

The controller and monitoring system of 1-10 kV high voltage power supply

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The controller and monitoring system of 1-10 kV high voltage power supply was developed. The system composed of an Arduino mega 2560 microcontroller boards, a digital to analog conversion (DAC) part, a high voltage module and the designed software on a personal computer. The software was developed by LabVIEW software for controlled the high voltage module and displayed the high voltage values. The microcontroller board used for the digital data transmission to the DAC part and converted the high voltage value to digital data for monitoring. The DAC part generated the analog signal from a board for adjusting a high voltage value of a module. The completed system can be controlled the high voltage and the real-time monitored the high voltage value of a module with the resolution of 2.5 V. The error of actual high voltage values with the setting one was maximum of 5%.

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