# AC Current Probe Model MN291



The Model MN291 is the latest in compact AC current probes. It is designed to meet the most stringent demands in industry and electrical contracting. Model MN291 meets EN 61010, 600V, Cat. III safety standards and is CE Marked and UL approved for Canada and United States.

The Model MN291 has a 0.78" (20mm) jaw opening and accommodate conductors up to 250MCM. The unique hooked jaw design facilitates clamping and hooking onto conductors. Polycarbonate materials and ultrasonic welding are used throughout to ensure ruggedness and overall lasting reliability.

The Model MN291 uses tape-wound cores to further improve its high and low end performance. Rated at 200Arms it has a measurement range to 240Arms.

### **Features**

- · Small, compact size
- Measurement range of 0.5 to 240A<sub>AC</sub>
- Large jaw opening accommodates conductors up to 250MCM
- Designed for DMMs, loggers, recorders and oscilloscopes
- 40Hz to 10kHz response
- 100mVpc/Aac output signals
- Designed to EN 61010, 600V Cat. III safety standard
- UL approved for Canada and United States
- Double Insulation
- CE Mark

## **Applications**

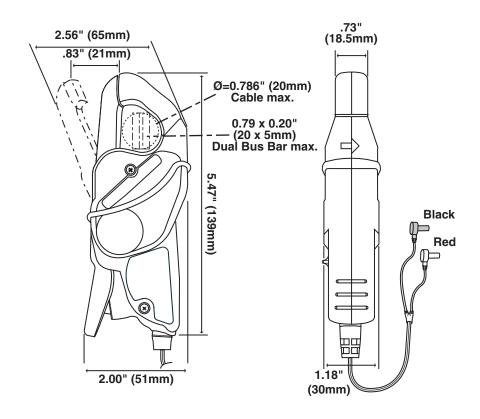
- · Measuring in breaker panels
- Industrial loads
- HVAC
- · Residential and commercial sites
- · Data logging/recording

