

APEX
Medical Solutions

MEASUREMENT AND MONITORING

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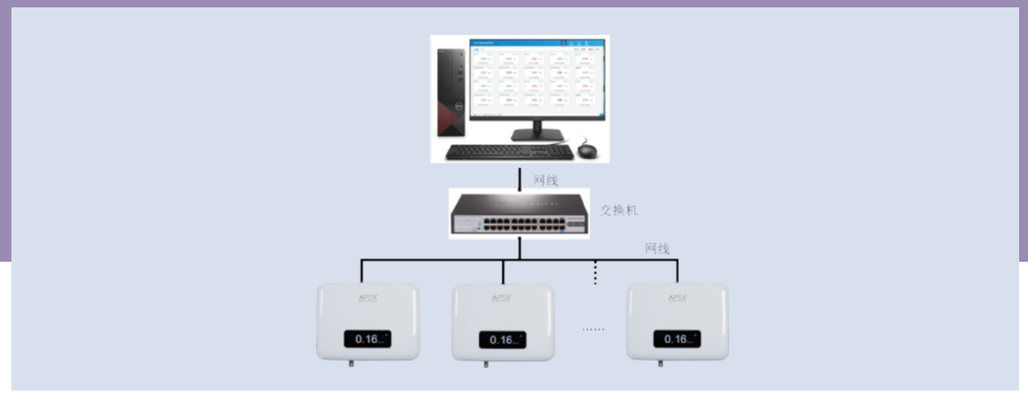
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Nuclear Medicine

Radiation Monitoring
Environmental and Area Radiation Monitoring

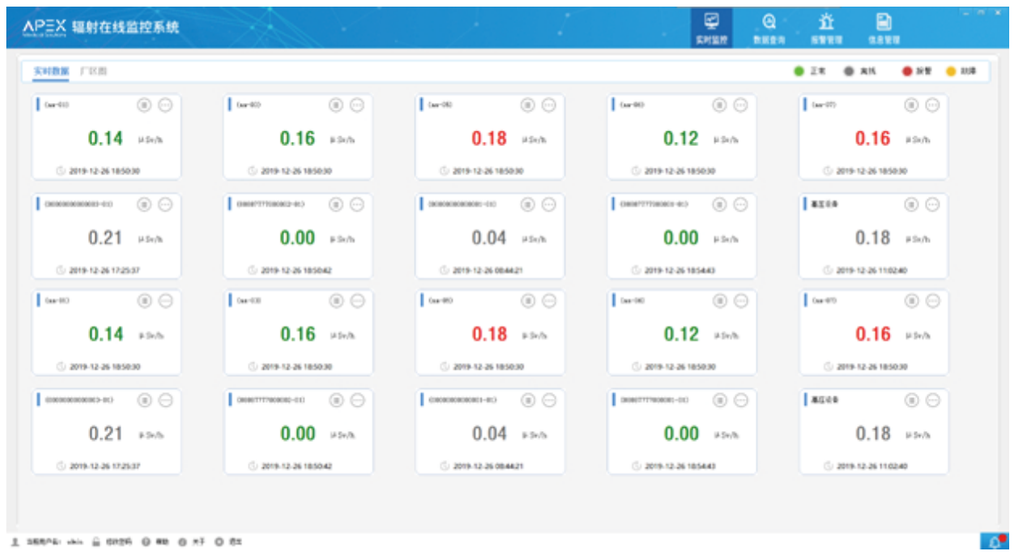


The radiation online monitoring system supports remote real-time monitoring, historical data query, statistical analysis, and centralized visualization of on-site monitoring data in the control room. It realizes remote supervision and real-time data presentation, ensuring timeliness and improving operational efficiency.

The system consists of platform software, network transmission modules, and on-site radiation detectors. The platform software is typically installed in the master control room, while detectors are deployed at appropriate monitoring points based on site conditions.

Real-time Monitoring

①**Real-time display** of radiation dose data at each monitoring point, with color-coded status indication for normal, over-threshold, fault, and offline conditions.
②**Real-time trend analysis** of dose rates via graphical curves for radiation level trend assessment..
③**Area monitoring** with integrated plant floor plans, showing detector locations and real-time status (over-threshold/fault) on the map.



