Contents

Moisture analyzer
R500 Radiation scanner.................................................................2
RM600 Metal Shell Radiation scanner ..............................................8
Model 910 Radiation scanner..........................................................12
R700 radiation detector with NaI sensor ...........................................22
R500 Radiation scanner

Food inspection

Description

R500 radiation scanner can detect α, β, γ and X-rays. The R500 has adopted the nuclear radiation sensor standards as recommended by the American Bureau of Standards and has a 2 inch large flat high sensitivity sensor. The R500 is one of the best performing instruments in the current market. With a correction factor function the customer can adjust correction parameters; The unit provides an average time setting function The R500 has a significantly improved response time. New ergonomic design, protection from electromagnetic interference using anti-saturation circuitry. Calibration of this unit can be done remotely so there is no need for direct contact at the time of calibration. The R500 has full CE certification and is manufactured to ISO9001 quality standards.

Application

Model R500 can be easily used in restaurants, hotels, home, public places, laboratories, power plants, quarries, emergency rescue stations, metal treatment plants, underground oil fields, and oil pipeline equipment, environmental protection, police stations and other departments. It can also be
used to:
Inspect food pollution
Inspect environmental pollution
Inspect radioactivity of porcelain tableware and glass etc.
Inspect radioactivity of materials architecture such as stone etc.
Inspect radioactivity of underground drilling pipes and equipment
Inspect harmful radiation in personal precious property and jewelry
Inspect X-ray intensity of Medical and industrial X-ray instrumentation
Inspect radon radiation and cesium pollution in the surrounding environment
Inspect landfill and garbage dumps in danger of nuclear radiation contamination

Features

1. slide cover

By opening the slide you are able to detect α β γ and x-rays

By closing the slide the sensor is dual protected and can detect gamma and x-rays.

2. Stain-proof sets
With stain proof sets, even if contacting with materials polluted by radiation there is no need for concern just replace the stain-proof sleeve on the R500.

3. Telescope link

Telescope link can extend to 1.5 meter maximum to remotely detect radiation rays and protect humans from potential injury.

The point angle of the telescopic rod can be randomly adjusted.

Specifications
Radiation Scanner — Excellent solution for nuclear radiation measurement

<table>
<thead>
<tr>
<th>Types of measured Ray</th>
<th>α, β, γ and X ray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>Radiation dose rate: 0.01μSv/h-1000μSv/h 0.001mR/hr-100mR/hr</td>
</tr>
<tr>
<td></td>
<td>Impulse dose rate: 0-300,000cpm-5,000cps</td>
</tr>
<tr>
<td></td>
<td>Radiation dose accumulation: 0.001μSv-999Sv</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>3500CPM/mR/hr(about Cs-137)</td>
</tr>
<tr>
<td>Energy response</td>
<td>Alpha ray: from 4 MeV</td>
</tr>
<tr>
<td></td>
<td>Beta ray: from 0.2 MeV</td>
</tr>
<tr>
<td></td>
<td>Gamma ray: from 0.02 MeV</td>
</tr>
<tr>
<td></td>
<td>X ray: from 0.02 MeV</td>
</tr>
<tr>
<td>Sensor</td>
<td>Large GM tube effective diameter 45mm</td>
</tr>
<tr>
<td></td>
<td>MICA window density 1.5-2.0mg/cm²</td>
</tr>
<tr>
<td>Output port</td>
<td>USB Port (with special USB extend cable to opt which can extend to 100M)</td>
</tr>
<tr>
<td>Average time</td>
<td>Default: 32 seconds, adjustable from 2s to 120s automatically or manually</td>
</tr>
<tr>
<td>Display</td>
<td>Large LCD with bar graph display</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Pu239(α) about 40%, Am-241(5.5MeV α) about 36%, Sr-90(546KeV 2.3MeV β max) about 65%, C-14(156KeV β max) about 8%, Bi-210(1.2 MeV/V β max) about 64%</td>
</tr>
<tr>
<td>Anti saturation</td>
<td>Exceed the maximum reading of up to 100 times reading remains at full scale.</td>
</tr>
<tr>
<td>Calibration</td>
<td>Calibration factor adjustable</td>
</tr>
<tr>
<td>Alarm</td>
<td>Alarm value setting fully adjustable default: 5μSv/hr</td>
</tr>
<tr>
<td>Precision</td>
<td>±15%</td>
</tr>
<tr>
<td>Storage</td>
<td>Storage of up to 800 data points manually or automatically</td>
</tr>
<tr>
<td>Software</td>
<td>Transmit data in real-time to computer for displaying analyzing and recording.</td>
</tr>
<tr>
<td>Working temperature of detector</td>
<td>-40°C to 75°C</td>
</tr>
<tr>
<td>Weight</td>
<td>450 g</td>
</tr>
<tr>
<td>Dimension</td>
<td>L 300mm W 90mm H 40mm</td>
</tr>
<tr>
<td>Power</td>
<td>3 AA battery Continuous operation for up to 30 days</td>
</tr>
<tr>
<td>Quality certifications</td>
<td>European CE  US FCC15</td>
</tr>
</tbody>
</table>

