

Clamp-on ammeter for AC current



MINI series

Small, compact and particularly resistant, this range of miniature clamps is designed for measurements from a few milli-amperes to 150 A ac. Their shape makes them very practical in confined spaces, such as circuit-breaker boards, control panels or control boxes. They are ideal for use with multimeters.

There are two types of MINI clamps.

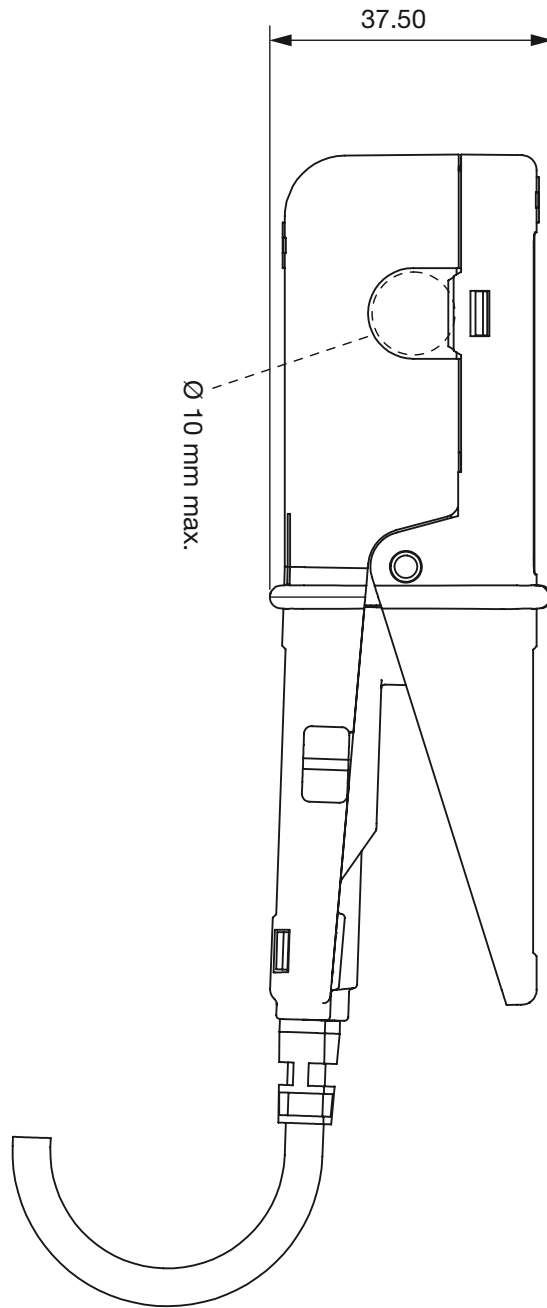
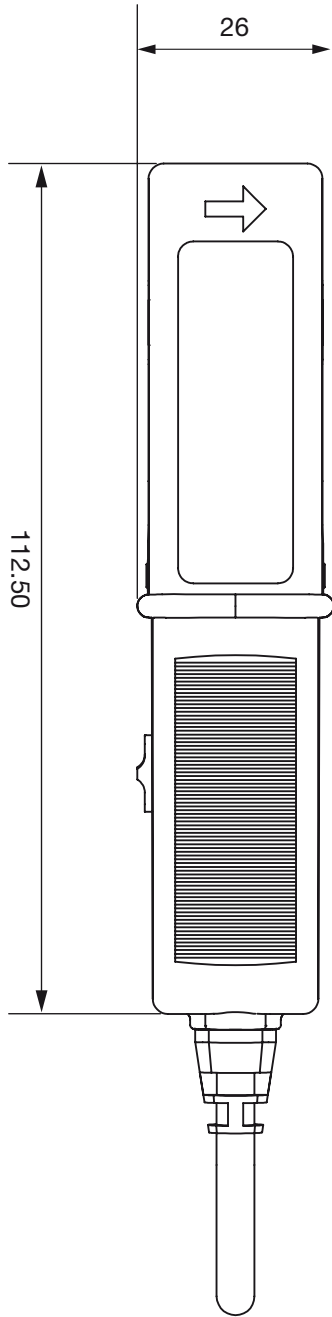
The first type operates like a traditional current transformer and provides a current output (mA) which can be used with multimeters, loggers or instruments with current calibres.

