



Environmental
Instruments
Canada Inc.

CT007-T Thermal Neutron Detector

Small, sensitive neutron detector that connects to your phone.

Features

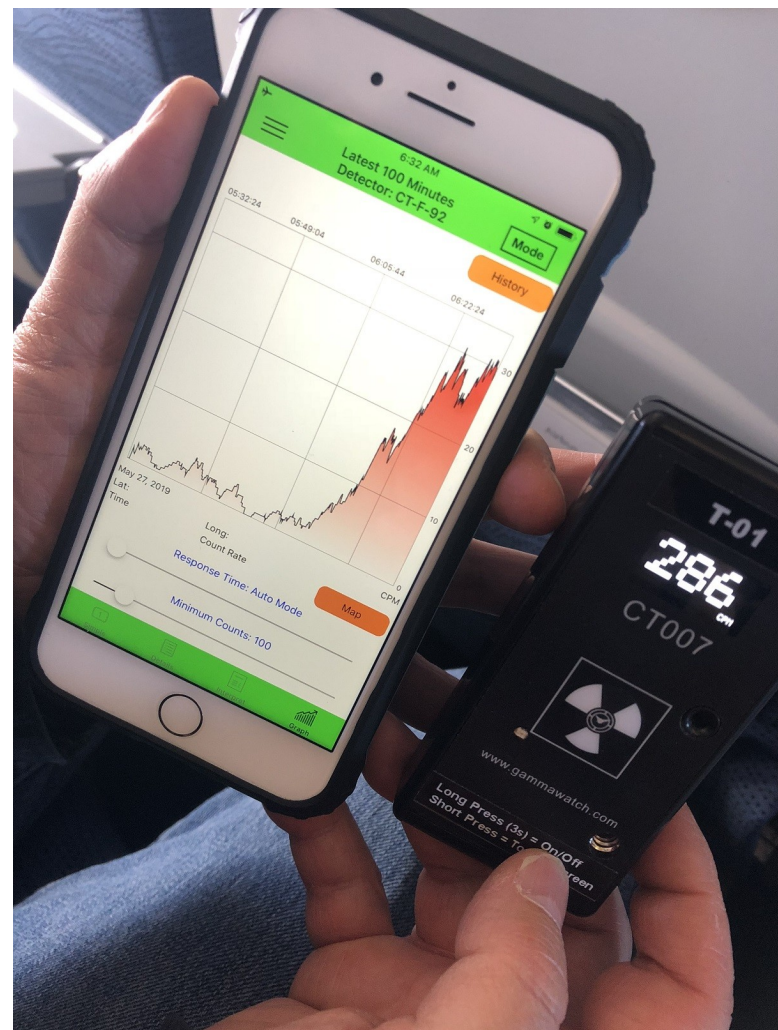
- Compact, lightweight, ergonomic
- Scintillation detector. Does not contain toxic, corrosive, or He-3 gas.
- Approximately 6 cps/nv detection efficiency
- Simple single-button local operation
- Connects to the GammaGuard app via Bluetooth Low Energy (BLE)
- Data logging and data export provided by GammaGuard

Introduction

The CT007-T is a small, light weight hand-held neutron detector. It does not contain He-3 or any toxic or corrosive gases and is safe to fly. The CT007-T can be used by itself to measure ambient thermal neutron levels. Or, it can be surrounded by polyethylene pellets to moderate and measure fast neutrons. The instrument connects via BLE to a smartphone and the smartphone serves as a remote display; thus, an operator can read the neutron level measured by the CT007-T, even when the instrument is completely covered in polyethylene moderator. The radiation sensor is detachable (~1 ft cable), allowing the sensor to be shielded against x rays while still maintaining a reliable BLE connection.

Uses include: detecting and locating neutron sources for Homeland Security applications or to monitor neutron levels in research facilities.

Custom instruments with increased sensitivity are available.



Specifications

Indicated Use: Detecting and locating neutron sources. Monitoring neutron levels

Detector: 6Li and ZnS(Ag) based scintillator and silicon photomultiplier

Measurement Units: User selectable (μ Sv, mRem or counts)

Neutron Sensitivity: 6 CPS/nv

Gamma Sensitivity: 0 CPM in 3 R/h (30 mSv/h) [137 Cs]

Measurement Range: 0 to 1,500,000 CPM

Resolving Time: 30 microseconds

Response Time: User selectable from 1 to 30s or Auto. Display updates every second.