## **Specifications**

MODEL   Mominal Range	Opcomodions	
Nominal Range         200A           Measurement Range         0.5 to 240A           Transformation Ratio         DC Voltage output           Output Signal         100mV/Apc/Aac           Accuracy (200A Range)         0.5 to 10A           10 to 40A         2.5% of Reading ± 50mV           40 to 100A         2.0% of Reading ± 50mV           100 to 240A         2.0% of Reading           Phase Shift (200A Range)         Not Applicable           Overload         240A for 10 min ON, 30 min OFF           Frequency Range         40 to 10kHz           Limit Operating         200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz           Conditions         200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz           Working/Common Mode Voltage         600Vrms           Output Termination         5 ft Lead           MECHANICAL         14° to 131°F (-10° to 55°C)           Operating Temperature         14° to 131°F (-10° to 55°C)           Storage Temperature         -40° to 158°F (-40° to 70°C)           Operating Relative Humidity         10 to 35°C 85% RH (without roll-off above 35°C)           Jaw Opening         0.83° (21mm)           Maximum Conductor Size         0.78° (20mm)           Dimensions         5.47 x 2.00	MODEL	MN291
Measurement Range   0.5 to 240A		
Transformation Rafio		200A
Output Signal         100mV/Abc/Aac           Accuracy (200A Range) 0.5 to 10A 10 to 40A 40 to 100A 100 to 240A         3.0% of Reading ± 50mV 2.0% of Reading ± 50mV           Phase Shift (200A Range) 0verload         Not Applicable 2.0% of Reading           Prequency Range Limit Operating Conditions         40 to 10kHz           Limit Operating Conditions         200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz           Crest Factor         3 @ 200Arms with an error (due to CF) of 4%           Working/Common Mode Voltage         600Vrms           Output Termination         5 ft Lead           MECHANICAL Operating Relative Humidity         14° to 131°F (-10° to 55°C)           Storage Temperature         -40° to 158°F (-40° to 70°C)           Operating Relative Humidity         10 to 35°C 85% RH (without roll-off above 35°C)           Jaw Opening         0.33° (21mm)           Maximum Conductor Size         0.78° (20mm)           Dimensions         5.47 x 2.00 x 1.18° (139 x 51 x 30mm)           Weight         6.5 oz (1800)           Polycarbonate Material         Polycarbonate with fiberglass charge, UL94 V0           SAFETY         Electrical         EN 61010-2-32           UL Approval         Yes		0.5 to 240A
Accuracy (200A Range)	Transformation Ratio	DC Voltage output
0.5 to 10A 10 to 40A 10 to 40A 10 to 40A 10 to 100A 2.5% of Reading ± 50mV 2.0% of Reading ± 50mV 100 to 240A 2.0% of Reading ± 50mV 100 to 240A 2.0% of Reading ± 50mV 100 to 240A 2.0% of Reading Phase Shift (200A Range) Not Applicable Overload 240A for 10 min 0N, 30 min 0FF Frequency Range Limit Operating Conditions 200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz Crest Factor 3 @ 200Arms with an error (due to CF) of 4% Working/Common Mode Voltage Output Termination 5 ft Lead MECHANICAL Operating Temperature 14° to 131°F (-10° to 55°C) Storage Temperature -40° to 158°F (-40° to 70°C) Operating Relative Humidity Humidity 10 to 35°C 85% RH (without roll-off above 35°C) Jaw Opening Maximum Conductor Size 0.78° (20mm) Dimensions 5.47 x 2.00 x 1.18° (139 x 51 x 30mm) Weight 6.5 oz (180g) Polycarbonate Material SAFETY Electrical UL Approval Double Insulation □ Yes		100mV/Adc/Aac
10 to 40A 40 to 100A 40 to 100A 100 to 240A 2.0% of Reading ± 50mV 2.0% of Reading Phase Shift (200A Range) Overload 240A for 10 min ON, 30 min OFF Frequency Range Limit Operating Conditions 200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz Crest Factor 3 @ 200Arms with an error (due to CF) of 4% Working/Common Mode Voltage Output Termination MECHANICAL Operating Temperature 14° to 131°F (-10° to 55°C) Storage Temperature -40° to 158°F (-40° to 70°C) Operating Relative Humidity Union Maximum Conductor Size Dimensions 5.47 x 2.00 x 1.18° (139 x 51 x 30mm) Weight Polycarbonate Material SAFETY Electrical Limit Operating ± 50mV 2.0% of Reading ± 50mV 3.0% of Reading ± 50mV 4.0% of		