Option: Telescopic link
300 Series Gaussmeter Probes

Radiation Scanner

— Excellent solution for nuclear radiation measurement

Coliy Technology GmbH
Website: www.coliy.com

Use: distance-detecting nuclear radiation to avoid human radiation exposure. The point angle of the telescopic rod can be randomly adjusted.

<table>
<thead>
<tr>
<th>Model</th>
<th>MP-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section number</td>
<td>4</td>
</tr>
<tr>
<td>Max pipe diameter</td>
<td>Φ25.8mm</td>
</tr>
<tr>
<td>Max height</td>
<td>153cm</td>
</tr>
<tr>
<td>Reduced height</td>
<td>49cm</td>
</tr>
<tr>
<td>weight(kg)</td>
<td>0.32kg</td>
</tr>
</tbody>
</table>

Consumables: Stain-proof sets (5 units available as standard)

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

Software
Radiation Scanner

- Excellent solution for nuclear radiation measurement

---

Analysis

---

Manual Recorded Data

Auto Recorded Data

Current Tendency
Description

The shell of RM600 radiation scanner is completely made of metal. It is outstandingly solid and proof level is up to IP67. This model can be used to conduct routine detection of radiation and radiation detection even up to ten meters under the water. The RM600 metal shell radiation scanner is manufactured to UE standards with a 2 inch large flat GM tube, which is highly sensitive to rapidly detect the strength of β, γ and X rays.

RM600 radiation scanner utilizes a high resolution LCD screen, and can transfer units displayed between μSv/h, mR/h, CPS, CPM. It encompasses an ergonomic design and is protected from electromagnetic interference using anti-saturation circuitry. Calibration of this unit can be done remotely by connecting the instrument to an extension pole with screw on bottom so there is no need for direct contact at the time of calibration. The R500 has full CE certification and is manufactured to ISO9001 quality standards.
Application

RM600 metal shell radiation scanner could be widely used in restaurants, hotels, the family home, public places, laboratory’s, power plants, quarries, emergency rescue stations, metal treatment plants, underground and underwater oil field and oil pipeline equipment, environmental protection, police stations and other departments. It can also be used to:

- Inspect food pollution
- Inspect water pollution
- Inspect environmental pollution
- Inspect underground water, radium pollution
- Inspect radioactivity of porcelain, tableware and glass etc.
- Inspect local radiation leakage and nuclear radiation pollution
- Inspect radioactivity of materials architecture, such as stone etc.
- Inspect radioactivity of underground drilling pipes and equipment
- Inspect harmful radiation in personal precious property and jewelry
- Inspect landfill and garbage dumps in danger of nuclear radiation contamination
- Inspect X-ray intensity of Medical and industrial X-ray instrumentation

Features

Full metal shell, extremely solid
Protection level IP67, Water resistant 10 meters, liquid detection

Option: Telescopic link

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>model:</td>
<td>MP-4</td>
</tr>
<tr>
<td>Section number</td>
<td>4</td>
</tr>
<tr>
<td>Max pipe diameter</td>
<td>Φ25.8mm</td>
</tr>
<tr>
<td>Max height</td>
<td>153cm</td>
</tr>
<tr>
<td>Reduced height</td>
<td>49cm</td>
</tr>
<tr>
<td>weight(kg)</td>
<td>0.32kg</td>
</tr>
</tbody>
</table>

Use: distance-detecting nuclear radiation to avoid human radiation exposure. The point angle of the telescopic rod can be randomly adjusted.
## Specifications

