

XPIN[®]-XT-HS

Applications

Portable / Benchtop XRF

- RoHS / WEEE
- Light element analysis
- Alloy sorting/ Metallurgy
- Scientific research
- Nuclear monitoring
- Quality control
- Coating analysis
- Plastic additive analysis
- Soil analysis
- OSHA compliance
- Contamination sampling
- Archeology
- Art authentication
- Forensic
- Mobile crime lab

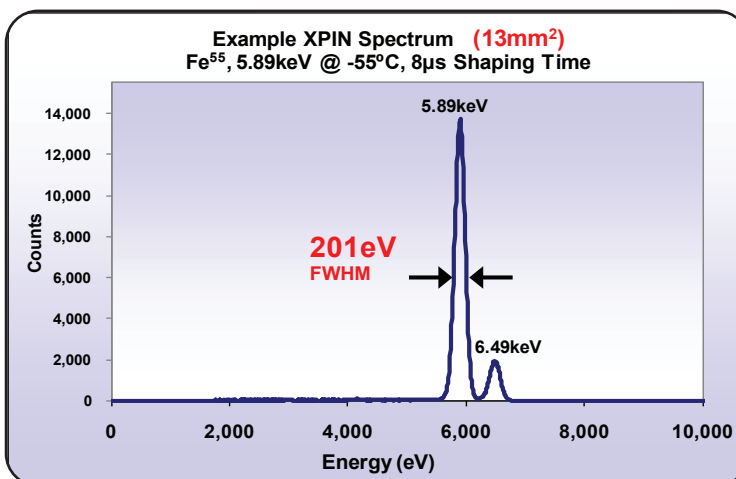
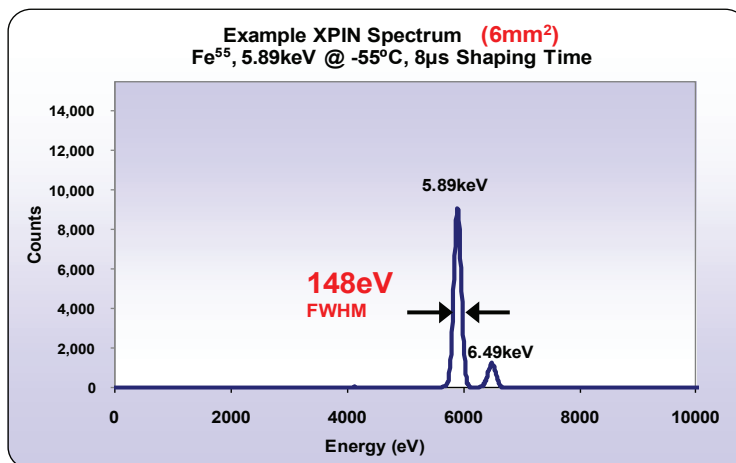
Standard Package Includes:

XPIN-XT Detector

- Vacuum sealed detector module
 - DuraBeryllium[®] window
 - Ultra-low noise Moxtek JFET
 - Thick Si-PIN diode
 - Preamplifier with input/output connector
- Optional detector mounts

The XPIN[®] detector is Moxtek's best performing Si-PIN detector. XPIN detectors use a silicon PIN diode, multi-layer collimator, and thin DuraBeryllium[®] window, achieving great resolution and x-ray sensitivity. The XPIN preamp provides a low-noise signal output to an analog or digital pulse shaping amplifier. *The XPIN-XT package is ideal for benchtop and portable applications where an integrated temperature controller is not required.*

Features	Benefits
Si-PIN diode	Low cost
Small, compact design	Close coupling between detector and source, portable
Two-stage thermoelectric cooler	Fast cooling without liquid nitrogen
Stable resolution	Minimal calibration maintenance
Thin DuraBeryllium windows	Light-element identification, corrosion resistant
Wide ambient temperature range	Industrial applications
Multi-layer collimator	Minimal stray peaks



XPIN-XT

Detector Specifications

Diode Active Area: 6mm² or 13mm²

Diode Thickness: 625μm

Detector Window: 25μm thick DuraBeryllium®

Collimator Material: Multilayer W/ Ni/ Cr/ Al

Energy Resolution: 6mm²: ≤ 190eV FWHM

13mm²: ≤ 230eV FWHM

Peak to background: 6mm²: 3600/ 1 @1keV (typical)

13mm²: 3000/ 1 @1keV (typical)

Test Conditions: 8μs shaping time, MXDPP-200, -35°C,

Fe⁵⁵, 5.9 keV, 7000 CPS

Weight: 41 grams (with heat sink)

10 grams (without heat sink)

Standard Warranty: One year

****Limited Warranty:** For preamp only and angle bracket options the customer is responsible for proper ESD and EMI controls; damage or decreased performance due to inadequate controls are not warranted.

