**Project Title: Isolated Shunt Amplifier**

**Overview:**

Introducing the Isolated Shunt Amplifier, an open-source electronics project designed to provide precise and isolated measurements in high-voltage applications. This compact amplifier, based on the Si8920, offers flexible gain options, broad bandwidth, and a compact design for accurate and safe signal amplification.

**Key Features:**

1. **Flexible Gain Options:**
   * *Times 10 with 500kHz Bandwidth*
   * *Times 100 with 30kHz Bandwidth*
2. **Input Voltage Range:**
   * *2V to 9V input*
3. **Output Voltage Range:**
   * *+/-6Vout*
4. **Input Voltage Common Mode Range:**
   * *Up to 500Vdc*
5. **Compact Design:**
   * *Space-efficient layout for easy integration into various setups.*
6. **Accuracy:**
   * *Less than 1% error for precise measurements.*

**Technical Specifications:**

* **Amplification Options:** Choose between a high gain (times 100) for detailed signal analysis or a moderate gain (times 10) with broader bandwidth for dynamic measurements.
* **Input Voltage Range:** Accommodates input voltages ranging from 2V to 9V, providing flexibility for a variety of applications.
* **Common Mode Voltage Handling:** Withstands common mode voltages up to 500Vdc, ensuring reliable performance in high-voltage environments.
* **Compact Dimensions:** The space-efficient design allows seamless integration into instrumentation setups and constrained spaces.

**Intended Use:**

The Isolated Shunt Amplifier is tailored for applications where precision, isolation, and flexibility are paramount. It serves as a reliable tool for engineers and researchers working in high-voltage environments, offering accurate signal amplification with customizable gain options.

**Application Scenarios:**

* **High-Voltage Power Systems Monitoring:** Accurately measure and monitor high-voltage power systems with confidence.
* **Electric Vehicle Battery Monitoring:** Ensure precise measurements for electric vehicle battery testing and analysis.
* **Industrial Automation:** Seamlessly integrate the amplifier into industrial setups requiring isolated and accurate signal amplification.

**Open-Source Nature:**

This project embraces the open-source philosophy, encouraging collaboration, and customization. The design is open for contributions and modifications, fostering a community-driven approach to electronics development.

**Conclusion:**

The Isolated Shunt Amplifier stands as a testament to precision and versatility in high-voltage electronics. With customizable gain options, a compact design, and the ability to handle significant common-mode voltages, this open-source project offers a valuable solution for engineers, researchers, and enthusiasts seeking accurate signal amplification in challenging environments.

**Explore the Potential of the Isolated Shunt Amplifier in Your High-Voltage Applications. Contribute to the Open-Source Community and Advance Electronics Development Today!**