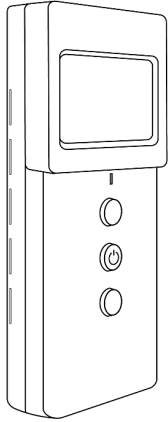


## 特点概述



- 带盖革管粒子声 Cliking
- 100 秒柱状图功能
- 过量射线接触次数统计功能（仅限 KB6011） New
- 射线曝光时间统计功能（仅限 KB6011） New
- Turbo Q2.0 加速响应技术
- 特殊合金蒙皮能量补偿 New

## 检测方法

**一般测试：**将仪器背面靠近被测物，每间隔 15 秒刷新一次数据（1 个周期），需等待 1 分钟，数值接近稳定后可读数。测试大理石时由于辐射较低，建议放置 5 分钟，查看 Average 平均值。

**测试碘 131：**将仪器靠近患者的药物作用部位，如果是颈部治疗，那么将仪器背后靠近患者颈部，等待 1 分钟以上，查看实时值。

**测试空间值：**仪器放置距离地面 1 米处，避免地面的贝塔射线干扰，在空旷地方测试 5 分钟。观察 Average 平均值。

**查找放射源：**将仪器调至图形界面，观察柱状图的情况，将机器背面贴近扫描被测物。观察图形情况和报警音。

**DR, X 光泄露：**将仪器放入需要检测的房间，开启射线后，瞬间即可检测，查看实时值即可。

## 污染限量值

0.18 $\mu$ Sv/h 本底	< 0.25 $\mu$ Sv/h 安全	> 0.52 $\mu$ Sv/h 危险
--------------------	----------------------	----------------------

## 产品规格

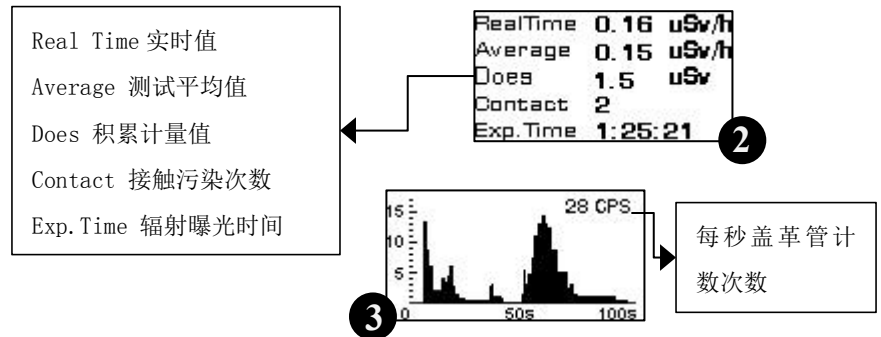
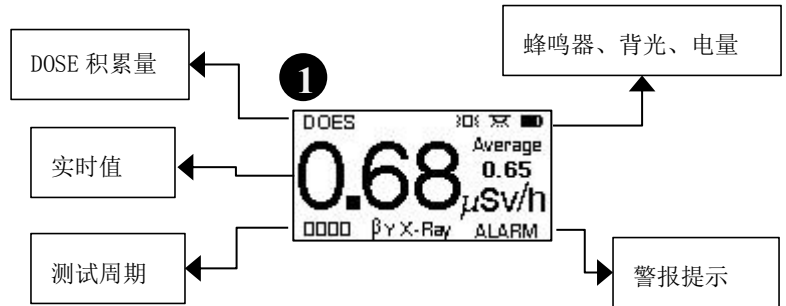
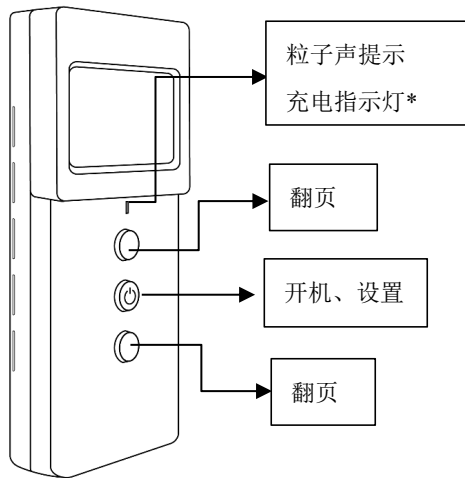
品型号	KB6011 / KB4011
探测射线类型	$\gamma$ , X-rays, $\beta$ particles
探测器	能量补偿 GM 管
剂量当量率	0.00~5000 uSv/h (5.0mSv/h)
能量范围	48keV ~ 1.5MeV (< $\pm$ 30%)
固有误差	< $\pm$ 10% (KB6011) < $\pm$ 14%(KB4011)
灵敏度	80CPM/uSv/h (Co-60)
分辨率	0.01 uSv/h
检出限	0.05 uSv/h
响应速度	< 1s (暴露于 20uSv/h)
产品尺寸	117 $\times$ 49 $\times$ 19.5mm

## 不同型号的区别

参数上，KB6011 分为 SBM-20 版和国产华核 M 管版本，参数上二者基本相同。新版中我们将通用版本也做了能量补偿蒙皮，避免了低能光子的干扰。主要区别在于 SBM-20 的探测速度会略快一些，金属管耐久度更高。全球的知名度高一些。

功能上，KB6011 与 KB4011 相比，KB6011 拥有更丰富的测试功能。包括独家的“过量射线接触次数统计功能”和“辐射曝光时间统计功能”。这两项在工业生产，医学防护，短期射线评估等场景中更有参考价值。

