℮RIS1D

Dual Radiameter: Radiation and Contamination

The Eris1D is a handheld, compact and lightweight radiation monitor for detecting and measuring **two different types of measures: Gamma and X-Rays dose rate (µSv/h), and alpha, beta and gamma radioactive contamination (cps).**

The Eris1D has a Geiger-Müller detector with an open mica window for detecting the alpha, beta and gamma contamination. The measure of contamination rate (cps) is performed placing the energy filter so that the window of the detector is completely open. The measure of equivalent dose rate (µSv/h) is performed placing the energy filter so that the window of the detector is completely covered. **The way to switch the type of measure is very easy: simply turning the energy filter, covering or not the window**. A sensor detects the filter position and sets automatically the measuring type on the display.

The monitor is ready to use as soon as it is turned on and the surfing on the menu is very **intuitive and user-friendly**. The language of texts and messages are all in English. Its sophisticated firmware calculates the average value of the detected events in last seconds, correcting the dead time of the detector. This reading is very stable, but it is automatically updated when the radiation field varies more than three times the standard deviation of the previous reading. This makes the monitor has a **fast response time and steady readings**.

Both the dose rate in µSv/h and contamination rate in cps have **two modes for displaying values**: the **Rate mode** in which the average value is updated each second, and the **Hold mode** in which the maximum value reached is frozen on the display. Besides they have independent alarm threshold values, which can be set by the user and stored in the non-volatile memory. In case a reading value is above its alarm threshold value, an alarm message will be displayed. The monitor also has self-check routines and displays a warning message if the battery level is low, if the detector fails or if the reading overflows.

After its manufacturing, the Eris1D is tested, adjusted and calibrated. The monitor is supplied with a transport case with strap and with a belt clip, with the user's manual (in English) and certificates with the results of the measures in equivalent dose rate H*(10) (related to Cs-137) and the results of the calibration factors for some reference isotopes (ISO7503-1).

- **Small, compact and lightweight.**
- **Two types of measures: radiation dose rate (µSv/h) and contamination rate (cps).**
- **Two modes of readings: Rate mode and Hold mode.**
- **Two independent threshold alarm values for µSv/h and cps.**
- **Self-check routines: Alarms, low battery, detector failure and overflow warnings.**

TECHNICAL SPECIFICATIONS

Measuring types:	**-Window covered: Gamma, X-Rays, H*(10), in Sv/h**
	-Window uncovered: Alpha, Beta and Gamma, in cps
Detector:	**Open mica window Geiger-Müller detector, with an effective area of 7 cm², and protection grille.**
Reading modes:	**Rate and Hold.**
Indication range:	**0.01 µSv/h - 3 mSv/h.**
	0.00 cps - 10 Kcps.
Measuring range:	**0.1 µSv/h - 3 mSv/h.**
Sensibility (gamma):	**approx. 3 cps/µSv/h (related to Cs137).**
Accuracy:	**±15% of reading in the measuring range.**
Energy range:	**30 KeV to 2.5 MeV (with filter placed).**
Energy dependence:	**±20% (related to Cs137, with filter placed).**
Typical 2π efficiencies:	**Sr90+Y90 (β) ~ 38%**
(4 mm. from the source)	**Cl36 (β) ~ 37%**
	C14 (β) ~ 10%
Response time:	**Automatic, min. 1 s, 3-sigma criteria.**
Display:	**12x2 LCD.**
LED:	**Events frequency indication.**
Audio:	**Controlled by keyboard.**
Keyboard:	**Four membrane pushbuttons, ON/OFF, MENU↑, AUDIO➜, RESET◄.**
Power:	**Alkaline 9 volts battery.**
	More than 80 hours of continuous operation (with a rate <1 µSv/h).
Dimensions:	**11.7 x 7.2 x 3.0 cm.**
Weight:	**220 g. (with battery)**
Temperature range:	**-10 °C a +50 °C.**
Humidity range:	**máx. 90% RH (non condensed).**

Please note, due to our policy of continued development, specifications are subject to change without notice

LAMSE

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