Radiation Scanner

Model 910 Radiation scanner

USB port

α β γ ray switch selection

Automatically stores data

Data analysis software

Real-time data transmission to computer

Radiation scanner Model 910 is an upgraded version of the original Model 900. In 2011 Coliy Technology GmbH redesigned the Radiation scanner Model 910 to make it easier to operate with a much higher reliability factor: Its buttons are simplified into 8, which makes the interface more user-friendly, its internal circuitry is optimized to be more reliable; its memory is expanded to stock more data.

The Radiation scanner Model 910 was designed to help recognize the risk of terrorist attack after the 9.11 incident. With its powerful functions it can be used under severe adverse conditions. Due to its resistances to high impact and high and low temperature it offers reliable and precise measurement data. The main body of the Radiation scanner 910 is small, light with a strong shell to protect it. It can detect α、β、γ and X-rays as described and adopted by the nuclear radiation sensor standards laid down by the American Bureau of Standards. It is a small sized radiation sensor with the best performance characteristics in the current market.

Applications

Radiation scanner Model 910 can be used widely in the fields of pharmaceutical factory, laboratory, power plants, quarries, emergency rescue stations, metal treatment plants, underground oil fields, and oil pipeline equipment, environmental protection, police station etc. It is used for:

Inspecting underground water radium pollution
Inspecting radioactivity of underground drilling pipes and equipment
Inspecting radon radiation and cesium pollution of surrounding environment
Inspecting radioactivity of architecture materials such as stone etc
Inspecting radioactivity of porcelain tableware and glass etc
Inspecting local radiation leakage and nuclear radiation pollution
Inspecting the danger of nuclear radiation in landfill and garbage dump
Inspecting harmful radiation of personal precious property and jewelry
Inspecting X-ray intensity of Medical and industrial X-ray instrument from

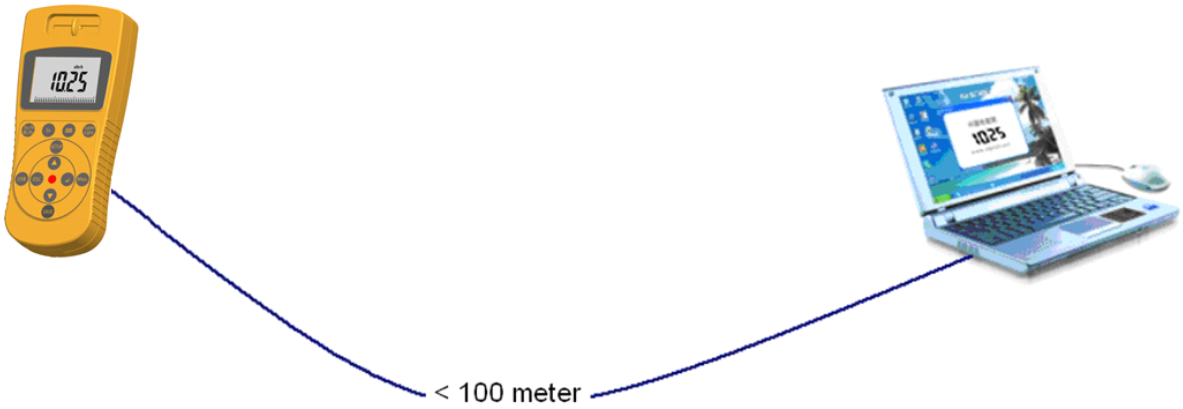
Features

Ray selection switch
Function of holding Maximum
Displays the adjustable average time
Automatically stores the sample data
Accumulates the radiation measurement data
Calibration every five years
Design is compact and anti-impact, easy to carry
Ergonomically designed with a comfortable hand feel
USB port connecting to computer and available to analyze software with many functions
Transmits current data displayed and analyzed in real-time on computer
Large high definition LCD display easy to read

