SCIONIX

FIDLER Probes 127BD1.6 / 127BA1.6

FIDLER probes for low-energy X-rays and gamma rays

Probes with a thin 127 x 1.6 mm NaI(Tl) crystal coupled through a quartz light guide to a low-background photomultiplier tube. They are designed to detect small quantities of low-energy X-rays and gamma rays and have a 14-pin base that fits USB-based digital MCAs. The BD model has a beryllium window, the BA model an aluminium window.



Scintillator
NaI(Tl), 127 x 1.6 mm, specially treated for X-ray response [1]

Entrance window
.25 mm beryllium (above 2 keV, BD model) or 0.025 mm aluminium (above 10 keV, BA model); extra 20 µm Kapton protection [1]

Energy resolution
< 25% for I-129 (30 keV); < 17% for Am-241 (60 keV) [1]

Specifications

DETECTOR

Scintillator	NaI(Tl), 127 x 1.6 mm, specially treated for X-ray response	[1]
Light sensor	Low-background photomultiplier tube, 130 mm, EMI 9390, via a quartz light guide	[1]
Optical window	Low-background quartz, 51 mm thick	[1]

PERFORMANCE

Energy resolution	< 25% for I-129 (30 keV); < 17% for Am-241 (60 keV)	[1]

CONNECTIVITY & INTERFACE

Electrical connection	14-pin base compatible with all available USB-based digital MCAs	[1]

MECHANICAL

Detector housing	Passivated aluminium; a black DELRIN cover (3 mm) protects the thin window	[1]
Dimensions	Maximum diameter at collar 142 mm; PMT base diameter 59 mm; length up to connector 240 mm	[1]

ENVIRONMENT & RATINGS

Entrance window	0.25 mm beryllium (above 2 keV, BD model) or 0.025 mm aluminium (above 10 keV, BA model); extra 20 µm Kapton protection	[1]
Operating temperature	−10 to +60 °C	[1]
Maximum temperature gradient	20 °C per hour	[1]

GENERAL

Magnetic shielding	Solid μ-metal shield around the photomultiplier tube	[1]

Sources

[1] **127BD1.6/5M-Q-X and 127BA1.6/5M-Q-X (Fidler probes) – data sheet**
Scionix · datasheet · p. 1; p. 2 · checked 2026-11-26
https://scionix.nl/wp-content/uploads/2017/07/Fiddler-Probes.pdf

Every value is taken from the manufacturer’s own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer’s published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.