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## A remote-controlled high voltage power supply using open source firmware modules

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The HVPS (High Voltage Power Supply) is a programmable, precision power supply developed at the Brazilian Synchrotron Light Laboratory (LNLS) for use in beamline instrumentation and laboratory setups. Specifically designed for integration with ionization chambers, the HVPS provides a stable unipolar output up to 5 kV with excellent load regulation and low ripple, ensuring high reliability and precision.

The system supports multiple control interfaces, allowing flexible operation in either local or remote environments, where real-time voltage and current monitoring is available via a built-in LCD display, analog outputs and remote monitoring. A dedicated embedded firmware, based on a RTOS, has been developed. It ensures remote configuration, monitoring capabilities and firmware update over TCP/IP stack, leading to a full integration with any control system standard and architecture. This paper describes HVPS hardware and firmware topology, as well as first use cases at SIRIUS facility.

### Footnotes

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