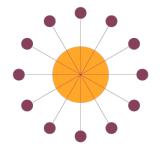- Gamma, x-ray and Beta radiation
- Dose rates up to 100 μSv/h (10 mR/h)
- Accumulated dose rate
- Adjustable audio alarm
- Long range Bluetooth communication
- Android and iPhone apps
- Long battery life
- Only 20 grams
- 53 x 50 x 12 mm

ATOM-SWIFT

WORLDS SMALLEST RADIATION DETECTOR

ATOM SWIFT Personal Dosimeter

Atom Swift is a compact keychain radiation dosimeter designed to work with a smartphone or tablet PC. It is capable of detecting and measuring low level Gamma, X-ray, and Beta radiation. Radioactivity can be measured in order to discover the amount of radiation a material emits or the amount of radiation absorbed by a human. Some example uses include: personal radiation protection, surveying of land/building/construction materials, vehicle inspection, etc. The Atom Swift is ideal for use at home, work, educational use, or on the go.

Atom Swift contains an ultra-sensitive scintillation crystal detector (CsI crystal and silicon photomultiplier) capable of detecting low-energy gamma and X-rays.

The detector and associated electronics are housed in a robust polycarbonate housing, small enough to hang on a keyring and is powered by one CR2032 lithium battery.

Free apps are available in the AppStore (for iOS) or Google Play (for Android). The app can be used to process information gathered from scintillation detector and show readings on screen. The smartphone or tablet PC app allows you choose between measurement units, set dose rate and accumulated dose alarm level and many other parameters.

Standalone Use
Atom Swift can also operate in standalone mode if wireless communication with smartphone or tablet PC is unavailable. There are three user-programmable dose rate and accumulated dose thresholds with different alarm signals. These thresholds can be programmed by the user for use when in standalone mode. Information on accumulated dose is stored while Atom Swift is in standalone mode and can be read after establishing wireless communication. A smartphone or tablet PC can be connected to many Atom Swifts at simultaneously.

Work modes:
Atom Swift can operate in two modes: search mode and measurement mode. Toggling of these modes can be changed on the smartphone or tablet PC app. If your device is switched to airplane mode, the Atom Swift continues to operate in standalone mode.

Search mode
In search mode, reaction to radiation dose rate change is fast in expense of measurement accuracy. You can select between "Fast", "Balanced" and "Accurate" search modes in application settings according to your needs. In search mode data from the sensor is analysed using sliding window method, time to first reading is less than 10 seconds in "Balanced" search mode under normal radiation background (0,1 uSv/h or 10 uR/h). After the first reading is indicated, it will be updated every two seconds. Search mode is recommended for surveying of land, vehicles, construction materials etc.

Measurement mode
In measurement mode, Atom Swift gathers information from the scintillation detector continuously until the manual reset button is pressed and indicates current statistical error which decreases with measurement time. You can start new measurement any time by pressing "Reset" button on the measurement screen. Measurement mode is suitable for detecting very low activity sources by comparison of two dose rates: background dose rate and dose rate close to possible source of radiation. Try not to move the Atom Swift during measurement to get most accurate readings. Please note that statistical accuracy increases by square root law: you need to make four times (4x) longer measurement to get twice (2x) accurate result.

Change settings or turning unit on and off
The Atom Swift has no physical buttons, instead it contains an accelerometer which allows the user to change settings without the use of a smartphone or tablet PC. Many settings can be controlled by flipping the Atom-Swift 360° one or more times along either planar axis.