The second provides a voltage output proportional to the current measured.

This voltage output enables instruments with AC voltage calibres to display or store current values.

There is also a model with a DC voltage output.

The MINI clamps give True RMS results when used with a True RMS instrument.



Clamp-on ammeter for AC current

MINI 01 model

Calibre	150 AAC
Sensitivity	1 mA/A (1,000/1)

■ Description

Small and compact, the MINI 01 clamp-on ammeter is the ideal complement for any multimeter to measure AC currents in low-power tertiary or industrial applications.

If there is a current in the conductor clamped, the MINI 01 clamp is protected against overvoltages during disconnection from the measurement instrument.



■ Main specifications ⁽¹⁾

Calibre	150 A
Measurement range	2 A... 150 A
Accuracy in %	≤ 2.5% + 0.15 A (1 Ω load) ≤ 3% + 0.15 A (10 Ω load)
Phase shift	Not specified
Output signal	1 mA AC/AAC (1000/1) (150 mA at 150 A)

Output:

Double-insulated cable 1.5 m long, terminated by 2 insulated elbowed male banana connectors Ø 4 mm

Bandwidth: 48 Hz... 500 Hz

Clamping capacity:

Cable Ø max 10 mm

■ Electrical specifications

Load impedance: ≤ 10 Ω

Maximum currents:

I < 150 A permanent from 48 Hz... 500 Hz

Influence of temperature:

≤ 0.2 % per 10 K

Influence of adjacent conductor:

≤ 2 mA/A at 50 Hz

Influence of conductor position in jaws:

≤ 0.1 % at 50/60 Hz

Influence of frequency:

≤ 2 % from 65 Hz to 500 Hz

Maximum output voltage

(secondary open): 30 V

■ Mechanical specifications

Operating temperature:

-10 °C to +50 °C

Storage temperature:

-40 °C to +80 °C

Relative humidity for operation:

from 0 to 85 % RH decreasing linearly above 35 °C

Operating altitude: 0 to 2,000 m

Casing protection rating (leakproofing):

IP40 ⁽²⁾ (EN 60529 Ed. 1995)

Fall height:

1.5 m (IEC 68-2-32)

Shock protection:

100 g / 6 ms / half-period (IEC 68-2-27)

Vibration resistance ⁽³⁾:

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 UL94 V2

Dimensions: 130 x 37 x 25 mm

Weight: approx. 180 g

Colours: black casing

■ 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 EN 61010-1 Ed. 2:2001, EN 61010-2-031 Ed. 2002 & EN 61010-2-032 Ed. 2003

- 600 V category III, pollution degree 2

- 300 V category IV, pollution degree 2

Electromagnetic compatibility:

CE-certified equipment compliant with standard EN 61326-1 (Ed. 97) + A1 (Ed. 98) + A2 (Ed. 01)

- Emission: stipulations for Class B equipment (domestic use).

- Immunity: stipulations for equipment used intermittently on industrial sites.

(1) Conditions of reference: 23 °C ± 3 °K, 20 to 75 % RH, sinusoidal signal with frequency of 48 Hz to 500 Hz, distortion factor < 1 % with no DC component, external DC magnetic field < 40 A/m, no external AC magnetic field, no external conductor with circulating current, conductor centred for measurement, measurement instrument load impedance ≤ 10 Ω.

(2) With clamp closed.

(3) Vibrations expressed in mm peak, scanning of 1 octave/minute for 10 minutes on 3 axes.

To order	Reference
MINI 01 clamp-on AC ammeter with operating manual	P01105101Z

Clamp-on ammeter for AC current

MINI 03 model

Calibre	100 AAC
Sensitivity	1 mV/A

■ Description

Small and compact, the MINI 03 clamp-on ammeter is the ideal complement for any multimeter to measure AC currents in low-power tertiary or industrial applications.