Radiation Scanner

Specifications

Types of measured Ray	α、β、γ and X ray
Range	Radiation dose rate: 0.01μSv/h-1000μSv/h Impulse dose rate: 0-30,000cpm,0-5,000cps Radiation dose accumulation: 0.001μSv-999999Sv Impulse dose accumulation: 0-999999
Sensitivity	108pcs impulse or 1000 cpm/mR/hr in Cobalt-60 radial environment with power of 1μSv/h Alpha ray: from 4 MeV Beta ray: from 0.2 MeV Gamma ray: from 0.02 MeV X ray: from 0.02 MeV
Ray selection switch	α β γ X rays selection
Sensor	Halogen filled detector
Output port	USB Port (with special USB extendable cable to opt which can extend to 100M)
Average time	Default: 32 seconds, adjustable from 2s to 120s automatically or manually
Display	6-digit Large display (LCD) numeric with all inspection data with bar chart: Radiation dose rate, impulse rate, Radiation dose accumulation, impulse dose accumulation, time date, alarming value, standard calibration factor, max. radiation dose rate
Calibration	Calibration factor adjustable directly
Alarm	Alarming value settable freely default: 5μSv/hr
Accuracy	＜15%
Storage	storing two thousand data points manually or automatically
Software	Transmit data in real-time to computer for display analyzing and recording.
Working temperature of detector	-40℃ to 75℃
Weight	250g
Dimension	L 170 mm W 74 mm H 30 mm
Power	3 AAA batteries to work 30 days consecutively
Quality certificate	European CE,US FCC15
Warranty	1 year



Dada is transmitted in real-time to computer for display and analyzing.

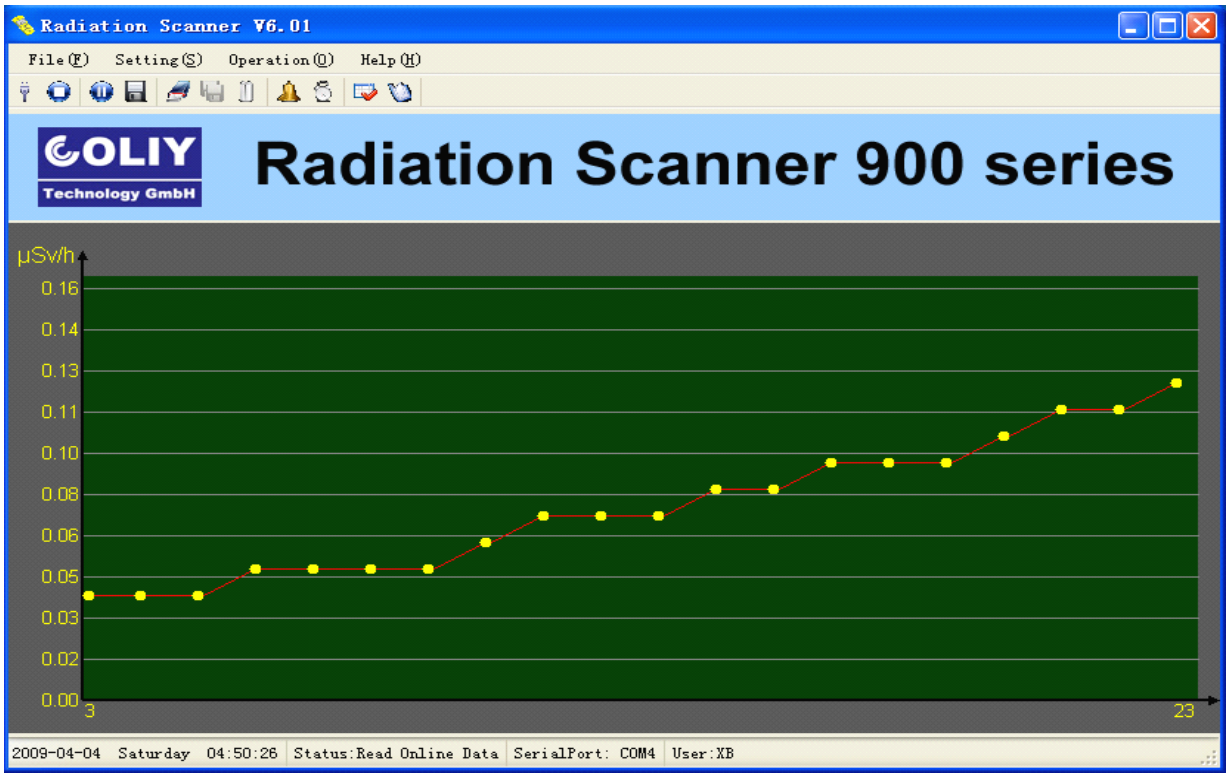
Option:

