IP 40 | 600 V CAT III | CE

MODELS MR417/MR527

Hall Effect AC/DC current probes for Oscilloscopes and other instruments with waveform displays

MR417 MR527

SCAN TO LEARN MORE

FEATURES

- The jaw shape enables users to clamp on to cables or small bus bars
- Powered by battery or standard external 5 V power source via micro-USB connector
- Measures up to 1000 A_{AC} and 1400 A_{DC} *(model dependent)*
- Equipped with a Zero DC reset function
- Auto Power Off enable/disable function
- LED overload and low battery indicators
- Millivolt output compatible with most equipment and instruments
- Equipped with a coaxial lead and isolated BNC connectors for direct connection to an oscilloscope
- Battery life up to 50 hours
- Safety rating 600 V CAT III

MODELS	MR417	MR527
ELECTRICAL		
Current Range	(0.5 to 40) A_{AC}, 60 A_{DC} (0.5 to 400) A_{AC}, 600 A_{DC}	(0.5 to 100) A_{AC}, 150 A_{DC} (0.5 to 1000) A_{AC}, 1400 A_{DC}
Output Signal	10 mV/A, 1 mV/A	
Frequency Range	DC to 30 kHz (-3 dB) *(depending of current value)*	
Phase Shift At (50 / 60) Hz	≤ 2 ° @ 40 A ≤ 1.5 ° @ 400 A	≤ 2.2 ° @ 100 A ≤ 1.5 ° @ 1000 A
Load Impedance	> 1 MΩ and ≤ 100 pF	
Overload	3000 A_{DC} or 1000 A_{AC} continuous for < 1 kHz	
Zero Adjust	Automatic on both ranges	
Power Supply	9 V alkaline battery *(NEDA 1060 A, 6LR61)* or 5 V DC Micro-USB Type B	
Battery Life	50 h typical	
Low Battery Indication	Green LED blinking	
Overload Indication	Red LED on when the measurement is greater than selected range	
Output Termination	6.5 ft (2 m) coaxial cable with insulated BNC terminal	
MECHANICAL		
Maximum Conductor Size	Cables: (1) 0.18 in (5 mm) or (2) .94 in (24 mm) Bus Bar: (1) (1.97 x 0.39) in (50 x 10) mm or (2) (1.23 x 0.39) in (31 x 10) mm or (3) (0.98 x 0.31) in (25 x 8) mm	Cables: (1) 1.5 in (38 mm) or (2) 1 in (25 mm) Bus Bar: (1) (1.97 x 0.49) in (50 x 12) mm or (2) (0.98 x 0.2) in (25 x 5) mm; (1) (1.24 x 0.30) in (31 x 8) mm or (3) (0.98 x 0.31) in (25 x 8) mm
Dimensions *(H x W x D)*	(8.82 x 3.82 x 1.73) in (224 x 97 x 44) mm	(9.31 x 3.82 x 1.73) in (236 x 97 x 44) mm
Weight *(with Battery)*	0.98 lb (440 g)	1.15 lb (521 g)
ENVIRONMENTAL		
Operating Temperature	(14 to +131) °F (-10 to 55) °C	
Storage Temperature	(-40 to +176) °F (-40 to 80) °C	
Relative Humidity	Up to 85 % RH @ 35 °C	
SAFETY		
Ingress Protection	IP 40	
EMC	EN 61326-1	
Safety Rating	IEC 61010-1, EN 61010-2-32, Pollution Degree 2, 600 V CAT III	

Consult factory for NIST Calibration prices.

CAT. #	DESCRIPTION
1200.84	AC/DC Current Probe Model MR417 (40 A_{AC}, 60 A_{DC}, 10 mV/A & 400 A_{AC}, 600 A_{DC}, 1 mV/A, BNC Output) Replaces MR461
1200.85	AC/DC Current Probe Model MR527 (100 A_{AC}, 150 A_{DC}, 10 mV/A & 1000 A_{AC}, 1400 A_{DC}, 1 mV/A, BNC Output) Replaces MR561

