

Model MN60 (insulated AC current probe)

Current	60 A peak	600 A peak
Output	100 mV/A	10 mV/A

DESCRIPTION

This 200 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 2 different sensitivities.

ELECTRICAL SPECIFICATIONS

- Current range:**
0.1 A AC .. 20 A AC (60 A peak)
0.5 A AC .. 200 A AC (600 A peak)
- Output signal:**
100 mV AC / A AC (2 V for 20 A)
10 mV AC / A AC (2 V for 200 A)

- Accuracy and phase shift ⁽¹⁾:**

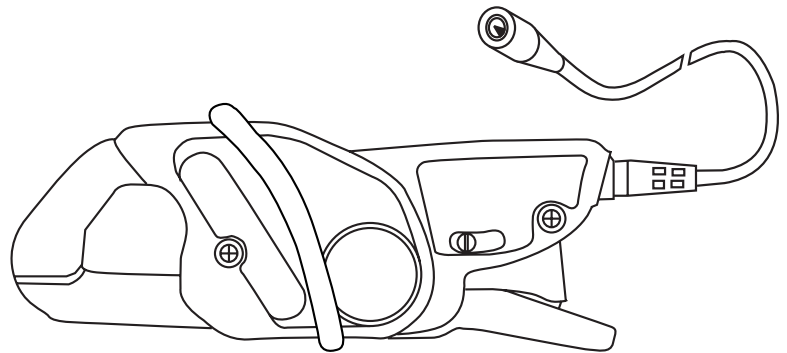
Calibre	20 A	200 A			
Primary current	0.1 A .. 20 A	0.5 A .. 10 A	10 A .. 40 A	40 A .. 100 A	100 A .. 240 A
% Accuracy of output signal	≤ 2% + 50 mV	≤ 3.5% + 5 mV	≤ 3% + 5 mV	≤ 2.5% + 5 mV	≤ 1.5% + 5 mV
Phase shift	not specified	not specified	≤ 6°	≤ 4°	≤ 3°

- Bandwidth:**
40 Hz .. 40 kHz (-3 dB) (depending on current value)
- Rise/fall time from 10 % to 90 %:**
 - 20 A calibre: 7.4 μs
 - 200 A calibre: 8.7 μs
- 10 % delay time:**
0.1 μs
- Ampere second product:**
 - 20 A calibre: 25 A.s
 - 200 A calibre: 2 A.s
- Insertion impedance (at 400 Hz / 10 kHz)**
 - 20 A calibre: < 0.3 mΩ / < 7.2 mΩ
 - 200 A calibre: < 1 mΩ / < 26 mΩ
- Maximum currents:**
200 A continuous for a frequency ≤ 3 kHz (limitation proportional to inverse of one third of frequency beyond)
- Influence of temperature:**
≤ 150 ppm / k or 0.15 % of output signal per 10 °K
- Influence of relative humidity:**
< 0.2 % of output signal
- Influence of adjacent conductor:**
≤ 15 mA/A at 50 Hz
- Influence of DC current < 10 % of rated calibre superimposed on the rated current:**
 - 20 A calibre:
For I DC < 2 A: influence < 0.5 %
 - 200 A calibre:
For I DC < 20 A: influence < 5 %
- Influence of conductor position in jaws:**
≤ 0.5 % of output signal at 50/60 Hz

- Influence of frequency ⁽²⁾:**
 - 20 A calibre:
< 10 % of output signal from 40 Hz .. 1 kHz
< 15 % of output signal from 1 kHz .. 10 kHz
 - 200 A calibre:
< 3 % of output signal from 40 Hz .. 1 kHz
< 12 % of output signal from 1 kHz .. 10 kHz
- Influence of crest factor:**
< 3 % of output signal for a crest factor of 3 and current of 200 A_{RMS}

MECHANICAL SPECIFICATIONS

- Operating temperature:**
-10 °C to +55 °C
- Storage temperature:**
-40 °C to +70 °C
- Relative humidity for operation:**
0 to 85 % RH decreasing linearly above 35 °C
- Operating altitude:**
0 to 2,000 m
- Max. jaw opening:**
20 mm
- Clamping capacity:**
Cable: Ø max 20 mm
Busbar: 1 busbar of 20 x 5 mm
- Casing protection rating:**
IP40 (IEC 529)
- Drop test:**
1 m (IEC 68-2-32)
- Shock resistance:**
100 g / 6 ms / half-periode (IEC 68-2-27)



- Protection against impacts:**
IK04 0.5 J (EN 50102)
- Vibration resistance:**
10/55/10 Hz, 0.15 mm (IEC 68-2-6)
- Self-extinguishing capability:**
Casing: UL94 V2
Jaws: UL94 V0
- Dimensions:**
128 x 49 x 28 mm
- Weight:**
180 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
4 kV level 2 performance criterion B
8 kV in the air level 3 performance criterion B
- Radiated field: IEC 1000-4-3
10 V/m performance criterion A
- Fast transients: IEC 1000-4-4
1 kV level 2 performance criterion B
2 kV level 3 performance criterion B
- Magnetic field at 50/60 Hz: IEC 1000-4-8
field of 400 A/m at 50 Hz: < 1 A