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	MN03	MN05	MN09
ELECTRICAL					
Nominal Range	150AAC	100AAC		10; 100AAC	150AAC
Measurement Range	2 to 150AAC	50mA to 100AAC (1Ω load) 50mA to 90AAC (10Ω load)	1 to 100AAC	5mA to 10AAC 1A to 100AAC	1 to 150AAC
Transformation Ratio	1000:1		Voltage output		N/A
Output Signal	1mA/A (150mAAC @ 150A)	1mA/A (100mAAC @ 100A)	1mV/A (100mVAC @ 100A)	1mV/mA, 1mV/A (10VAC @ 10A, 100mVAC @ 100A)	100mV/A (15VDC @ 150AAC)
Phase Shift	Not specified	<3° (1Ω load) <6° (10Ω load)	Not specified		
Overload	170A for 10 min ON, 30 min OFF		150A	10A Range: 15A 100A Range: 150A	170A for 10 min ON, 30 min OFF
Frequency Range	48 to 500Hz	48Hz to 10kHz	48 to 500Hz		
Load Impedance	≤10Ω		≥1MΩ		≥ 50KΩ
Open Secondary Voltage	≤30V		–		≤30V
Output Termination	5 ft (1.5m) lead with two 4mm safety banana plugs				
MECHANICAL					
Maximum Conductor Size	Ø 0.39" (10mm)				
Dimension	5.12 x 1.5 x 1" (130 x 37 x 25mm)				
Weight	6.35 oz (180g)				
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, 600V CAT III, Pollution Degree 2				
Ingress Protection	IP40				
Double Insulation	Yes				
CE Mark	Yes				

Consult factory for NIST Calibration prices

CATALOG NO.	DESCRIPTION
2129.17	AC Current Probe Model MN01 (150A, 1mA/A, Lead)
2129.20	AC Current Probe Model MN02 (100A, 1mA/A, Lead, 1% Accuracy)
2129.18	AC Current Probe Model MN03 (100A, 1mV/A, Lead)
2129.19	AC Current Probe Model MN05 (100A, 1mV/A & 10A, 1V/A, Lead)
2129.21	AC Current Probe Model MN09 (150A, 100mVDC/AAC, Lead)

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" diameter

MN01

- Measurements from 1mA to 150AAC
- Excellent companions to all DMMs, permits very low AC current measurements

MN02

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

MN03

- Measurement range of 1 to 100AAC
- Designed for DMMs, loggers, recorders and oscilloscopes
- 48Hz to 500Hz response
- 1mVAC/AAC output signals
- Designed to EN 61010, 600V CAT III safety standard

MN05

- Measurements from 5mA to 100AAC
- Measurements from 1mA to 10AAC
- Permits very low AC current measurements

MN09

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

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 150A	–	1mA/A*	–	N/A	0.39" (10mm)	N/A	Leads	2129.17
	MN02		50mA to 100A 50mA to 90A			–					2129.20
	MN03	–	2 to 100A		–	1mV/A					2129.18
	MN05		5mA to 10A 1 to 100A		–	1mV/A 1mV/A					2129.19
	MN103		1mA to 10A 1 to 100A		–	1mV/A 1mV/A		0.47" (12mm)			1031.02
	MN106	1000:1	2 to 150A		1mA/A	–	<10°				1031.17
	MN114	–	1mA to 10A		–	100mV/A	<8°				2110.71
	MN185	1000:1	50mA to 120A		1mA/A	–	<3.5°			Jacks	100.185
	MN213		0.5 to 240A	–	1mA/A*	–	<2.5°	0.78" (19.8mm)		Leads	2115.75
	MN251	–			–	1mV/A					2115.77
	MN253				–	10mV/A					2115.79
	MN255		0.1 to 24A 0.1 to 240A		–	100mV/A 10mV/A					2115.81
	MN291		0.5 to 240A		–	100mVDC/AAC	N/A				2115.84
	MN307		10mA to 12A		–	100mV/A	<2.5°				2116.23
	MN312	1000:1	0.1 to 200A		1mA/A*	–				Jacks	2116.24
	MN313					–				Leads	2116.25
	MN352	–	0.1 to 150A		–	10mV/A				Jacks	2116.26
	MN353				–					Leads	2116.27
	MN373		0.01 to 2.4A 0.1 to 200A		–	1000mV/A 10mV/A	<3°				2116.28
	MN375		0.1 to 10A		–	100mV/A	<1.5°				2115.41
	MN379		5mA to 6A 0.1 to 120A		–	200mV/A 10mV/A					2153.01
	SL206		10mA to 1.5A 50mA to 60A	10mA to 2A 50mA to 80A	–	1mV/mAAC/DC 10mV/AAC/DC	<1°	0.46" (11.8mm)			1201.45
	MD301	1000:1	2 to 500A	–	–	1mVDC/AAC	N/A	1.18" (30mm) 2 x 500kcmil	2.48 x 0.20" (63 x 5mm)		1201.07
	MD305		1 to 600A		1mA/A*	–	<1°				1201.36

*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.
Consult factory for NIST Calibration price.

