

Tritium Monitor

Model: TK-701



I . Product Introduction

The TAM series of Tritium Air Monitors are comprised of mains unit and ionization chambers. Main unit is a SCM System based on 8031 sing chip system. These Tritium Air Monitors are designed to have a wide variety of features, including automatic control, automatic zero setting, multi-parameter display, data monitoring, processing and storage, and warning and communication. By employing modular design, this series of Monitors provide optional installation and combination suitable for automatic continuous air monitoring for the presence of tritium in the environment, glove box at nuclear facilities, highly radioactive noble gases and in a wide range of situations.

Type	TK-C200 Air tritium monitor	TK-C400 Wide range air tritium monitor	TK-C600 Identification type air tritium monitor
Detector	Four cylindrical silk wall ionization chambers with gamma differential compensation, each with effective volume of 2 L	Silk wall ionization chambers, each with effective volume of 1 L	Gas-flow ionization chamber for beta, radon, alpha measurement
Range	40 Bq/L - 8.0×10^7 Bq/L	2×10^2 Bq/L - 2×10^{10} Bq/L	0.01 - 10^5 Bq/L
Precision	Relative error $\leq 5\%$ Coefficient of variance $\leq 2\%$	Relative error $\leq 20\%$ Coefficient of variance $\leq 2\%$	Intrinsic error $\leq \pm 10\%$
Response time	Adjustable, recommended as 5 min for environmental monitoring	Automatically adjustable within 3-30s	15min
Discrimination	—	—	compensation coefficient $\geq 95\%$
Alarm threshold	Configurable setting within range		

Communication Interface	RS-485 standard interface, baud rate 19200 bps
Total weight	20 kg(TAM-500: 75 kg), detector unit: 15 kg, main unit: 1.25 kg
Power supply	AC 220 V \pm 10%, 50Hz \pm 10%, power dissipation \leq 6 W
Operating environment	temperature: 0°C - 50°C, relative humidity: 10% - 90% at 35°C

II. Technical Specifications

No.	Item	Parameter
1	sensitivity	1 μ Ci/m ³ (0.05DAC)
2	Accuracy	\pm 0.1 μ Ci/m ³ from 1 to 100 μ Ci/m ³ , \pm 10% from 100 μ Ci/m ³ to 20000 μ Ci/m ³ or better
3	Range	1 μ Ci/m ³ to 199,999 μ Ci/m ³
4	Detector	4 matched chambers. two for measuring and two for compensation
5	Measuring chamber effective volume	4000cc (2measuring chambers of 2000 cc each)
6	Flow rate	1.0 L/min
7	Zero stability	\pm 0.1 μ Ci/m ³ immediately after unit is powered on or better
8	Background cancellation	Very effective and efficient background cancellation of gamma(all energies) radon and noble gases is required.
9	Compensation	Radon compensation should be included in the software beta other than tritium ,gamma and noble gases compensation is very essential
10	Ion trap	have
11	Dust filter	replaceable easily
12	Noble gas cancellation	No
13	Tritium discrimination	Instrument can discriminate in a field
14	Purge/decontamination	Detective unit made by New structure ,very low tritium remember effect.
15	Display	Graphic touch screen LCD display .unit displays the values
16	Communication	RS485
17	Power supply	220V AC
18	Alarm	Tritium alarms gamma alarms low air flow alarms will all be shown by red LED light and by an audible device
19	Data logging	The tritium and gamma values at logged every minute with current time and date stamp

20	Response time	a) seconds~2min(see tritium readings)
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III. Applications

- Nuclear power plant
- Nuclear research



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