

The Falcon 720 infrared detector uses the latest focal plane technology to provide high definition infrared images compatible with commercial 720p HDTV signal formats. The 12 μ m-pitch focal plane array enables this high definition detector to be offered in a compact, low-cost, low-power format.

The Falcon Medium Wave Infrared (MWIR) detector is a compact and lightweight 1280 x 720 Mercury Cadmium Telluride (MCT) Integrated Detector Cooler Assembly (IDCA). The Falcon MWIR detector is designed for high performance, low cost imaging in the 3 - 5µm waveband.

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

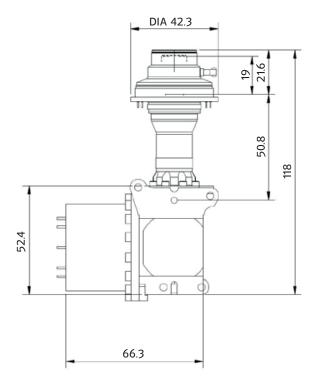
Main features

- → Integrate-then-read (ITR) or Integrate-while-read (IWR) operation
- → Simple to use
- → Medium wave 3 5µm
- → 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
- → Electronic boresighting provides low-cost method for precision alignment of FPA to optical axis
- → Higher operating temperature than InSb
 - → Longer cooler life
 - → Less in-service support
 - → Lower through-life cost



Key benefits

- → Low cost
- → Lightweight
- → Compact
- → High resolution



→ All dimensions in mm



Technical specifications

Format Array 1280 x 720 pixels Pixel pitch 12µm 15.36 x 8.64mm Active area

Typical performance	
NETD (median)	22mK
Pixel operability	>99.8%

Interface parameters	
Modes	ITR or IWR
Configuration control	Single serial interface
Charge capacity	4 x 10 ⁶ electrons
Number of outputs	8
Pixel rate	Up to 10MHz per output
Array operating	80 to 100K
temperature	
Window material	Germanium
Window thickness	1.73mm
Cold filter material	Silicon
Cold filter thickness	0.4mm
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Rotary cooler	
Weight	500g
Power consumption	6W steady state
Cooling engine	Rotary Stirling engine
Operating	-40°C to +70°C
temperature	
range	

Weight	1100g	
Power consumption	8W steady state	
Cooling engine	Linear Stirling engine	
Operating	-40°C to +70°C	
temperature		
range		
Cooler MTTF	40,000 hours	
Alternative cooler options	are available	

For more information:

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