<table>
<thead>
<tr>
<th>Types of measured Ray</th>
<th>β, γ and X ray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>Radiation dose rate: 0.01μSv/h-1000μSv/h, 0.001mR/hr-100mR/hr</td>
</tr>
<tr>
<td></td>
<td>Impulse dose rate: 0-300,000cpm, 0-5,000cps</td>
</tr>
<tr>
<td></td>
<td>Radiation dose accumulation: 0.001μSv-999Sv</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>3500CPM/mR/hr (about Cs-137)</td>
</tr>
<tr>
<td>Energy response</td>
<td>Alpha ray: from 4 MeV</td>
</tr>
<tr>
<td></td>
<td>Beta ray: from 0.2 MeV</td>
</tr>
<tr>
<td></td>
<td>Gamma ray: from 0.02 MeV</td>
</tr>
<tr>
<td></td>
<td>X ray: from 0.02 MeV</td>
</tr>
<tr>
<td>Sensor</td>
<td>Large GM tube, effective diameter 45mm</td>
</tr>
<tr>
<td></td>
<td>MICA window density 1.5-2.0mg/cm²</td>
</tr>
<tr>
<td>Average time</td>
<td>Default: 32 seconds, adjustable from 2s to 120s automatically or manually</td>
</tr>
<tr>
<td>Display</td>
<td>Large LCD, with bar graph display</td>
</tr>
<tr>
<td>Anti saturation</td>
<td>Exceed the maximum reading of up to 100 times, reading remains at full scale.</td>
</tr>
<tr>
<td>Alarm</td>
<td>Alarm value setting fully adjustable, default: 10μSv/hr</td>
</tr>
<tr>
<td>Precision</td>
<td>±15%</td>
</tr>
<tr>
<td>Material of shell</td>
<td>metal</td>
</tr>
<tr>
<td>Waterproof</td>
<td>10 meters</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-20°C to 60°C</td>
</tr>
<tr>
<td>Weight</td>
<td>450g</td>
</tr>
<tr>
<td>Dimension</td>
<td>L 300mm, W 90mm, H 40mm</td>
</tr>
<tr>
<td>Power</td>
<td>3 AAA battery, Continuous operation for up to 30 days</td>
</tr>
<tr>
<td>Quality certifications</td>
<td>European CE, US FCC15</td>
</tr>
<tr>
<td>Warranty</td>
<td>1 year</td>
</tr>
</tbody>
</table>
Model 910 Radiation scanner

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:

- USB port
- α β γ ray switch selection
- Automatically stores data
- Data analysis software
- Real-time data transmission to computer
- Large high definition LCD display
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

**Specifications**
### Types of measured Ray
- $\alpha$, $\beta$, $\gamma$ and X ray

### Range
- Radiation dose rate: 0.01 $\mu$Sv/h - 1000 $\mu$Sv/h
- Impulse dose rate: 0-30,000 cpm, 0-5,000 cps
- Radiation dose accumulation: 0.001 $\mu$Sv - 999999 $\mu$Sv
- Impulse dose accumulation: 0 - 999999

### Energy response
- 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
- $\alpha$, $\beta$, $\gamma$, 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: 5 $\mu$Sv/hr

### Accuracy
- <15%

### Storage
- storing 800 points manually or automatically

### Software
- Transmit data in real-time to computer for display analyzing and recording.

### Working temperature of detector
- -40°C to 75°C

### 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 900 series

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
Radiation Scanner

— Excellent solution for nuclear radiation measurement

An 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 shielded 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 by $\mu$Sv/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: $1 REM = 0.01 Sv = 10 mSv = 10000 \mu Sv$, $1 mREM = 0.001 REM = 10 \mu Sv$

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

The radiation level around the world is about 0.05 $\mu$Sv/hr - 0.40 $\mu$Sv/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 $\mu$Sv/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 5 $\mu$Sv/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 is a 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 on 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.
R700 radiation detector with NaI sensor

Description:

The hand-held R700 radiation detector is ergonomically designed and applied with advanced high technology by Germany Coliy Tech. The R700 is equipped with a 3.2 inches color LCD, allows customers to read the data clearly. With various NaI scintillation probes, R700 can detect the radiation measurement from 1nSv/h to 10mSv/h. The R700 owns huge memory capacity to store massive amounts of data which can be uploaded to PC. With a Multiplexer, G700 can connect 3 probes at one time and detect 3 locations of radiation density simultaneously. This unique function can help customers to save both money and time. The length of cable can be extended to 100 meters. In the future, Coliy will implement wireless probes. By multi-choice function keys, customers can switch the measurement modes between uSv/h, mR/h, CPS and CPM. The R700 can also display various kinds of parameters, such as radiation density, timing diagram and Max. value in measurement. The R700 meets the standard requirements of CE and ISO9001.
Application:

