

LOW RANGE PORTABLE LIQUID SCINTILLATION COUNTING SYSTEM

Model ~ SSS-22LR

LAM-10DSC

FEATURES:

- TRITIUM TO 10,000pCi/l
- MEASURES ALL BETA EMMITTERS AND LOW ENERGY GAMMA AND ALPHA EMITTERS
- DUAL PM TUBE DESIGN
- WINDOW IS SETTABLE FOR ANY ISOTOPE
- 3 CELL CASSETTE SYSTEM
- IP65



Electronics
PRS-7DSC



Inside View ~ SSS-22LR

GAMMA BACKGROUND RADIATION FEATURES: REJECTION FEATURES:

Energy analyzer window rejects pulses
repeatability with energies outside the window setting
system

- Optional Lead shielding around detector

COUNTING ASSEMBLY

Excellent
Fully light tight

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:

- High quality PM tubes and preamps
- Fully adjustable energy analyzer window rejects low energy pulses
- 3 Cell Cassette system for faster thru-put and easy comparison sample calibration or to background
- Less wait time for phosphor

APPLICATION:

The **SSS-22LR** Manual Liquid Scintillation Counting System accurately quantitatively measures Carbon-14, Tritium and most other radioactive materials. Measures low levels of Tritium even below 20,000 pCi/l, Clean Drinking Water Levels.



TECHNICAL ASSOCIATES

OVERHOFF TECHNOLOGY

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TICKER - UCLE

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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 photomultiplier counter.

- An energy analyzer then further selects the pulses and delivers the true signal.
- Detection cell optically coupled to selected photomultiplier tube.
- 3 cell cassette system for faster thru-put and easy comparison sample to calibration standard or to background.
- OPTIONAL: PC interface and hard copy printer.

DATA ANALYSIS AND PRESENTATION

- Scintillation counts 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 ratemeter time constants.
- Optional USB interface to most scientific or personal computers or data stations.

SPECIFICATIONS:

- **H-3 Sensitivity:** 20,000 pCi/l in 30 min. Below 10,000 pCi/l in 3 hrs.
- **H-3 Gross Efficiency:** >20%, Coincidence efficiency >10% .
- **Count Times:** 1 sec. thru 100,000 sec (approx. 30 hrs)
- **Voltage:** 0-2000 Volts - fully user settable.
- **Readout:** Digital - 6 digit LCD,
- **Outputs:** Standard: Serial port output
- **Optional:** USB Port
- **Power:** AC/Battery; High capacity battery and built-in charger

Sample Size: Accepts standard Liquid Scintillation cassettes 250 ml each cell.

Scintillation Fluors: Accepts most scintillation fluors.

Perkin-Elmer Ultima Gold-LLT is recommended for H-3 counting

OPTIONS:

- Data logging software, Model # ORO-22P comes with data acquisition cable
- Set of 2 calibrated liquid standards, C-14 and H-3. User must mix TA solutions with liquid scintillant
- USB port or other Interfaces and Outputs: Clear instructions with all interfaces.



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MODEL SUB-ASSEMBLY	SSS-22LR ELECTRONICS	SSS-22LR DETECTORS
MODEL	PRS-7-DSC	DT-S-22LR
Dimensions:	10" L x 7" W x 7" H includes handle	26" L X 26" W X 6" H
Weight:	3.6 Kg (8 lbs) w/battery	6.8 Kg (15 lbs)
# of PM Tubes:		2
# of Amplifiers:	2	
Coincidence Counting	Yes	
Recommended:		Low level H-3, C-14, S-35
Capacity:		3 Samples
IP:	65	

PRS-7-DSC

- DUAL SINGLE CHANNEL ANALYZER
- 2 INDEPENDENT DETECTOR INPUTS
- COINCIDENCE CIRCUIT SIGNALS IF BOTH DETECTORS SEE A PULSE AT THE SAME TIME
- DETECTS: ALPHA, BETA, GAMMA, X-RAY, TRITIUM, POSITRON, MESON, COSMIC RAYS – DEPENDING ON DETECTOR SELECTED
- VERSATILE AC & RECHARGEABLE BATTERY
- THREE PRESETTABLE WINDOW POSITIONS
- SWITCH SELECTABLE
- SIX DECADES
- CRYSTAL CONTROLLED
- SPLASH PROOF
- IP65



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