

HAWK **LONG WAVE INFRARED DETECTOR**

Selex ES designs, develops and manufactures Infrared (IR) detectors at its dedicated facility in Southampton, UK. With a reputation for providing customers with the best in high performance and cost-effective technology for IR camera systems, Selex ES offers a unique level of expertise.

The Hawk Long Wave Infrared (LWIR) detector is a compact and lightweight 640 x 512 Mercury Cadmium Telluride (MCT) Integrated Detector Cooler Assembly (IDCA). The Hawk LWIR detector is designed for high performance, low cost imaging in the 8-10 μ m waveband.

Using the Selex ES MCT process, the Hawk LWIR detector provides the highest environmental integrity along with the superior performance of focal plane detectors.

MAIN FEATURES

- Extremely short stare time, typically 200 μ s, yielding minimum motion blur
- Simple to use
- Long Wave (LW) 8 - 10 μ m
- Small element pitch enables miniaturisation of the Dewar assembly and optics

- High electro-optic performance with low crosstalk, automatic anti-blooming at the pixel level and excellent sensitivity
- Interlaced readout mode doubles storage capacity available for each pixel, enabling a significant reduction in NETD
- Windowing gives enhanced frame rates over selected areas of the array
- Highest LW technology performance available in the world
- Longest LW technology DRI ranges
- Reduced stare time, less motion blur than QWIP detectors
- High performance in low scene temperature

KEY BENEFITS

- Low cost
- Lightweight
- Compact
- High resolution



Detector production and test facilities

TECHNICAL SPECIFICATIONS

Format

Array	640 x 512 pixels
Pixel Pitch	16um
Active Area	10.24 x 8.19mm

Typical Performance

NETD (median)	32mK (23mK interlaced mode)
Pixel Operability	>99.8%

Interface Parameters

Modes	Snapshot or interlaced
Configuration Control	Single serial interface
Output Voltage Range	2.5V
Charge Capacity	7 x 10 ⁶ electrons (14 x 10 ⁶ interlaced mode)
Number of Outputs	4
Pixel Rate	Up to 10MHz per output
Intrinsic MUX noise	50uV rms
Array Operating Temperature	Up to 90K
Nominal Operating Voltage	6V
Minimum Pins for Operation	16
Number of Input Clocks	1
Window Material	Germanium
Window Thickness	1.73mm
Cold Filter Material	Silicon
Cold Filter Thickness	0.4mm

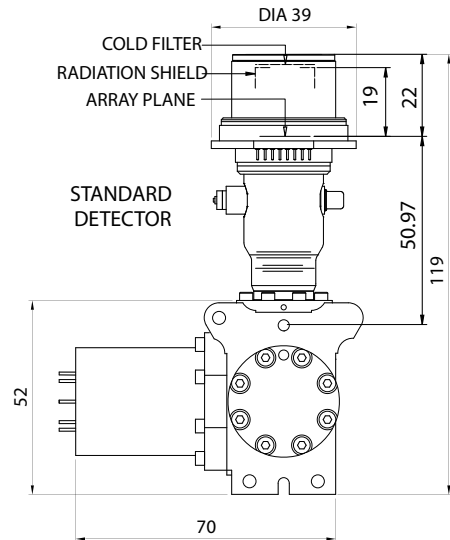
ICDA 6W

Weight	350g
Power Consumption	6W steady state
Cooling Engine	Rotary Stirling engine
Operating Temperature Range	-40 °C to +70 °C

IDCA 8W

Weight	500g
Power Consumption	8W steady state
Cooling Engine	Rotary Stirling engine
Operating Temperature Range	-40 °C to +70 °C

IDCA 6W



IDCA 8W

