: 1 kΩ ± 10 %
- 100 A calibre: 100 Ω ± 10 %
- 1,000 A calibre: 100 Ω ± 10 %
- **Operating voltage:**
  600 Vrms
- **Common mode voltage:**
  600V category III and pollution degree 2
- **Influence of adjacent conductor:**
  ≤ 1 mA / A at 50 Hz
- **Influence of conductor position in jaws:**
  ≤ 0.3 % of output signal for frequencies ≤ 400 Hz
- **Influence of frequency** [2]**:**
- 1 A calibre:
  < 2 % of output signal 30 Hz .. 48 Hz and 65H z .. 1 kHz < 10 % of output signal 1 kHz .. 3 kHz
- 10 A calibre:
  < 2 % of output signal 10 Hz .. 48 Hz and 65 Hz .. 3 kHz
- 100 A calibre:
  < 1.5 % of output signal 10 Hz .. 48 Hz and 65 Hz .. 3 kHz
- 1,000 A calibre:
  < 1 % of output signal 10 Hz .. 48 Hz and 65 Hz .. 1 kHz
- **Influence of crest factor:**
  ≤ 0.5 % for crest factor limited to 3
- **Influence of DC current superimposed on rated current:**
  ≤ 10 % at 1,000 A for a current DC from 10 A

CURRENT CLAMPS FOR AC CURRENT

Model C173 (probe for leakage currents)

Mechanical specifications

- **Operating temperature:**
  -10 °C .. +50 °C
- **Storage temperature:**
  -40 °C .. +70 °C
- **Influence of temperature:**
  ≤ 0.15 % of output signal per 10 °K from -10 °C .. +40 °C
  ≤ 0.2 % of output signal per 10 °K from +40 °C .. +50 °C
- **Relative humidity for operation:**
  From 0 .. 85 % from RH decreasing linearly above 35 °C
- **Influence of relative humidity:**
  < 0.1 % of output signal from 10 .. 85 % from RH
- **Operating altitude:**
  0 to 2,000 m
- **Max. jaw opening:**
  53mm
  patented progressive opening system
- **Clamping capacity:**
  Cable: Ø max 52 mm
  Busbar: 1 busbar of 50 x 5 mm or 4 busbars of 30 x 5 mm
- **Casing protection rating:**
  IP40 (IEC 529)
- **Drop test:**
  1 m (IEC 68-2-32)
- **Shock resistance:**
  100 g (IEC 68-2-27)
- **Vibration resistance:**
  5/15 Hz 1.5 mm
  15/25 Hz 1 mm
  25/55 Hz 0.25 mm (IEC 68-2-6)
- **Self-extinguishing capability:**
  UL94 V0
- **Dimensions:**
  216 x 111 x 45 mm
- **Mass:**
  550 g
- **Colours:**
  Dark grey case with red jaws
- **Output:**
  1.5 m two-wire lead with double or reinforced insulation terminated by 2 elbowed male safety plugs (4 mm)

Safety specifications

- **Electrical safety:**
  Instrument with double insulation or reinforced insulation between the primary, the secondary and the grippable part located under the guard as per IEC 1010-1 & IEC 1010-2-032
  - 600 V category III, pollution degree 2
  - 300 V category IV, pollution degree 2
- **Electromagnetic compatibility (EMC): :**
  EN 50081-1: class B

  EN 50082-2:
  - Electrostatic discharge: IEC 1000-4-2
  - Radiated field: IEC 1000-4-3
  - Fast transients: IEC 1000-4-4
  - Magnetic field at 50/60Hz: IEC 1000-4-8

(1) Conditions of reference: 23 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, no DC components, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement, load impedance: ≥ 10 MΩ and ≤ 47 pF

(2) Out of reference domain

To order	Reference
AC current clamp model **C173** with operating manual	P01120309