5 M USB cable.

USB extender with 50 meter cable

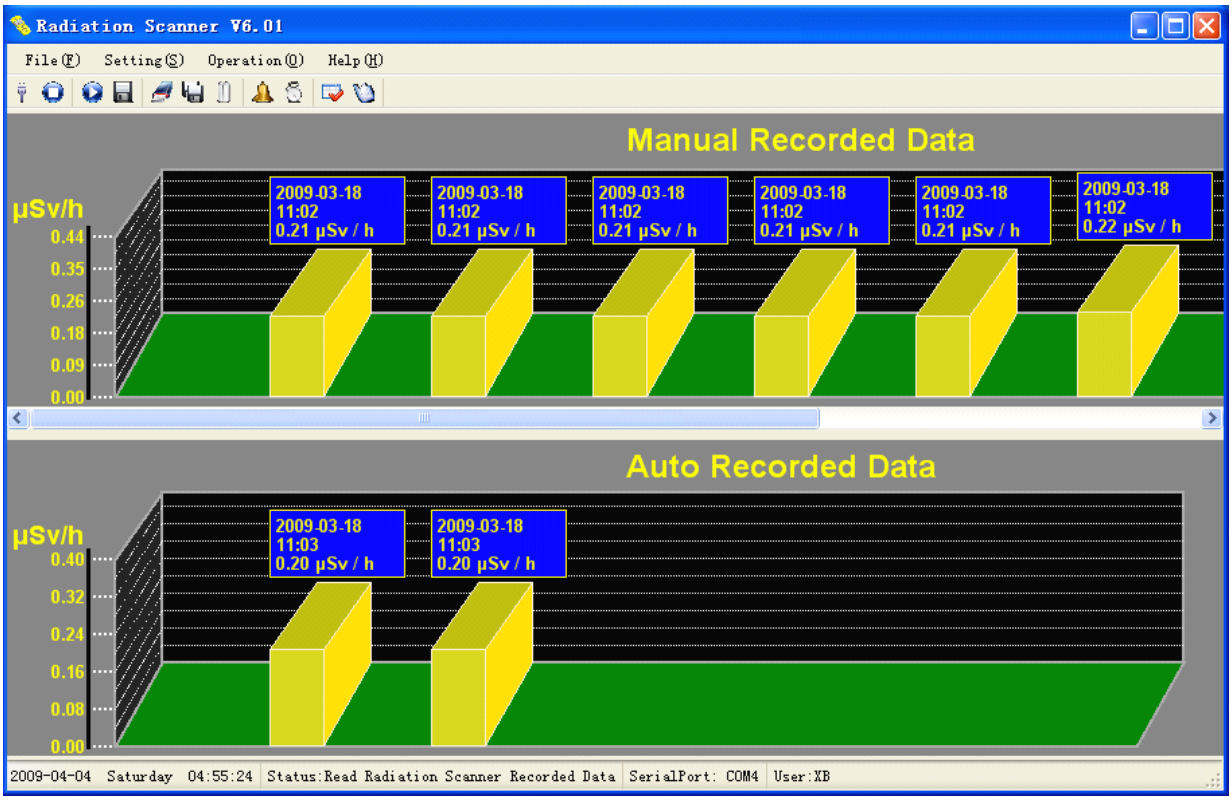
USB extender with 100 meter cable

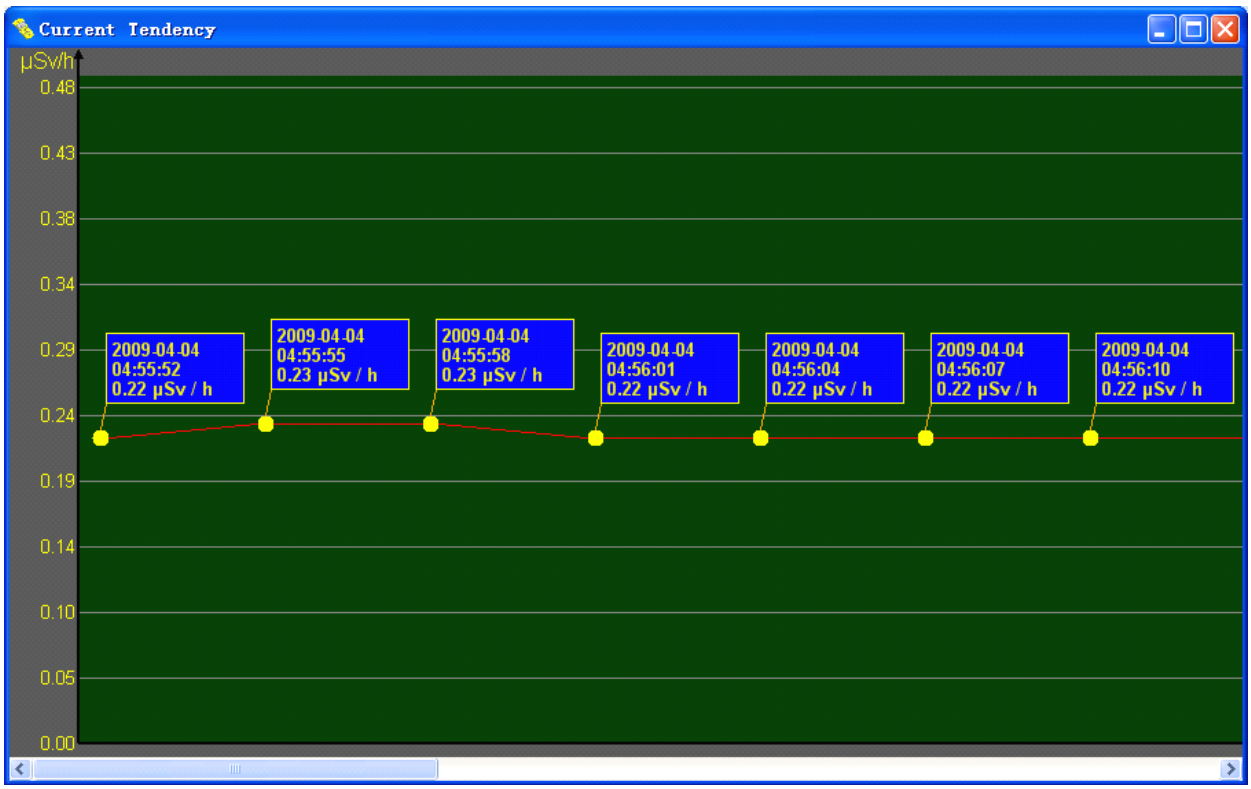
Software



Radiation Scanner

Software





Appendix 1 Frequently asked questions:

1. Is Radiation scanner Model 910 suitable for my usage?

Model 910 has 4 main groups of customers. The first group is security organizations such as police and fire departments emergency response organizations environmental organizations hazardous materials disposal and metal recycling companies. These organizations use the instrument for checking parcels suitcases cars buildings loose materials etc. The second is individuals who care about personal safety. For example, someone who wants to check at home the environmental pollution in food water etc. (caused by accident or terrorist attack). The third is educators or hobbyists who want to test a variety of materials or display radioactive rays. The last is in the field of medical treatment such as radiologists, dentists, hospitals, laboratories, Food and Drug Administration. The baseline is if you believe you might encounter radioactive rays even if the possibility is remote and you want to protect yourself from the potentially lethal contaminants you definitely need to have the radiation scanner Model 910.

