

# AC/DC Current Probe Model J93



| SPECIFICATIONS                              |   |  |   |  |                             |
|---|---|--|---|--|-----------------------------|
| MODEL                                       | Model J93   |  |   |  |                             |
| 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                              | 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 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               |   | from 6.5 to 10V  |   | ± 2.25A typical                              |                             |
| Remanence                                   |   | At 5000A <sub>DC</sub>                                 |   | < 2A   |                             |
| Earth's Magnetic Field                      |   | —  |   | < 0.5A                                       |                             |
| POWER SUPPLY                                |   |  |   |  |                             |
| Power                                       |   | 9V Alkaline battery; 70hrs at 11mA                     |   |  |                             |
| Voltage                                     |   | 6.5 to 10V   |   |  |                             |
| 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  |   |  |                             |

## ► DESCRIPTION

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

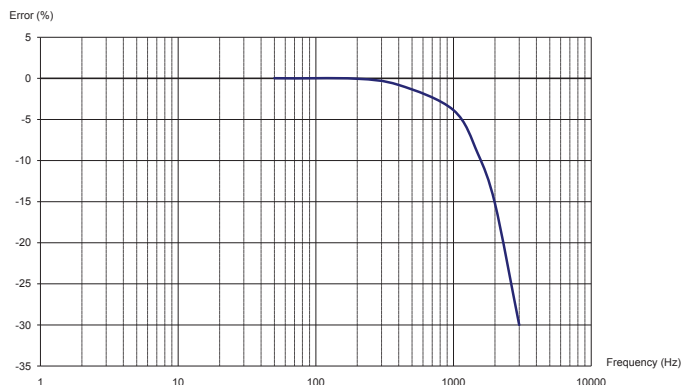
- Wind power monitoring
- Rail signal monitoring
- Third rail monitoring
- General DC current monitoring

<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.

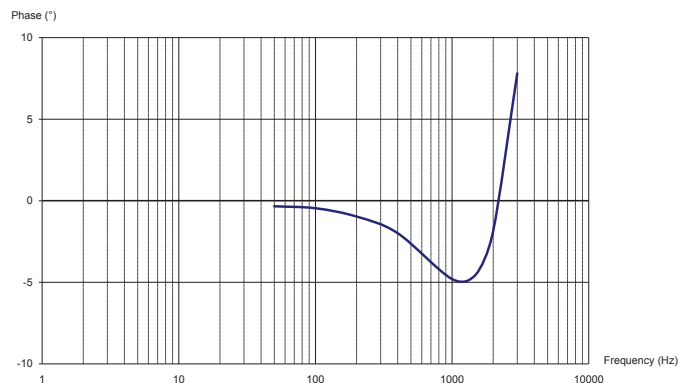
<sup>2</sup> Test performed with a current of 300A at 50Hz.

## ► SPECIFICATION CHARTS

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

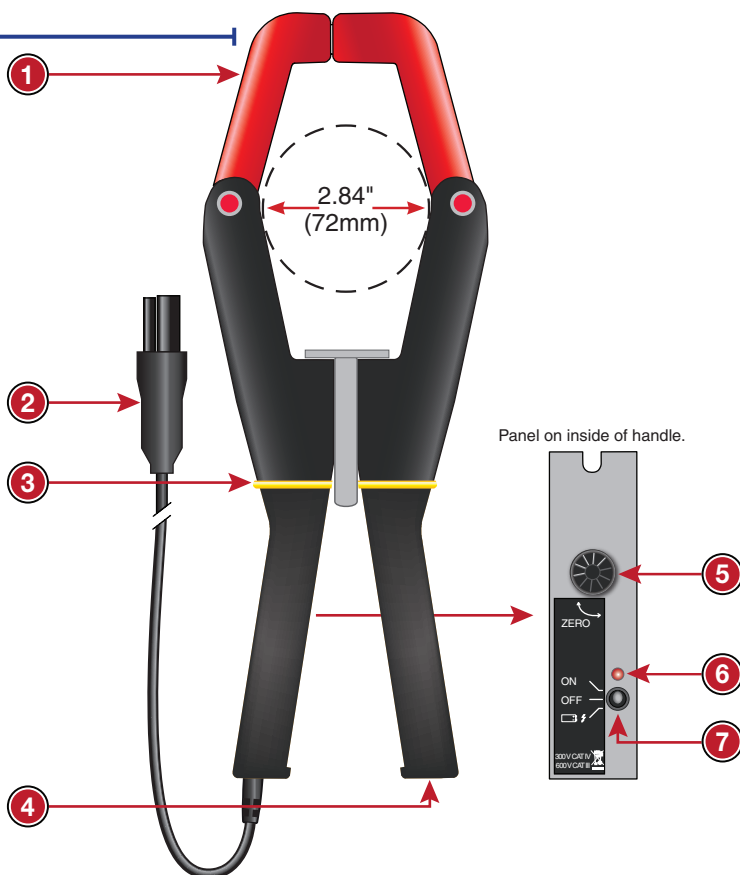


**Curve B: Typical Phase Error vs Frequency**



## ► 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
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 (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. |