



HexaBlu™ Cooled Thermal Cores

Unprecedented Pixel Size. Unparalleled HD Performance. Unlimited Possibilities in a 6-Micron Cooled Thermal Core



Pioneering infrared sensor technology once again, Leonardo DRS has changed the face of cooled thermal imaging with the introduction of HexaBlu™ cryo-cooled thermal camera modules. HexaBlu™ camera modules employ a revolutionary 6 μm pixel pitch HgCdTe detector technology that leverages Leonardo DRS' proprietary HDVIP® (High Density Vertically Integrated Photodiode) to deliver high sensitivity mid-wave infrared (MWIR) detection in an incredibly small Integrated Dewar Cooler Assembly (IDCA).

The 6 μm pitch 1280 x 960 focal plane array (FPA) is the first of its kind. This new pixel design enables HexaBlu's miniature form factor, weighing in at under 295 grams and displacing just 80 cm³. It is ideal for a variety of applications requiring fully corrected, long-range imaging performance in a low-profile payload.

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DATA SHEET



HexaBlu™ 6 μm Cooled Thermal Cores

[Download the data sheet](#)

FEATURES

- 1280 x 960 pixel resolution
- Revolutionary 6 μm pitch Mercury Cadmium Telluride (MCT) sensor technology
- High sensitivity HD resolution MWIR imaging and unparalleled SWaP benefits
- Small package displaces just 80 cm³ and weighs less than 295 grams
- 6 x 6.1 x 6.8 cm (1.8 x 2.4 x 2.7 inches)





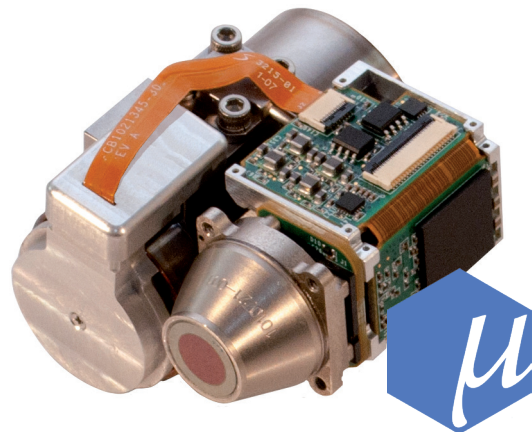
UNPRECEDENTED PIXEL SIZE. UNPARALLELED HD PERFORMANCE. UNLIMITED POSSIBILITIES.

HEXABLU™ 6 μm COOLED THERMAL CORES

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HexaBlu™ 1280 - MW

FOCAL PLANE ARRAY

COMPONENT	DESCRIPTION
Array Format	1280 x 960
Detector Material	HgCdTe
Detector Pitch	6 μm
Spectral Response	3.4 - 4.8 μm (standard)

ROIC FEATURES

Modes	Snapshot operation Direct inject input circuit IWR (default), ITR, or RTI Programmable integration time Blooming control 2 x 2 Pixel Binning Mode Frame Invert / Revert
Window Modes	Programmable down to 128 x 1
Well Capacity	4.8E6 carriers
Output Dynamic Range	72 dB
Readout Noise	150 μV RMS
Frame Rate	30 Hz default 60 Hz capable

MECHANICAL CONFIGURATION

Package Type	Tactical Dewar with integrated cooler and interface electronics
Size (H x D x L) Sensor Module	4.6 x 6.1 x 6.8 cm (1.8 x 2.4 x 2.7 inches) 80 cm^3 displacement 191 cm^3 overall dimensions
Weight	295 grams (0.65 lbs.)
ColdShield Information	Standard Configuration: f/2.6 Nominal ColdShield HT: .46 inches (free space equivalent at operating temperature)

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PERFORMANCE

COMPONENT	DESCRIPTION
Noise Equivalent Temperature Difference	< 30 mK Typical
Operability	99.5%

RELIABILITY

Run Life	> 20,000 hours demonstrated
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ENVIRONMENTAL PERFORMANCE

Operating Temperature	-40°C to +71°C
Cooldown Time	3 min. typical at 23°C

SYSTEM ELECTRICAL INTERFACE

Processor Input Power (SS)	5 Volts 3 Watts
Cooler Input Power @ 23° C (SS)	12 Volts 3 Watts
Max Cooler Input Power During Cooldown (at 71°C)	9 Watts
Sensor Control	LVDS UART or 2.5 V LVCMOS (optional external frame sync)
Sensor Output	Camera Link® Digital Corrected Video or Parallel Single-Ended (14-bit) Sensor Status Messaging
Image Processing	Non-Uniformity Correction Bad pixel replacement Switched median filter