Preamp Specifications

Inputs

Detector Power: +5V ±5% @ 16mA, -5V ±1% @ 20mA

Cooler Power: 0 to +3.5V max, 0.56A max

High Voltage Diode Bias: +130 to +200 VDC

Outputs

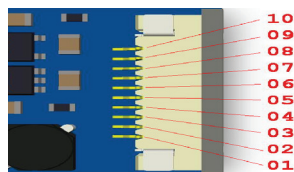
Detector Output Signal: Negative sawtooth ramp with voltage swing +2V to -2V, (pulse reset < 20μsec)

Charge Conversion Gain: 1.25mV/ keV typical

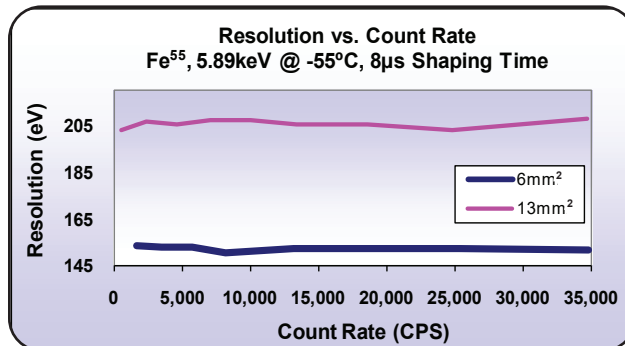
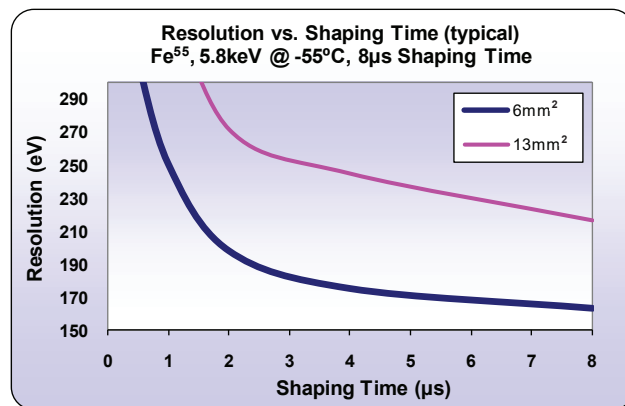
Temperature Control: Manually controlled

XPIN-XT Preamp Pinout

Pin ID	Description	Set
1	TEC GND	GND
2	TEC +	+3.5 VDC Max
3	Detector Power	+5VDC
4	Detector Power	-5VDC
5	Detector GND	GND
6	Detector Signal	NA
7	Thermistor	NA
8	Detector GND	GND
9	Not Connected	-
10	High Voltage	+170 VDC



XPIN-XT Connector Pinout



ORDER CODE: XPIN - XT - XXX - 025 - P20 - XX

Diode Active Area:

- 006 6mm² Diode
- 013 13mm² Diode

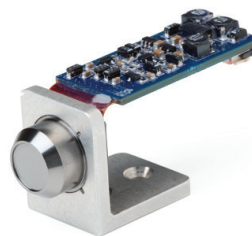
Mounting Option:

