

**Environmental Detector Data Sheet**  
**Alpha Spectra, Inc.**  
**Grand Junction, Colorado**

The Environmental Detector or “E-style” scintillation detector is used in applications where thermal shock, mechanical shock, and mechanical vibration are important considerations. Alpha Spectra’s “E-style” detectors are capable of withstanding temperatures up to 75°C. The “E-style” detector is capable of withstanding mechanical shock of up to 25 g’s.

For more rugged applications we recommend our “R-style” configuration.

Three “E-style” detectors are offered. The open face “EX-style” in which the customer supplies the PMT. The “ED-style” is supplied with a demountable PMT. The “EI-style” is supplied with an integrally mounted PMT.

All three styles are available in custom diameters and lengths.

The detectors are offered with either aluminum or stainless steel housing. The design utilizes a rolled glass-to-metal seal technology for ruggedness. An epoxy is used to provide the hermetic seal.

Each detector is heat cycled twice before shipment in order to verify the reliability of the detector. The detectors are heat cycled once during the manufacturing assembly process and then again during final quality testing.

Our test and validation process ensures that we will deliver a detector that meets your specifications.

The E-style detector is popular for several low temperature rugged environmental applications. This style detector can be used as either a gross counting tool or a spectroscopic tool.

Typical applications include:

- Shallow Hole Monitoring
- Perimeter Monitors
- Environmental Monitoring
- Stack Monitors
- Hand Held Probes
- High Temperature Industrial Process Measurements
- Geophysical Surveying

Several standard sizes are available. Additionally, we will be glad to discuss your custom application.



6EX4 and 8EX8 detectors are shown.

## Alpha Spectra, Inc. Environmental Detector Specifications

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<b>Detector Style:</b>	E-style, Open Face (no PMT) ED-style, Demountable PMT EI-style, Integrally Mounted PMT
Crystal Material, and Dimensions:	NaI(Tl), BGO or CsI(Na)
Crystal Housing:	Aluminum or Stainless Steel
Photomultiplier:	As required by the application
Sizes:	Diameter: 0.5" to 2.5" Length: 0.5" to 12" Custom made to meet the customer's needs
Temperature Range:	-20°C to 75°C
Thermal Shock Gradient:	3°C/minute maximum
Mechanical Shock:	5g to 25g @ 11ms – 3 per axis (X and Z axis)
Detector Pulse Height Resolution:	8.5% or better at 662 KeV (Cs-137) (typical), as tested on and in house ASI 2" PMT at at 25°C.

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**Please contact Alpha Spectra, Inc. so that our design team may help you design a custom detector configuration for your application.**

**Alpha Spectra has manufactured over 150,000 detectors in becoming the world's second largest producer of NaI(Tl) scintillation crystals. We are proud of the manner in which our staff has worked together in developing a technology-based company with world class expertise.**

**Alpha Spectra, Inc. is the only American-owned company in the industry that has its own purification and growth processes. Our manufacturing process begins with exceptionally clean starting material. This material is processed using a growth technique that has been developed in house. Our high-quality detectors are assembled utilizing techniques that have been developed with over 100 years of combined working experience.**

**Contact Alpha Spectra, Inc. for your scintillation detector requirements and be assured that you will get personal attention.**

