

# CURRENT MEASUREMENT PROBES

## DC/AC MICROPROBES AND CURRENT PROBES

### MD SERIES & K SERIES

*MD Series probes are rugged and designed for use on cables and bus bars*

*K Series small probes designed for high accuracy measuring low currents*



MD301

K100



### SPECIFICATIONS

MODELS	MD301	MD305
<b>ELECTRICAL</b>		
Nominal Range	500AAC	600AAC
Measurement Range	2 to 500AAC	1 to 700AAC
Transformation Ratio	Voltage output	1000:1
Output Signal	1mV/A (0.5Vdc @ 500A)	1mA/A (0.6AAC @ 600A)
Phase Shift		
25A	—	3°
100A	—	1.5°
250A	—	1°
500A	—	1°
600A	—	1°
Overload	700A for 10 min	
Frequency Range	48 to 1000Hz (error: add 2% to the ref.)	40 to 1000Hz (error: add 2% to the ref.)
Load Impedance	≥100kΩ	5Ω max non-inductive
Working/Common Voltage	600Vrms	
Output Termination	Double-insulated 5 ft (1.5m) lead with two 4mm safety banana plugs	
<b>MECHANICAL</b>		
Jaw Opening	1.3" (33mm)	
Maximum Conductor Size	1.18" (30mm), Max Bus Bar size: 2.48 x 0.20" (63 x 5mm)	
Dimensions	2.6 x 7.68 x 1.34" (66 x 195 x 34mm)	
Weight	14.82 oz (420g)	
Material	Polycarbonate UL 94	
<b>ENVIRONMENTAL</b>		
Operating Temperature	5° to 122°F (-15° to 50°C)	
Storage Temperature	-40° to 185°F (-40° to 85°C)	
<b>SAFETY</b>		
Electrical	EN 61010-2-032 600V CAT III, Pollution: 2; 300V CAT IV, Pollution: 2	
Electromagnetic Compatibility	EN 50081-1 Class B; EN 50082-2 Electrostatic discharge IEC 1000-4-2; Radiated field IEC 1000-4-3; Fast transients IEC 1000-4-4; Magnetic field at 50/60Hz IEC 1000-4-8	
Double Insulation	Yes	
CE Mark	Yes	

Consult factory for NIST Calibration prices

CATALOG NO.	DESCRIPTION
1201.07	AC Current Probe Model MD301 (500A, 1mVdc/Aac, Lead)
1201.36	AC Current Probe Model MD305 (600A, 1mA/A, Lead) HA*
1200.67	DC/AC MicroProbe Model K100 (4.5A, 1mV/mA)
2111.73	DC/AC MicroProbe Model K110 (450mA, 10mV/mA)

\*HA - High Accuracy and Phase Shift

### SPECIFICATIONS

MODELS	K100	K110
<b>ELECTRICAL</b>		
Current Range	0 to ±4.5ADC 0 to 3Arms	0 to ±450mADC 0 to 300mArms
Output Signal	1mV/mA	10mV/mA
Resolution	DC: 50µA typical, AC: 100µA typical	
Output Noise	<100µV, DC to 3kHz	
Frequency Response	DC to 2kHz (@ -3dB sine)	DC to 1.5kHz (@ -3dB sine)
Output Termination	5 ft (1.5m) lead with two 4mm safety banana plugs; standard ¾" (19mm) spacing	
Power Source	One 9V Alkaline battery (included)	
Battery Life	20 hours	

Consult factory for NIST Calibration prices

### FEATURES

#### MD SERIES

- 600A range with mA or mV output
- Unique hook-shaped jaws that enable the user to "pry" into or "hook" onto cables
- Maximum conductor size is 2 x 500kcmil
- Works as a traditional current transformer with ratio of 1000:1
- AC/DC outputs available

#### K SERIES

- Measures extremely low level DC from 100µA
- Outputs signal proportional to total current (DC + AC)
- Low noise
- Ultra-compact size and non-contact clamp-on convenience
- Simple plug-in operation
- Designed for use with digital multimeters and oscilloscopes
- Accurate display of waveforms
- No range or mode (AC/DC) switching required
- Red LED indicates momentary or continuous overload
- Green LED indicates power and battery condition

### ACCESSORIES

#### Catalog #1017.45




Adapter – 4mm Non-insulated for Safety Leads

#### Catalog #2118.46

Adapter - Banana (Female) – BNC (Male) (XM-BB)  
600V CAT III

# 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	1000:1	1mA to 10A 1 to 100A	-	-	1mV/A 1mV/A	N/A	0.47" (12mm)	-	Leads	1031.02	
	MN106		2 to 150A			1mA/A					-	<10°
	MN114	-	1mA to 10A		-	100mV/A					<8°	2110.71
	MN185	1000:1	50mA to 120A		1mA/A	-					<3.5°	Jacks
	MN213	1000:1	0.5 to 240A	-	1mA/A*	-	<2.5°	N/A	-	Leads	2115.75	
	MN251	-			0.1 to 24A 0.1 to 240A	-					1mV/A	2115.77
	MN253					-					10mV/A	2115.79
	MN255	0.5 to 240A			-	100mV/A 10mV/A					N/A	2115.84
	MN291	10mA to 12A	-		100mV/A	2116.23						
	MN307	1000:1	0.1 to 200A		1mA/A*	-	<2.5°				Jacks	2116.24
	MN312	-	0.1 to 150A		-	10mV/A	2116.25					
	MN313				-	10mV/A	2116.26					
	MN352	0.01 to 2.4A 0.1 to 200A	-		1000mV/A 10mV/A	<3°	2116.27					
	MN353	0.1 to 10A	-		100mV/A	<1.5°	2116.28					
	MN373	5mA to 6A 0.1 to 120A	-		200mV/A 10mV/A	<1.5°	2115.41					
	MN375	10mA to 1.5A 50mA to 60A	10mA to 2A 50mA to 80A		-	1mV/mAac/dc 10mV/Aac/dc	<1°				Jacks	2153.01
	MN379	2 to 500A	-		-	1mVdc/Aac	N/A				Leads	1201.45
	MN379	1 to 600A	-		1mA/A*	-	<1°				1.18" (30mm) 2 x 500kcmil	2.48 x 0.20" (63 x 5mm)
MN379								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°	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 1.96 x 0.19" (50 x 5mm)		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
	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					2116.30					
	SR752	-	0.1 to 1000A	-	-	1mV/A	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°	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)
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 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	6.6 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		<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.