Background: ~2 CPM

Display: 2.2 x 1.2 cm OLED. Font size automatically adjust to display as many digits as needed

Local Controls: Single push button. Short press to toggle screens; long press on/off

Wireless Communication: Bluetooth Low Energy connecting to GammaGuard

Batteries: 2 standard AA batteries

Operating Time: 1000 hours connected to GammaGuard, 300 hours with screen on

Size: 10.5 x 6.3 x 5.1 cm

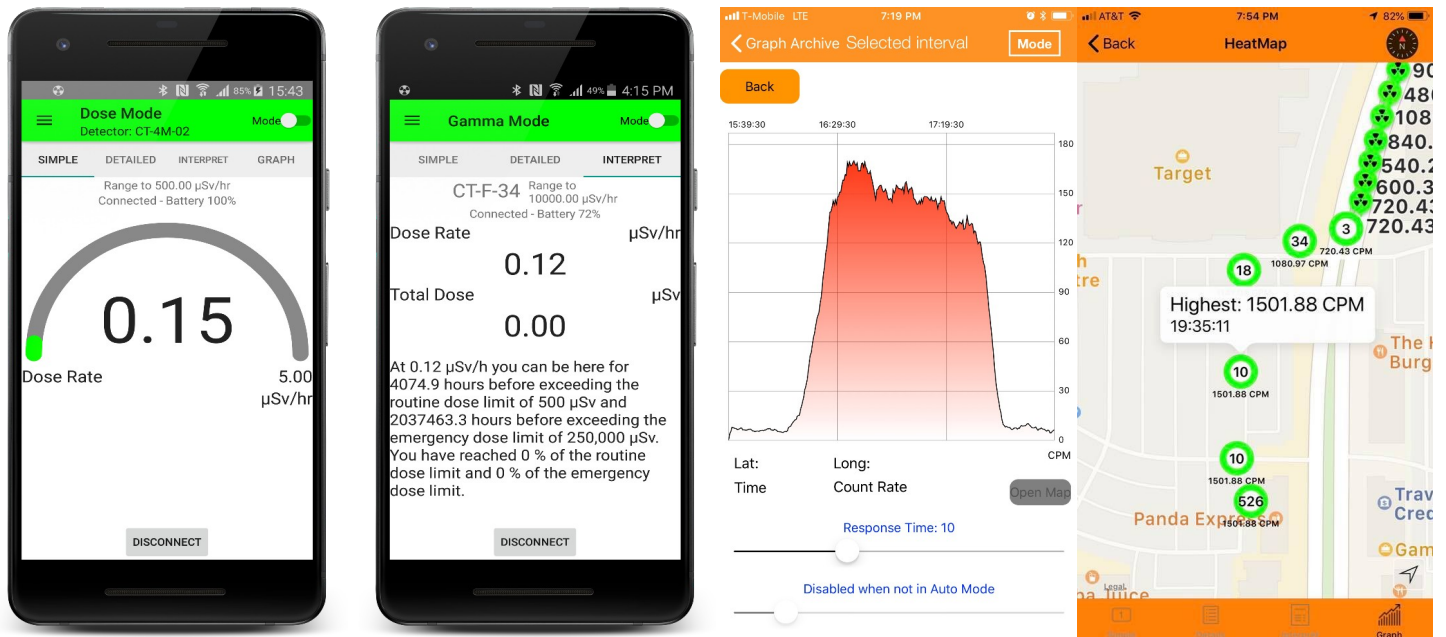
Weight: 285 g (including batteries)

The GammaGuard System

The CT007-T, like many of our other radiation measurement instruments, connects to our GammaGuard app.

The GammaGuard App:

- Provides a large, easy to read display.
- Has the ability to interpret readings for non-technical users.
- Uses one consistent user interface across all CT007 series detectors so that there is only one system to learn.
- Can automatically save data to a file and upload data to a central database, facilitating coordinated incident response.
- Will run in the background while performing other tasks.
- Alerts the user to elevated radiation levels, even when the app is not in the foreground.
- Displays the radiation level when the CT007 series detector is up to 40 m away.
- Changes background from green to yellow to red to indicate low, elevated and high levels of radiation.



For more information
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