SCIONIX

Data Sheet

Fiddler probes

Model 127 BD 1.6 / 5M-Q-X and 127 BA 1.6 / 5M-Q-X

Description:

127 mm diameter, 1.6 mm high NaI(Tl) crystal coupled via a 51 mm thick quartz light guide to a 130 mm diameter low background photomultiplier tube in aluminum housing. The assembly is equipped with a solid µ-metal shield around the PMT and end in a 14 pins connector. The assembly is designed for detection of low energy X-rays or gamma rays in small quantities.

NaI(Tl) crystal	:	127 mm diameter, 1.6 mm high, specially treated for optimum X-ray response
Entrance window	:	0.25 mm Beryllium (> 2 keV, BD model) 0.025 mm Aluminum (> 10 keV, BA model) Extra protection of the entrance window of 20 micron kapton
Optical window	:	Low background quartz 51 mm thick
Window protection cap	:	A black DELRIN cover (3 mm thick) protects the thin fragile entrance window.
Photomultiplier tube	:	130 mm diameter EMI 9390
Housing	:	Passivated aluminum
Handle	:	Optional
Drawing	:	VS-0559-40

Maximum diameter housing at collar	142 mm
Diameter of PMT base	59 mm
Length of assembly (up to connector)	240 mm

Electrical connection	:	14 pins base compatible to all available USB-based digital MCA's

Performance

Energy resolution	:	< 25 % for I-129 (30 keV) < 17 % for 241-Am (60 keV)
Temperature range		-10° C to +60° C
Maximum temperature gradient	:	20° C / hour

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