

## **HAWK MEDIUM WAVE INFRARED DETECTOR**

SELEX Galileo 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 Galileo offers a unique level of expertise.

The Hawk Medium Wave Infrared (MWIR) detector is a compact and lightweight 640 x 512 Mercury Cadmium Telluride (MCT) Integrated Detector Cooler Assembly (IDCA). The Hawk MWIR detector is designed for high performance, low cost imaging in the 3 - 5 $\mu$ m waveband.

Using the SELEX Galileo MCT process, the Hawk MWIR detector provides the highest environmental integrity along with the superior performance of focal plane detectors.

### **MAIN FEATURES**

- Snapshot or rolling readout operation
- Simple to use
- Medium wave 3 - 5 $\mu$ 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
- Windowing gives enhanced frame rates over selected areas of the array
- Higher operating temperature than InSb.
  - Longer cooler life
  - Less in-service support
  - Lower through-life cost

### **KEY BENEFITS**

- Low cost
- Lightweight
- Compact
- High resolution

## Hawk Medium Wave Infrared Detector



Detector production and test facilities

### TECHNICAL SPECIFICATIONS

#### Format

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

#### Typical Performance

NETD (median)	17mK
Pixel Operability	>99.8%

#### Interface Parameters

Modes	Snapshot or rolling reset
Configuration Control	Single serial interface
Output Voltage Range	2.5V
Charge Capacity	7 x 10 <sup>6</sup> electrons
Number of Outputs	4
Pixel Rate	Up to 10MHz per output
Intrinsic MUX noise	50µV rms
Array Operating Temperature	80 to 100K
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

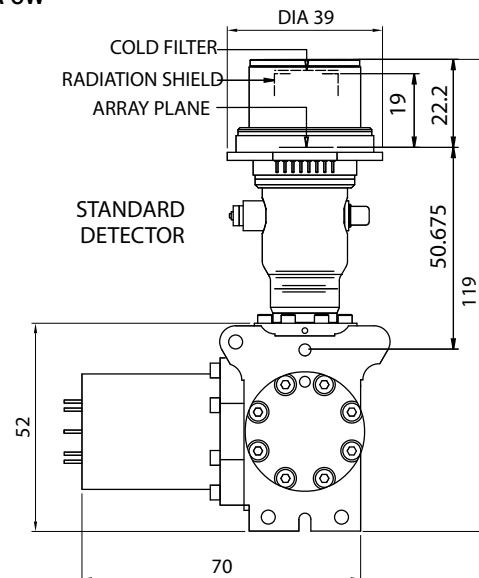
#### ICDA 6W

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

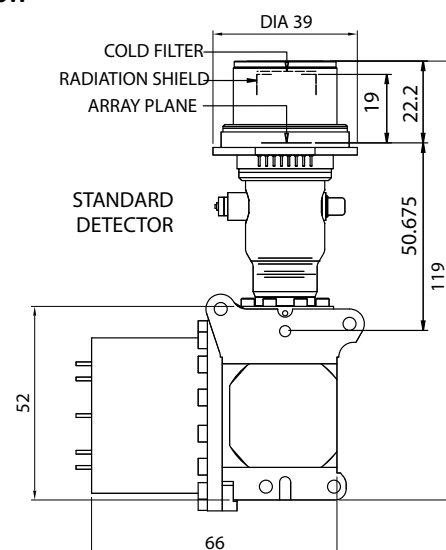
#### IDCA 8W

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

#### IDCA 6W



#### IDCA 8W



All dimensions in millimetres

For more information please email [Infrared.sales@selexgalileo.com](mailto:Infrared.sales@selexgalileo.com)

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