MN SERIES

Small and compact, ideal complement for any meter to measure AC currents in low-power secondary transformers or industrial applications

MN01

SPECIFICATIONS

Patent #1385787 - Mini-Clamp Design

MODELS	MN01	MN02	MN05	MN09
ELECTRICAL				
Nominal Range	150 AAC	100 AAC	10 AAC; 100 AAC	150 AAC
Measurement Range	(2 to 150) AAC	50 mA to 100 AAC (1 Ω load) 50 mA to 90 AAC (10 Ω load)	5 mA to 10 AAC (1 to 100) AAC	(1 to 150) AAC
Transformation Ratio	1000:1		Voltage output	N/A
Output Signal	1 mA/A (150 mAAC @ 150 A)	1 mA/A (100 mAAC @ 100 A)	1 mV/mA, 1 mV/A (10 VAC @ 10 A, 100 mVAC @ 100 A)	100 mV/A (15 VDC @ 150 AAC)
Phase Shift	Not specified	< 3 ° (1 Ω load) < 6 ° (10 Ω load)	Not specified	
Overload	170 A for 10 min ON, 30 min OFF		10 A Range: 15 A 100 A Range: 150 A	170 A for 10 min ON, 30 min OFF
Frequency Range	(48 to 500) Hz	48 Hz to 10 kHz	(48 to 500) Hz	
Load Impedance	≤ 10 Ω		≥ 1 MΩ	≥ 50 KΩ
Open Secondary Voltage	≤ 30 V		–	≤ 30 V
Output Termination	5 ft (1.5 m) lead with (2) 4 mm safety banana plugs			
MECHANICAL				
Maximum Conductor Size	Ø 0.39 in (10 mm)			
Dimension	(5.12 x 1.5 x 1) in (130 x 38 x 25) mm			
Weight	6.35 oz (180 g)			
Material	Polycarbonate UL 94 V2			
ENVIRONMENTAL				
Operating Temperature	(14 to 122) °F (-10 to 50) °C			
Storage Temperature	(-40 to 176) °F (-40 to 80) °C			
Operating Relative Humidity	(0 to 85) % RH decreasing linearly above 95 °F (35 °C)			
SAFETY				
Safety Rating	IEC 61010-2-32: 300 V CAT IV, 600 V CAT III, Pollution Degree 2			
Ingress Protection	IP40			

Consult factory for NIST Calibration prices

SAFETY 600V CAT III RATING

* CE IP 40

*MN09 only

FEATURES

- Clothes pin shape makes them ideal for use in tight areas, such as breaker panels, controller panels or outlets
- Jaw opening accommodates conductors up to 0.39 in diameter

MN01

- Measurements from 2 A to 150 AAC
- Excellent companions to all DMMs, permits very low AC current measurements

MN02

- Measurement ranges: 50 mA to 100 A (1 Ω load) 50 mA to 90 A (10 Ω load)
- Designed for DMMs, loggers, recorders and oscilloscopes
- (48 to 10,000) Hz frequency range
- 1 mA/A from (1 to 10) Ω load output signals

MN05

- Measurements from 5 mA to 100 AAC
- Permits very low AC current measurements

MN09

- Measurements from (1 to 150) AAC
- DC voltage output enables you to overcome low AC sensitivity of certain measurement instruments

CATALOG NO.	DESCRIPTION
2129.17	AC Current Probe Model MN01 (150 A, 1 mA/A, Lead)
2129.20	AC Current Probe Model MN02 (100 A, 1 mA/A, Lead, 1 % Accuracy)
2129.19	AC Current Probe Model MN05 (100 A, 1 mV/A & 10 A, 1 V/A, Lead)
2129.21	AC Current Probe Model MN09 (150 A, 100 mVDC/AAC, Lead)