- 00 Preamp only**
- AB Angle Bracket**
- HS Heat Sink

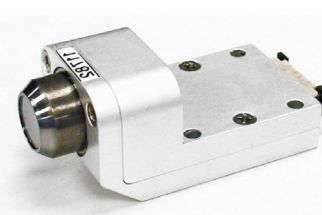


XPIN-XT-00**
Standard Configuration

XPIN-XT Mount Options

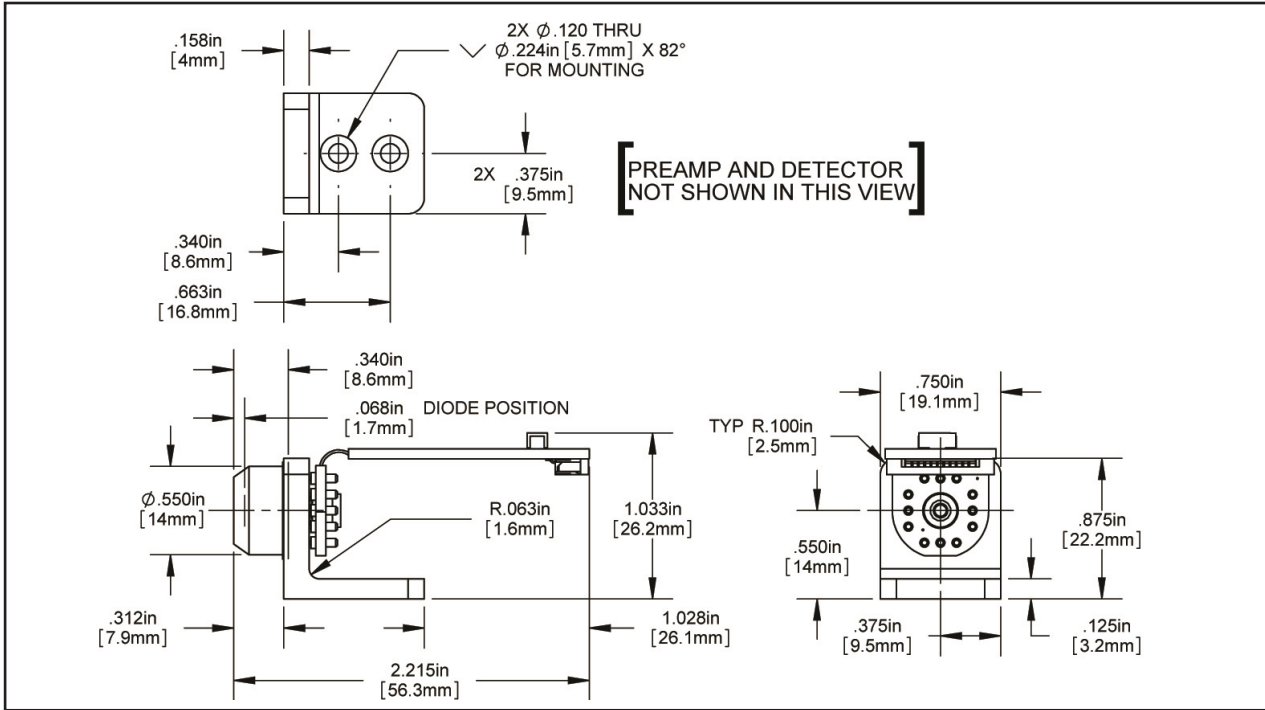


XPIN-XT-AB**
Angle bracket sold separately

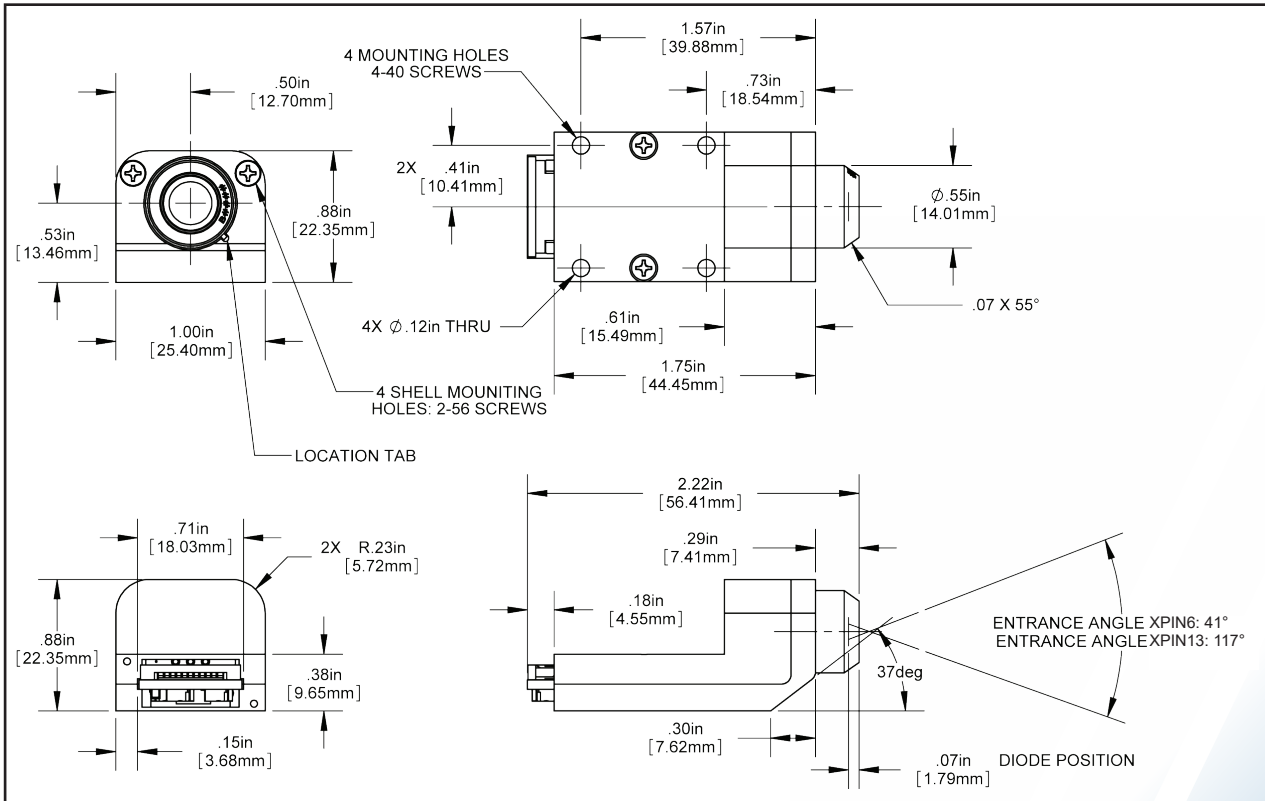


XPIN-XT-HS
Heat Sink sold separately





XPIN-XT-AB**
(Angle bracket sold separately)



XPIN-XT-HS
(Heat Sink sold separately)



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