

# Crane

The Crane stands as a state-of-the-art Mid-Wave Infrared (MWIR) detector. This device features a 5-megapixel resolution in a 2560×2048 format with a fine 5µm pitch. It is based on SCD's established XBn technology or Hot Full Midwave (HFM) and incorporates a digital readout circuit developed using an advanced CMOS process. The High Operating Temperature (HOT) Focal Plane Array (FPA) functions efficiently at 150K or 120K, enabling a large-format detector that excels in image quality while maintaining a relatively compact size, weight, and power consumption. SCD continues to lead in innovation.

## Main Features

- Large format (5M), small pixel pitch (5µm), high operating temperature
- High sensitivity: characterized by low readout noise, low dark current, and high quantum efficiency
- In-pixel gain options
- Frame rate: up to 140 Hz in full frame
- Compact integrated detector dewar cooler assembly (IDDCA): low in size, weight, and power
- Standard electronic interface

## Applications

- Persistent surveillance
- Long/medium range surveillance & targeting
- IRST
- Airborne payloads
- MWS



Technology	XBn		HFM
Detector format	2560 x 2048, 5µm pixel		
Cooler	Integral rotary	Split rotary	Split rotary
Spectral band	3.6-4.2 µm (1-4.2µm available on request)		3.6-4.9µm
Operating temperature	150K		120K
Mission profile	Low SWaP	High Reliability	Harsh environmental conditions
Length (optical axis)	88mm	96mm	96mm
Weight	360g	1300g	1300g
Cooler Power consumption at 23 °C	5W	13W	17W
Proximity electronics Power consumption	5.5W	5.5W	5.5W
Maximal frame rate	60Hz at 12bit	100Hz at 13bit 140Hz at 12bit	100Hz at 13bit 500 Hz at 12 bit, Binning 2x2 1500 Hz at 12 bit, Binning 4x4
NETD at 70% well fill	45mK	45mK	28mK
Advanced ROIC functionality	Binning, Windowing, multi-mode operation		

