

PORTABLE LIQUID SCINTILLATION COUNTING SYSTEM

MODEL # SSS-22P

MODEL # SSS-12P

FEATURES:

- MEASURES ALL BETA EMITTERS AND LOW ENERGY GAMMA EMITTERS
- DUAL PM TUBE DESIGN
- SETTING WINDOW CAN BE SET FOR ANT ISOTOPE
- SEES TRITIUM TO VERY LOW LEVELS

GAMMA BACKGROUND RADIATION

REJECTION FEATURES:

- Energy analyzer window rejects pulses with energies outside the window setting
- Optional Lead shielding around detector

COUNTING ASSEMBLY FEATURES:

- Excellent repeatability
- Fully light tight system
- Fail safe interlock to protect PM tubes
- High transmission optical coupling to PM tubes

MOST PM TUBE AND PRE-AMP NOISE IS ELIMINATED BY THESE FEATURES:

- Anti-Coincidence-Dual PM Tubes
- High quality PM tubes and preamps
- Fully adjustable energy analyzer window rejects low energy pulses

APPLICATION: The SSS-22P Manual Liquid Scintillation Counting System accurately and quantitatively measures all Beta emitters including Carbon-14, Tritium, and most other radioactive materials.

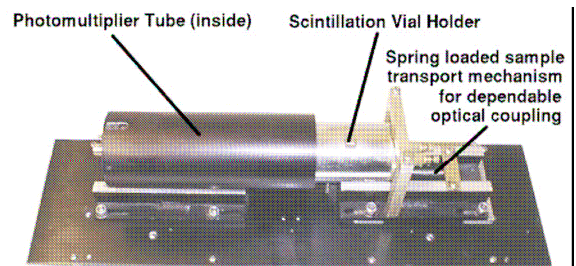
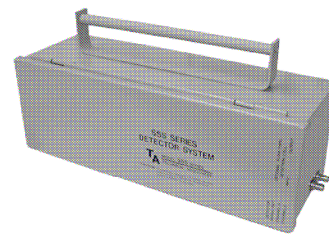
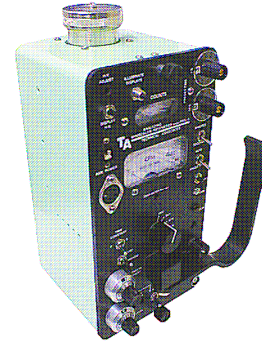


FIGURE 1: PRS-5 electronics, Detector box, Inside view MODEL DET-S12P

TA TECHNICAL ASSOCIATES

7051 ETON AVENUE, CANOGA PARK, CA 91303
TELEPHONE (818) 883-7043 • FAX (818) 883-6103
e-mail: tagold@nwc.net • www.tech-associates.com

PORTABLE LIQUID SCINTILLATION COUNTING SYSTEM

Model # SSS-22P

Model # SSS-12P

SYSTEM DESCRIPTION

Measuring Principal: The most sensitive method of detecting and quantitating beta emitting isotopes is to intimately mix the sample with liquid scintillation fluor and count each individual scintillation event with a photo multiplier counter. Followed by an energy analyzer which further selects the pulses and delivers the true signal. PC interface is standard and hard copy printer is optional. Detection cell optically coupled to selected photo multiplier tubes.

DATA ANALYSIS AND PRESENTATION

Scintillation counts which are detected by PM tubes are processed by a fully adjustable single channel analyzer which is centered on the energy peak of the isotope being measured. This deletes both higher energy pulses from background radiation and lower energy counts from the PM tube or circuit noise. The pulses are then fed to a digital scaler and optional digital printer. (Thus allowing long count times for measurement of very minute samples as well as completely eliminating artifacts caused by rate meter time constants.) Optional interface to parallel/or serial printers or most scientific or personal computers or data stations.

SPECIFICATIONS:

- C-14 Efficiency:** Typical 90%.
- H-3 Efficiency:** Typical 70%

- Count Times:** 1 sec. thru 99 sec. (1 sec. increments), and 1 min. thru 99 min. (in 1 min. increments).
- Voltage:** 0-1400 Volts - fully user settable.
- Readout:** Digital - 6 digit LCD.
- Outputs:** Choose either Ethernet or Serial output.
- Power:** Rechargeable NiMH batteries + AC adapter
- Physical Spec:**

Model:	PRS-52	DT-S-22P
Dimensions:	(13" L x 9" W x 9" H)	(18" L x 6" W x 6" H)
Weight:	3.5 kg (7.5 lbs) including batteries.	6.8 kg (15 lbs)
Shipping Weight:	5 kg	9 kg

- Sample Size:** Accepts standard Liquid Scintillation vials up to 1.1" diam. x 2-1/2" H.
- Scintillation Fluors:** Accepts Standard or Biodegradable scintillation fluors.

TA TECHNICAL ASSOCIATES

7051 ETON AVENUE, CANOGA PARK, CA 91303
TELEPHONE (818) 883-7043 • FAX (818) 883-6103
e-mail: tagold@nwc.net • www.tech-associates.com

Nuclide's Detected

Model # SSS-22P

Coincidence mode with narrow energy-window

- Detects:
 - Tritium - High sensitivity
- Rejects:
 - Both internal and external radioactive emissions
 - Radiation background
 - Photo-multiplier, Dark current, and Amplifier noise

Coincidence mode with wide energy-window

- Detects:
 - Tritium plus essentially all other alpha, beta, gamma, and positron emitters plus most x-ray emitters
- Rejects:
 - Photo-multiplier, Dark current, and Amplifier noise

Non-coincidence mode - Model SSS-12P

- Single Channel:
 - 3 switch selectable windows
 - 2 preset (resettable) window positions plus one "variable"
- Analyzer/Discriminator:
 - 10-turn, 1000 division pot for each threshold
 - 10-turn, 1000 division pot for window width

OPTIONS

- A. Digital Printer Model MPM-40DT - Battery operated printer with date & time stamp.
- B. Optional Interfaces and Outputs: Clear instructions with all interfaces.
- C. Choice of serial or ethernet data port.
- D. Data logging software, Model # WIN-W.
- E. Model SSS-12P- Lower cost version - with single PM tube. SSS-12P is not suitable for counting low level C-14 or Tritium.

TA **TECHNICAL ASSOCIATES**

7051 ETON AVENUE, CANOGA PARK, CA 91303
TELEPHONE (818) 883-7043 • FAX (818) 883-6103
e-mail: tagold@nwc.net • www.tech-associates.com