

## NukAlert Automated Radiation Measurement Station



Apogee Communications Group  
159 Alpine Way  
Boulder, CO 80304  
303.443.8473

[www.apogeepreparedness.com](http://www.apogeepreparedness.com)

[For business orders click here:](#)



**Apogee Communications Group**

**For local, state, and federal government orders**



The NukAlert Automated Radiation Measurement Station (ARMS) is a simple, inexpensive fixture for continuous reporting of radiation intensity. The ARMS can initiate shutdown of building outside air intakes when a user-defined radiation level is detected. Fallout particles are captured and held in the 1 square meter filter bed for measurement. The three layer filter simulates the properties of soil for radiation collection. An artificial turf top layer catches large lightweight particles and ash, preventing wind from blowing them off the platform. The middle absorbent layer holds up to 7mm of rainfall to retain soluble isotopes. Particles as small as 1 micron are caught by the lower filter layer. The replaceable triangular filter frames are reinforced with a metal mesh.

The vertical pipe section houses the sensitive radiation detector, Gateway communication device, Power Over Ethernet (POE) splitter, and environmental control. ARMS power and communications are sent through a single Cat 5 Ethernet cable. Lightning protection is provided at the mid span POE injector / lightning arrester. Cat 5 cable or fiber optics may be run from the POE injector to the Internet router. The station can feed data in ANSI N42.42-2012 format to multiple database URLs simultaneously.

The measured dose rate can be read as a BACnet analog value by compatible building control systems (BAS) for alarming and automatic shutdown of building ventilation (HVAC) when radiation above a set threshold is detected. The NukAlert ARMS is able to autonomously send radiation reports to multiple databases including FEMA's [RadResponder Network](#) and WebEOC. Our Automated Radiation Measurement Stations are currently reporting real time measurements from multiple locations. Additionally, the ARMS can send email and text reports of radiation levels to multiple key building personnel. The NukAlert ARMS accomplishes [Task 5.5 of the Rad Resilient City Initiative](#).

With the NukAlert ARMS, you can monitor real-time radiation at your location and remote sites without sending personal outside to take measurements. During a radiological event, if radiation is drawn in by the ventilation system, the shelter offered to people by a building can be compromised and the building may be rendered permanently uninhabitable by radioactive dust distributed in the ductwork. The NukAlert ARMS can protect the building and its occupants by initiating the closure of outside vents the moment elevated radiation is detected.

### **Specifications:**

- Station footprint: 52" X 52", 64" height
- Station weight: 75 pounds (UPS shippable - Easy assembly)
- Roof mounting method: 1' diameter heavy rubber pods (may be adhesive bonded to roof)
- Operating environment: -40°C to +85°C, 0 to 100% humidity
- Power requirement: Power Over Ethernet, 48VDC max at 0.5A
- Radiation detection instrument: [NukAlert-ER Geiger counter](#)
- Measurement range: 1μR/hr to 700R/hr
- No saturation below 1,000R/hr
- Accuracy Cs137 ±20%
- Geiger system: Active electronic quenching
- High rate system: Time To First Count (TTFC)
- Geiger tube: Supplied with LND 7121 Geiger tube. Other tubes available as options
- Gamma Sensitivity: 18 counts/sec @ 1mR/hr (10μSv/hr)
- Background: <10 counts/minute (Shielded)
- Rapid, sudden radiation change response time accuracy: 2 seconds at 10mR/hr within ± 25%
- Supplied with: 50' Outdoor Cat-5 cable and POE Injector/lightening arrestor
- Fiber optic interface available on request at no additional charge
- One year limited warranty
- Yearly recalibration service and extended warranty available
- Radiation instrument accuracy type tested by Oak Ridge National Laboratory

### **Features:**

- Sends real time radiation reports to FEMA's RadResponder Network, WebEOC, and multiple databases
- Can initiate HVAC actions through BACnet to prevent distribution of radioactive contamination
- ARMS can send email and text alerts of high radiation levels before closing HVAC air intake
- Can send multiple email and text alerts at user defined radiation levels
- Radiation measurement reports as often as every 60 seconds
- **Will not saturate (overload) and report false or no readings in high levels of radiation**
- Excellent linearity over 9 decades of radiation intensity