## 功能和界面参数说明



\*关机状态下，充电指示灯闪烁，表示充电中。

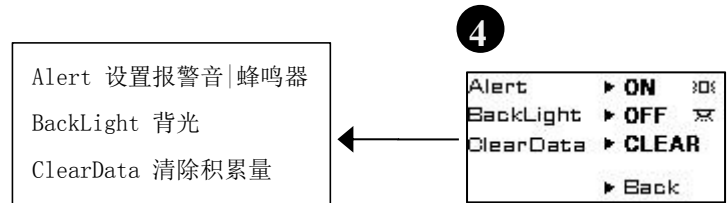
关机状态下充电指示灯常亮，表示满电。

**Contact 接触污染物次数计数器**（仅限 KB6011）

每次测到污染物这个值就会累计算数。可用 ClearData 手动清零。

**Exp. Time 辐射曝光时间统计功能**（仅限 KB6011）

可以帮助客户统计处于污染环境中的总时长，比如统计 X 射线开机  
 的照射时间，或者接触超标污染物的总时长。同样通过 ClearData  
 可以手动清零。



## 如何对产品进行基线背景值校准（一般无需操作）

对本底值进行校准，开机进入菜单页面，重复点击 ClearData 20 次以上，然后重启设备，将会进入背景值校准界面。此时设备需要静置在  
 桌面上，30 分钟，其过程误差中，不误差要接触任何放射物。等待 30 分钟之后，机器自检校准完毕。重启设备后，即可继续使用。

## KB4011/6011 Radiation detector manual



alarming values:  $> 0.52\mu\text{Sv/h}$

Safe values:  $< 0.25\mu\text{Sv/h}$  (average reading values are less than this level means safe from the radiation)

Environment background radiation  $\approx 0.18\mu\text{Sv/h}$

### Features

- The clicking noise of a Geiger counter(continuously clicking)
- 100 seconds histogram display.
- Less than 1 seconds high decibel fast alarm (KB6011)
- Radiation Exposure contact time statistics (KB6011)
- Radiation Exposure duration statistics (KB6011)
- Turbo Q2.0

Device model	KB6011 /4011
Radiation type	$\gamma$ radiation, X-rays, $\beta$ particles
Inspection sensor	Geiger-Müller counter tube
Dose equivalent rate	0.00~5000uSv/h
Energy range	48keV ~ 1.5MeV ( $\leq \pm 30\%$ )
Inherent error	$< \pm 10\%$ (KB6011)/ $< \pm 14\%$ (KB4011)
Sensibility	80CPM/uSv/h (Co-60)
unit	uSv/h 、cpm

**General testing methods:** Place device against to the testing object, The data is refreshing every 15 seconds (1 test cycle), waiting 60 seconds (after 4 cycles), the reading values should be stay stable. For marble radiation testing, the suggested testing time will be 5 minutes (considering the background radiation value is very low, so 5 minutes of data collection is necessary for more accurate results).

**Surrounding radiation test:** Place the device 1 meter above the ground, avoiding beta-ray interference on the ground and testing in open areas for 5 minutes. Observe the average readings on the display.

**Find the radiation source:** Change the display to the histogram interface, and scan the object near the back of the machine. Observe the graphical situation and the alarm tone.

**Household testing items:** Stones, jewelry, imported goods radiation detection (all models apply).

**Medical / equipment radiation testing:** radiation inspection of X-ray machines such as security inspection machines, CT, hand-held metal flaw detectors, hospital safety distance measurement, real-time monitoring of using radiation drugs (KB6011 Recommend)

### **Radiation Indicator light**

At the bottom of the screen, the yellow indicator light flashes once, indicating that the Geiger tube receives one discharge signal. The higher the frequency, the bigger the radiation reading values. Since there is a background radiation from the cosmic environment and the air, there should be 20 to 30 beats per minutes flashing under normal environment conditions.

### **The difference among each KB series devices**

KB6011 model have SBM-20 version and general version. The general version uses the domestic Chinese Huahe M4011 Geiger tube, which has the same specs as the SBM-20 Geiger tube, However, the SBM-20 Geiger version has slightly superior response speed and durability. Compared with KB4011, KB6011 has more extensive test functions. Including the exclusive "excessive radiation contact count statistics function" and "radiation exposure time statistics function". These two new functions could offer sufficient reference values in industrial production, medical inspection and protection, and short-term radiology assessment.

**Dose accumulation function (Dose):** It can record the dose accumulation since the last time data clearing. Please keep this value no more than 3100 $\mu$ Sv within a year, otherwise, the amount of radiation received will exceed the national standard values.

**Contactable pollutants counting function (Contact) (ONLY FOR KB6011) :** this number will be added while the device has direct contact with the pollutants every time. It can be cleared to zero after using ClearData manually.

**Radiation exposure time statistics(Exp.Time) (ONLY FOR KB6011) :** this function can help users to record the time which been exposing under radiation. For instance, the time while using X-rays machine for examination, or the time making direct contact with radiation pollutants. This data can also be cleared to zero after using ClearData manually.

### **How to perform background radiation value calibration on the product. (Non-essential operation)**

To calibrate the background value of the device, Turn on it and press confirm button to enter the setting page, repeatedly click ClearData for 20 times or more, then restart the device, it will enter the background value calibration interface automatically. At this point, the device needs to be left on the table for 30 minutes, during which time, do not make contact with any radiation source. After waiting for 30 minutes, the device self-calibration is completed. Restart the device and continue using it.

All products (KB4011/KB6011) are factory-corrected before shipping and have a reliable performance.