



SWIFT SHORT 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 Swift IR detector offers a state-of-the-art solution for laser-gated imaging applications, providing extremely high sensitivity and fast temporal gating. The detector is based on avalanche photodiodes, which provide almost noise-free signal gain under control of an externally applied voltage.

The detector comprises a compact, lightweight, 320 x 256 Mercury Cadmium Telluride (MCT), Integrated Detector Cooler Assembly (IDCA). The Swift detector can be used for laser gated imaging at the eye-safe 1.5 μm wavelength.

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

MAIN FEATURES

- Snapshot operation
- Simple to operate
- Small element pitch enables miniaturisation of the Dewar assembly and optics
- High electro-optic performance with low crosstalk and blooming
- Sensitivity as low as 10 photons
- Fast gating controlled by external TTL pulses
- Very high extinction ratio outside of gate
- Highest Performing Active Imaging

KEY BENEFITS

- Variable signal gain and dynamic range
- Low cost
- Light weight
- Compact



Detector manufacture and test facilities

TECHNICAL SPECIFICATIONS

Format

Array	320 x 256 pixels
Pixel Pitch	24µm
Active Area	7.68 x 6.14

Typical Performance

Median NEPh	<30 photons
Pixel Operability	>99%

Interface Parameters

Modes	Snapshot
Configuration Control	Single serial interface
Output Voltage Range	3V
Charge Capacity	1 x 10 ⁵ electrons
Number of Outputs	4
Pixel Rate	Up to 5MHz per output
Array Operating Temperature	90K nominal
Nominal Operating Voltage	7V
Minimum Pins for Operation	16
Number of Input Clocks	1
Window Material	Silicon
Window Thickness	1.25mm
Cold Filter Material	None

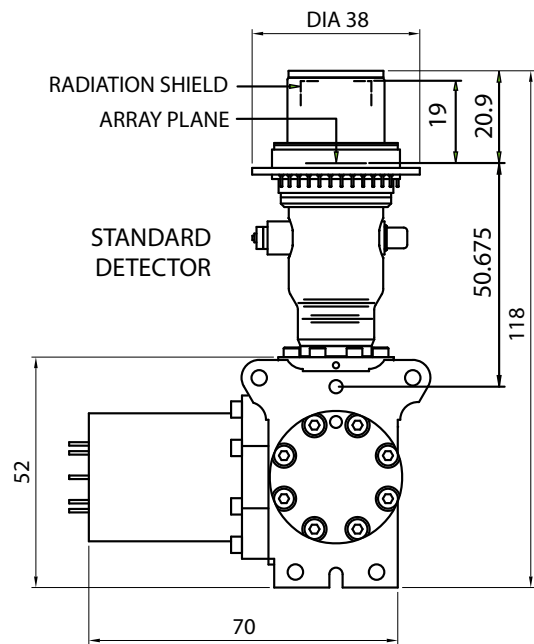
IDCA 6W

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

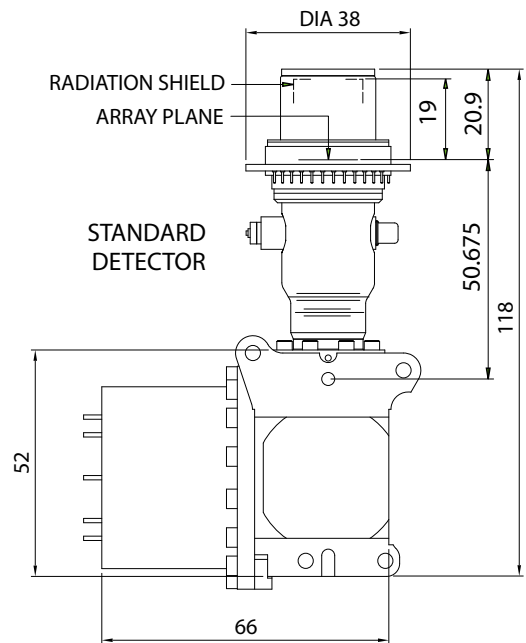
IDCA 8W

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

SELEX Galileo Ltd, A Finmeccanica Company

Millbrook Industrial Estate, Southampton, Hampshire, SO15 0LG, United Kingdom, Tel: +44 (0) 23 8070 2300, Fax: +44 (0) 23 8031 6777

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