When used with an AC voltmeter, it allows you to directly read the current measured on the voltmeter.



■ Main specifications ⁽¹⁾

Calibre	100 A
Measurement range	1 A... 100 A
Accuracy in %	≤ 2% + 50 mA
Phase shift	Not specified
Output signal	1 mA AC/AAC (100 mV at 100 A)

Output:

Double-insulated cable 1.5 m long, terminated by 2 insulated elbowed male banana connectors Ø 4 mm

Bandwidth: 48 Hz... 500 Hz

Clamping capacity:
Cable Ø max 10 mm

■ Electrical specifications

Maximum currents:

I < 150 A permanent from 48 Hz... 500 Hz

Influence of temperature:

≤ 0.2% per 10 K

Influence of adjacent conductor:

≤ 2 mA/A at 50 Hz

Influence of conductor position in jaws:

≤ 0.1% at 50/60 Hz

Influence of frequency:

≤ 1% from 65 Hz to 500 Hz

■ Mechanical specifications

Operating temperature:

-10 °C to +50 °C

Storage temperature:

-40 °C to +80 °C

Relative humidity for operation:

0 to 85 % RH decreasing linearly above 35 °C

Operating altitude:

0 to 2,000 m

Casing protection rating (leakproofing):

IP40 ⁽²⁾ (EN 60529 Ed.1995)

Fall height: 1.5 m (IEC 68-2-32)

Shock protection:

100 g / 6 ms / half-period (IEC 68-2-27)

Vibration resistance ⁽³⁾:

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 UL94 V2

Dimensions: 130 x 37 x 25 mm

Weight: approx. 180 g

Colours: black casing

■ 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 EN 61010-1 Ed. 2:2001, EN 61010-2-031 Ed. 2002 & EN 61010-2-032 Ed. 2003
 - 600 V category III, pollution degree 2
 - 300 V category IV, pollution degree 2

Electromagnetic compatibility:

CE-certified equipment compliant with standard EN61326-1 (Ed. 97) + A1 (Ed. 98) + A2 (Ed. 01)
 - Emission: stipulations for Class B equipment (domestic use).
 - Immunity: stipulations for equipment used intermittently on industrial sites.

(1) Conditions of reference: 23 °C ± 3 °K, 20 to 75 % RH, sinusoidal signal with frequency of 48 Hz to 500 Hz, distortion factor < 1% with no DC component, external DC magnetic field < 40 A/m, no external AC magnetic field, no external conductor with circulating current, conductor centred for measurement, measurement instrument load impedance ≥ 10 kΩ.

(2) With clamp closed.

(3) Vibrations expressed in mm peak, scanning of 1 octave/minute for 10 minutes on 3 axes.

To order	Reference
MINI 03 clamp-on AC ammeter with operating manual	P01105103Z

Clamp-on ammeter for AC current

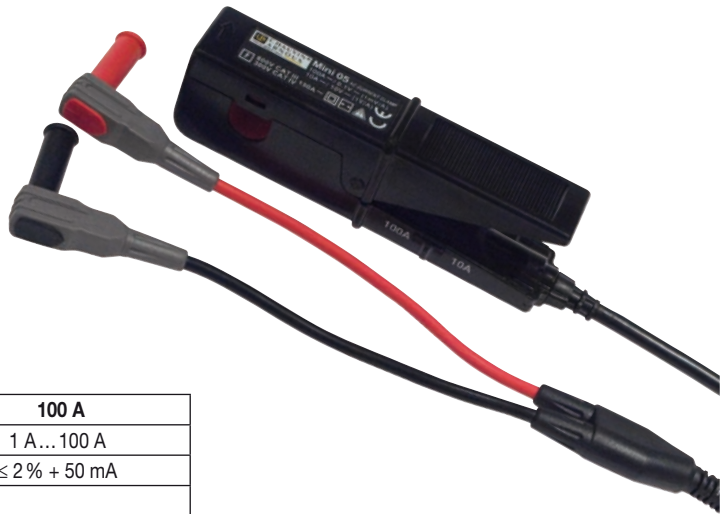
MINI 05 model

Calibres	10 AAC	100 AAC
Sensitivities	1 mV/mA	1 mV/A

Description

Small and compact, the MINI 05 clamp-on ammeter is the ideal complement for any multimeter to measure AC currents in low-power tertiary or industrial applications.