2. Is Radiation scanner Model 910 detectable to polonium -210 that caused the death of a former Russian agent?

Polonium -210 is a highly toxic radionuclide and its toxicity is a hundred times that of iodine -131 used for test of nuclear medicine in hospital. But it emits alpha rays which are very easy to be shield because of their very short range. It could be harmful to the human body after inhaling or eating. Radiation scanner Model 910 can definitely detect Polonium -210. That's why the sales of Model 910 radiation scanner has increased significantly worldwide.

3. After nuclear accident or terrorist attack how helpful would Radiation scanner Model 910 be?

Radiation scanner Model 910 was originally conceived for use in accidents similar to 9.11. Its characteristics make it the best device in such situations. In the circumstances of possible terrorist attack except in the center of nuclear explosion you can escape the danger of nuclear radiation by using the radiation scanner Model 910. It can easily detect changes in radiation levels around you. Radioactive contaminants may drift into your house contaminating your food or water. With the 910 radiation instrument you don't have to check the radiation level every day as its built-in memory can record radiation values and allows you to download measurement data to your PC. If radiation levels are detected which exceed limit setting the device will sound an alarm.

4. Nowadays how risky is the threat of exposure to radiation?

Generally people never think about the threat radiation in their daily lives. Actually the potential danger and harm of exposure to radiation is almost a daily occurrence as there are various radioactive sources which can cause radiation sickness in the human body and death within a few years. Risks are frequently caused by the recycling of scrap metal from nuclear plants unannounced or unknown leaks of nuclear plants and nuclear waste. There was an incident in the past where a building constructed using ash bricks exceeded the standard in radiation which caused the residents to be continuously sick. After 9/11 a new danger has emerged that of a terrorist attack on a city by using a “dirty bomb” (a small nuclear bomb) or by destroying a nuclear plant. In the ever unstable world political climate there is even the possibility of low-intensity nuclear confrontation. In such an incident the radioactive particles could be spread through the jet stream around the world, threatening life across the other side of the world.

5. What is the measurement unit of the radiation scanner Model 910?

Radiation scanner Model 910 shows the radiation exposing rate byμSv/h,mSv.mSv (microSievert) this system is accepted worldwide as the dose unit. In modern times REM was also used. REM is transformed to Sieverts in ratio: 1REM = 0.01Sv = 10mSv = 10000μSv , 1mREM = 0.001REM = 10μSv

6. How can I know that I am in danger?

The radiation level around the world is about 0.05μSv/hr - 0.40μSv/hr depending on various factors including atmospheric conditions and geographical location. However the real problem is not the level (intensity) but radiation accumulation. We have made radiation scanner model 910 to offer you the required information on the estimated particular danger easily and precisely. Radiation scanner Model 910 indicates the current radiation level in three modes: dose value in digital numbers of μSv/hr bar graph format and a maximum-allowable exposure time. Found quickly in the bar graph to show immediately the corresponding radiation level your maximum-allowable exposure time. That is simple easy fast and accurate. In addition there is a set of alarm functions and the sound of beeps will quicken along with the increase of radiation level. The default setting for the alarm is 5μSv/hr you can adjust this manually.

7. Should I take a radiation scanner Model 910 with me if I travel a lot by air?

No one tells you where or when you will be exposed to high or extreme levels of radiation. The radiation quantity received by passengers in a flight across the Atlantic is 3 to 5 times of that on the earth's surface. In addition particular issues may be raised on travel in high-risk areas. Many of our customers bring along their radiation scanner when traveling to Europe particularly to Eastern European locations and the Baltic regions. The unusually high radiation levels of the environment in the Baltic and many parts of Europe are result of remnants of Chernobyl radioactive particles and uranium mining wastes of the Soviet era. So wherever you go it is better to be safe than be placed in danger.

