

CURRENT MEASUREMENT PROBES

MINIFLEX® SERIES

MODEL MA114

Provides a welcomed solution when accessing electrical conductors in tight places or clamping onto cable bundles

SPECIFICATIONS

MODEL	MA114
ELECTRICAL	
Nominal Range	3; 30; 300; 3000Aac
Measurement Range	3A Range: 0.5 to 3Aac, 30A Range: 2 to 30Aac 300A Range: 5 to 300Aac, 3000A Range: 50 to 3000Aac
Transformation Ratio	Voltage Output
Output Signal	3A Range: 1V/A (1mV/mA) (3Vac @ 3A), 30A Range: 100 mV/A (3Vac @ 30A) 300A Range: 10 mV/A (3Vac @ 300A), 3000A Range: 1 mV/A (3Vac @ 3000A)
Phase Shift	≤ 1° (0.5° typical)
Overload	3A Range: 4.5A, 30A Range: 45A, 300A Range: 450A, 3000A Range: 4500A
Frequency Range	3A Range: 10Hz to 10kHz, 30A, 300A, 3000A Range: 10Hz to 20kHz
Load Impedance	≥ 1MΩ
Working Voltage	600Vrms (CAT IV), 1000Vrms (CAT III)
Battery	Two 1.5V AA batteries or LR6 alkaline, +5Vdc with type B micro-USB
Battery Life	300 hours typical. Approximately 1,800 10-minute measurements.
Output Termination	1.6 ft (0.5m) lead with two 4mm safety banana plugs
MECHANICAL	
Sensor Length	14" (35.6 cm)
Cable Length	6.5 ft (2m)
Maximum Conductor Size	Ø 3.93" (10cm)
Dimensions	4.7 x 2.3 x 1.4" (12 x 5.8 x 3.6cm)
Weight	Approximately 10.58oz (300g)
ENVIRONMENTAL	
Operating Temperature	14° to 131°F (-10° to 55°C)
Storage Temperature	-40° to 158°F (-40° to 70°C)
Operating Relative Humidity	0 to 95% @ 95°F (35°C)
SAFETY	
Safety Rating	IEC 61010-2-32 type B, 1000V CAT III, 600V CAT IV, Pollution Degree 2
Electromagnetic Compatibility	IEC 61326-1
Ingress Protection	IP54 (electronic unit), IP67 (flexible sensor)
Double Insulation	Yes



3Aac 1 mV/mA	30Aac 100 mV/A	300Aac 10 mV/A	3000Aac 1 mV/A
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FEATURES

- 14-inch flexible sensor capable of clamping around a 3.93 inch cable or bundle
- Waterproof sensor rated to IP 67
- User selectable ranges of 3, 30, 300 and 3000 Amps
- 600V CAT IV, 1000V CAT III rated
- Not affected by magnetic saturation, provides excellent linearity and low phase shift
- Battery or USB powered for long term use
- Red LED indicates overload condition
- Positive click locking sensor eliminates disconnection errors
- Banana plug termination compatible with multimeters, data loggers and other instruments

CATALOG NO.	DESCRIPTION
2153.41	MiniFlex® 14" Model MA114 (3A/1mV/mA, 30A/100mV/A, 300A/10mV/A, 3000A/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)		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	<10° <8° <3.5°	0.47" (12mm)			1031.02
	MN106		1000:1		2 to 150A	1mA/A					-
	MN114	-	1mA to 10A		-	100mV/A					2110.71
	MN185	1000:1	50mA to 120A		1mA/A	-					Jacks
	MN213		1000:1		-	1mA/A*	-	<2.5°	0.78" (19.8mm)	N/A	Leads
	MN251		0.5 to 240A			-	1mV/A				
	MN253			-		10mV/A	2115.79				
	MN255			0.1 to 24A 0.1 to 240A		-	100mV/A 10mV/A				
	MN291		0.5 to 240A	-		100mVdc/Aac	2115.84				
	MN307		10mA to 12A	-		100mV/A	2116.23				
	MN312	1000:1	0.1 to 200A	1mA/A*		-	<2.5°	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)		Leads
	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.

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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*					Jacks	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°			Jacks	2116.29		
	SR704									2116.30			
	SR752	—	0.1 to 1000A		—	1mV/A	<1°			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					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 3/4" (19mm) spacing



AMPFLEX® AND MINIFLEX® PROBES - SELECTION CHARTS

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			2113.33
	24-3001	—	300A / 3000AAC	10mV/A, 1mV/A	7.48" (190mm)	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			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				<2.5°	0.78" (19.8mm)		
 SR661			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.