

# AC/DC Current Probe Models J93 and J193



Model J193



## ► DESCRIPTION

The Hall Effect Current Probe Models J93 and J193 are 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. The Model J193 is powered by the device (PEL Series only) to which it is connected.

## ► APPLICATIONS

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

## SPECIFICATIONS

MODELS	Model J93 and J193				
REFERENCE CONDITIONS					
Temperature	23°C ±5°C				
Relative Humidity	20 to 75% RH				
DC Signal	With an AC signal of which the distortion factor is <0.1%				
AC Signal	45 to 65Hz with a DC signal <0.1%				
Supply Voltage	J93: 9V ± 0.1V, J193: 5V ± 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 3500A <sub>AC</sub> , 50A to 5000A <sub>DC</sub>				
Sensitivity	1V / 3500A				
Output Impedance	≥ 100kΩ				
Frequency	DC to 3kHz (-3 dB typical)				
Primary Current AC/DC	50 to 100A <sub>AC</sub> /A <sub>DC</sub>	100 to 500A <sub>AC</sub> /A <sub>DC</sub>	500 to 2000A <sub>AC</sub> /A <sub>DC</sub>	2000 to 3500A <sub>AC</sub> /A <sub>DC</sub>	3500 to 5000A <sub>DC</sub>
Amplitude Accuracy	± 2% ± 2.5A	± 1.5% ± 2.5A	± 1%	± 1%	± 1%
Phase Accuracy	4°	2°	1°	1.5°	—

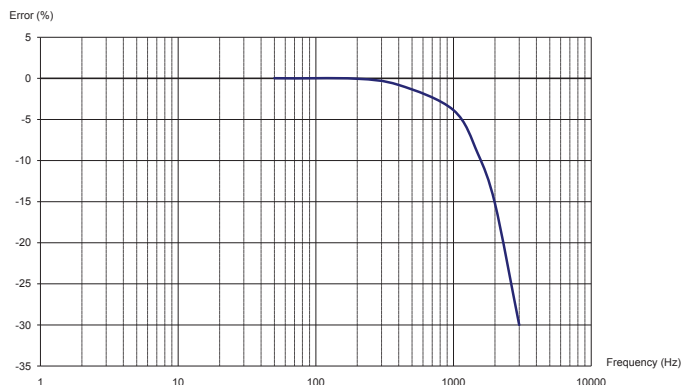
RANGE OF USE	RANGE OF INFLUENCE	ACCURACY
Temperature	14° to 131°F (-10° to 55°C)	< 0.7% / 18°F (10°C)
Relative Humidity	10 to 90% RH	< 0.7%
Frequency Response	DC at 2kHz	Curve A -Page 2
Phase Shift	DC at 2kHz	Curve B -Page 2
Position of the Conductor in the Sensor	Any position <sup>1</sup>	< ± 2%
Conductor Adjacent	Conductor touching the jaws <sup>2</sup>	Rejection > 35 dB
Voltage: Battery Meter Supply	J93: from 6.5 to 10V, J193: 4.75 to 5.25V	± 2.25A typical
Remanence	At 5000A <sub>DC</sub>	< 2A
Earth's Magnetic Field	—	< 0.5A
POWER SUPPLY	J93	J193
Power	9V Alkaline battery; 70hrs at 11mA	Powered by the device it is connected to (PEL Series) at 5.4mA
Voltage	6.5 to 10V	5V ±0.25V
MECHANICAL		
Dimensions	13.23 x 5.00 x 1.65" (336 x 127 x 42mm)	
Jaw Opening / Lead Length	2.84" (72mm) / 10ft (3m) long	
Weight	3.75 lbs (1.7kg) approx.	
Protection Index	IP20 per standard IEC 60529	
Drop	IEC 60068-2-32 (1m)	
SAFETY		
Rating	IEC 61010-2-032 and 61326-1; 600V CAT III, 300V CAT IV	
Pollution Degree	2	

<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.