Radiation Monitoring
Environmental and Area Radiation Monitoring

Data Query

Supports retrieval by device name and time interval, with data presented in list and curve formats including historical dose records, time stamps, alarm status, and threshold settings;
①**Data query:**Automatically generates reports for statistical analysis of radioisotopes and radiation devic - es; results exportable to Excel.
②**Data analysis:** Multi-format data visualization including statistical charts, line graphs, and tabular reports.

Alarm Management

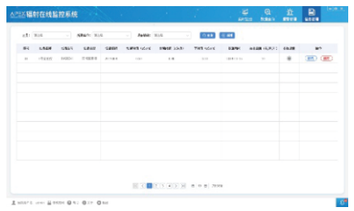
The alarm management module enables query and processing of alarm records filtered by device name, alarm type, handling status, and time range.
Detailed alarm causes can be documented with processing results; all queries and records support report export.



Information Management

①**Enterprise management:** Configuration of enterprise information, contacts, and plant layout;
②**Device management:** Addition, modification, deletion, query, and parameter setting of on-site monitoring equipment
③**User management:** Role-based access control (administrator, operation, routine supervision) for user account and permission management.


Business Management


Equipment Management


User Management



Radiation Monitoring
AP1100C Area Radiation Monitor



The AP1100C Area Radiation Monitor is designed for continuous radiation level monitoring and real-time alarming in radioactive areas. As the core communication hub of the safety monitoring system, it performs data acquisition, storage, transmission, and query. It promptly triggers alarms upon abnormal radiation levels to ensure personnel safety.

Features

①**High-definition large touchscreen:**10-inch color LCD touchscreen for intuitive operation and configuration;
②**Multi-probe host** Supports connection of multiple γ and neutron detectors;
③**Flexible detector configuration:** Automatic scanning and manual addition of detectors;
④**Customizable alarm:** User-enabled/disabled audible alarm;
⑤**Automatic self-diagnosis:**Periodic checks of I/O interfaces and system operation;
⑥**Remote parameter configuration:** Local and remote adjustment of upload intervals and alarm thresholds;
⑦**Automatic data logging:** Historical data and operation log export;
⑧**Radiation safety interlock:** Alarm signal output for integration into safety interlock systems.;
⑨**Multi-server reporting:** Simultaneous data upload to multiple monitoring centers.

Technical Specifications

Product Model	AP1100C/D
Screen Size	10 -inch
Data Storage	30W records
Display Units	Gy/h，Sv/h，auto-range
Max. Detectors	≤ 10
Communication	LAN、4G（optional）、RS485
Power Supply	AC220V

Radiation Monitoring
AP1100Med X、γ Radiation Monitor



AP1100Med X、γ Radiation Monitor is a professional instrument for ambient γX/radiation monitoring, featuring high sensitivity, fast response, and excellent low-energy response. It provides real-time dose monitoring and immediate audible alarms for abnormal levels to protect personnel.

Applications

Nuclear medicine, radiotherapy, radiology departments, proton and heavy ion therapy centers, radiopharmaceutical R&D and manufacturing, laboratories, and radioactive source warehouses.

Features

①**Pulsed radiation measurement:** Integral detector for dose rate measurement in CT, DR, and other pulsed beams.
②**Fast response:** High-sensitivity detection with proprietary FRC algorithm.
③**Versatile communication:** RS485, LAN, 4G (optional), WiFi.
④**Safety interlock:** Interface for external audible-visual alarms and interlock systems.
⑤**One-key mute:** Manual alarm silencing for over-threshold conditions.

Technical Specifications

Product Model	AP1100Med-G	AP1100Med-P
Detector Type	Energy-compensated G-M tube	Plastic scintillator
Measuring Range	0.01μSv/h~30mSv/h	0.01μSv/h~1Sv/h
Intrinsic Error	±15%	
Energy Range	48keV~3MeV	30keV~3MeV
Communication	RS485、RJ45	
Power Supply	DC12V	

Radiation Monitoring

AP1100Med Pro X、Y Radiation Monitor



The AP1100Med Pro is an upgraded premium version of the AP1100Med series, featuring an integrated detector and concealed cabling for clean, decontamination-friendly installation. It offers high sensitivity and fast response with a large color LCD, visual color-flashing alerts, and audible alarms for rapid response and evacuation.