CURRENT MEASUREMENT PROBES

GENERAL PURPOSE PROBES SELECTION CHART

Series	Model	Ratio	Measurement Range		Output Signal		Phase Shift**	Maximum Conductor Size		Output Connection	CAT. #
			AC	DC	Current	Voltage		Ø Cable	Bus Bar		
	**MN01**	1000:1	(2 to 150) A	–	1 mA/A*	–	N / A	0.39 in (10 mm)	N / A	Leads	2129.17
	MN02	1000:1	50 mA to 100 A 50 mA to 90 A	–	1 mA/A*	–	N / A	0.39 in (10 mm)	N / A	Leads	2129.20
	MN05	–	5 mA to 10 A (1 to 100) A	–		1 mV/mA 1 mV/A	N / A	0.39 in (10 mm)	N / A	Leads	2129.19
	MN09	–	(1 to 150) A	–		100 mV_{DC} / A_{AC}	N / A	0.39 in (10 mm)	N / A	Leads	2129.21
	**MN134**	–	1 mA to 10 A	–		100 mV_{AC} / A_{AC}	< 10°	0.39 in (10 mm)	N / A	Leads	2129.22
	MN185	1000:1	50 mA to 120 A	–	1 mA/A	–	< 3.5 °	0.47 in (12 mm)	N / A	Jacks	100.185
	**MN255**	–	(0.1 to 24) A (0.1 to 240) A	–		100 mV/A 10 mV/A	< 2.5 °	0.78 in (20 mm)	N / A	Leads	2115.81
	MN261	–	(0.1 to 24) A (0.5 to 240) A	–		100 mV/A 10 mV/A	< 6 °	0.78 in (20 mm)	N / A	BNC	2115.82
	MN291	–	(0.5 to 240) A	–		100 mV_{DC} / A_{AC}	N / A	0.78 in (20 mm)	N / A	Leads	2115.84
	MN307	–	10 mA to 12 A	–		100 mV/A	< 2.5 °	0.78 in (20 mm)	N / A	Leads	2116.23
	MN312	1000:1	(0.1 to 200) A	–	1 mA/A*	–	< 2.5 °	0.78 in (20 mm)	N / A	Jacks	2116.24
	MN352	–	(0.1 to 150) A	–		10 mV/A	< 2.5 °	0.78 in (20 mm)	N / A	Jacks	2116.26
	MN353	–	(0.1 to 150) A	–		10 mV/A	< 2.5 °	0.78 in (20 mm)	N / A	Leads	2116.27
	MN373	–	(0.01 to 2.4) A (0.1 to 200) A	–		1000 mV/A 10 mV/A	< 3 °	0.78 in (20 mm)	N / A	Leads	2116.28
	MN375	–	(0.1 to 10) A	–		100 mV/A	< 1.5 °	0.78 in (20 mm)	N / A	Leads	2115.41
	MN379	–	5 mA to 6 A (0.1 to 120) A	–		200 mV/A 10 mV/A	< 4 °	0.78 in (20 mm)	N / A	Leads	2153.01
	MN379T	–	5 mA to 6 A (0.1 to 120) A	–		200 mV/A 10 mV/A	< 4 °	0.78 in (20 mm)	N / A	Lead w / BNC	2153.02
	**SL206**	–	10 mA to 1.5 A 50 mA to 60 A	10 mA to 2 A 50 mA to 80 A	–	1 $mV/mA_{AC/DC}$ 10 $mV/A_{AC/DC}$	< 1 °	0.46 in (12 mm)	N / A	Leads	1201.45
	**MD301**	1000:1	(2 to 500) A	–		1 mV_{DC} / A_{AC}	N / A	1.18 in (30 mm) (2 x 500) kcmil	(2.48 x 0.20) in (63 x 5) mm	Leads	1201.07
	MD305	1000:1	(1 to 600) A	–	1 mA/A	–	< 1 °	1.18 in (30 mm) (2 x 500) kcmil	(2.48 x 0.20) in (63 x 5) mm	Leads	1201.36

*Output protection for open secondary.
**Phase shift indicated at maximum rating.

Note: Model MN185 are not CE compliant. MN200 & MN300 series are UL approved except MN379.
Consult factory for NIST Calibration price.

Technical Assistance (800) 343-1391

CURRENT MEASUREMENT PROBES

GENERAL PURPOSE PROBES SELECTION CHART

SERIES	MODEL	RATIO	MEASUREMENT RANGE		OUTPUT SIGNAL		PHASE SHIFT**	MAXIMUM CONDUCTOR SIZE		OUTPUT CONNECTION	CAT. #
			AC	DC	CURRENT	VOLTAGE		Ø CABLE	BUS BAR		
	**MR415**	–	(0.5 to 400) A	(0.5 to 600) A	–	1 mV/A	≤ 1.5 °	1.18 in (30 mm)	2 bus bar (1.24 x 0.39) in (31 x 10) mm	5 ft (1.5 m) Lead	1200.80
	MR416	–	(0.5 to 40) A (0.5 to 400) A	(0.5 to 60) A (0.5 to 600) A	–	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.95 x 0.19) in (50 x 5) mm	5 ft (1.5 m) Lead	1200.82
	MR526	–	(0.5 to 100) A (0.5 to 1000) A	(0.5 to 150) A (0.5 to 1400) A	–	10 mV/A 1 mV/A	≤ 2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.95 x 0.19) in (50 x 5) mm	5 ft (1.5 m) Lead	1200.83
	**SR601**	1000:1	(0.1 to 1200) A	–	1 mA/A*	–	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2113.43
	SR604	1000:1	(0.1 to 1200) A	–	1 mA/A*	–	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2113.44
	SR651	–	(0.1 to 1200) A	–	–	1 mV/A	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2113.45
	SR701	1000:1	1 mA to 1000 A	–	1 mA/A*	–	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2116.29
	SR704	1000:1	1 mA to 1000 A	–	1 mA/A*	–	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.30
	SR752	–	(0.1 to 1000) A	–	–	1 mV/A	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.32
	SR759	–	1 mA to 1 A 10 mA to 10 A (0.1 to 100) A (1 to 1000) A	–	–	1000 mV/A 100 mV/A 10 mV/A 1 mV/A	< 1 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.33
	**K100**	–	0.1 mA to 3 A	0.05 mA to ± 4.5 A	–	1 mV/mA	N / A	0.18 in (4.5 mm)	N / A	Plugs	1200.67
	K110	–	(0.1 to 300) mA	(0.05 to ± 450) mA	–	10 mV/mA	N / A	0.18 in (4.5 mm)	N / A	Plugs	2111.73
	**LM102**	1000:1	50 mA to 200 A	–	1 mA/A*	–	< 3 °	0.63 in (16 mm)	N / A	Leads	2153.04
	LM103	–	(0.1 to 200) A	–	–	1 mV/A	< 3 °	0.63 in (16 mm)	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 (2 m) coaxial cable with insulated BNC connector rated 600 Vrms

