

LOW-LIGHT CAMERA MODULE FOR MACHINE PERCEPTION

Immervision's Low-Light Navigation Camera Module is designed for the **autonomous and semi-autonomous navigation** of UAVs (Unmanned Aerial Vehicles) in all environments, with high performance in low-light conditions.

Under the initiative of the Defense Innovation Unit (DIU) Blue UAS Architecture, the Immervision low-light navigation camera module provides trusted, low size and weight, interoperable UAV technologies for commercial and defense applications.





"Visual camera system is the best all-round performer with regard to navigation and object avoidance." Patrice Roulet, VP Technology



LOW-LIGHT

High performance in low-light conditions, allows secure navigation.



OFF-THE-SHELF

Solution is ready for implementation while being easily customizable to application requirements.



WIDE-ANGLE

Wide-angle panomorph lens with Smart Pixel Management, optomizes image quality and 190° Field of View for obstacle avoidance.



LIGHT WEIGHT

Small footprint and light weight for low impact on battery consumption.



VARIOUS ENVIRONMENTS

Front lens element in glass for usage in various environments, outdoors and indoors.



OTHER APPLICATIONS

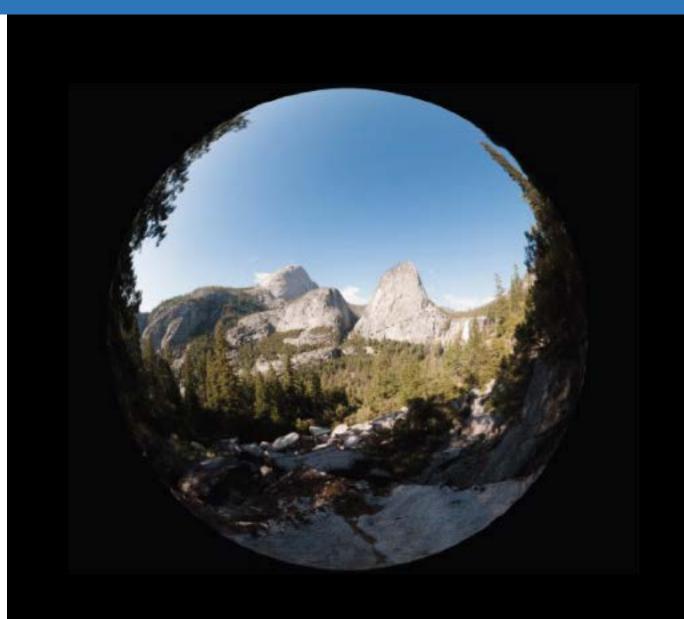
Well suited for other navigation applications such as land vehicles, water vessels, robots, etc.

A UNIQUE DESIGN THAT MAXIMIZES BOTH LOW-LIGHT SENSITIVITY AND IMAGE QUALITY

From the Immervision's InnovationLab

Designed in our InnovationLab by multidisciplinary scientists, optical designers, and image processing engineers, this camera module satisfies requirements of **operating in low-light conditions while delivering optimal image quality**.

Platforms equipped with this innovative technology can operate from dusk-to-dawn, both outdoors and indoors. It is suitable for use by human operators and/or the artificial intelligence (AI) and machine learning (ML) systems used in fully autonomous vehicles.



Simulated image.

OFF-THE-SHELF AND OUT-OF-THE-BOX

This camera module is driver **ready for industry's leading robotic platform and flight controller**. The **plug-and-play** solution gives access to Immervision's image processing software capability directly ported on the platform.

CUSTOM DEPLOYMENTS

Easy to customize, this camera module can also be used for other applications, including **robots, land vehicles, and water vessels**.

Immervision will be happy to collaborate with customers to provide **custom solutions** that work with the processors and navigation application visual requirements.











Also available for a wide range of other applications

SPECIFICATIONS	VALUE	DETAILS
Module Size	Module head: 16.0 x 16.0 x 18.65mm	Total length (with cable): 56.0mm
Interface	MIPI 4 Lane	
Field of View	190°	
Sensor Model	Sony	IMX335LLN (MONO)/IMX335LQN-C (Color)
Sensor Nb. of Recommended Recording Pixels	2592 x 1944 px	1/2.8"
Sensor Pixel Size	2.0 x 2.0 μm	
Maximum Image Circle Diameter	3.9 mm	
Focal Length	1.38 mm	
Wavelength	Visible + NiR	Fully corrected up to 950 µm
Aperture/F-number	1.8	
Aperture Type	Fixed	
Minimum Focus	0.25 m	
Distortion Profile	Panomorph	
Number of Lens Element	7	2G5P
Operating Temperature	-30 ~ 85°C	
Relative Illumination	≥ 78%	
Module Weight	4.7 g	-22 ~ 185°F
Lens IP Rating	IP67	