



Electronics
PRS-7DSC



Inside View: SSS-22LR

Low Range Portable Liquid Scintillation Counting System

Model SSS-22LR

Features

- Tritium To 10,000pCi/l
- Measures All Beta Emitters and Low Energy Gamma and Alpha Emitters
- Dual PM Tube Design
- Window is Settable for Any Isotope
- 3 Cell Cassette System
- IP65

Gamma Background Radiation

- 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.



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Low Range Portable Liquid Scintillation Counting System

Model SSS-22LR

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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Low Range Portable Liquid Scintillation Counting System

Model SSS-22LR


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 and Rechargeable Battery
- Three Presettable Window Positions
- Switch Selectable
- Six Decades
- Crystal Controlled
- Splash Proof
- IP65



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