

CANARY pro

FEATURES

Digital radon monitor, continuously monitoring indoor radon levels. Data is stored in the **CANARY pro** for uploaded to computer through an RF(wireless) interface. Advanced report and analysis software is used on the computer side to study the temporal variations. Mitigation studies can be visualized and analyzed.

LCD Display:

Default

- Long-term average up to the last 12 months since RESET
- Short-term averages: last day and last 7 days

Mode

- Long term average value and the exposure time (in days)

SPECIFICATION

Power consumption: < 250 μ W

Accuracy: \pm 5%

Dimensions: 120mm \times 69mm \times 22.5mm

Weight: 130 grams (incl. batteries)

Method: Energy spectroscopy

Diffusion time constant: 80 min

Internal memory storage capacity

- 80 days radon concentration at 2h time resolution and
- 80 weeks radon concentration at 1 day time resolution

Battery powered:

- 3 x LR03 (AAA Alkaline)
- Battery lifetime \sim 3 years

Sensitivity @ 100Bq/m³:

- 1 day average \sim 2 counts/h
- 7 days average \sim 0.3 counts/h
- Long-term average \sim 0.3 counts/h

Precision:

- Short-term 7 days average: < 20% after one-week exposure
- Long-term average: < 10% after one-month exposure



Figure 1: Canary pro Starter Kit



Figure 2: Canary pro full kit



GENERAL DESCRIPTION

The CANARY pro is a digital real-time continuous digital radon-monitor for indoor environment with the capability of data upload to computer. The CANARY pro(s) data is uploaded to the computer via RF connection.

CANARY Report & Analyse (CRA) software allows the analysis, visualization and reporting of the data uploaded.

It samples the indoor air through with a passive diffusion chamber, and it does alpha spectrometry with rejection of both cosmic background and self-activation events. It uses silicon photo-diodes both to count and to measure the energy of alpha particles resulting from the decay chain of radon gas.

The one-day average radon concentration is calculated counting the alphas originating from Rn-222, Po-214 and Po-218. The seven day- and long-term averages calculation uses the alpha particles originating from Rn-222.

The energy is periodically self-calibrated, and the data is stored in 2h resolution.

The radon concentration is calibrated towards reference instruments. The reference instruments are calibrated in accredited laboratories.

The battery lifetime under normal operations is approximately 3 years.

SOFTWARE

Canary pro software supports the following features:

- Supported operating systems:
 - Windows XP- Windows 8
- User friendly interface
- Wireless datatransfer
- Study of temporal variations
- Possible to select day/time for each week to study temporal variations
- Easy reporting tool. On-click-reporting!
- Customized your own report
- Plots:
 - Average per day
 - Hour-to-hour variations
 - Accumulated week
- Indication in plot for action- and max-level