Restaurants, Hotels
Background radiation monitoring
Ecological environment areas, facilities.
Scrap metal factory
Oil field and oil pipeline
Police department
Immigration, Custom and Quarantine
Food and water contamination
Underground pipeline
Construction material and buildings
Radiation leakage and contamination
Civil protection
Personal belongings; clothing, etc.
Medical X-ray application
Industrial X-ray density measurement

Features

Excellent ergonomically design  Auto-identification of Probes
3.2 inches Color LCD  Flash memory storage
Timing Diagram  IP54 protection class
Storage function(on/off)  Huge battery capacity
Maximum Value  M6 Screw Internal Thread for Fastening
3-probes connection simultaneously  Smart software
Wireless probe (in developing)  Auto next calibration date reminder
## Specification

### Range

<table>
<thead>
<tr>
<th>Types of Probe</th>
<th>Gy/h</th>
<th>R/h</th>
<th>Sv/h</th>
<th>Sv CPS</th>
<th>CPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Mode</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>10°C to +60°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20°C to +70°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display Panel</td>
<td>3.2 inches color LCD (320x240)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication port</td>
<td>USB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>238mm x 95mm x 42mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>350g</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery</td>
<td>Rechargeable 40000mAh (Lithium)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Multi-probe**

With the 3 Channel Multiplexer.R700 can simultaneously connect 3 probes.
Radiation Scanner

— Excellent solution for nuclear radiation measurement

Display of single probe

Color LCD shows: probe model, serial number, time, value and time domain oscillograph, also Max, Min and Peak value by switches on the keypad.

Main unit and bracket

R700: Ergonomically designed, Large color LCD, 9 key membrane keypad and adjustable bracket
### Probe

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
</table>
| CS30A       | Scintillator: Nal Crystal, High Sensitivity, short decay time  
Range: 0.01 ~ 1000 µSv/h  
Dose equivalent measuring range: 0.00 µSv ~ 9999.99 µSv  
Energy Application: 35 KeV  
Energy Application: 35 KeV  
Energy Range: 48 KeV ~ 3 MeV  
Sensitivity: 1 µSv/h ≥ 350 cps  
Energy resolution comparison of 137Cs:  
48 KeV ~ 3 MeV ≤ ± 30% (137Cs)  
Intrinsic relative error: ≤ ± 10% |
| CS30B       | Scintillator: Nal Crystal, High Sensitivity, short decay time  
Range: 0.01 ~ 10 mSv/h  
Dose equivalent measuring range: 0.00 µSv ~ 9999.99 µSv  
Energy Application: 35 KeV  
Energy Range: 48 KeV ~ 3 MeV  
Sensitivity: 1 µSv/h ≥ 350 cps  
Energy resolution comparison of 137Cs:  
48 KeV ~ 3 MeV ≤ ± 30% (137Cs)  
Intrinsic relative error: ≤ ± 10% |
| CS75        | Scintillator: φ75×75(mm) Plastic Scintillator  
Range: Dose equivalent measuring range rate: 1 nSv/h ~ 100 µSv/h  
Energy application: 35 KeV  
Sensitivity: 1 µGy/h ≥ 1500 cps  
Energy resolution comparison of 137Cs: 35 KeV ~ 7 MeV ≤ ± 30% (137Cs) |
### Accessories

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS2000</td>
<td>Power adaptor Input:100-230VDAC, Output:5VDC</td>
</tr>
<tr>
<td>MULT3</td>
<td>3 channel MULTIPLEXER, up to 3 probes which allows three probes connection.</td>
</tr>
<tr>
<td>STD20</td>
<td>Bracket for main unit and probe</td>
</tr>
<tr>
<td>CAB20</td>
<td>Customized low impedance USB cable for communication and power connection.</td>
</tr>
<tr>
<td>CAB8-XX</td>
<td>Extend cable optional from 3 to 100 meter. XX stands for length with unit “meter”.</td>
</tr>
<tr>
<td>PORTABLE10</td>
<td>Carrying Bracket</td>
</tr>
</tbody>
</table>

Portable Bracket: Easily connect R700 and probe