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		
	MR415	–	0.5 to 400A	0.5 to 600A	–	1mV/A	≤1.5°	1.18" (30mm)	2 bus bar 1.24 x 0.39" (31.5 x 10mm)	5 ft (1.5m) Lead	1200.80
	MR416		0.5 to 40A 0.5 to 400A	0.5 to 60A 0.5 to 600A		10mV/A 1mV/A	≤2.2° ≤1.5°				1200.82
	MR525		0.5 to 1000A	0.5 to 1400A		1mV/A	≤1.5°	1.53" (39mm)	2 bus bar 1.96 x 0.19" (50 x 5mm)		1200.81
	MR526		0.5 to 100A 0.5 to 1000A	0.5 to 150A 0.5 to 1400A		10mV/A 1mV/A	≤2° ≤1.5°				1200.83
	SR600	1000:1	0.1 to 1000A	–	1mA/A	–	<0.5°	2.05" (52mm)	1.96 x 0.19" (50 x 5mm)	Jacks	2113.42
	SR601				1mA/A*						2113.43
	SR604				1mA/A*					Leads	2113.44
	SR634	250:5 500:5 1000:5	1 to 250A 1 to 500A 1 to 1000A		20mA/A 10mA/A 5mA/A*		<1°			Jacks	2113.48
	SR651	–	0.1 to 1000A		–	1mV/A	<0.5°				2113.45
	SR701	1000:1	1mA to 1000A		1mA/A*	–	<0.7°				2116.29
	SR704									Leads	2116.30
	SR752	–	0.1 to 1000A		–	1mV/A					2116.32
	SR759		1mA to 1A 10mA to 10A 0.1 to 100A 1 to 1000A			1000mV/A 100mV/A 10mV/A 1mV/A	<1°				2116.33
	K100		0.1mA to 3A	0.05mA to ±4A		1mV/mA	N/A	0.18" (4.5 mm)	N/A	Plugs	1200.67
	K110		0.1mA to 300mA	0.05mA to ±450mA		10mV/mA					2111.73
	LM102	1000:1	50mA to 200A	–	1mA/A*	–	<3°	0.63" (16 mm)		Leads	2153.04
	LM103	–	0.1 to 200A		–	1mV/A					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 (2m) coaxial cable with insulated BNC connector rated 600Vrms

Jacks
Two standard safety banana jacks (4mm)

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

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

SERIES	MODEL	RATIO	MEASUREMENT RANGE	OUTPUT SIGNAL	MAXIMUM CONDUCTOR SIZE	CATALOG NO.
	MF 300-6-2-10-HF	–	30A / 300A	100mV/A, 10mV/A	1.77" (45mm)	2126.83
	MF 300-10-2-10-HF	–			2.95" (70mm)	2126.84
	MA114	–	3A / 30A / 300A / 3000A	1mV/mA, 100mV/A 10mV/A, 1mV/A	4" (101mm)	2153.41
	300-24-2-10	–	30A / 300A	100mV/A, 10mV/A	7.48" (190mm)	2112.88
	1000-24-1-1	–	1000A	1mV/A		2112.39
	1000-24-2-1	–	100A / 1000A	10mV/A, 1mV/A		2112.98
	1000-36-2-1	–			11" (290mm)	2113.00
	3000-24-1-1	–	3000A	1mV/A	7.48" (190mm)	2112.46
	3000-36-1-1	–			11" (290mm)	2112.48
	3000-24-2-1	–	300A / 3000A	10mV/A, 1mV/A	7.48" (190mm)	2113.05
	3000-36-2-1	–			11" (290mm)	2112.00
	3000-48-2-1	–			15" (390mm)	2112.01
	6000-36-2-0.1	–	600A / 6000A	1mV/A, 0.1mV/A	11" (290mm)	2113.21
	30000-24-2-0.1	–	3000A / 30,000A		7.48" (190mm)	2113.33
	24-3001	–	300A / 3000AAC	10mV/A, 1mV/A		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 	100mA to 10A 1 to 100A		100mV/A 10mV/A	<1.5°	0.46" (11.8mm)	N/A	6.6 ft (2m) Lead w/BNC
MN261 	0.1 to 24A 0.5 to 240A			<2.5°	0.78" (19.8mm)		
SR661 	0.1 to 12A 0.1 to 120A 1 to 1200A	–	100mV/A 10mV/A 1mV/A	<1°	2.05" (52mm)	1.96 x 0.19" (50 x 5mm)	
MN251T MN379T 	0.5 to 240A		1mV/A	<2.5°	0.78" (20mm)	0.78" (20mm)	10 ft (3m) Lead w/BNC
	0.005 to 6A		200mV/A	<4°			
	0.1 to 120A		10mV/A	<2.2°			
MH60 	0.5 to 100A	0.5 to 100A	10mV/A	<1°	1.02" (26mm)	N/A	6.6 ft (2m) Lead w/BNC
MR417 	0.5 to 40A 0.5 to 400A	0.5 to 60A 0.5 to 600A	10mV/A 1mV/A	≤2.2° ≤1.5°	1.18" (30mm)	2 bus bar 1.24 x 0.39" (31.5 x 10mm)	
MR527 	0.5 to 100A 0.5 to 1000A	0.5 to 150A 0.5 to 1400A		≤2.2° ≤1.5°	1.53" (39mm)	2 bus bar 1.96 x 0.19" (50 x 5mm)	

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