AC/DC Current Probe Model J93





The Hall Effect Current Probe Model J93 is designed to measure DC currents up to 5000A and AC currents up to 3500A, without opening the circuit.

The Model J93 is powered by a 9V battery.

## ► APPLICATIONS

- Wind power monitoring
- Rail signal monitoring
- Third rail monitoring
- · General DC current monitoring



<b>SPECIFICATIONS</b>						
MODEL			Model J93			
REFERENCE CONDITIONS						
Temperature		23°C ±5°C				
Relative Humidity		20 to 75% RH				
DC Signal	Wi	With an AC signal of which the distortio			1%	
AC Signal		45 to 65Hz with a DC signal <0.1%				
Supply Voltage		9V ± 0.1V				
External Electric Field			Zero			
External DC Magnetic Field (Earth's Shield)	< 40A/m					
External AC Magnetic Field	Zero					
Position of the Conductor		Centered in the probe jaws				
ELECTRICAL						
Measurement Range		50A to 3500Aac, 50A to 5000Adc				
Sensitivity		1V / 3500A				
Output Impedance		≥ 100kΩ				
Frequency		DC to 3kHz (-3 dB ty		pical)		
Primary Current AC/DC	50 to 100Aac/Adc	100 to 500Aac/Adc	500 to 2000Aac/Adc	2000 to 3500Aac/Adc	3500 to 5000Apc	
Amplitude Accuracy	$\pm 2\% \pm 2.5A$		± 1%	± 1%	± 1%	
Phase Accuracy	4°	2°	1°	1.5°	_	
RANGE OF USE		RANGE OF INFLUENCE ACCURACY		RACY		
Temperature		14° to 131°F (-10° to 55°C)		< 0.7% / 18°F (10°C)		
Relative Humidity		10 to 90% RH		< 0.7%		
Frequency Response		DC at 2kHz		Curve A -Page 2		
		DC at 2k	Hz	Curve A -	raye 2	
Phase Shift		DC at 2k	Hz	Curve A - Curve B -		
Phase Shift Position of the Conductor in	the Sensor	DC at 2k Any positi	Hz on <sup>1</sup>	Curve B - < ± 2	Page 2 2%	
Phase Shift Position of the Conductor in Conductor Adjacent		DC at 2k Any positi Conductor touchin	Hz on <sup>1</sup> ig the jaws <sup>2</sup>	Curve B - < ± 2 Rejection	Page 2 2% > 35 dB	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp		DC at 2k Any positi Conductor touchin from 6.5 to	Hz on <sup>1</sup> og the jaws <sup>2</sup> o 10V	Curve B - < ± 2 Rejection : ± 2.25A	Page 2 2% > 35 dB typical	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence		DC at 2k Any positi Conductor touchin	Hz on <sup>1</sup> og the jaws <sup>2</sup> o 10V	Curve B - < ± 2  Rejection : ± 2.25A < 2	Page 2 2% > 35 dB typical A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field		DC at 2k Any positi Conductor touchin from 6.5 to	Hz on <sup>1</sup> og the jaws <sup>2</sup> o 10V	Curve B - < ± 2 Rejection : ± 2.25A	Page 2 2% > 35 dB typical A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY		DC at 2k Any positi Conductor touchin from 6.5 to At 5000A	Hz on 1 g the jaws 2 0 10V Auc	Curve B - < ± 2 Rejection  ± 2.25A  < 2  < 0.	Page 2 2% > 35 dB typical A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power		DC at 2k Any positi Conductor touchin from 6.5 to At 5000A	Hz on 1 g the jaws 2 o 10V Abc  Alkaline battery;	Curve B - < ± 2 Rejection ± 2.25A < 2 < 0.3	Page 2 2% > 35 dB typical A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage		DC at 2k Any positi Conductor touchin from 6.5 to At 5000A	Hz on 1 g the jaws 2 0 10V Auc	Curve B - < ± 2 Rejection ± 2.25A < 2 < 0.3	Page 2 2% > 35 dB typical A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL		DC at 2k Any positi Conductor touchin from 6.5 to At 5000/ — 9V	Hz on 1 gg the jaws 2 o 10V Abcc  Alkaline battery; 6.5 to 1	Curve B - < ± 2 Rejection	Page 2 2% > 35 dB typical A 5A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL Dimensions		DC at 2k Any positi Conductor touchin from 6.5 tc At 5000/ — 9V	Hz on ¹ gg the jaws ² o 10V Alkaline battery; 6.5 to x 5.00 x 1.65" (3	Curve B - < ± 2 Rejection	Page 2 2% > 35 dB typical A 5A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL Dimensions Jaw Opening / Lead Length		DC at 2k Any positi Conductor touchin from 6.5 tc At 5000/ — 9V	Hz on 1 g the jaws 2 o 10V Abc Alkaline battery; 6.5 to 2 x 5.00 x 1.65" (3 2.84" (72mm) / 1	Curve B - < ± 2 Rejection	Page 2 2% > 35 dB typical A 5A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL Dimensions Jaw Opening / Lead Length Weight		DC at 2k Any positi Conductor touchin from 6.5 tc At 5000/  9V	Hz on 1 gg the jaws 2 o 10V Alac  Alkaline battery; 6.5 to  x 5.00 x 1.65" (3 2.84" (72mm) / 1 3.75 lbs (1.7k	Curve B - < ± 2 Rejection	Page 2 2% > 35 dB typical A 5A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL Dimensions Jaw Opening / Lead Length Weight Protection Index		DC at 2k Any positi Conductor touchin from 6.5 tc At 5000/  9V	Hz on 1 on	Curve B - < ± 2 Rejection	Page 2 2% > 35 dB typical A 5A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL Dimensions Jaw Opening / Lead Length Weight Protection Index Drop		DC at 2k Any positi Conductor touchin from 6.5 tc At 5000/  9V	Hz on 1 gg the jaws 2 o 10V Alac  Alkaline battery; 6.5 to  x 5.00 x 1.65" (3 2.84" (72mm) / 1 3.75 lbs (1.7k	Curve B - < ± 2 Rejection	Page 2 2% > 35 dB typical A 5A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL Dimensions Jaw Opening / Lead Length Weight Protection Index Drop SAFETY		DC at 2k Any positi Conductor touchin from 6.5 tc At 5000/   9V	Hz on 1 g the jaws 2 o 10V Abc Alkaline battery; 6.5 to 2.84" (72mm) / 1 3.75 lbs (1.7k IP20 per standar IEC 60068-2	Curve B - < ± 2 Rejection : ± 2.25A < 22 < 0.3  70hrs at 11mA 10V  336 x 127 x 42m oft (3m) long g) approx. rd IEC 60529 - 32 (1m)	Page 2 2% > 35 dB typical A 5A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL Dimensions Jaw Opening / Lead Length Weight Protection Index Drop SAFETY Rating		DC at 2k Any positi Conductor touchin from 6.5 tc At 5000/   9V	Hz on 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Curve B - < ± 2 Rejection	Page 2 2% > 35 dB typical A 5A	
Phase Shift Position of the Conductor in Conductor Adjacent Voltage: Battery Meter Supp Remanence Earth's Magnetic Field POWER SUPPLY Power Voltage MECHANICAL Dimensions Jaw Opening / Lead Length Weight Protection Index Drop SAFETY		DC at 2k Any positi Conductor touchin from 6.5 tc At 5000/   9V	Hz on 1 g the jaws 2 o 10V Abc Alkaline battery; 6.5 to 2.84" (72mm) / 1 3.75 lbs (1.7k IP20 per standar IEC 60068-2	Curve B - < ± 2 Rejection : ± 2.25A < 22 < 0.3  70hrs at 11mA 10V  336 x 127 x 42m oft (3m) long g) approx. rd IEC 60529 - 32 (1m)	Page 2 2% > 35 dB typical A 5A	

