FlowCount*PRO* PET Metabolite

Dual BGO HPLC coincidence detector

The PET Metabolite HPLC Detector is a dual BGO coincidence detection system for monitoring research compounds and their metabolites labeled with PET radioisotopes.

Technology

The system consists of an electronics base unit and two large (1.5 x 1 inch) BGO crystals mounted on photomultiplier tubes. The detectors are supplied with mounts and a flow cell holder and can be used up to 12 feet away from the base unit making shielding easier.

Specially designed electronics produce a count only when coincidence events are detected. The system has high sensitivity and very low background levels (less than 10 cpm). Easily adjustable flow cell volumes allow further optimization of the sensitivity.

A standard 0 to 2 volt analog signal can be used to connect the PET Metabolite Detector to your existing chromatography data system. The digital TTL pulse signal can be interfaced with the Extended Range Module (ERM) for maximum sensitivity and dynamic range.

Features and Benefits

- Coincidence detection for high sensitivity with low back-ground interface
- Ideal for the detection of PET isotopes in blood plasma
- Analog and TTL outputs
- Compatible with any liquid chromatography system
- Extended range option

Model

HPLC-61111:

The FlowCount*PRO* PET metabolite radiochromatography system consists of a FlowCount*PRO* base unit, which provides both analog and TTL outputs, and two detector units.

The detector units consist of two BGO crystals mounted on specialized photomultiplier tubes (matched pair) with 1.5" diameter. It includes the detector holder and flow cell tubing adapter.

Specifications

High Voltage	0 - 1,000 V
Dimensions	360 x 240 x 60 mm (W x D x H), Weight 2.5 kg
Power	110/220 V (50/60 Hz)
Analog Output	0.2 V; 2 V
Range	20 kcpm - 20 Mcpm
Pulse Output	TTL

HPLC compatibility

The PET metabolite detector can be used with any HPLC system. The TTL output can be used with any multi scaling system or the Extended Range Module (ERM). The analog output can be interfaced with chart recorders, integrators, or other HPLC data systems.

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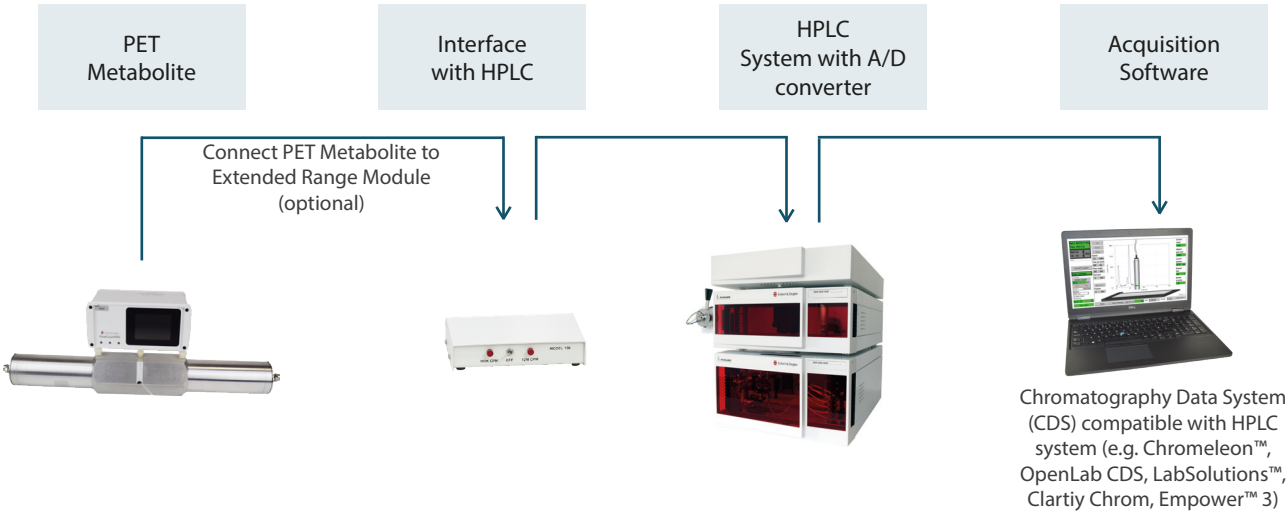
PET Metabolite configuration



Detectors, holder, flow cell and Extended Range Module

Pair the items below with the base unit model (HPLC-61111) to make a complete PET Metabolite system.
1. FC-4100: Dual BGO/PMT detectors with 1.5" diameter BGO scintillation crystals (matched pair)
2. FC-4300: Detector holder and flow cell tubing adapter
3. FC-6106 Extended Range Module for maximum precision and range (optional but recommended)

Sensitivity

Specially designed electronics produce a count only when coincidence events are detected. This produces a system capable of operating at high sensitivity with low background interference. Adjusting the flow cell volume can further optimize sensitivity.

Coincidence time	< 1 µsec
Crystal	two 1 x 1.5 inch BGO
Sensitivity	100 - 200 dpm
Background	< 10 cpm
Dynamic Range	4 - 5 Decades
Typical Cell Volume	600 – 700 µl (user-adjustable)
Efficiency	20 – 25 % (PET Isotopes)

Safety

The detectors can be used up to 50 feet away from the base unit, making shielding easier.

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