SCIONIX

SiPM Scintillation Detectors

Scintillation detectors with silicon photomultipliers (SiPM)

Scionix's new generation of scintillation detectors is read out with silicon photomultipliers instead of photomultiplier tubes. They are compact, run on 5 V and less than 5 mA, have a built-in temperature-compensated bias generator and preamplifier, and give energy resolution comparable to tube readout. The scintillator can be chosen freely, for example NaI(Tl), BGO or $CeBr_3$.



Power supply
5 V, less than 5 mA [1]

Temperature compensation
Built-in temperature-compensated bias generator and preamplifier [1]

Energy resolution
Comparable to photomultiplier tube readout [1]

Specifications

DETECTOR		
Light sensor	Silicon photomultipliers (SiPM)	[1]
Scintillator	Wide choice of scintillator; Scionix shows spectra with NaI(Tl), BGO and $CeBr_3$	[1]
PERFORMANCE		
Energy resolution	Comparable to photomultiplier tube readout	[1]
ELECTRONICS & SIGNAL		
Bias and preamplifier module	Operates at 5.2–16 V and corrects the gain drift with temperature internally	[3]
POWER & BATTERY		
Power supply	5 V, less than 5 mA	[1]
MECHANICAL		
Example sizes	3" x 3" and 2" x 4" x 16"	[2]
ENVIRONMENT & RATINGS		
Temperature compensation	Built-in temperature-compensated bias generator and preamplifier	[1]
Operating temperature	The SiPM elements can be operated up to 60 °C	[3]
GENERAL		
Magnetic fields	Insensitive to magnetic fields	[3]
SiPM coverage	Usually 20–30% of the scintillator surface	[4]

Sources

[1] **The new generation scintillator / SiPM detectors – application note**
Scionix · datasheet · p. 1; pp. 1–2 · checked 2026-11-26
https://scionix.nl/wp-content/uploads/2022/10/The-new-generation-application-note.pdf

[2] **Scintillation light detection devices**
Scionix · product-page · Silicon Photomultiplier SiPm · checked 2026-11-26
https://scionix.nl/read-out/

[3] **Scintillators with Silicon Photomultiplier readout – application note**
Scionix · datasheet · p. 1; p. 2 · checked 2026-11-26
https://scionix.nl/wp-content/uploads/2022/09/SiPms-application-note.pdf

[4] **Tutorial of SCIONIX scintillation detectors (2018)**
Scionix · manual · p. 43 · checked 2026-11-26
https://scionix.nl/wp-content/uploads/2022/09/Tutorial-of-SCIONIX-scintillation-detectors-2018-3-.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.