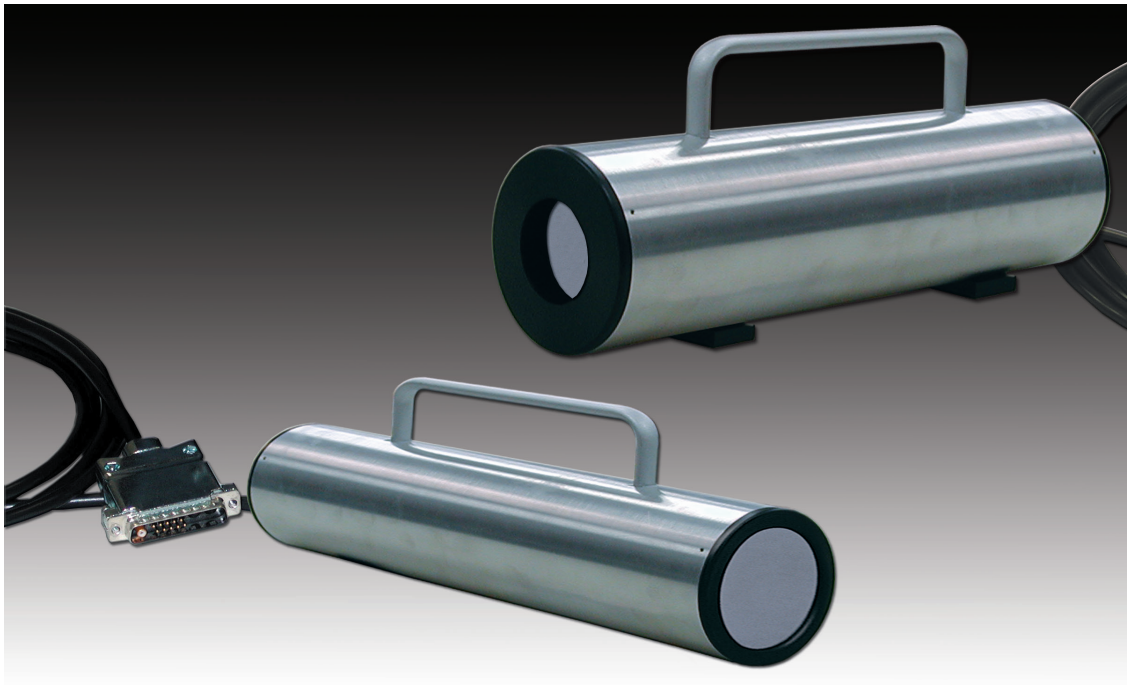
ORTEC®
AMETEK®

2BY2/2BY2-DD
3BY3/3BY3-DD
Integral NaI(Tl) Detector

Complete Rugged NaI Detector Probes for In-Field Gamma Spectroscopy Measurements



- Rugged integrated NaI detectors in tough aluminum housing — available in 2” x 2” and 3” x 3” sizes.
- Integral preamplifier and high voltage (HV) for convenience and safety.
- Low power consumption (240 mW), ideal for portable applications.
- Single-cable connections for most applications.
- 2BY2-DD and 3BY3-DD available for use with ORTEC digiDART and digiDART-LF.

Everything You Need in One Compact Package

2BY2 or 3BY3 is a complete NaI(Tl) probe, ready to go to work in your application. Each models contains a NaI(Tl) crystal (2” x 2” or 3” x 3”) with photomultiplier tube (PMT) and a PMT base with integral preamplifier and HV supply securely encased in a compact aluminum housing.

Ultra Low Power; the End of Bulky, External, HV Supplies

The model 296 ScintiPack™ PMT base includes a low-power, adjustable high-voltage supply, an active bias network, and a charge-sensing preamplifier. Incorporating the bias supply in the PMT base eliminates high voltage cable connections to bulky, external, HV supplies. The ACTIVE bias network permits highrate operation with minimal peak shift. ScintiPack’s ultra-low power consumption (240 mW) makes it attractive for portable applications.

Single-Cable Operation

A single cable supplies power to the preamplifier and the HV supply as well as the signal out of the preamplifier. For the “-DD” versions, the connection is direct to the digiDART or digiDART-LF (also other ORTEC DSP spectrometers). An optional break-out cable can be used with the model 2BY2 or 3BY3 should you want the signal on a BNC output connector.

Electrical and Mechanical

Power Required
2BY2 or 3BY3 +12 V at 20 mA. Supplied via a captive power cord terminated in a standard preamplifier power plug (9-pin D connector). Power cord length is nominally 3 m or 10 ft. The preamplifier power plug is compatible with standard preamplifier power connectors provided on most nuclear spectroscopy amplifiers. The preamplifier output signal is delivered on pin-3 of the connector. An optional signal break-out adapter is available for extracting the preamplifier output signal at the power connector.

2BY22-DD or 3BY3-DD Power is provided by the digiDART or digiDART-LF.

Net Weight
2BY2 or 2BY2-DD 2.5 kg (5.5 lb)
3BY3 or 3BY3-DD 4 kg (8.8 lb)

Shipping Weight
2BY2 or 2BY2-DD 4.6 kg (10 lb)
3BY3 or 3BY3-DD 4.6 kg (10 lb)

Dimensions
2BY2 and 2BY2-DD 35.5 cm (14 in.) long x 7.62 cm(3 in.) diameter
3BY3 and 3BY3-DD 38.9 cm (15.3 in.) long x 10.2 cm (4 in.) diameter

Optional Accessories

296-ADAPT Signal Break-Out Adapter Connects to the end of the power cable of the 2BY2 or 3BY3 and separates the preamplifier signal cable from the preamplifier power cable. The adapter 9-pin D connector plugs into the standard preamplifier power connector on the rear of most spectroscopy amplifiers. The 60 cm preamplifier signal cable from the adapter terminates in a male BNC connector for connection to the input of a spectroscopy amplifier.

C-24-12 93 Ω, Coaxial Cable connects the preamplifier output to an amplifier input.

Ordering Information

Model	Description
2BY2	Integrated 2” x 2” NaI(Tl) Detector
3BY3	Integrated 3” x 3” NaI(Tl) Detector
296-ADAPT	Signal Break-Out Adapter. For use with 2BY2 or 3BY3.
C-24-12	RG62A/U, 93 Ω cable with two BNC male plugs; 12-ft. length. For use with 2BY2 or 3BY3.
2BY2-DD	Integrated 2” x 2” NaI(Tl) Detector for use with digiDART or digiDART-LF.
3BY3-DD	Integrated 3” x 3” NaI(Tl) Detector for use with digiDART or digiDART-LF

NOTE: NaI detectors are not CE compliant and must be ordered as a Special if CE compliance is required.

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www.ortec-online.com
Tel. (865) 482-4411 ortec.info@ametek.com
801 South Illinois Avenue, Oak Ridge, TN 37830 U.S.A.
Visit Our Website For International Office Locations

Specifications subject to change
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