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CURRENT MEASUREMENT PROBES
GENERAL PURPOSE PROBES SELECTION CHART

Series	Model	Ratio	Measurement Range		Output Signal		Phase Shift**	Maximum Conductor Size		Output Connection	Catalog No.
			AC	DC	Current	Voltage		Ø Cable	Bus Bar		
	MN01	1000:1	(2 to 150) A	–	1 mA/A*	–	N/A	0.39 in (10 mm)	N/A	Leads	2129.17
	MN02	1000:1	50 mA to 100 A 50 mA to 90 A	–		–	N/A	0.39 in (10 mm)	N/A	Leads	2129.20
	MN05	–	5 mA to 10 A (1 to 100) A	–		1 mV/mA 1 mV/A	N/A	0.39 in (10 mm)	N/A	Leads	2129.19
	MN09	–	(1 to 150) A	–		100 mVDC/AAC	N/A	0.39 in (10 mm)	N/A	Leads	2129.21
	MN103	–	1 mA to 10 A (1 to 100) A	–		1 mV/mA 1 mV/A	N/A	0.47 in (12 mm)	N/A	Leads	1031.02
	MN114	–	1 mA to 10 A	–		100 mV/A	< 8 °	0.47 in (12 mm)	N/A	Leads	2110.71
	MN185	1000:1	50 mA to 120 A	–	1 mA/A	–	< 3.5 °	0.47 in (12 mm)	N/A	Jacks	100.185
	MN255	–	(0.1 to 24) A (0.1 to 240) A	–		100 mV/A 10 mV/A	< 2.5 °	0.78 in (20 mm)	N/A	Leads	2115.81
	MN261	–	(0.1 to 24) A (0.5 to 240) A	–		100 mV/A 10 mV/A	< 6 °	0.78 in (20 mm)	N/A	BNC	2115.82
	MN291	–	(0.5 to 240) A	–		100 mVDC/AAC	N/A	0.78 in (20 mm)	N/A	Leads	2115.84
	MN307	–	10 mA to 12 A	–		100 mV/A	< 2.5 °	0.78 in (20 mm)	N/A	Leads	2116.23
	MN312	1000:1	(0.1 to 200) A	–	1 mA/A*	–	< 2.5 °	0.78 in (20 mm)	N/A	Jacks	2116.24
	MN352	–	(0.1 to 150) A	–		10 mV/A	< 2.5 °	0.78 in (20 mm)	N/A	Jacks	2116.26
	MN353	–		–			< 2.5 °	0.78 in (20 mm)	N/A	Leads	2116.27
	MN373	–	(0.01 to 2.4) A (0.1 to 200) A	–		1000 mV/A 10 mV/A	< 3 °	0.78 in (20 mm)	N/A	Leads	2116.28
	MN375	–	(0.1 to 10) A	–		100 mV/A	< 1.5 °	0.78 in (20 mm)	N/A	Leads	2115.41
	MN379	–	5 mA to 6 A (0.1 to 120) A	–		200 mV/A 10 mV/A	< 4 °	0.78 in (20 mm)	N/A	Leads	2153.01
	MN379T	–	5 mA to 6 A (0.1 to 120) A	–		200 mV/A 10 mV/A	< 4 °	0.78 in (20 mm)	N/A	Lead w/ BNC	2153.02
	SL206	–	10 mA to 1.5 A 50 mA to 60 A	10 mA to 2 A 50 mA to 80 A	–	1 mV/mAAC/DC 10 mV/AAC/DC	< 1 °	0.46 in (12 mm)	N/A	Leads	1201.45
	MD301	1000:1	(2 to 500) A	–		1 mVDC/AAC	N/A	1.18 in (30 mm) (2 x 500) kcmil	(2.48 x 0.20) in (63 x 5) mm	Leads	1201.07

*Output Protection for open secondary
**Phase shift indicated at maximum rating

Note: Models MN103, MN106, MN114 & MN185 are not CE compliant. MN200 & MN300 series are UL approved except MN379.
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CURRENT MEASUREMENT PROBES
GENERAL PURPOSE PROBES SELECTION CHART

SERIES	MODEL	RATIO	MEASUREMENT RANGE		OUTPUT SIGNAL		PHASE SHIFT**	MAXIMUM CONDUCTOR SIZE		OUTPUT CONNEC-TION	CATALOG NO.
			AC	DC	CURRENT	VOLTAGE		Ø CABLE	BUS BAR		
	MR415	–	(0.5 to 400) A	(0.5 to 600) A	–	1 mV/A	≤ 1.5 °	1.18 in (30 mm)	2 bus bar (1.24 x 0.39) in (31 x 10) mm	5 ft (1.5 m) Lead	1200.80
	MR416	–	(0.5 to 40) A (0.5 to 400) A	(0.5 to 60) A (0.5 to 600) A	–	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.95 x 0.19) in (50 x 5) mm	5 ft (1.5 m) Lead	1200.82
	MR526	–	(0.5 to 100) A (0.5 to 1000) A	(0.5 to 150) A (0.5 to 1400) A	–	10 mV/A 1 mV/A	≤ 2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.95 x 0.19) in (50 x 5) mm	5 ft (1.5 m) Lead	1200.83
	SR601	1000:1	(0.1 to 1200) A	–	1 mA/A*	–	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2113.43
	SR604	1000:1	(0.1 to 1200) A	–	1 mA/A*	–	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2113.44
	SR651	–	(0.1 to 1200) A	–	–	1 mV/A	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2113.45
	SR701	1000:1	1 mA to 1000 A	–	1 mA/A*	–	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2116.29
	SR704	1000:1	1 mA to 1000 A	–	1 mA/A*	–	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.30
	SR752	–	(0.1 to 1000) A	–	–	1 mV/A	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.32
	SR759	–	1 mA to 1 A 10 mA to 10 A (0.1 to 100) A (1 to 1000) A	–	–	1000 mV/A 100 mV/A 10 mV/A 1 mV/A	< 1 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.33
	K100	–	0.1 mA to 3 A	0.05 mA to ± 4.5 A	–	1 mV/mA	N/A	0.18 in (4.5 mm)	N/A	Plugs	1200.67
	K110	–	(0.1 to 300) mA	(0.05 to ± 450) mA	–	10 mV/mA	N/A		N/A	Plugs	2111.73
	LM102	1000:1	50 mA to 200 A	–	1 mA/A*	–	< 3 °	0.63 in (16 mm)	N/A	Leads	2153.04
	LM103	–	(0.1 to 200) A	–	–	1 mV/A	< 3 °		N/A	Leads	2153.05

*Output Protection for open secondary
**Phase shift indicated at maximum rating

Note: All SR probes listed on this chart are UL approved, however not all SR series probes are UL approved; please consult factory.
Consult factory for NIST Calibration price.