Applications

Nuclear medicine, radiotherapy, radiology departments, proton and heavy ion therapy centers, radiopharmaceutical facilities, research institutes, laboratories, and radioactive source warehouses.

Features

①**Pulsed radiation measurement:** Integral detector for pulsed X-ray beams (CT, DR).
②**High-definition color display:** Equipped with a 10-inch color LCD screen, the font color on the interface changes and flashes to alert the user when the device malfunctions or triggers an alarm, allowing for a more intuitive view of measurement data and device status.
③**POE power supply:** Power over Ethernet for simplified cabling and maintenance.
④**Versatile Communication:** Supports multiple communication methods, including RS485, LAN, Wi-Fi, and 4G (optional), to meet the needs of various environments.
⑤**One-touch mute:** When sound and light alarms exceed the threshold, a mute button is provided to manually disable the audible alarm;
⑥**Concealed wiring:** The equipment features a concealed wiring design, ensuring that no cables are visible on the wall after installation, resulting in a clean and tidy appearance.

Technical Specifications

Product Model	AP1100Med-G Pro	AP1100Med-P Pro
Detector Type	Energy-compensated G-M tube	Plastic scintillator
Measuring Range	0.01μSv/h~100mSv/h	0.01μSv/h~10Sv/h
Intrinsic Error	±15%	±15%
Energy Range	48keV~3MeV	30keV~3MeV
Communication	RS485、LAN、WiFi；4G（Optional）	RS485、LAN、WiFi；4G（Optional）
Power	DC12V or POE Switch mschine	DC12V or POE Switch mschine
Backup Battery	Optional	

Radiation Monitoring

AP3100G Radiation Survey Meter



AP3100G Survey Meter is used for X/ γradiation level measurement in various radioactive workplaces, with high sensitivity, short response time, wide dynamic range, and good energy response.

Applications

Radiation health supervision, environmental protection enforcement, customs inspection, public security, emergency response, environmental monitoring and assessment, and other radioactive scenarios.

Features

①**High-sensitivity measurement:** Fast FRC algorithm for prompt pulsed radiation detection.
②**Dynamic measurement alerts:** The frequency of the measurement alert tone adjusts in real time based on the ambient radiation level, making it easy to interpret;
③**Auto-sensing backlight:** The display brightness can be adjusted manually or automatically adjusted based on ambient light conditions;
④**One-click data logging:** During inspection tasks, data can be saved with a single click, facilitating on-site inspection documentation and traceability;
⑤**Multiple alarm modes:** Features audible, visual, and vibrating alarms when thresholds are exceeded, providing multiple layers of protection for personnel safety;
⑥**Radiation Data Networking:** Monitoring data can be transmitted wirelessly to the monitoring platform, facilitating data collection, analysis, and management (optional).

Technical Specifications

Product Model	AP3100G-P
Detector Type	Plastic scintillato
Detector Size	1 inch
Measuring Range0	0.01μSv/h~10Sv/h
Intrinsic Error	±15%
Response Time	3s（> 1μSv/h）
Energy Range	30keV~3MeV
Communication	USB、Bluetooth (optional)
Power	2×AA batteries (rechargeable or alkaline)
Feature	Pulsed radiation capable

Radiation Monitoring

AP3100G-X X、γ Dose Rate Meter (Low-energy, Pulsed)



AP3100G-X X、γ Dose Rate Meter (Low-energy, Pulsed) is a professional low-energy X/γ dose rate meter for medical shielding assessment and ambient dose equivalent rate measurement. It detects continuous, short-pulse, and pulsed radiation down to 15 keV, widely used in nuclear medicine and health physics for X-ray device monitoring.

Applications

Nuclear medicine, X-ray diagnostic shielding testing, pulsed radiation field measurement, radiation health supervision, environmental enforcement, customs, public security, emergency response, and environmental monitoring.

