

# AEQ High Voltage Power Supply required for use in Spectroscopic Personal Radiation Detectors (SPRD)

## INDUSTRY

Industrial

## SOLUTION

UltraVolt® AEQ5

## EQUIPMENT

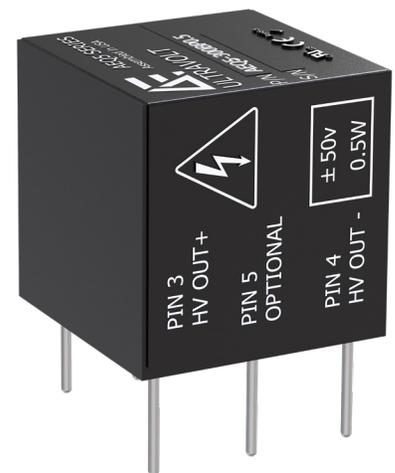
Spectroscopic Personal Radiation Detectors

## CHALLENGE

This end-customer is a manufacturer of thermal & visible light imaging, video analytics and advanced threat detection systems. This includes Spectroscopic Personal Radiation Detectors (SPRDs), which are small electronic devices designed to alert the wearer to the presence of radiation. They serve the purpose of intercepting illicit radioactive materials. The challenge for AE was to provide high voltage bias to SiPM radiation sensor. The end product is battery-operated and handheld and only 3-5 mW of high voltage DC-DC output power was needed. The customer seeking a lower-power alternate and input-output isolation required. The customer was using a custom discrete design and this needed to be taken into account by the AE team.

## SOLUTION

The proposed solution was the UltraVolt® AEQ5-100FL0.5. The series is particularly well-suited for hand-held and portable devices ranging from silicon detectors and avalanche photo diodes to MEMS devices and SPRD's. Its programmable control enhances flexibility, precision and reliability to address specific application needs. The AEQs high input-output isolation, small size, ease of voltage control and output voltage accuracy and stability, makes it ideal for use in high-voltage products where space and weight are critical application requirements. Customer will also consider usage of this product in other battery-operated designs.



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## CONCLUSION / RESULT

Advanced Energy's ability to provide a single drop-in package alleviates customer burden of high voltage DC-DC supply development. The total cost of the AE solution was deemed to be lower than sustaining engineering efforts required for ongoing discrete development. The customer understood the value and costing savings they could receive when utilizing a dedicated high voltage DC-DC supplier. Advanced Energy provided expert, local applications support and was willing to assist the customer with high voltage DC-DC best practices.



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