With its 2 calibres, it offers excellent resolution for measuring AC intensities from 5 mA to 100 A.



Main specifications ⁽¹⁾

Calibre	10 A	100 A
Measurement range	5 mA... 10 A	1 A... 100 A
Accuracy in %	≤ 3% + 0.15 mA	≤ 2% + 50 mA
Phase shift	Not specified	
Output signal	1 mV AC/mA AC (10 V at 10 A)	1 mV AC/AAC (100 mV at 100 A)

Output:

Double-insulated cable 1.5 m long, terminated by 2 insulated elbowed male banana connectors Ø 4 mm

Bandwidth: 48 Hz... 500 Hz

Clamping capacity:
Cable Ø max 10 mm

Electrical specifications

Maximum currents:

■ 100 A calibre:

I < 150 A permanent from 48 Hz... 500 Hz

■ 10 A calibre:

I < 15 A permanent from 48 Hz... 500 Hz

Influence of temperature:

≤ 0.2% per 10 K

Influence of adjacent conductor:

≤ 2 mA/A at 50 Hz

Influence of conductor position in jaws:

≤ 0.1% at 50/60 Hz

Influence of frequency:

■ 100 A calibre:

≤ 1% from 65 Hz to 500 Hz

■ 10 A calibre:

≤ 3% from 65 Hz to 500 Hz

Mechanical specifications

Operating temperature:

-10 °C to +50 °C

Storage temperature:

-40 °C to +80 °C

Relative humidity for operation:

0 to 85% RH decreasing linearly above 35°C

Operating altitude:

0 to 2,000 m

Casing protection rating (leakproofing):

IP40 ⁽²⁾ (EN 60529 Ed.1995)

Fall height:

1.5 m (IEC 68-2-32)

Shock protection:

100 g / 6 ms / half-period (IEC 68-2-27)

Vibration resistance ⁽³⁾:

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 UL94 V2

Dimensions:

130 x 37 x 25 mm

Weight:

approx. 180 g

Colours:

black casing

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 EN 61010-1 Ed. 2:2001, EN 61010-2-031 Ed. 2002 & EN 61010-2-032 Ed. 2003

- 600 V category III, pollution degree 2

- 300 V category IV, pollution degree 2

Electromagnetic compatibility:

CE-certified equipment compliant with standard EN61326-1 (Ed. 97) + A1 (Ed. 98) + A2 (Ed. 01)

- Emission: stipulations for Class B equipment (domestic use).

- Immunity: stipulations for equipment used intermittently on industrial sites.

(1) Conditions of reference: 23 °C ± 3 °K, 20 to 75 % RH, sinusoidal signal with frequency of 48 Hz to 500 Hz, distortion factor < 1% with no DC component, external DC magnetic field < 40 A/m, no external AC magnetic field, no external conductor with circulating current, conductor centred for measurement, measurement instrument load impedance ≥ 1 MΩ (10 A calibre) & ≥ 10 kΩ (100 A calibre).

(2) With clamp closed.

(3) Vibrations expressed in mm peak, scanning of 1 octave/minute for 10 minutes on 3 axes.