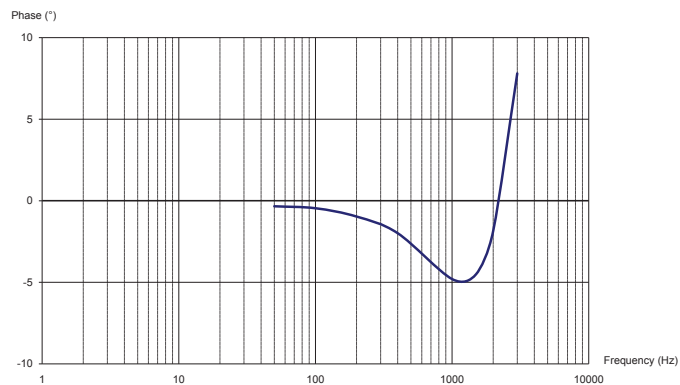
<sup>2</sup> Test performed with a current of 300A at 50Hz.

## ► SPECIFICATION CHARTS

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

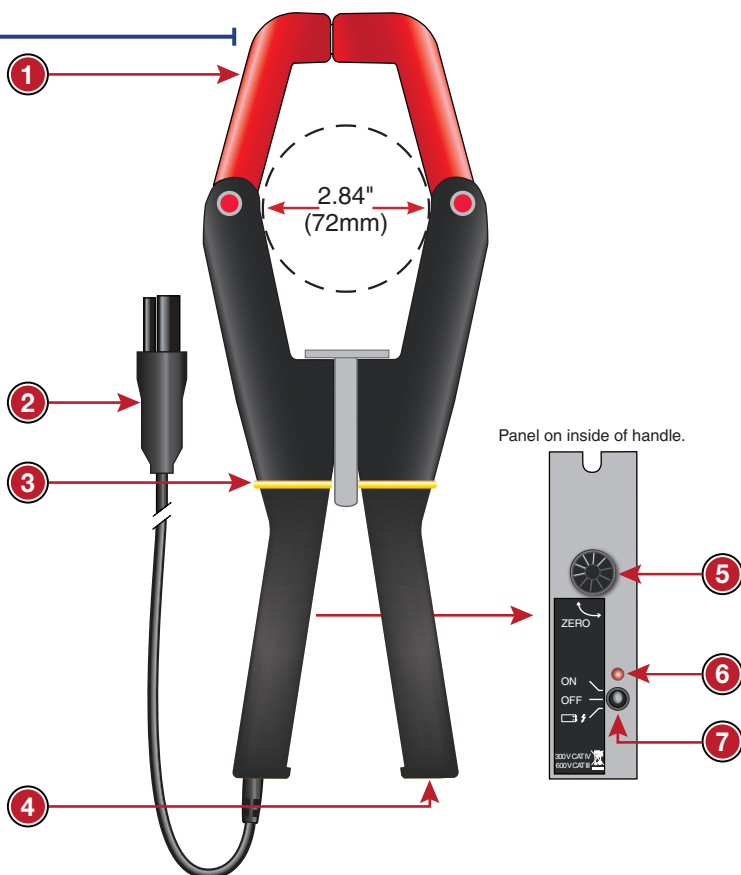


**Curve B: Typical Phase Error vs Frequency**



## ► 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 (Model J93 only)
5. Zero adjustment knob
6. Power ON/Low battery indicator (Model J93 only)
7. Three-position switch: ON, OFF, battery test (Model J93 only)



CATALOG NO.	DESCRIPTION
2140.49	AC/DC Current Probe Model J93-BK (3500A <sub>AC</sub> /5000A <sub>DC</sub> ) 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.
2137.78	AC/DC Current Probe Model J193-BK (3500A <sub>AC</sub> /5000A <sub>DC</sub> ) for use with PEL Series only. Includes a soft carrying case, Velcro fastener, set of 12 color-coded ID markers and user manual.