Features

①**Low-energy response**
②**Multi-radiation compatibility**
③**High-sensitivity measurement**
④**Dynamic measurement alerts**
⑤**Auto-sensing backlight**
⑥**One-Click Data Logging**
⑦**Multiple Alarm Modes**
⑧**Radiation Data Networking**

Technical Specifications

Product Model	AP3100G-X		
Detector Type	Plastic scintillator	Continuous Short Pulse Response	30ms
Measuring Range	0.01μSv/h~10Sv/h	Min. Pulse Response (1.3Sv/s)	10ns
Intrinsic Error	±15%	Communication	USB、Bluetooth（optional）4G（optional）
Energy Range	15keV~10MeV	Battery life	≥ 24h
Energy	15keV~60keV，±30%	Operation Temp	-30℃~50℃
response for different energies, using (662 keV, 137Cs) as a reference	60keV~3MeV，±20%	Operation Humidity	0~95%RH
	3MeV~10MeV，±50%	Dimensions	290mm(L)×96mm(W)×125mm(H)
Repeatability	±5%	Weight	0.49kg

Radiation Monitoring

AP170 α、β Surface Contamination Monitor



Surface Contamination Monitor uses a plastic scintillator detector for simultaneous α, β, and optional γ measurement of surface contamination on floors, walls, tables, and clothing. It supports rechargeable and dry batteries for emergency use and optional 4G/Bluetooth wireless data upload.

Applications

Radiation supervision, environmental enforcement, customs, public security, emergency response, laboratories, and research institutions.

Features

①**Multi-ray Detection:** Equipped with dual detectors to simultaneously measure alpha, beta, and gamma (optional) radiation levels, meeting the needs of various applications;
②**Dynamic Measurement Alerts:** The frequency of the measurement alert tone changes in real time based on the ambient radiation intensity, making it easy to interpret;
③**Auto-sensing Backlight:** The display brightness can be adjusted manually or automatically adjusted based on ambient light conditions;
④**Multiple Alarm Modes:** Features multiple alarm methods—including audible, visual, and vibration alerts—to provide comprehensive protection for personnel safety;
⑤**Radiation Data Networking:** Patrol data can be wirelessly transmitted to a monitoring platform, facilitating data statistics, analysis, and management (optional);
⑥**Multiple Power Options:** Compatible with both rechargeable and dry batteries to support emergency use;
⑦**Highly Expandable:** Supports combined and wall-mounted applications to accommodate a wide range of scenarios.

Technical Specifications

Product Model	AP170
Detector Type	Thin plastic scintillator (ZnS(Ag)); optional energy-compensated G-M tube
Detection Area	170cm²
Measured Rays	α、β rays; optional γ ray measurement module
Measuring Range	0~50000cps
Efficiency	35%（^{241}Am）、40%（^{90}Sr-^{90}Y）
Battery Life	≥ 75h
Communication	USB, Bluetooth (optional), 4G (optional)

Radiation Monitoring

AP3100AB-15 Multifunctional Radiation Meter



AP3100AB-15 simultaneously measures α, β, X, and γ radiation in complex radioactive environments. It is used for rapid surface contamination screening and ambient dose rate measurement.

Applications

Radiation supervision, nuclear medicine contamination monitoring, radiopharmaceutical facilities, environmental enforcement, and emergency response.

Features

①**Multi-ray detection:** Capable of measuring multiple types of radiation, meeting the needs of radiation detection applications in multi-ray scenarios;
②**Dynamic measurement alerts:** The frequency of measurement alert tones changes in real time based on ambient radiation levels, making it easy to interpret;
③**Auto-sensing backlight:** Display brightness can be adjusted manually or automatically adjusted based on ambient light;
④**One-Click Data Logging:** During inspection tasks, data can be saved with a single button press, facilitating on-site inspection logging and traceability;
⑤**Multiple Alarm Modes:** Features multiple alarm modes—including audible, visual, and vibration alerts—when radiation levels exceed thresholds, providing multiple layers of safety protection;
⑥**Radiation Data Networking:** Inspection data supports wireless transmission to regulatory platforms, facilitating information statistics, analysis, and management (optional).