## A0 to 100A		
Phase Shift (200A Range)         2.0% of Reading           Overload         240A for 10 min ON, 30 min OFF           Frequency Range         40 to 10kHz           Limit Operating Conditions         200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz           Crest Factor         3 @ 200Arms with an error (due to CF) of 4%           Working/Common Mode Voltage         600Vrms           Output Termination         5 ft Lead           MECHANICAL         Operating Temperature           Operating Relative Humidity         14° to 131°F (-10° to 55°C)           Storage Temperature         40° to 158°F (-40° to 70°C)           Operating Relative Humidity         10 to 35°C 85% RH (without roll-off above 35°C)           Jaw Opening         0.83" (21mm)           Maximum Conductor Size         0.78" (20mm)           Dimensions         5.47 x 2.00 x 1.18" (139 x 51 x 30mm)           Weight         6.5 oz (180g)           Polycarbonate Material         Polycarbonate with fiberglass charge, UL94 V0           SAFEIY         Electrical         EN 61010-2-32           UL Approval         Yes - Canada and United States           Double Insulation         Yes		
Phase Shift (200A Range)       Not Applicable         Overload       240A for 10 min ON, 30 min OFF         Frequency Range       40 to 10kHz         Limit Operating Conditions       200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz         Crest Factor       3 @ 200Arms with an error (due to CF) of 4%         Working/Common Mode Voltage       600Vrms         Output Termination       5 ft Lead         MECHANICAL       Operating Temperature         Storage Temperature       14° to 131°F (-10° to 55°C)         Storage Temperature       -40° to 158°F (-40° to 70°C)         Operating Relative Humidity       10 to 35°C 85% RH (without roll-off above 35°C)         Jaw Opening       0.83° (21mm)         Maximum Conductor Size       0.78° (20mm)         Dimensions       5.47 x 2.00 x 1.18° (139 x 51 x 30mm)         Weight       6.5 oz (180g)         Polycarbonate Material       Polycarbonate with fiberglass charge, UL94 VO         SAFETY       Electrical       EN 61010-2-32         UL Approval       Yes - Canada and United States         Double Insulation       Yes		·
Overload     240A for 10 min ON, 30 min OFF       Frequency Range     40 to 10kHz       Limit Operating Conditions     200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz       Crest Factor     3 @ 200Arms with an error (due to CF) of 4%       Working/Common Mode Voltage     600Vrms       Output Termination     5 ft Lead       MECHANICAL     0perating Temperature       Storage Temperature     14° to 131°F (-10° to 55°C)       Storage Temperature     -40° to 158°F (-40° to 70°C)       Operating Relative Humidity     10 to 35°C 85% RH (without roll-off above 35°C)       Jaw Opening     0.83" (21mm)       Maximum Conductor Size     0.78" (20mm)       Dimensions     5.47 x 2.00 x 1.18" (139 x 51 x 30mm)       Weight     6.5 oz (180g)       Polycarbonate Material     Polycarbonate with fiberglass charge, UL94 V0       SAFETY     Electrical       Electrical     EN 61010-2-32       UL Approval     Yes - Canada and United States       Double Insulation     Yes		ů .
Frequency Range       40 to 10kHz         Limit Operating Conditions       200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz         Crest Factor       3 @ 200Arms with an error (due to CF) of 4%         Working/Common Mode Voltage       600Vrms         Output Termination       5 ft Lead         MECHANIGAL       0         Operating Temperature       14° to 131°F (-10° to 55°C)         Storage Temperature       -40° to 158°F (-40° to 70°C)         Operating Relative Humidity       10 to 35°C 85% RH (without roll-off above 35°C)         Jaw Opening       0.83° (21mm)         Maximum Conductor Size       0.78° (20mm)         Dimensions       5.47 x 2.00 x 1.18" (139 x 51 x 30mm)         Weight       6.5 oz (180g)         Polycarbonate Material       Polycarbonate with fiberglass charge, UL94 V0         SAFETY       Electrical       EN 61010-2-32         UL Approval       Yes - Canada and United States         Double Insulation       Yes	Phase Shift (200A Range)	