Jacks
Two standard safety banana jacks (4 mm)

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

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

CURRENT MEASUREMENT PROBES

AMPFLEX® AND MINIFLEX® PROBES - SELECTION CHARTS

SERIES	MODEL	RATIO	MEASUREMENT RANGE	OUTPUT SIGNAL	MAXIMUM CONDUCTOR SIZE	CAT. #
	MF 300-10-2-10-HF	–	(30 / 300) A	100 mV/A, 10 mV/A	2.95 in (75 mm)	2126.84
	MF 3000-14-1-1-HF	–	3000 A	1 mV/A	3.93 in (100 mm)	2126.86
	MA114	–	(3 / 30 / 300 / 3000) A	1 mV/mA, 100 mV/A 10 mV/A, 1 mV/A	4 in (101 mm)	2153.41
	300-24-2-10	–	(30 / 300) A	100 mV/A, 10 mV/A	7.48 in (190 mm)	2112.88
	1000-24-1-1	–	1000 A	1 mV/A	7.48 in (190 mm)	2112.39
	1000-24-2-1	–	(100 / 1000) A	10 mV/A, 1 mV/A	7.48 in (190 mm)	2112.98
	1000-36-2-1	–	(100 / 1000) A	10 mV/A, 1 mV/A	11 in (280 mm)	2113.00
	3000-24-1-1	–	3000 A	1 mV/A	7.48 in (190 mm)	2112.46
	3000-36-1-1	–	3000 A	1 mV/A	11 in (280 mm)	2112.48
	3000-24-2-1	–	(300 / 3000) A	10 mV/A, 1 mV/A	7.48 in (190 mm)	2113.05
	3000-48-2-1	–	(300 / 3000) A	10 mV/A, 1 mV/A	15 in (381 mm)	2112.01
	6000-36-2-0.1	–	(600 / 6000) A	1 mV/A, 0.1 mV/A	11 in (280 mm)	2113.21
	30000-24-2-0.1	–	(3000 / 30,000) A	1 mV/A, 0.1 mV/A	7.48 in (190 mm)	2113.33
	24-3001	–	300 A / 3000 AAC	10 mV/A, 1 mV/A	7.48 in (190 mm)	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 	100 mA to 10 A (1 to 100) A		100 mV/A 10 mV/A	< 1.5 °	0.46 in (12 mm)	N / A	6.5 ft (2 m) Lead w / BNC
MN261 	(0.1 to 24) A (0.5 to 240) A	–	100 mV/A 10 mV/A	< 2.5 °	0.78 in (20 mm)	N / A	6.5 ft (2 m) Lead w / BNC
SR661 	(0.1 to 12) A (0.1 to 120) A (1 to 1200) A	–	100 mV/A 10 mV/A 1 mV/A	< 1 °	2.05 in (52 mm)	(1.96 x 0.19) in (50 x 5) mm	6.5 ft (2 m) Lead w / BNC
MN251T MN379T 	(0.5 to 240) A	–	1 mV/A	≤ 2.5 °	0.78 in (20 mm)	(0.78 x 0.19) in (20 x 5) mm	10 ft (3 m) Lead w / BNC
	(0.005 to 6) A (0.1 to 120) A	–	200 mV/A 10 mV/A	≤ 4 ° ≤ 2.2 °	0.78 in (20 mm)	(0.78 x 0.19) in (20 x 5) mm	10 ft (3 m) Lead w / BNC
MH60 	(0.5 to 100) A	(0.5 to 100) A	10 mV/A	< 1 °	1.02 in (26 mm)	N / A	6.6 ft (2 m) Lead w / BNC
MR417 	(0.5 to 40) A (0.5 to 400) A	(0.5 to 60) A (0.5 to 600) A	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.18 in (30 mm)	2 bus bar (1.24 x 0.39) in (32 x 10) mm	6.6 ft (2 m) Lead w / BNC
MR527 	(0.5 to 100) A (0.5 to 1000) A	(0.5 to 150) A (0.5 to 1400) A	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.96 x 0.19) in (50 x 5) mm	6.6 ft (2 m) Lead w / BNC

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