

DPM 700 I - Liquid Scintillation Counter

Mobile liquid scintillation counter with dual photomultiplier

The DPM 7001 is a mobile liquid scintillation counter equipped with two photomultipliers, giving it a high counting efficiency and low background noise. It is specially designed for the counting of tritium and carbone-14..

The DPM 7001 is totally innovative in the range of small liquid scintillation counters, as it is the only one equipped with two photomultipliers.

Due to its small size and its light weight (16kg), it can be transported easily on monitoring sites for quick measurements.

It also offers the user many functionalities: Setting of counting window, connection with computer or with thermal printer, spectra, data report in excel format.



Operating principle

The sample is mixed with scintillation liquid and inserted into the counting chamber, equipped with two photomultipliers (PMs).

The two PMs are placed opposite and operate in dual coincidence. Each desintegration is then counted only when it is detected by both PMs in the same coincidence time.

Main features

- Two counting channels (adjustable window : 0 to 999).
- Setting of the counting time, the background noise, and the counting efficiency.
- Automatic subtraction of the background noise.
- Automatic stop if the measurement chamber is not properly closed or if quenching level is too high.
- RS 232 serial port: connection with PC or thermal printer.

Benefits

- High counting efficiency ($H3 > 37\%$, $C14 > 94\%$).
- Low background noise (< 40 CPM).
- Light weight : 16 kg.
- Control and reading on LCD display or on PC (optional software).
- Data export in excel format.
- Two counting channels for two simultaneous countings.
- Ease of use.



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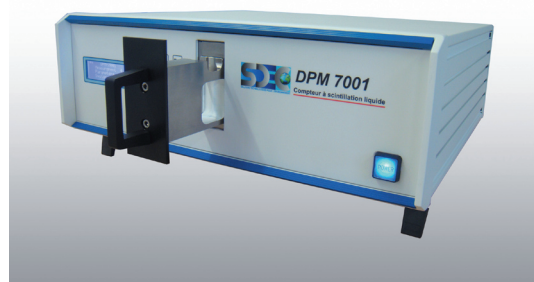
Efficiency

Efficiency: 3H > 37% ; 14C > 94% (20 ml HDPE vial).

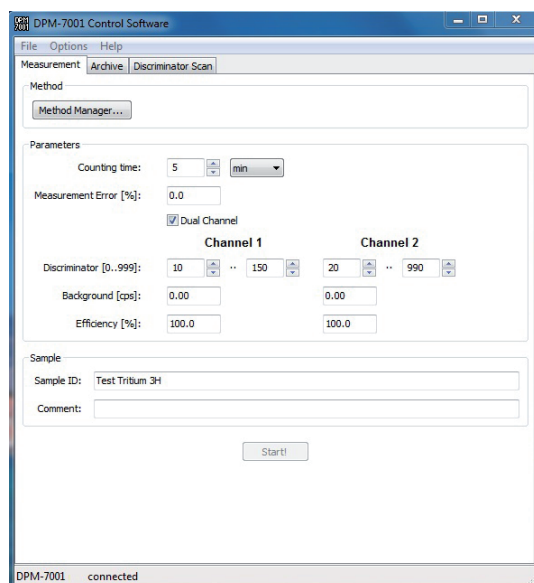
Background noise: < 0,6 cps (20 ml HDPE vial).

Technical specifications

- AC power supply : 230 Volts / 50 Hz or 110 Volts / 60 Hz
- Power consumption : 20 Watts
- Fuse : 1 Ampere
- Operating temperature : 10°C to 40°C, max. humidity.: 70%
- Paint: EPOXY powder, decontaminable
- Blue backlit graphic Liquid Crystal Display (128 x 64 pixels)
- RS 232 serial interface for PC or thermal printer
- Microprocessor controled
- Easy-to-use menu with intuitive navigation
- PC software (optional) for easy control / operation via PC
- Vial holder on sliding drawer fitted with handle
- Lead shield thickness : 30 mm
- Supplied with manual, RS232 cable, and power supply cable (IEC type)
- Dimensions : W x H x D = 470 x 160 x 430 mm
- Weight : 16 kg



DPM7001, with flask holder open



DPM 700 I PC control software

The DPM7001 PC control software allows to control and operate the counter from a PC via serial RS 232 communication.

Measurement :

The method manager allows to load a user-defined protocol previously stored for a specific radio-isotope.

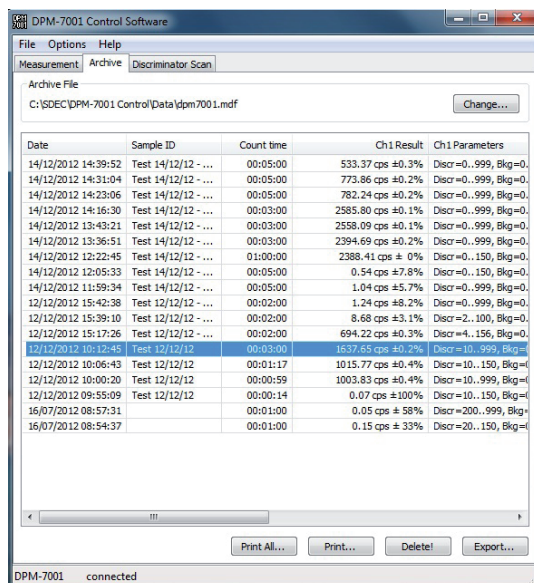
Once the measurement parameters are defined or loaded from the method manager, the user can define the sample name and also add a comment.

Archive :

The software also allows to save measurements done, and to read measurements previously stored. Data can be exported in Excel format file for further data processing.

Discriminator Scan :

The software also allows to edit a spectrum after measurement.



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