To order	Reference
MINI 05 clamp-on AC ammeter with operating manual	P01105105Z

Clamp-on ammeter for AC current

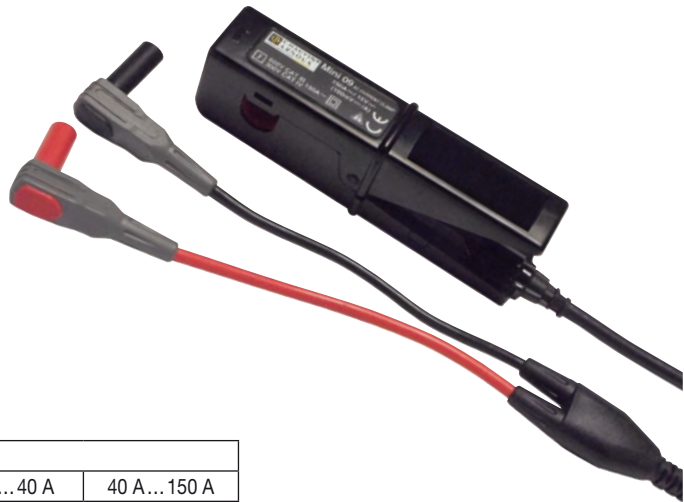
MINI 09 model

Calibre	150 AAC
Sensitivity	1 mV _{DC} / AAC

■ Description

Small and compact, the MINI 09 clamp-on ammeter is the ideal complement for any multimeter to measure AC currents in low-power tertiary or industrial applications.

Its DC voltage output helps to overcome the low sensitivity of certain AC measurement instruments.



■ Main specifications ⁽¹⁾

Calibre	150 A			
Measurement range	1 A...5 A	5 A...15 A	15 A...40 A	40 A...150 A
Accuracy in %	≤ 10% + 0.2 A	≤ 6% + 0.2 A	≤ 3% + 0.2 A	≤ 4%
Phase shift	Not specified			
Output signal	100 mV _{DC} / AAC (15 V _{DC} at 150 A)			

Output:

Double-insulated cable 1.5 m long, terminated by 2 insulated elbowed male banana connectors Ø 4 mm

Bandwidth: 48 Hz ... 500 Hz

Clamping capacity:
Cable Ø max 10 mm

■ Electrical specifications

Maximum currents:

I < 150 A permanent from 65 Hz ... 500 Hz

Influence of temperature:

≤ 0.2 % per 10 K

Influence of adjacent conductor:

≤ 2 mA/A at 50 Hz

Influence of conductor position in jaws:

≤ 0.1 % at 50/60 Hz

Influence of frequency:

≤ 3 % from 65 Hz to 500 Hz

■ Mechanical specifications

Operating temperature:

-10 °C to +50 °C

Storage temperature:

-40 °C to +80 °C

Relative humidity for operation:

0 to 85% RH decreasing linearly above 35 °C

Operating altitude:

0 to 2,000 m

Casing protection rating (leakproofing):

IP40 ⁽²⁾ (EN 60529 Ed.1995)

Fall height: 1.5 m (IEC 68-2-32)

Shock protection:

100 g / 6 ms / half-period (IEC 68-2-27)

Vibration resistance ⁽³⁾:

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 UL94 V2

Dimensions: 130 x 37 x 25 mm

Weight: approx. 180 g

Colours: black casing

■ 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 EN 61010-1 Ed. 2:2001, EN 61010-2-031 Ed. 2002 & EN 61010-2-032 Ed. 2003

- 600 V category III, pollution degree 2

- 300 V category IV, pollution degree 2

Electromagnetic compatibility:

CE-certified equipment compliant with standard EN61326-1 (Ed. 97) + A1 (Ed. 98) + A2 (Ed. 01)

- Emission: stipulations for Class B equipment (domestic use).

- Immunity: stipulations for equipment used intermittently on industrial sites.

(1) Conditions of reference: 23 °C ± 3 °K, 20 to 75 % RH, sinusoidal signal with frequency of 48 Hz to 500 Hz, distortion factor < 1 % with no DC component, external DC magnetic field < 40 A/m, no external AC magnetic field, no external conductor with circulating current, conductor centred for measurement, measurement instrument load impedance ≥ 50 kΩ.

(2) With clamp closed.

(3) Vibrations expressed in mm peak, scanning of 1 octave/minute for 10 minutes on 3 axes.

To order	Reference
MINI 09 clamp-on AC ammeter with operating manual	P01105109Z