Technical Specifications

Product Model	AP3100AB-15
Detector Type	End-window G-M tube
Effective Window Diameter	≥ 45mm
Measuring Range	0.01μSv/h~5mSv/h
Energy Range	α: ≥ 2MeV; β: ≥ 100keV; X、γ: 20keV~3MeV
Sensitivity	5.8cps/μSv/h（@662keV，^{137}Cs）
Units	cps、Sv/h、Bq/cm²

Radiation Monitoring

AP3200-N Portable Neutron Survey Meter



Portable Neutron Survey Meter uses a ^{3}He proportional counter for high-sensitivity, high-precision neutron detection. It integrates γα detector for simultaneous X/γ measurement.

Applications

Radiation supervision, environmental enforcement, customs, public security, emergency response, environmental monitoring, and radioactive workplaces.

Features

①**High sensitivity:** The detector uses a ^{3}He proportional counter, offering high sensitivity and accurate measurements;
②**Wide detection range:** It can simultaneously measure neutron, X-ray, and gamma radiation levels, meeting the needs of various applications;
③**Multiple Alarm Modes:** Features audible, visual, and vibrating alarms when thresholds are exceeded, providing multiple layers of protection for personnel safety;
④**Real-time Location Reporting:** The device includes a location tracking function; combining measurement data with location information facilitates data analysis (optional);
⑤**Radiation Data Networking:** Patrol data supports wireless transmission to a regulatory platform, facilitating information statistics, analysis, and management (optional).

Technical Specifications

Product Model	AP3200M	AP4005
sDetector Type	Energy-compensated G-M tube	^{3}He proportional counter
Measured Rays	X、γ rays	Neutron rays
Measuring Range	0.01μSv/h~100mSv/h	100nSv/h~100mSv/h
Energy Range	48keV~3MeV	0.025eV（thermal）~14MeV

Radiation Monitoring

AP3800G Personal Dosimeter and Alarm



AP3800G Personal Dosimeter monitors occupational X/γ radiation exposure, measuring personal cumulative dose equivalent Hp(10) and instantaneous dose equivalent rate. It provides real-time readouts and tri-mode alarms above preset thresholds to minimize overexposure risk.

Features

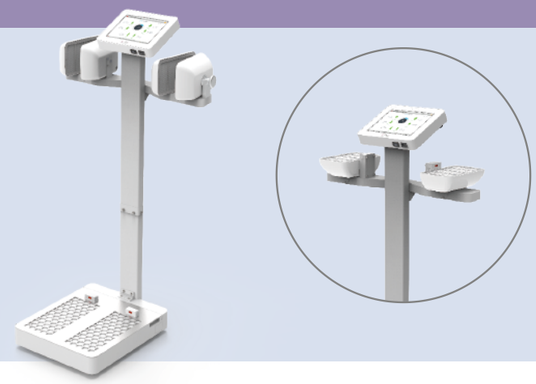
①**Real-time measurement:** Simultaneous dose and dose rate monitoring;
②**Dual-threshold alarms:** User-configurable within measuring range;
③**One-click alarm pause:** After the alarm sounds, you can manually pause it with a single click;
④**Countdown alarm:** Reminds workers to take time-based protective measures when entering areas with radiation;
⑤**Tri-mode alarm:** Audible, visual, and vibration.

Technical Specifications

Product Model	AP3800G-G	AP3800G-C
Detector Type	Energy-compensated G-M tube	CsI crystal
Measured Rays	X、γ	X、γ
Measuring Range	0.01μSv/h~100mSv/h	0.01μSv/h~30mSv/h
Intrinsic Error	±15%	±15%
Cumulative Dose Range	0.01μSv~10Sv	0.01μSv~10Sv
Energy Range	48keV~3MeV	48keV~3MeV
Power	2×AAA batteries	2×AAA batteries

Radiation Monitoring

AP4000 Hand-Foot Surface Contamination Monitor



AP4000（AP4000-T）Hand-Foot Surface Contamination Monitor integrates large-area dual scintillation detectors for α / β surface contamination screening of hands, feet, and clothing prior to exiting controlled radioactive areas. Multiple positioning sensors ensure correct posture, with a 10-inch touchscreen and voice guidance for operation and results.