8. Can Radiation scanner Model 910 detect Radon gas?

Radiation scanner Model 910 can definitely detect radon gas (alpha particle) although it is not the best choice for that. If you are concerned about radon gas the measuring tank is recommended. It costs less and is more accurate in radon detection.

9. How about the durability of the shell of Radiation scanner Model 910?

It a is very robust casing. A variety of vibration standard engineers where consulted during the development stage of Radiation scanner Model 910. Its shell is 20% thicker than normal. It won't crack peel separate or break under extreme temperature or load.

10. How sensitive is radiation scanner Model 910?

Radiation scanner Model 910 is of resolution 0.01μSv/h and with a change of the measuring value every 2 seconds on the screen. It is more sensitive than other radiation detecting devices.

11. How far can I detect the radiation source by radiation scanner Model 910?

It depends on the radiation source and the obstacles between. Generally a radioactive source can be detected within 10Metres. Moreover we found that it is easier to measure the variances of radiation levels all around for example travelling across a country or continent.

12. Can I use radiation scanner Model 910 on an airplane?

You can use the radiation scanner Model 910 on airplane. It passed the FCC15 standard for not emitting radio waves. And it can't be impaired by X-ray machines for baggage inspection.

13. Can I use radiation scanner Model 910 under water?

The radiation scanner Model 910 cannot be used under water. It is not waterproof therefore will short circuit in water.

14. Does radiation scanner Model 910 require calibration?

A highly stable G-M tube is used in Radiation scanner Model 910 of which the required calibration time is as long as 5 years. You can returned it to the factory for calibration or do it by yourself.

Appendix 2 History of Product Development

June2011 - Newly upgraded to Model910. Buttons are simplified to eight, which makes the interface more user-friendly, its internal circuitry is optimized to be more reliable; its memory is expanded to stock more data.

Dec. 2009 - Range extends 50% to the maximum of 1500μSv/h.

Mar. 2009 - Additional function of response time setting. Users can increase the response speed by hand. It is able to detect the radiation source much faster by increasing the response speed under low intensity of radiation. The maximum is 2 seconds.

Jan. 2009 - Additional function of calibration factor. Users can verify the measurement precision of Radiation scanner Model 910 by themselves.

May 2008 - More than 20 improvements are added including larger display screen. Additional function of radiation accumulation is added. Connect remotely the computer by USB port to transmit data in real-time for displaying and analyzing. Monitor the current radiation value. Additional functions of recording data manually and keeping the maximum.

Jan. 2006 - Add display for unit transformation of Sievert/Rem.

Oct. 2005 - Announce the latest improvements of radiation scanner Model 910. Take USB port to transmit data in place of RS-232 port. Enhance the performance of resistance to vibration and increase the lifetime of the product. The circuit design is more suitable to apply in field measurement.

Feb. 2005 - Sold the 5000th radiation scanner model 910. Export made up 50% of the total sales. Increasing market segments include global security organizations and the consumer market. The latest foreign customers include foreign embassies security nuclear regulatory bodies organizations

of health and epidemic prevention environmental protection and the world's largest freight companies.

May 2004 - Introduce its latest upgrade that was to add the function of an alarm based 0n customer's suggestion.

Nov. 25 2003 - Enhanced further features. Police in U.S. Capitol used radiation scanner Model 910 to protect Capitol. After that it was used constantly by all regional police and fire stations to guard and protect communities from danger of radiation.

Sep. 12 2003 - Introduce the new version of radiation scanner Model 910. New version was easier to read data and display. Other improvements included expansion of compatibility and software compatible to Windows XP.

Dec. 20 2002 - Announce the sale of 500pcs. to law enforcement and security agencies and most were sold to individual consumers and private companies.

The 9.11 terrorist attacks in 2001 was the main reason for developing this radiation scanner. Do to the continuous progress of the product technology specifications and information will change without notice.

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

UK Office
Keison Products,
P.O. Box 2124, Chelmsford, Essex, CM1 3UP, England.
Tel: +44 (0)330 088 0560
Fax: +44 (0)1245 808399
Email: sales@keison.co.uk