Cardinal 640

The Cardinal 640 stands as a well-established SWIR VGA 15µm detector, renowned for its exceptional performance. It offers high sensitivity and a high frame rate, while maintaining low power consumption and minimal floor noise, distinguishing it as one of the premier SWIR detectors available. Included with the detector is a Thermo Electric Cooler (TEC), which can be deployed to cool the Focal Plane Array (FPA) in low-light scenarios.

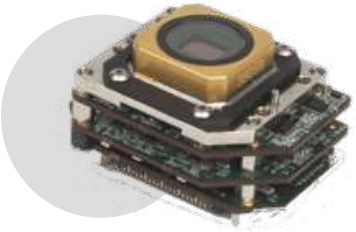
Equipped with Asynchronous Laser Pulse Detection (ALPD) and two-dimensional Laser Range Finder (TLRF) capabilities, the Cardinal 640 presents the optimal solution for advanced SWIR systems. With the Cardinal 640, SCD's customers are invariably equipped to be the first to detect and act.

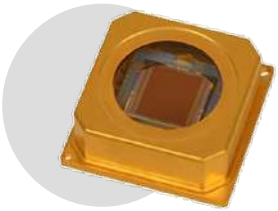
Main Features

- High frame rate with global shutter functionality
- Low-power camera link interface for efficient connectivity
- Low floor noise mode enabled by CTIA stage
- Special features include:
  - Two-dimensional Laser Range Finder (TLRF)
  - Asynchronous Laser Pulse Detection (ALPD)

Applications

- High quality daylight SWIR imaging
- Low light level imaging
- Active Imaging
- Hand Held goggles
- Airborne EVS
- Payloads
- Driving systems
- Non-Destructive testing





	STD Standard	LN Low Noise
Format & pitch	640x512, 15µm	
Spectral range	0.6-1.7 (VIS-SWIR)	
Quantum efficiency	>80% at 1550nm	
Dark current	< 4.5 fA @ 283K	< 4.5 fA @ 283K
Operating modes and well capacity	High gain (for Low Light Level imaging) – 12Ke Medium gain (for high quality daylight imaging) – 0.6Me Low gain - 3Me ALPD	High gain (for Low Light Level imaging) – 15Ke Low gain (for high quality daylight imaging) – 0.3Me Active imaging
Maximum FR at full window (low gain mode)	350 F/s @ 13 bit resolution Global Shutter	
Power dissipation (FPA)	~ 100mW @ 60 F/s	
Power dissipation (proxy)	< 1.7W @ 60Hz, 25c environment (without TEC)	
Size	30x23x30mm (elevated window w/o proxy) 30x20x30mm (w/o proxy)	51X45X61mm (with proxy)
Cooling capability	TEC	
Video output (proxy)	Camera Link interface