



KEY FEATURES

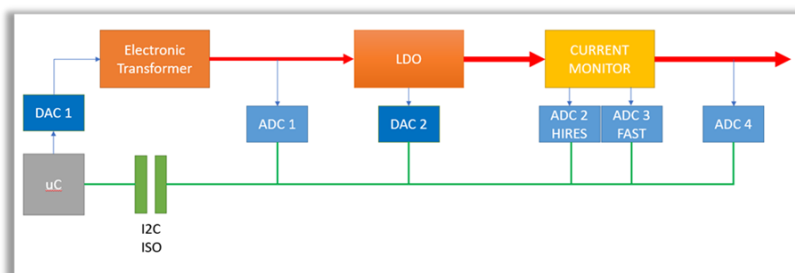
- ◆ 20-80V Output Voltage
- ◆ Programmable output ramp starting from 1.2V to output voltage
- ◆ 50 mA Output Current
- ◆ 1 mV Output Step Voltage
- ◆ Low noise, 560 μ Vrms at 50mA
- ◆ Isolated output. It can be used to provide both positive and negative power supply
- ◆ I2C, UART and Analog Voltage control
- ◆ HV SiPM temperature compensation with remote temperature sensing
- ◆ 100 μ V resolution voltage monitor
- ◆ 100 nA resolution current monitor
- ◆ 0.05°C resolution temperature monitor
- ◆ Programmable over-current protection
- ◆ Open source libraries in C/C++ and Python compatible with Arduino and Raspberry PI
- ◆ Working on Windows and Linux
- ◆ Zeus User interface to control multiple devices both via I2C and UART
- ◆ THT and SMT compatible footprint

Description

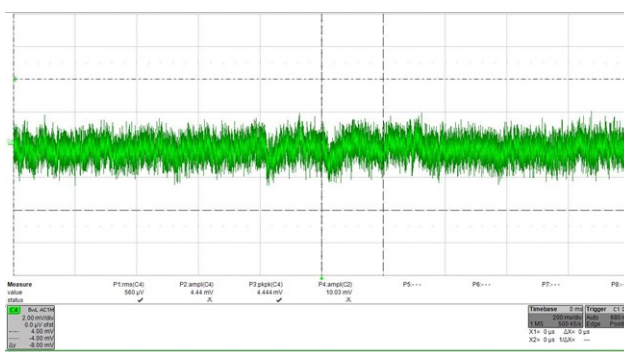
The A7590D is an isolated high voltage regulator specifically designed for SiPM bias. It has a built in temperature compensation controller with programmable coefficient.

The module can be digitally controlled by UART and I2C. Output voltage could be also controlled proportionally to an analog input, providing a voltage on a pin. A7590D can provide up to 50 mA and the output voltage could be regulated between 20V and 80V with a resolution of 1mV. It is possible to set a programmable ramp starting from 1.2V to the setpoint with configurable slope. The module is equipped with 24 bit ADC to monitor output voltage and output current. A PID controller can be enabled to exploit the high resolution of the ADC to stabilize the output.

The module output is electrically isolated from the power supply and control interface. The module indeed can be used as floating power supply, or, grounding the negative or positive output, as a non-isolated positive or negative power supply.



Dual conversion system. LDO stabilizes the output voltage and reduce switching noise. Switching converter allows high efficiency and isolate input from output



50 mA, 200ms/div
4mVpp, 560 μ Vrms noise
Output of the module direct connected to the oscilloscope

Ordering Option

Ordering code	Description
WA7590DXAAAA	A7590D - Digital Controlled Power Supply for SiPM 80V 50mA



<https://www.caen.it/products/a7590d/>



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