

CURRENT MEASUREMENT PROBES

LM SERIES

MODEL LM102 & LM103

Equipped with high performance magnetic material offering excellent linearity and improved performance

Ideal current measurement tool for use with multimeters, data loggers and power analyzers



LM102

SPECIFICATIONS

Patent #1385787 - Mini-Clamp Design

MODELS	LM102	LM103
ELECTRICAL		
Nominal Range	200Aac	
Measurement Range	50mA to 200Aac (1Ω or 10Ω load)	100mA to 200A
Transformation Ratio	1000:1	Voltage Output
Output Signal	1mA/A (200mAac @ 200A)	1mV/A (200mVac @ 200A)
Phase Shift	≤3° (1 Ω load) ≤6° (10Ω load)	≤3°
Overload	350A continuous @ ≤1kHz 200A continuous @ ≤8kHz	
Frequency Range	48 Hz to 10kHz	
Load Impedance	≤10Ω	≥10kΩ
Open Secondary Voltage	≤30V	—
Output Termination	Double-insulated 5 ft (1.5m) lead with two 4mm safety banana plugs	
MECHANICAL		
Maximum Conductor Size	Ø 0.63" (16mm)	
Dimensions	5.13 x 1.81 x 1.34" (130.4 x 46 x 34mm)	
Weight	Approximately 8.8oz (250g)	
Material	Polycarbonate UL 94	
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	EN 61010-1, EN 61010-2-031, EN 61010-2-032 600V CAT III, 300V CAT IV Pollution Degree 2	
Ingress Protection	IP20 (EN 60529)	
Double Insulation	Yes	
CE Mark	Yes	



FEATURES

- Clamping diameter 0.63" (16mm)
- Measurement range from 0.05 to 200 Amps
- Over range up to 350 Amps continuous
- 1mA/A output (Model LM102)
- 1mV/A output (Model LM103)
- Clothes pin design allows access to tight places
- Frequency response from 48Hz to 10kHz
- Arrow marker clearly assists in proper orientation for power measurement applications

CATALOG NO.	DESCRIPTION
2153.04	AC Current Probe Model LM102 (200A/1mA/A)
2153.05	AC Current Probe Model LM103 (200A/1mV/A)



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	1000:1	50mA to 100A 50mA to 90A	–		–		N/A	0.39" (10mm)	N/A	Leads
	MN03	–	2 to 100A	–	–	1mV/A	N/A	0.39" (10mm)	N/A	Leads	2129.18
	MN05	–	5mA to 10A 1 to 100A	–	–	1mV/A 1mV/A	N/A	0.39" (10mm)	N/A	Leads	2129.19
	MN09	–	1 to 150A	–	–	100mVdc/Aac	N/A	0.39" (10mm)	N/A	Leads	2129.21
	MN103	–	1mA to 10A 1 to 100A	–	–	1mV/A 1mV/A	N/A	0.47" (12mm)	N/A	Leads	1031.02
	MN114	–	1mA to 10A	–	–	100mV/A	<8°	0.47" (12mm)	N/A	Leads	2110.71
	MN185	1000:1	50mA to 120A	–	1mA/A	–	<3.5°	0.47" (12mm)	N/A	Jacks	100.185
	MN255	–	0.1 to 24A 0.1 to 240A	–	–	100mV/A 10mV/A	<2.5°	0.78" (19.8mm)	N/A	Leads	2115.81
	MN291	–	0.5 to 240A	–	–	100mVdc/Aac	N/A	0.78" (19.8mm)	N/A	Leads	2115.84
	MN307	–	10mA to 12A	–	–	100mV/A	<2.5°	0.78" (19.8mm)	N/A	Leads	2116.23
	MN312	1000:1	0.1 to 200A	–	1mA/A*	–	<2.5°	0.78" (19.8mm)	N/A	Jacks	2116.24
	MN352	–	0.1 to 150A	–	–	10mV/A	<2.5°	0.78" (19.8mm)	N/A	Jacks	2116.26
	MN353	–		–	–	10mV/A	<2.5°	0.78" (19.8mm)	N/A	Leads	2116.27
	MN375	–	0.1 to 10A	–	–	100mV/A	<1.5°	0.78" (19.8mm)	N/A	Leads	2115.41
	MN379	–	5mA to 6A 0.1 to 120A	–	–	200mV/A 10mV/A		0.78" (19.8mm)	N/A	Leads	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)	N/A	Leads	1201.45
	MD301	1000:1	2 to 500A	–	–	1mVdc/Aac	N/A	1.18" (30mm) 2 x 500kc-mil	2.48 x 0.20" (63 x 5mm)	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.

