



SELEX GALILEO

A Finmeccanica Company



EAGLE 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 Eagle Medium Wave Infrared (MWIR) detector is a 640 x 512 Mercury Cadmium Telluride (MCT) Integrated Detector Cooler Assembly (IDCA). The Eagle MWIR detector is designed for very high performance imaging in the 3 - 5 μm waveband.

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

MAIN FEATURES

- Snapshot or rolling reset operation
- Simple to use
- Medium Wave (MW) 3-5 μm
- 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
- High resolution
- High frame rate
- High sensitivity



Detector analysis and testing facilities

TECHNICAL SPECIFICATIONS

Format

Array	640 x 512 pixels
Pixel Pitch	24um
Active Area	15.36 x 12.29mm

Typical Performance

NETD (median)	12mK
Pixel Operability	>99.98%

Interface Parameters

Modes	Snapshot or rolling reset
Configuration Control	Parallel interface
Output Voltage Range	2.2V
Charge Capacity	1.8 x 10 ⁷ electrons
Number of Outputs	4
Pixel Rate	Up to 10MHz per output
Intrinsic MUX noise	50uV rms
Array Operating Temperature	90 to 120K
Nominal Operating Voltage	7V
Minimum Pins for Operation	13
Number of Input Clocks	1
Window Material	Germanium
Window Thickness	1.73mm
Cold Filter Material	Silicon
Cold Filter Thickness	0.4mm

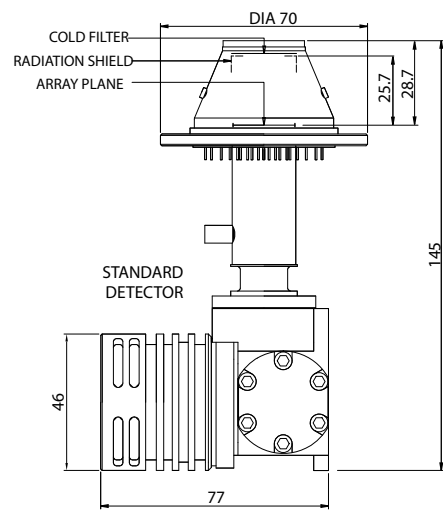
IDCA

Weight	<750g
Power Consumption	<10W steady state
Cooling Engine	Rotary Stirling engine
Operating Temperature Range	-40°C to +70°C

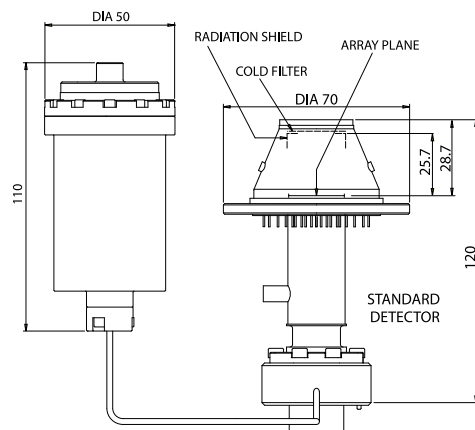
LINEAR ENGINE VARIANT

Weight	950g
Power Consumption	<15W steady state
Cooling Engine	Linear Stirling engine
Operating Temperature Range	-40°C to +70°C

IDCA



LINEAR ENGINE VARIANT



All dimensions in millimetres