

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 (30 µR/Hr).

Alarm Level Equivalentents (figure 1)

<i>Alarm Level</i>	<i>CPS</i>	<i>MRem/Hr</i>	<i>uSv/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