It incorporates a personnel information management system with relational database binding personnel identity to measurement records, meeting IAEA GSG-7 traceability requirements. Dual identification modes: manual touchscreen lookup and optional IC/ID card reader.

Applications

The monitor features a dedicated DO interface that can be integrated with revolving doors, barrier gates, and other access control systems; it is primarily deployed at access points to nuclear power plants, radioactive medical facilities, radiation laboratories, nuclear fuel production sites, and nuclear waste treatment facilities.

Features

①**Low maintenance costs**
②**Automatic α and β discrimination**
③**Automatic background subtraction**
④**User-friendly operation**
⑤**Supports Customized Reporting**
⑥**Easy to Decontaminate**
⑦**Integrated and Portable**
⑧**Operating Language**

Technical Specifications

Product Model	AP4000	AP4000-T
Detector Type	Plastic scintillator+ZnS(Ag)	Plastic scintillator+ZnS(Ag)
Measuring Rays Type	α+β / α / β	α+β / α / β
Hand Detection Area	（20×12）cm^2×4	（20×12）cm^2×2
Foot Detection Area	（35×15）cm^2×2	（35×15）cm^2×2
Detection limit (environmental background: 0.1 μSv/h, measurement time: 10 s)	α＜0.006 Bq/cm^2（^{241}Am） β＜0.05 Bq/cm^2（^{90}Sr-^{90}Y）	

Radiation Monitoring

AP4300-R Radioactivity Calibrator



AP4300-R is an intelligent precision dose calibrator for nuclear medicine, enabling rapid radioactivity measurement of radiopharmaceuticals with one-key background subtraction and a Chinese user-friendly interface. Used in radiopharmaceutical production, medical diagnosis, therapy, and laboratory research.

Features

①**High precision and fast response**
②**High-definition large screen**
③**Pre-set nuclides**
④**Coverage of Common Nuclides**
⑤**Built-in Nuclide Library**
⑥**Dedicated measurement stand**
⑦**Dedicated printer**
⑧**One-click language switching**

Technical Specifications

Product Model	AP4300-R
Detector Type	Aluminum thin-walled deep-well ionization chamber
Measuring Range	0.1μCi~6Ci（^{99m}Tc）, 0.1μCi~2Ci（^{18}F）
Intrinsic Error	≤ 3%
Resolution	0.01μCi
Repeatability	≤ 1%
Instability	≤ 2%
Units	Bq、Ci
Nuclides	^{99m}Tc、^{131}I、^{201}Tl、^{153}Sm、^{67}Ga、^{89}Sr、^{32}P、^{18}F、^{11}C、^{13}N、^{15}O、^{125}I ...
Communication	RJ45、USB、RS232

Radiation Monitoring

AP4200-HPGe High-Purity Germanium Gamma Spectrometer



AP4200-HPGe is a laboratory-grade high-purity germanium (HPGe)γ -ray spectrometry system featuring high-purity germanium crystal, advanced preamplifier, low-background lead shield, stable digital multichannel analyzer (MCA), and cooling system for superior energy resolution and minimal interference. It includes comprehensive γ-spectrum analysis software for accurate radioactivity characterization.

Applications

Nuclide identification and radiochemical purity testing of radiopharmaceuticals.

Tests Performed Nuclide identification, nuclear purity assay.

Features

①**In-house developed energy spectrum analysis software**
②**Cooling system**
③**Low-background lead chamber**
④**Digital multi-channel detector**
⑤**Passive efficiency calibration software**
⑥**Low noise level**
⑦**Laser 3D scanning modeling**

System Configuration

HPGe detector, lead shield, digital MCA, spectrum analysis software, passive efficiency calibration software, cooling system, optional 3D laser scanner.

Technical Specifications

Product Model	RPPX-30185（Broad Energy）
Energy Range	5keV~10MeV
Detection Efficiency	≥ 30%（50% or other detection efficiencies are optional）
Entry Window Material	Beryllium or carbon fiber
Energy Resolution	To 122 keV Peak (^{57}Co): ≤ 1000ev; To 1.33 MeV Peak (^{60}Co): ≤ 1.85 keV
Peak-to-Compton	58:1
Peak Shape	FW0.1M/FWHM: 1.9 ; FW0.02M/FWHM: 2.65