



## LAB CPG – CZT Coplanar Grid Detector Room Temperature Gamma-Ray Detector

### Features

- High-performance, room temperature CZT solid state detector
- Large Volume (1000 mm<sup>3</sup>) CZT detector
- Coplanar Grid electrode for enhanced FWHM peak shape
- Small overall package size, 38.1 mm dia. x 159.5 mm length
- Connects directly to NIM and desktop MCA's
- Compatible with Genie™ 2000 Analysis suite
- Generic ISOCS™ Characterization available (Optional)

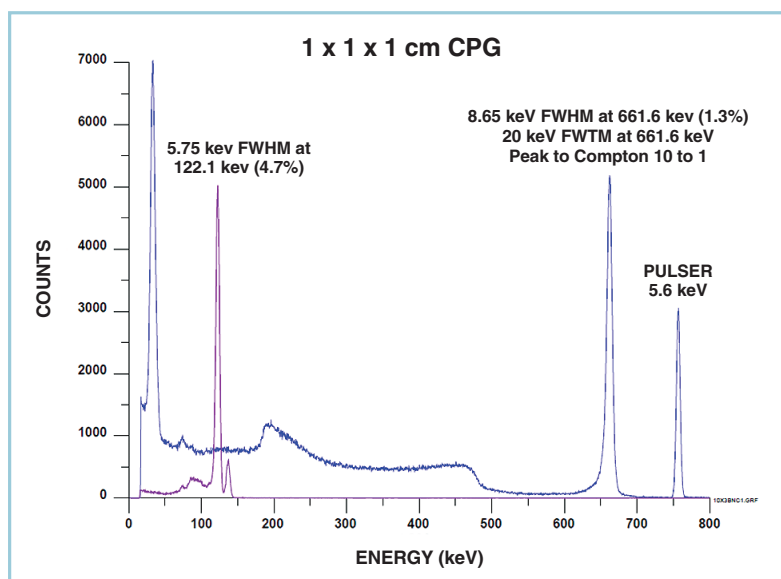
### Description

The Lab CPG detector offers a large volume CZT detector in a coplanar grid (CPG) electrode configuration. The application of the CPG electrode structure creates an electron-only collection device that allows for a reduction in tailing caused by the trapping of charge in the CZT crystal. This package provides superior detector performance ideal for typical radiochemistry laboratory applications where a high resolution and low background signal is paramount.

The compact housing includes the detector element and preamplifier electronics. Connections on the back of the detector provide easy connection to both NIM-based and desktop MCA electronics.



Coplanar Grid



### ISOCS/LabSOCS™ Support

The Lab CPG (10x10x10) detector supports ISOCS efficiency calibrations. This characterization permits the user to calculate mathematical efficiencies using either ISOCS or LabSOCS software (sold separately). A generic characterization is available as an option that is suitable for all Lab CPG (10x10x10) probes. In addition, a unique characterization can be purchased for a specific probe that will provide increased accuracy.

# LAB CPG – CZT Coplanar Grid Detector

## Room Temperature Gamma-Ray Detector

### Specifications

#### PERFORMANCE

- DETECTOR – 10 x 10 x 10 mm CdZnTe detector.
- ENERGY RANGE – 30 keV to 3.0 MeV.
- ENERGY RESOLUTION – <3.3% FWHM at 662 keV.

#### PHYSICAL

- HOUSING SIZE – 25 x 25 x 63 mm (1 x 1 x 2.5 in.).

#### INPUTS/OUTPUTS

- DC POWER – 12 V dc, standard DB-9 preamp power connection. Cable included.
- HIGH VOLTAGE – Negative bias (-500 V dc to -2000 V dc), SHV connector included.
- ENERGY OUTPUT – Tail pulse with negative polarity; ~600 ns rise time and ~700 µs fall time. BNC connector included.

#### ENVIRONMENTAL

- OPERATING TEMPERATURE RANGE – +10° to +35 °C standard – all measurements taken at 25 °C.
- OPERATING HUMIDITY — 0 to 80% relative non-condensing.
- Meets the environmental conditions specified by EN 61010, Installation Category I, Pollution Degree 2.

#### ORDERING INFORMATION

Lab CPG (10 x 10 x 10)	Lab CPG (10 x 10 x 10) 1000 mm <sup>3</sup> CZT Detector
ISXCZT-LAB1000	Generic ISOCS Characterization for the Lab CPG (10 x 10 x 10)

#### Other Ranger Family Products

##### GR1

- GR1 Gamma-Ray Spectrometer with
- 2.5% FWHM resolution at 662 keV
  - Without MCX I/O ports

##### GR1+

- GR1+ Gamma-Ray Spectrometer with
- 2.0% FWHM resolution at 662 keV
  - Without MCX I/O ports

##### GR1-A

- GR1-A Advanced Gamma-Ray Spectrometer with
- 2.5% FWHM resolution at 662 keV
  - With MCX I/O ports (includes 3x MCX to BNC adaptors)

##### GR1-A+

- GR1-A+ Advanced Gamma-Ray Spectrometer with
- 2.0% FWHM resolution at 662 keV
  - With MCX I/O ports (includes 3x MCX to BNC adaptors)

##### ISXCZT-GR1

Generic ISOCS Characterization for the GR1, GR1+, GR1-A or GR1-A+

##### SIGMA25

USB enabled CsI scintillator (1" x 1" x 1") detector with integrated MCA

##### ISXC SI25

Generic ISOCS Characterization for the SIGMA25

##### SIGMA50

USB enabled CsI scintillator (1" x 1" x 2") detector with integrated MCA

##### ISXC SI50

Generic ISOCS Characterization for the SIGMA50

##### TN-15

USB enabled Thermal Neutron Detector



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