Limit Operating Conditions  200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz  Crest Factor  3 @ 200Arms with an error (due to CF) of 4%  Working/Common Mode Voltage  600Vrms  600Vrms  Output Termination  5 ft Lead  MECHANICAL  Operating Temperature  14° to 131°F (-10° to 55°C)  Storage Temperature  -40° to 158°F (-40° to 70°C)  Operating Relative Humidity  10 to 35°C 85% RH (without roll-off above 35°C)  Jaw Opening  0.83° (21mm)  Maximum Conductor Size  0.78° (20mm)  Dimensions  5.47 x 2.00 x 1.18° (139 x 51 x 30mm)  Weight  6.5 oz (180g)  Polycarbonate Material  SAFETY  Electrical  EN 61010-2-32  UL Approval  Yes − Canada and United States  Double Insulation □  Yes	Overload	240A for 10 min ON, 30 min OFF
Conditions  Crest Factor  3 @ 200Arms with an error (due to CF) of 4%  Working/Common Mode Voltage  Output Termination  MECHANICAL  Operating Temperature  14° to 131°F (-10° to 55°C)  Storage Temperature  10 to 35°C 85% RH (without roll-off above 35°C)  Jaw Opening  Maximum Conductor Size  0.78" (20mm)  Dimensions  0.83" (21mm)  Maximum Conductor Size  0.78" (20mm)  Dimensions  5.47 x 2.00 x 1.18" (139 x 51 x 30mm)  Weight  Polycarbonate Material  Polycarbonate with fiberglass charge, UL94 VO  SAFETY  Electrical  EN 61010-2-32  UL Approval  Pouble Insulation □  Yes		40 to 10kHz
Working/Common Mode Voltage  Output Termination  5 ft Lead  MECHANICAL  Operating Temperature  14° to 131°F (-10° to 55°C)  Storage Temperature  -40° to 158°F (-40° to 70°C)  Operating Relative Humidity  10 to 35°C 85% RH (without roll-off above 35°C)  Jaw Opening  0.83" (21mm)  Maximum Conductor Size  0.78" (20mm)  Dimensions  5.47 x 2.00 x 1.18" (139 x 51 x 30mm)  Weight  6.5 oz (180g)  Polycarbonate Material  Polycarbonate with fiberglass charge, UL94 V0  SAFETY  Electrical  EN 61010-2-32  UL Approval  Yes - Canada and United States  Double Insulation □		200A permanently to 1kHz; Derating above 3kHz: 200A x (1/0.333F), F in kHz
Mode Voltage       600VMMS         Output Termination       5 ft Lead         MECHANICAL         Operating Temperature       14° to 131°F (-10° to 55°C)         Storage Temperature       -40° to 158°F (-40° to 70°C)         Operating Relative Humidity         Humidity       10 to 35°C 85% RH (without roll-off above 35°C)         Jaw Opening       0.83" (21mm)         Maximum Conductor Size       0.78" (20mm)         Dimensions       5.47 x 2.00 x 1.18" (139 x 51 x 30mm)         Weight       6.5 oz (180g)         Polycarbonate Material       Polycarbonate with fiberglass charge, UL94 VO         SAFETY         Electrical       EN 61010-2-32         UL Approval       Yes - Canada and United States         Double Insulation       Yes	Crest Factor	3 @ 200Arms with an error (due to CF) of 4%
MECHANICAL         Operating Temperature       14° to 131°F (-10° to 55°C)         Storage Temperature       -40° to 158°F (-40° to 70°C)         Operating Relative Humidity       10 to 35°C 85% RH (without roll-off above 35°C)         Jaw Opening       0.83" (21mm)         Maximum Conductor Size       0.78" (20mm)         Dimensions       5.47 x 2.00 x 1.18" (139 x 51 x 30mm)         Weight       6.5 oz (180g)         Polycarbonate Material       Polycarbonate with fiberglass charge, UL94 VO         SAFETY       Electrical         Electrical       EN 61010-2-32         UL Approval       Yes - Canada and United States         Double Insulation       Yes		600Vrms
