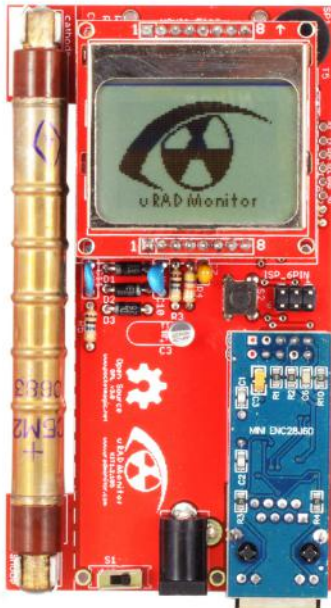**MAGNASCI**

Open source gamma/x-ray radiation dosimeter

Features

- Automated radiation monitor with Ethernet connectivity to centralize data
- Real time alerts
- Open source
- Extension port for additional sensors
- Integrated speaker for alarms
- LCD Display
- Direct and Cloud data access via API
- Low power consumption
- Compact size

Applications

- Home monitoring
- Internet of things

Description

Intended as open source for those who want to build their own dosimeter with their own tools, this is also available pre-assembled. It measures Gamma radiation and with the integrated Ethernet connectivity will send all measurements automatically via the Internet. Add a battery and it can also be used as a portable dosimeter, showing all measurements on the LCD.

Automated monitoring provides more options over using handheld units occasionally. Mapping data trends becomes possible thanks to continuous surveillance and a permanent data flux. We have a higher detection capability for small variations and can trigger automated alarms if predefined thresholds are reached, improving reaction time while lowering costs.

The uRADMonitor network is a global array of interconnected monitoring stations, focused on continuous Environmental Surveillance. Its purpose is to generate fully transparent open data, used to assert the quality of our environment.

Sensors

uRADMonitor model KIT1 uses the military grade SBM20 Geiger Tube to detect gamma and x-ray ionizing radiation. It also features an extension port where additional sensors can be connected.

Sensor	Parameter	Minimum value	Maximum value	Operating temperature
SBM20	γ,x-rays	0.01µSv/h	9999.99µSv/h	-40 °C .. +100 °C

Specification

Parameter	uRADMonitor KIT1
Internet connection	Ethernet RJ45 10/100/1000 Base-T Networks
Standards	IEEE 802.3
Enclosure Protection	n/a
Supply Voltage	5V
Dimensions	110x60x20 mm (excl. sup)
Weight	100g
Mounting	PCB holes for screws

uRADMonitor Model KIT1
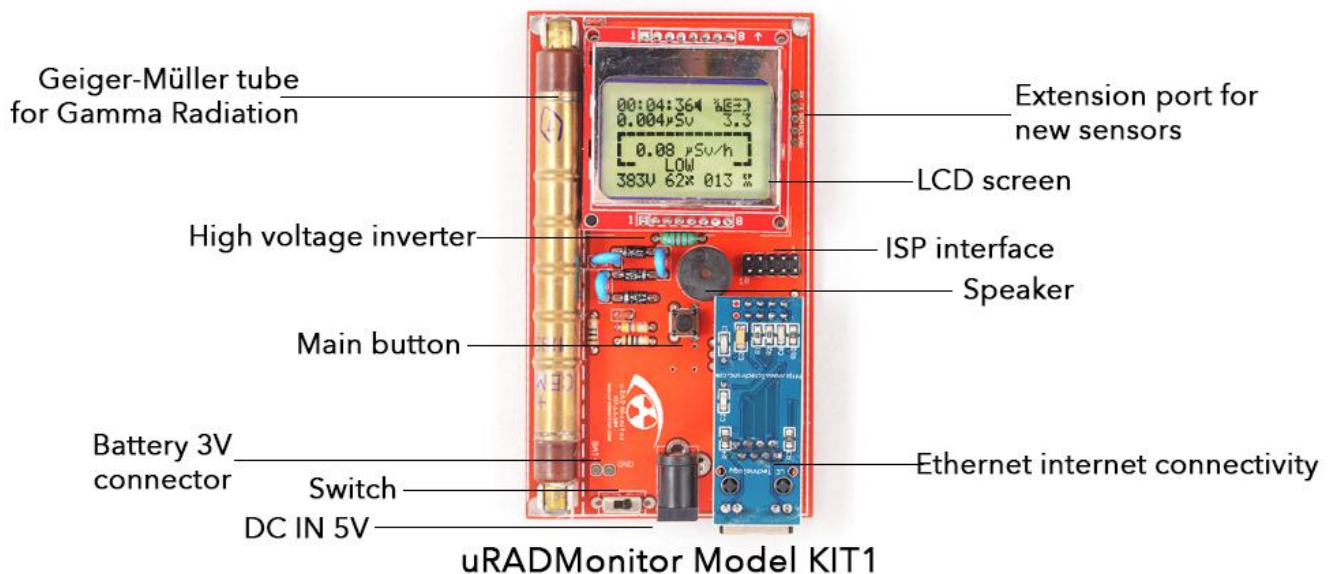
Impact

As part of the uRADMonitor network, the purpose of the Model KIT1 is to provide a global image on the radioactive contamination, ranging from natural sources such as soils rich in radioactive elements to man made sources mostly released in case of nuclear incidents, illegal nuclear activities or illegal transportation of nuclear materials.

Ionizing radiation is harmful to living organisms because it can cause damage to cells that can result in multiple disorders , the most common of which is cancer. Ionizing radiation is naturally occurring from cosmic and terrestrial sources, but there are also artificial generators related to nuclear activities or x-ray devices . Worldwide global average dose is 3.01mSv according to Radiation Health Effects, US Environmental Protection Agency .