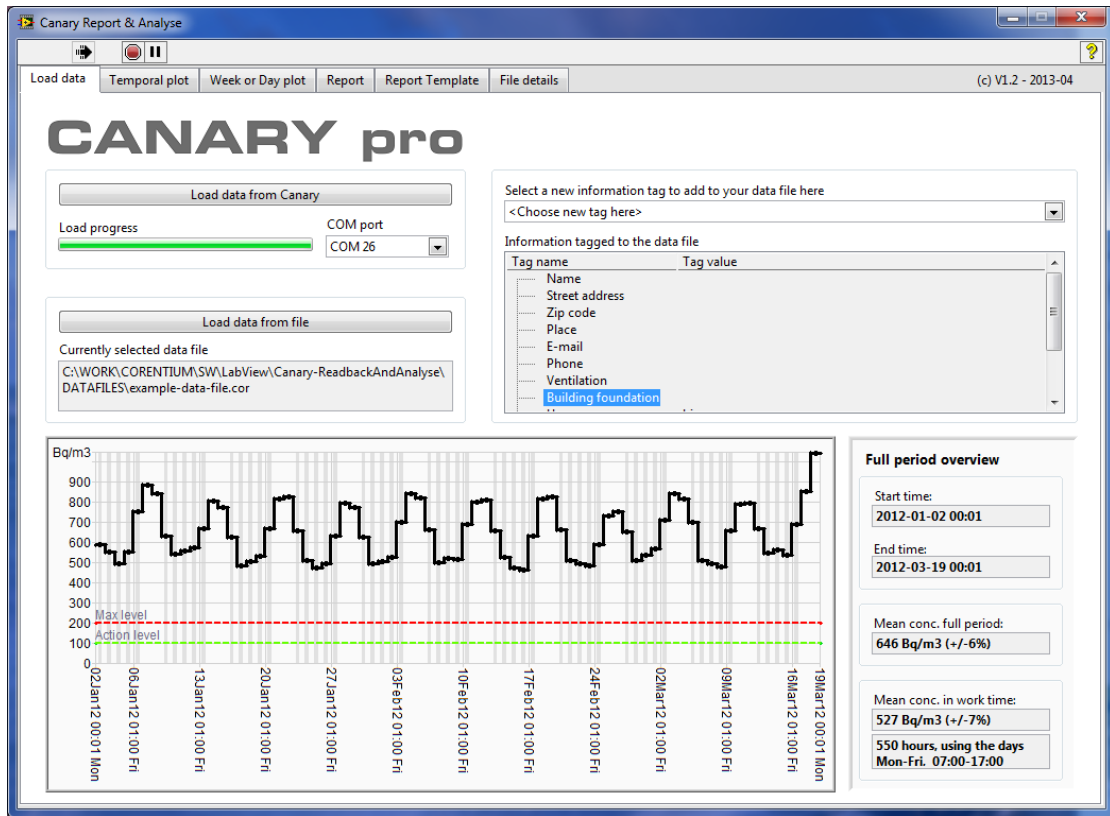


Figure 3: Screenshot software main menu.

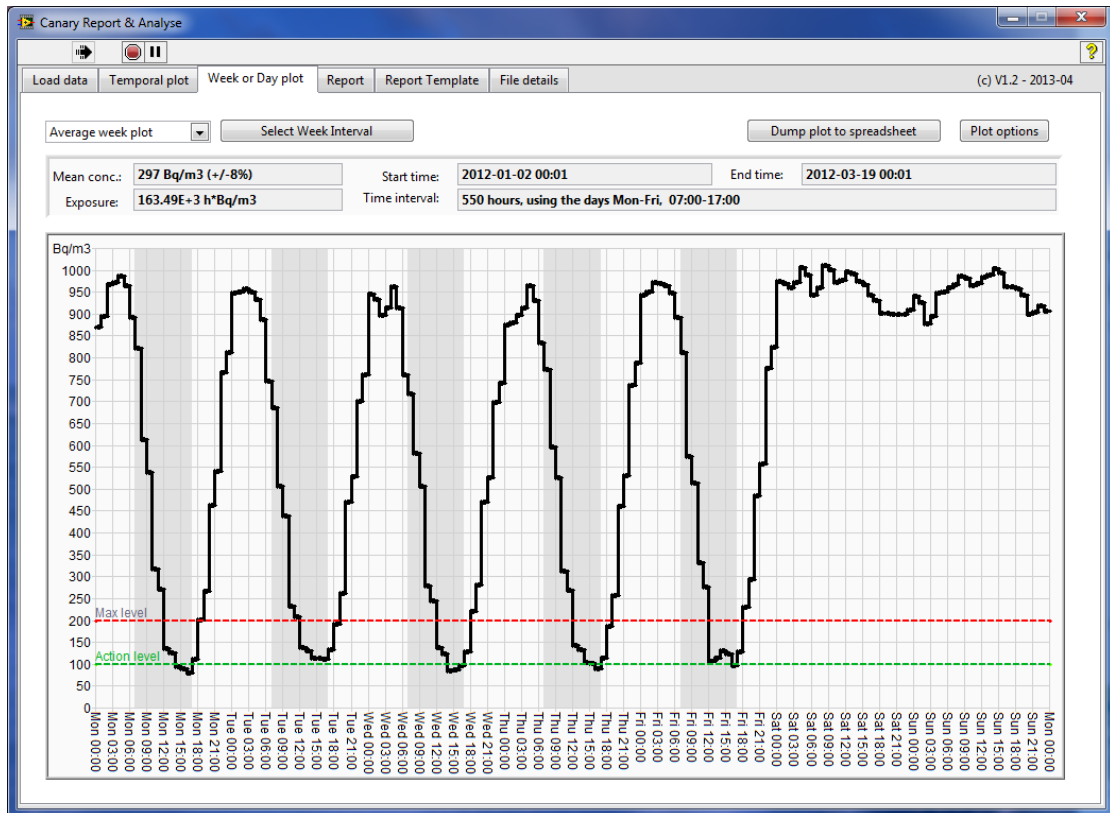


Figure 4: Screenshot of a week plot.



PRECISION

