



# TRIATHLER



## TRIATHLER MULTILABEL COUNTER

Triathler has been thoroughly tested and proven under extreme conditions. More than 1500 units have been delivered and they are used in all kinds of laboratories and in some of the planet's most demanding environments – in the desert and jungle, as well as on ocean-going vessels and oil platforms.

### Ideal for:

- Homeland Security
- Radiation Safety
- Wipe Tests
- Life Sciences
- Molecular Biology
- Ecology
- Environmental Testing



### Features

Triathler is a single-sample counter, which provides fast and accurate results for several life science and environmental applications. It can count all radioisotopes including tritium in a variety of sample formats. Due to its very small size and light weight, Triathler can be taken into the field to measure samples on the spot. Although compact, Triathler has many advanced features such as advanced spectrum analysis using a multichannel analyzer (MCA), Instant DPM results, single-photon luminescence counting, and optional alpha beta separation.

# ALL-IN-ONE LIQUID SCINTILLATION COUNTER, GAMMA COUNTER AND LUMINOMETER

## Easy-to-use

A keypad allows single key operation for immediate results using preset protocols for any isotope.



## Portable

Small size and weight make Triathler ideal for personal use on a benchtop or for on-the-spot field/sea measurements.

## Flexible

Triathler is suitable for just about any beta radiation, gamma radiation or luminescence application and accepts most types of vials and sample formats.



## A MULTITUDE OF POSSIBILITIES

Get instant results whenever and wherever with this compact and portable counting system.

### **Triathler in monitoring...**

**Wipe Tests** - Triathler provides fast and reliable results for regulatory wipe tests in lab areas.

**Water Measurements** – Triathler has optional alpha-beta separation capabilities which makes it ideal to detect alpha-isotopes like Radon ( $^{222}\text{Rn}$ ) in water.

**Soil Measurements** – With proper extraction techniques, Triathler can be used to measure soil samples for contamination with just about any radioisotope.

### **Triathler in life sciences...**

**Molecular Biology** – Triathler is well suited for metabolic studies, genetic studies, cell proliferation assays, receptor-ligand assays, and other applications in biosciences. For example, using the optional plastic scintillator adapter,  $^{32}\text{P}$  can be measured non-destructively (without cocktail).

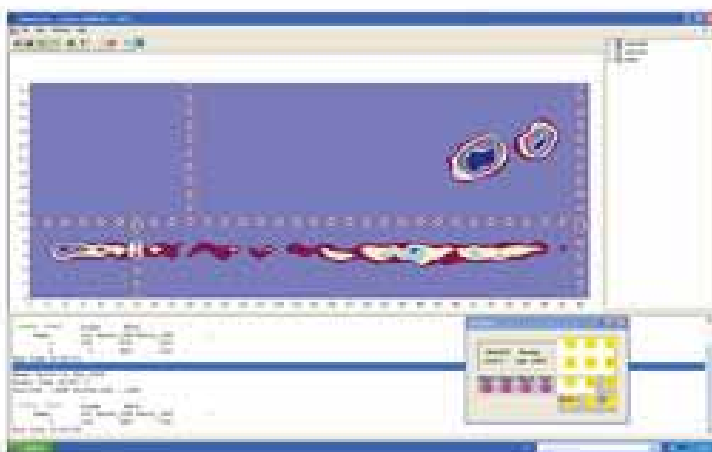
**Marine Biology** – Triathler is commonly used to measure growth of phytoplankton in seawater and lakes by measuring uptake of  $^{14}\text{C}$ .

**Research** – Triathler is ideal as an easy-to-use diagnostic tool in research for detection of beta and gamma isotopes, such as  $^3\text{H}$ ,  $^{14}\text{C}$  and  $^{125}\text{I}$ .

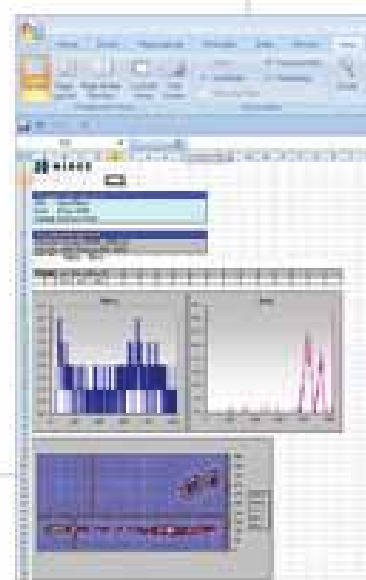
**Luminescence** – Triathler can be used as a high sensitivity luminometer for both glow and flash type assays, such as ATP monitoring, luciferase, and bacterial measurements. An optional reagent injector is available for more demanding applications, such as kinetic measurements.

## ADVANCED TECHNOLOGIES

Triathler has advanced features such as a built-in multichannel analyzer and optional alpha-beta separation electronics. With the unique 2-dimensional plot, optimizing alpha beta separation is easy and straightforward. It provides visual proof of the separation and yields superior minimum detectable activities for alpha emitters.



## SOFTWARE



Optional Commfiler CSV software provides instrument control and analysis tools with easy reporting templates compatible with Excel™ environment.



# TRIATHLER MULTILABEL COUNTER

## Specifications:

Sample Types:	LSC vials, Microtubes, Test Tubes
Detector:	Single-Photon Counting PMT
Display:	2 x 16 character alpha-numeric LCD
Energy Range:	2 keV – 2000 keV
Counting Time:	0.1 seconds – 99999 minutes
Output:	RS-232C to PC or thermal printer
Power:	110-240V AC, 12V DC
Dimensions:	33 L x 25 W x 19 H cm
Weight:	9 kg



## Liquid Scintillation Counting:

Sample size:	LSC Vials, Microtubes, Test Tubes
Max. Count Rate:	2,000,000 CPM
Beta Efficiency:	up to 48% for $^3\text{H}$
Direct $^{32}\text{P}$ Efficiency:	up to 75% in Plastic Scintillator Adapter Tube

$^{63}\text{Ni}$

## Gamma Counting:

Detector:	32 x 32 mm NaI (TI) crystal (through-hole)
Sample Size:	Tubes or Vials (up to 13 mm diameter)
Background Shield:	10 mm lead

## Luminescence Counting:

Sample Size:	LSC Vials, Microtubes, Test Tubes
Max. Count Rate:	$3 \times 10^7$ CPS
Luminescence sensitivity:	< 10 amol ATP/vial

## Ordering information

Code No	Triathler
425-014	Triathler Luminometer
425-024	Triathler Gamma Counter
425-034	Triathler LSC
425-004	Triathler Multilabel Tester
425-010	Triathler NaI System

Code No	Options
525-001	Alpha/Beta Separation
525-110	Internal Lead Shield for LSC
525-100	Internal Lead Shield for MLT
431-302	Equipment Case
525-203	Field Case with Battery
431-303	Field Case with Wheels
425-1130	Automatic Injector for Triathler



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