

## 127BD1.6/5M-Q-X and 127BA1.6/5M-Q-X (Fiddler Probes)

**Description:** NaI(Tl) crystal coupled via a quartz light guide to a low background photomultiplier tube in aluminum housing. The assembly is equipped with a solid  $\mu$ -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.



<b>Scintillation crystal</b>	:	NaI(Tl), 127 x 1.6 mm (specially treated for X-ray response)
<b>Drawing</b>	:	VS-0559-40
<b>Photomultiplier tube</b>	:	130 mm diameter, EMI 9390
<b>Entrance window</b>	:	0.25 mm Beryllium (>2 keV, BD model) 0.025 mm Aluminum (> 10 keV, BA model)  Extra protection of the entrance window of 20 $\mu$ kapton
<b>Optical window</b>	:	Low background quartz, 51 mm thick
<b>Window protection cap</b>	:	A black DELRIN cover (3 mm thick) protects the thin fragile window
<b>Housing</b>	:	Passivated Aluminum
<b>Handle</b>	:	Optional
<b>Dimensions</b>	:	Maximum diameter housing at collar            142 mm Diameter of PMT base                                59 mm Length of assembly (up to connector)        240 mm
<b>Electrical connections</b>	:	14-pins base compatible to all available USB-based digital MCA's

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**Scionix Holland B.V.**

**P.O. Box 143  
3980 CC Bunnik  
The Netherlands**

Tel: + 31 30 657 03 12  
Fax: +31 30 656 75 63  
Website: [www.scionix.nl](http://www.scionix.nl)  
E-mail: [sales@scionix.nl](mailto:sales@scionix.nl)

## Performance

<b>Energy resolutions</b>	:	< 25% for I-129 (30 keV) < 17% for 241-Am (60 keV)
<b>Temperature range</b>	:	-10°C to +60°C
<b>Max. Temperature gradient</b>	:	20°C per hour



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Fax: +31 30 656 75 63  
Website: [www.scionix.nl](http://www.scionix.nl)  
E-mail: [sales@scionix.nl](mailto:sales@scionix.nl)