

Model PNC-Alpha ZnS(Ag) based Alpha Counting System



Para Alpha Counter **Model PNC-Alpha** is a micro-controller based, economical, stand alone instruments for Alpha counting applications. It works on an internally mounted 12V battery which is charged through mains operated charger ranging from 90-270 Volts AC Supply. Model PNC-Alpha, uses ZnS(Ag) alpha scintillator, is protected from stray light by a thin layer of aluminized mylar sheet and is mounted on photo multiplier tube as nuclear radiation detector. Necessary electronics & high voltage supply are housed in the equipment. Coaxial cable with UHF connector connects the Alpha Detector to Model PNC-Alpha

PNC-Alpha can store 1000 readings in a non-volatile memory. These readings can be downloaded to PC via USB interface. These readings can also be scanned on LCD display after the counting experiment.

PNC-Alpha, is available in two types 'Standard' and 'Low background'. Both type of units are **except** BACKGROUND Counts per Hour specification, rest all specifications of both types of units are same. Added advantage of this unit is, it calculates and displays the efficiency.

PNC-Alpha, is ideally suited for Nuclear Counting Experiments carried out in Universities and colleges. It is also useful for radiation counting for Health Physics applications in radioisotope laboratories, nuclear reactors, nuclear power plants, environmental survey labs, etc.

A Drawer Assembly to hold 1" dia or 2" dia filter paper is supplied as standard accessory. The detector mounts upside down on the drawer assembly such that mylar face of the detector is just 2 mm above the sample filter paper.

Specifications (PNC-Alpha)



PNC-Alpha with Drawer Assembly

Counter

- ❖ Electronics All solid state, Micro-Controller based design
- ❖ Preset Time Time settable between 1 and 9999 seconds in Step of 1 second
- ❖ No. of Runs Settable between 1 to 1000
- ❖ Display Counts : 999999
Time : 9999 or HH:MM:SS (RTC format)
Runs : 1000
- ❖ HV Supply Adjustable to 1500V by setting front panel mounted Trim pot
- ❖ Data Storage Store and recall facility for data up to 1000 readings
- ❖ User Interface 4 keys keypad with 16x2 line LCD for displaying Key function
- ❖ Data Transfer To PC USB Port

Alpha Detector

- ❖ Alpha Scintillation ZnS(Ag), integral assembly with voltage divider on 2" dia PMT
Approx Viewing area : 20 cm², 2" dia circular scintillator ZnS Sheet placed on 2" PMT (Standard / Low background)
- ❖ Detector Efficiency : Better than 25 % with Am²⁴¹ Source
- ❖ Background Counts
 - For Standard Alpha Counter : Less than 10 CPH
 - For Low Background Alpha Counter : Less than 2-3 CPH
- ❖ Drawer Assembly for 1"φ or 2" φ filter paper measurement

Power Supply

- ❖ Internally mounted 12V battery which is charged through main operated charger ranging from 90-270 Volts AC Supply

Mechanical

- ❖ 200 L x 220 D x 70 H mm
- ❖ Weight : Approximately 1 Kg

Due to continuous R&D, specifications are likely to change without notice

Manufactured by :

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