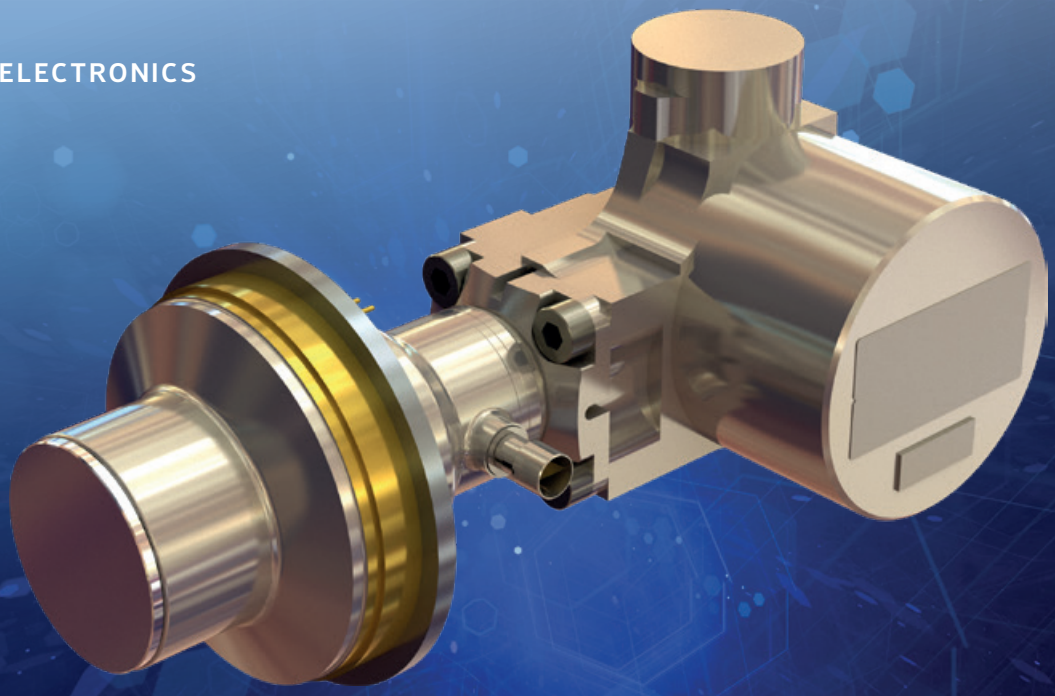
LEONARDO ELECTRONICS



Superhawk C

Low SWaP, medium wave infrared detector

The Low Size, Weight and Power (SWaP) SuperHawk C infrared detector is a compact 1280 x 1024 Mercury Cadmium Telluride (MCT) Integrated Detector Cooler Assembly with 8um pitch pixels. The EO performance from the Standard SuperHawk detector is retained, retaining key features such as a near perfect modulation transfer function (MTF), resulting in the sharpest images typically characterised by the company's unique technology.

The Low SWaP SuperHawk C variant utilises the European common cold finger standard, enabling SuperHawk C to operate with the next generation of microcoolers. The shorter cold finger associated with this design allows for a significantly more compact IDCA. Comparing a Standard SuperHawk fitted with a Thales RM2, to a Low SWaP SuperHawk with a Thales RMs1 leads to a 42% mass reduction, a 20% length reduction in the optical axis and up to a 30% reduction in cooler power consumption and cooldown time.

Main features

- → Medium waveband (3.7-5µm)
- → 1280 x 1024 format
- → 8µm x 8µm pixels
- → SXGA format
- → Selectable 720-HD format
- → Size and Weight reduction from Standard SuperHawk
- → Easy SXGA upgrade from 16µm sensors
- → Easy HD upgrade from 15µm SD formats
- → Negligible pixel blur
- → >110K Operation

Key benefits

- → Even more Compact than SuperHawk
- → Low power
- → High resolution
- → Easy interface with digital proximity electronic

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Technical specification format

Array size Mode 1	1280 x 1024 pixels
Mode 2	1280 x 720 pixels
Pixel pitch	8µm
Active area Mode 1	10.24 x 8.19mm
Mode 2	10.24 x 5.76mm
Image diagonal Mode 1	13.1mm
Mode 2	11.75mm

Electro-optic

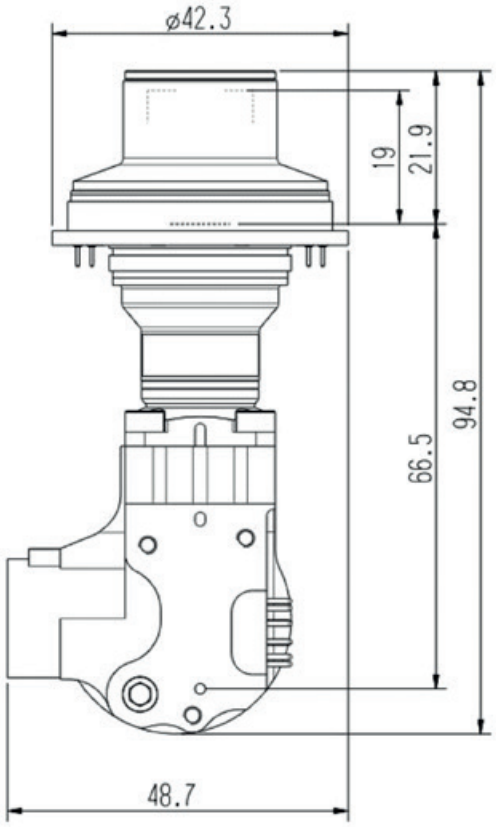
Spectral bandwidth	3.7µm to 4.95µm
***f*-number**	*f*/2.8, f/3.2, f/3.4 f/4
Cold stop	19mm above FPA
NETD	27mK (typical with supplied electronics)
Pixel operability	>99.5% (typical)
Operating temperature	110K
ROIC Snapshot modes	ITR or IWR
Windowing	Programmable
Charge handling capacity	4.1Me-/2.6Me- selectable
Linearity	±0.5%
Number of outputs	8
Pixel rate	>80Mpix/sec

Proximity electronics

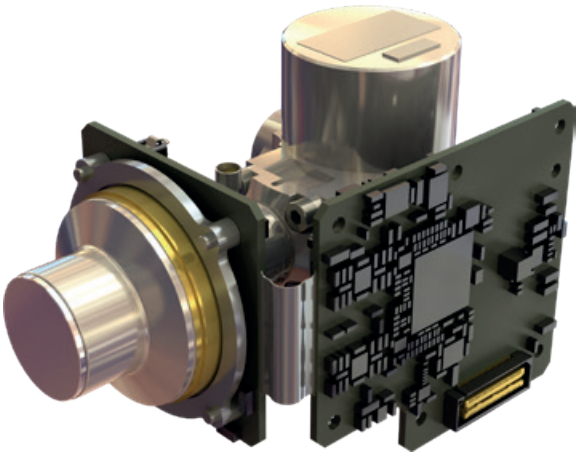
Supply voltage	5V
Power	<3W
Interface	Digital
ADC resolution	14 bits
Video output	Serial LVDS

IDCA

Cooler	Thales RMs1 (Other cooler options are available)
Weight	200g (with RMs1 and no proximity electronics/CCM)
Cooldown time	<4 minutes
Power consumption	from 2.2W Steady State
Operating temperature	-40°C to +70°C



→ Low SWaP SuperHawk C with Thales RMs1



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