

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
ELECTRICAL		
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	
MECHANICAL		
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	
ENVIRONMENTAL		
Operating Temperature	5° to 122°F (-15° to 50°C)	
Storage Temperature	-40° to 185°F (-40° to 85°C)	
SAFETY		
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
ELECTRICAL		
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	-	1mA to 10A 1 to 100A		-	1mV/A 1mV/A					1031.02	
	MN106	1000:1	2 to 150A	1mA/A	-	<10°	0.47" (12mm)	-	-	1031.17		
	MN114	-	1mA to 10A	-	100mV/A	<8°				2110.71		
	MN185	-	50mA to 120A	1mA/A	-	<3.5°				Jacks	100.185	
	MN213	1000:1	-	1mA/A*	-	<2.5°				-	-	2115.75
MN251	-	0.5 to 240A	-	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	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	-	-	-	-	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	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°	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)	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 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.