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°	1.53" (39mm)	2 bus bar 1.95 x 0.19" (50 x 5mm)	5 ft (1.5m) Lead	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°	1.53" (39mm)	2 bus bar 1.95 x 0.19" (50 x 5mm)	5 ft (1.5m) Lead	1200.83
	SR601	1000:1	0.1 to 1200A	–	1mA/A*	–	<0.5°	2.05" (52mm)	1.95 x 0.19" (50 x 5mm)	Jacks	2113.43
	SR604	1000:1	0.1 to 1200A	–	1mA/A*	–	<0.5°	2.05" (52mm)	1.95 x 0.19" (50 x 5mm)	Leads	2113.44
	SR651	–	0.1 to 1200A	–	–	1mV/A	<0.5°	2.05" (52mm)	1.95 x 0.19" (50 x 5mm)	Jacks	2113.45
	SR701	1000:1	1mA to 1000A	–	1mA/A*	–	<0.7°	2.05" (52mm)	1.95 x 0.19" (50 x 5mm)	Jacks	2116.29
	SR704	1000:1	1mA to 1000A	–	1mA/A*	–	<0.7°	2.05" (52mm)	1.95 x 0.19" (50 x 5mm)	Leads	2116.30
	SR752	–	0.1 to 1000A	–	–	1mV/A	<0.7°	2.05" (52mm)	1.95 x 0.19" (50 x 5mm)	Leads	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°	2.05" (52mm)	1.95 x 0.19" (50 x 5mm)	Leads	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	N/A		N/A	Plugs	2111.73
	LM102	1000:1	50mA to 200A	–	1mA/A*	–	<3°	0.63" (16 mm)	N/A	Leads	2153.04
	LM103	–	0.1 to 200A	–	–	1mV/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 (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




AMPFLEX® AND MINIFLEX® PROBES - SELECTION CHARTS

SERIES	MODEL	RATIO	MEASUREMENT RANGE	OUTPUT SIGNAL	MAXIMUM CONDUCTOR SIZE	CATALOG NO.
	MF 300-10-2-10-HF	-	30A / 300A	100mV/A, 10mV/A	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	7.48" (190mm)	2112.39
	1000-24-2-1	-	100A / 1000A	10mV/A, 1mV/A	7.48" (190mm)	2112.98
	1000-36-2-1	-	100A / 1000A	10mV/A, 1mV/A	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
	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 / 3000A _{Ac}	10mV/A, 1mV/A	7.48" (190mm)	2120.81

Consult factory for NIST Calibration price

OSCILLOSCOPE & BNC TERMINATED PROBES

MODEL	MEASUREMENT RANGE		OUTPUT SIGNAL VOLTAGE	PHASE SHIFT*	MAXIMUM CONDUCTOR SIZE		OUTPUT CONNECTION
	AC	DC			Ø CABLE	BUS BAR	
 SL261	100mA to 10A 1 to 100A		100mV/A 10mV/A	<1.5°	0.46" (11.8mm)	N/A	6.5 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	
 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)	6.6 ft (2m) Lead w/BNC
	 MR527	0.5 to 100A 0.5 to 1000A		0.5 to 150A 0.5 to 1400A			

*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.