Operating Temperature14° to 131°F (-10° to 55°C)Storage Temperature-40° to 158°F (-40° to 70°C)Operating Relative Humidity10 to 35°C 85% RH (without roll-off above 35°C)Jaw Opening0.83" (21mm)Maximum Conductor Size0.78" (20mm)Dimensions5.47 x 2.00 x 1.18" (139 x 51 x 30mm)Weight6.5 oz (180g)Polycarbonate MaterialPolycarbonate with fiberglass charge, UL94 V0SAFETYElectricalEN 61010-2-32UL ApprovalYes - Canada and United StatesDouble Insulation □Yes	Output Termination	5 ft Lead
Storage Temperature  -40° to 158°F (-40° to 70°C)  Operating Relative Humidity  10 to 35°C 85% RH (without roll-off above 35°C)  Jaw Opening  0.83" (21mm)  Maximum Conductor Size  0.78" (20mm)  Dimensions  5.47 x 2.00 x 1.18" (139 x 51 x 30mm)  Weight  6.5 oz (180g)  Polycarbonate Material  Polycarbonate with fiberglass charge, UL94 V0  SAFETY  Electrical  EN 61010-2-32  UL Approval  Yes − Canada and United States  Double Insulation □  Yes	MECHANICAL	
Operating Relative Humidity     10 to 35°C 85% RH (without roll-off above 35°C)       Jaw Opening     0.83" (21mm)       Maximum Conductor Size     0.78" (20mm)       Dimensions     5.47 x 2.00 x 1.18" (139 x 51 x 30mm)       Weight     6.5 oz (180g)       Polycarbonate Material     Polycarbonate with fiberglass charge, UL94 VO       SAFETY     Electrical     EN 61010-2-32       UL Approval     Yes - Canada and United States       Double Insulation □     Yes	Operating Temperature	14° to 131°F (-10° to 55°C)
Humidity     10 to 35 C 63% KM (Without Toll-off above 35 C)       Jaw Opening     0.83" (21mm)       Maximum Conductor Size     0.78" (20mm)       Dimensions     5.47 x 2.00 x 1.18" (139 x 51 x 30mm)       Weight     6.5 oz (180g)       Polycarbonate Material     Polycarbonate with fiberglass charge, UL94 VO       SAFETY     Electrical     EN 61010-2-32       UL Approval     Yes - Canada and United States       Double Insulation □     Yes		-40° to 158°F (-40° to 70°C)
Maximum Conductor Size       0.78" (20mm)         Dimensions       5.47 x 2.00 x 1.18" (139 x 51 x 30mm)         Weight       6.5 oz (180g)         Polycarbonate Material       Polycarbonate with fiberglass charge, UL94 V0         SAFETY       Electrical         Electrical       EN 61010-2-32         UL Approval       Yes - Canada and United States         Double Insulation □       Yes		10 to 35°C 85% RH (without roll-off above 35°C)
Dimensions       5.47 x 2.00 x 1.18" (139 x 51 x 30mm)         Weight       6.5 oz (180g)         Polycarbonate Material       Polycarbonate with fiberglass charge, UL94 V0         SAFETY       Electrical         Electrical       EN 61010-2-32         UL Approval       Yes - Canada and United States         Double Insulation □       Yes		0.83" (21mm)
Weight 6.5 oz (180g)  Polycarbonate Material Polycarbonate with fiberglass charge, UL94 V0  SAFETY  Electrical EN 61010-2-32  UL Approval Yes − Canada and United States  Double Insulation □ Yes	Maximum Conductor Size	0.78" (20mm)
Polycarbonate Material Polycarbonate with fiberglass charge, UL94 V0  SAFETY  Electrical EN 61010-2-32  UL Approval Yes - Canada and United States  Double Insulation □ Yes	Dimensions	5.47 x 2.00 x 1.18" (139 x 51 x 30mm)
SAFETY  Electrical EN 61010-2-32  UL Approval Yes - Canada and United States  Double Insulation □ Yes	Weight	
ElectricalEN 61010-2-32UL ApprovalYes - Canada and United StatesDouble InsulationYes	Polycarbonate Material	Polycarbonate with fiberglass charge, UL94 VO
UL Approval     Yes – Canada and United States       Double Insulation      Yes	SAFETY	
Double Insulation ☐ Yes	Electrical	EN 61010-2-32
CE Mark Yes		. **
	CE Mark	Yes

Note: Reference conditions: 20 to 26°C, 20 to 75% RH, external magnetic field <40A/m, 48 to 65Hz sine wave, distortion factor less than 1%, no DC component, no external current carrying conductor, test sample centered. Load impedance >1Ω







Leads: Double/reinforced 5 ft (1.5m) lead with safety 4mm banana plug

ORDERING INFORMATION	CATALOG NO.
AC Current Probe Model MN291 (Lead – 100mVpc/A – 240A max)	Cat. #2115.84
Includes a user manual	
Accessories (Optional)	
Banana plug adaptor (Safety Leads to nonrecessed plug)	Cat. #1017.45
Banana (Female) – BNC (Male) Adaptor	Cat. #2118.46





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