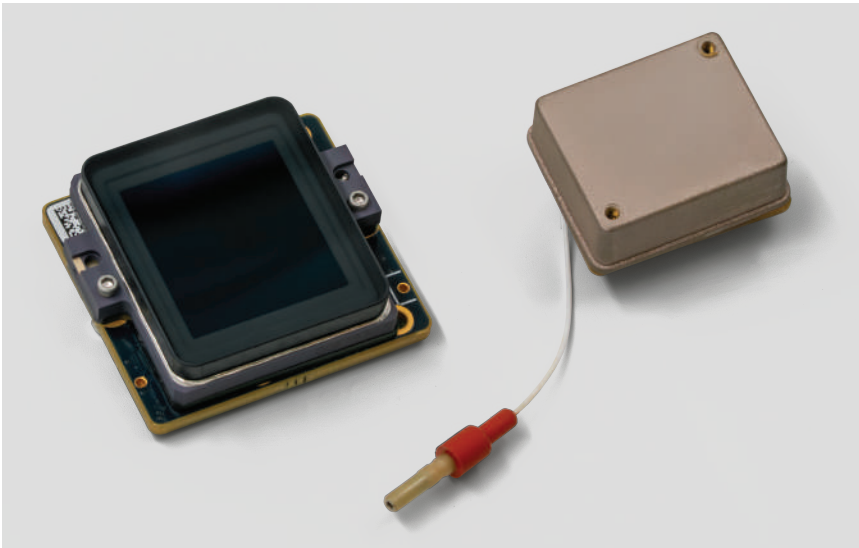


ISIE19 Sensor Module



ISIE19 Camera Module

The ISIE19 Sensor Module incorporates EVS's proprietary ISIE19 Electron Bombarded Active Pixel Sensor (EBAPS®) for extreme low-light imaging down to overcast starlight conditions, with an image format of 1920 x 1920 pixels and a pixel size of 9.117 μm square. The module includes the ISIE19 sensor on a headboard and a high voltage power supply (HVPS) capable of driving one or two sensors (contact the factory if a two-sensor configuration is desired). This unpackaged configuration makes the ISIE19 Sensor Module ideal for integration into a variety of platforms such as helmets, UXV payloads, and surveillance cameras.

The ISIE19 sensor incorporates a high quantum efficiency (QE) gallium arsenide (GaAs) photocathode with responsivity between 400 – 900 nm (visible through NIR) and a backside illuminated (BSI) CMOS anode capable of up to 155 frames per second (fps) full frame with a 16-bit digital video output, capable of windowing to provide a subset of pixels at a higher frame rate. The sensor is designed around a novel pixel architecture that achieves up to 100 dB dynamic range. Low light sensitivity is achieved in the sensor when the HVPS applies a high voltage across a vacuum gap between the photocathode and the CMOS anode, accelerating electrons across the gap and creating electron-hole pairs in the backside of the anode, resulting in high gain with very low noise. The sensor incorporates EVS's proprietary low halo technology and runs in rolling or pseudo-snapshot shutter mode.

An Interface Control Document (ICD) for the power, control, and data interfaces is available for integrators per ITAR restrictions.

APPLICATIONS

- Day or night reconnaissance
- Rotary and fixed-wing pilotage
- UXV payloads
- Helmet-mounted cameras
- Digital replacement for Gen III night vision
- Imagery export for situational awareness

FEATURES / BENEFITS

- NIR laser visibility
- Fast frame rate for head-mounted applications
- 1:1 aspect ratio for better vertical FoV
- Low halo technology
- Digital output
- High dynamic range
- Compatible with augmented reality systems

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CONTACT

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EVSKC01

03.24.2025

ISIE19 Sensor Module

TECHNICAL SPECIFICATIONS

IMAGE FORMAT	1920 x 1920 pixels
PIXEL SIZE	9.117 μm square (100% fill factor)
SENSOR FORMAT	1" (24.7 mm diagonal)
SPECTRAL RESPONSE	Night mode (intensified): 400 nm – 900 nm Day mode (non-intensified): ~800 nm - ~1050 nm
DYNAMIC RANGE	Up to 96 dB
FRAME RATE	155 fps @ full frame
SHUTTER TYPE	Rolling or pseudo-snapshot
LOW LIGHT SENSITIVITY	Overcast starlight depending on mission objectives
VIDEO OUTPUT	16-bit LVDS
CONTROL INTERFACE	SPI
POWER CONSUMPTION	1076 mW @ 155 fps (single sensor configuration)
POWER INPUT	1.2 V @ 220 mA, 1.8 V @ 85 mA, 3.3V @ 36 mA, 4.0V @ 135 mA (single sensor configuration)
OPERATING TEMPERATURE	-40°C to +60°C
STORAGE TEMPERATURE	-55°C to +71°C
WEIGHT	33 g (single sensor configuration)

NOTE: The product associated with this data sheet is under the export control of the Office of Defense Trade Controls, U.S. Department of State, and is subject to the International Traffic in Arms Regulations. Transshipment of the acquired product to any destination outside of the United States (or to a foreign person/ entity within the United States) without the knowledge and written consent of the Office of Defense Trade Controls is strictly prohibited.

NOTE: Additional technical details are available upon request.

ORDER INFORMATION

ISIE19 Sensor Module
(1 sensor, 1 HVPS)
301696

ISIE19 Dual Sensor Module
(2 sensors, 1 HVPS)
302515

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