

# Rad-D™ FAQ

## **For what type of applications is the Rad-D best suited?**

The Rad-D can be used any place where fast detection and monitoring of radioactive materials is necessary. The unit can be mounted on walls, vehicles, machinery, X-ray machines and conveyer belt systems by using the Laurus systems PRM mounting brackets.

## **How much current does the Rad-D system need to properly operate?**

The Rad-D requires 0.15 amps.

## **Can it be used with 50 Hertz and with 60 Hertz power?**

Yes. No modification to the Rad-D required. A cable has to be built for the specific country's wall plug standard.

## **What are the tolerances for frequency and for voltage that the system can endure from unconditioned power?**

Max specs are 85 to 265 VAC from 47 to 440 Hz. Nominal operating range is 100 to 240 VAC and 50 to 60 Hz.

## **Are MTBF and MTTR projections available at this time?**

No formal MTBF estimating has been performed as per MIL-STD-217. Components are all COTS surface mount and the PMT and NaI are environmentally sealed. MTBF will be on the order of 50,000+ hours. MTTR is 5 business days from failure, give one day shipping to and from.

## **What range in temperature and in humidity can the system accept (e.g., outside in AK, PR, TX, or HI)?**

External Temperature: -10 °F to 120 °F Humidity: 0 to 95% relative humidity, non-condensing

## **Is there a mandatory warm-up time from a cold start to full operation (e.g., outside in AK, ND, or ME)?**

There is no warm-up time from a cold start within the operational temperature range. For outdoor use in cold environments, we would add a heater inside the Rad-D to maintain a stable temperature all year. This will prevent any possible damage to the NaI crystal to wide swings in temperature.

## **Can the system configured to also detect neutron radiation?**

The Rad-D becomes capable of Neutron detection by adding the additional He-3 Cylindrical He3 Neutron Detectors.

## **What is the detector's range(s) of operation?**

The detected energy range for gamma radiation is 40 keV to 3000 KeV. The default alarm setting for dose rates is approximately .03 mR/Hr (3 µR/Hr). (figure 1)

## **Alarm Level Equivalents (figure 1)**

<i>Alarm Level</i>	<i>CPS</i>	<i>MRem/Hr</i>	<i>µSv/Hr</i>
1	5	0.0282	0.28
2	65	0.0294	0.29
3	125	0.0313	0.31
4	245	0.0341	0.34
5	485	0.0400	0.40
6	965	0.0505	0.50
7	1925	0.0912	0.91
8	3845	0.1510	01.5
9	7685	0.2340	02.3