OUTPUT TERMINATIONS

Lead with BNC
Insulated 6.5 ft (2 m) coaxial cable with insulated BNC connector rated 600 Vrms

Jacks
Two standard safety banana jacks (4 mm)

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

Shrouded Banana Plugs
Two 4 mm safety banana plugs; standard ¾ in (19 mm) spacing

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SERIES	MODEL	RATIO	MEASUREMENT RANGE	OUTPUT SIGNAL	MAXIMUM CONDUCTOR SIZE	CATALOG NO.
	MF 300-10-2-10-HF	–	30 A / 300 A	100 mV/A, 10 mV/A	2.95 in (75 mm)	2126.84
	MF 3000-14-1-1-HF	–	3000 A	1 mV/A	3.93 in (100 mm)	2126.86
	MA114	–	3 A / 30 A / 300 A / 3000 A	1 mV/mA, 100 mV/A 10 mV/A, 1 mV/A	4 in (101 mm)	2153.41
	300-24-2-10	–	30 A / 300 A	100 mV/A, 10 mV/A	7.48 in (190 mm)	2112.88
	1000-24-1-1	–	1000 A	1 mV/A	7.48 in (190 mm)	2112.39
	1000-24-2-1	–	100 A / 1000 A	10 mV/A, 1 mV/A	7.48 in (190 mm)	2112.98
	1000-36-2-1	–	100 A / 1000 A	10 mV/A, 1 mV/A	11 in (280 mm)	2113.00
	3000-24-1-1	–	3000 A	1 mV/A	7.48 in (190 mm)	2112.46
	3000-36-1-1	–	3000 A	1 mV/A	11 in (280 mm)	2112.48
	3000-24-2-1	–	300 A / 3000 A	10 mV/A, 1 mV/A	7.48 in (190 mm)	2113.05
	3000-48-2-1	–	300 A / 3000 A	1 mV/A	15 in (381 mm)	2112.01
	6000-36-2-0.1	–	600 A / 6000 A	1 mV/A, 0.1 mV/A	11 in (280 mm)	2113.21
	30000-24-2-0.1	–	3000 A / 30,000 A	1 mV/A, 0.1 mV/A	7.48 in (190 mm)	2113.33
	24-3001	–	300 A / 3000 AAC	10 mV/A, 1 mV/A	7.48 in (190 mm)	2120.81

Consult factory for NIST Calibration price

OSCILLOSCOPE & BNC TERMINATED PROBES

MODEL	MEASUREMENT RANGE		OUTPUT SIGNAL	PHASE SHIFT*	MAXIMUM CONDUCTOR SIZE		OUTPUT CONNECTION
	AC	DC	VOLTAGE		Ø CABLE	BUS BAR	
SL261	100 mA to 10 A (1 to 100) A		100 mV/A 10 mV/A	< 1.5 °	0.46 in (12 mm)	N/A	6.5 ft (2 m) Lead w/BNC
MN261	(0.1 to 24) A (0.5 to 240) A	–	100 mV/A 10 mV/A	< 2.5 °	0.78 in (20 mm)	N/A	6.5 ft (2 m) Lead w/BNC
SR661	(0.1 to 12) A (0.1 to 120) A (1 to 1200) A	–	100 mV/A 10 mV/A 1 mV/A	< 1 °	2.05 in (52 mm)	(1.96 x 0.19) in (50 x 5) mm	6.5 ft (2 m) Lead w/BNC
MN251T MN379T	(0.5 to 240) A	–	1 mV/A	< 2.5 °	0.78 in (20 mm)	0.78 in (20 mm)	10 ft (3 m) Lead w/BNC
	(0.005 to 6) A	–	200 mV/A	< 4 °			
	(0.1 to 120) A	–	10 mV/A	< 2.2 °			
MH60	(0.5 to 100) A	(0.5 to 100) A	10 mV/A	< 1 °	1.02 in (26 mm)	N/A	6.6 ft (2 m) Lead w/BNC
MR417	(0.5 to 40) A (0.5 to 400) A	(0.5 to 60) A (0.5 to 600) A	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.18 in (30 mm)	2 bus bar (1.24 x 0.39) in (32 x 10) mm	6.6 ft (2 m) Lead w/BNC
MR527	(0.5 to 100) A (0.5 to 1000) A	(0.5 to 150) A (0.5 to 1400) A	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.96 x 0.19) in (50 x 5) mm	6.6 ft (2 m) Lead w/BNC

*Phase shift indicated at maximum rating. Note: All probes are rated 600 V CAT III and CE compliant. Not all models are UL approved; please consult factory.
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