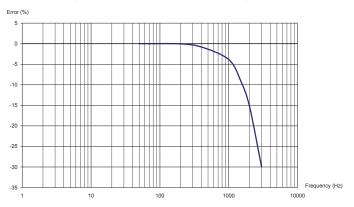
<sup>&</sup>lt;sup>1</sup> Test performed with a 40x30 mm<sup>2</sup> cable and a current of 3500A at 50Hz. The accuracy % is the ratio of the maximum variation to the mean value.



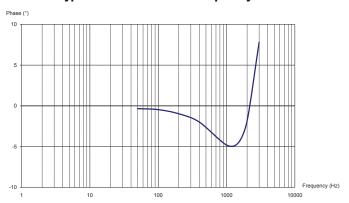
<sup>&</sup>lt;sup>2</sup> Test performed with a current of 300A at 50Hz.

## ► SPECIFICATION CHARTS

**Curve A: Typical Amplitude Error vs Frequency** 

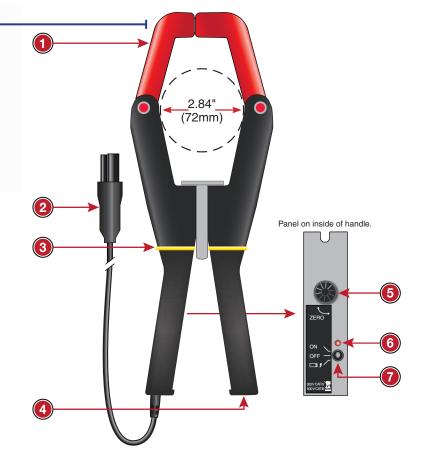


**Curve B: Typical Phase Error vs Frequency** 



## ► PRODUCT FEATURES

- 1. Jaw Ø 2.84" (72mm)
- 2. 4-point CA connector with 10 ft (3m) lead
- 3. Safety guard
- 4. Battery compartment cover
- 5. Zero adjustment knob
- 6. Power ON/Low battery indicator
- 7. Three-position switch: ON, OFF, battery test



CATALOG NO.	DESCRIPTION
2140.49	AC/DC Current Probe Model J93-BK (3500AAc/5000ADc) for use with Models 8333, 8336, 8435 & PEL Series. Includes a soft carrying case, 9V battery, Velcro fastener, set of 12 color-coded ID markers and user manual.