Sunex

Excellence in Digital Imaging Optics

AI VISION MODULE™

Lenses and Sensor Modules for Machine Learning

20+ year track record of success in taking customer concepts from design through mass production.

Sunex AI VISION MODULE™

If applied AI aims to replicate human understanding, then the optical stack plays a significant role in achieving a human-like vision for any camera-based application.

Choosing the right lens is a curtail step in system-level optimization and setting a roadmap to achieving desired outcomes. With Sunex as a lens and technology partner, our clients can access specific lens technologies to optimize algorithms, reduce system latencies and power consumption, and enhance imaging performance.

Distortion and Field of View

Sunex's expertise and experience in manipulating distortion profiles to support algorithm-specific requirements have been valued by customers for many years. Our Tailored Distortion™ expertise has often been applied to SuperFisheye™ lenses to correct barrel distortion of large FOV lenses.

Sunex's FOVEA distortion lenses are designed to mimic human vision. The distortion profile results in a higher pixel density in the center while maintaining a wide field of view, thus optimizing the performance of machine vision algorithms.

Low-light Performance

Environments with low or changing light are a challenge for any algorithm. Sunex has lens designs that combine very low F/#, high Relative Illumination (RI), high dynamic range (HDR), high MTF across the field, and a broad wavelength spectrum for consistent performance across a variety of scenarios.

Sunex has developed design expertise, process know-how, and nested cleanroom manufacturing facilities to eliminate or minimize optical noise (such as ghosts, flare, starbursts, spurious images) in lenses for high-performance applications.
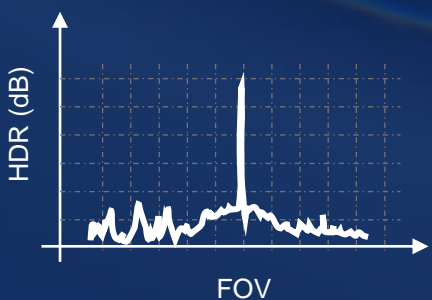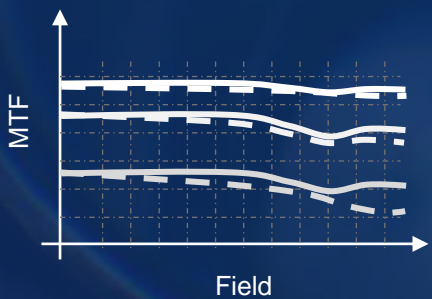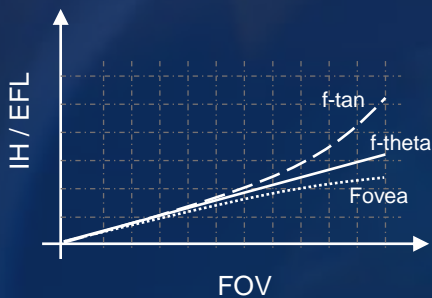
All graphs are for illustration purpose only. The individual lens performance can be different.

PN	Format	MP Class	HFOV	F/#	TTL	Features
DSL144	1/1.8"	1.7MP	100°	1.6	24	FOVEA lens, Hybrid, HDR
DSL392	1/1.27"	2MP	201°	2.0	23	SuperFisheye(TM), RGBIR, HDR
DSL936	1/1.2"	5MP	52°	3.2	16.5	RGBIR lens, All glass, Short TTL
DSL374	1/1.8"	8.3MP	133°	1.6	28.5	FOVEA, All Glass. 4k, Wide FOV
DSL350	1/1.8"	8.3MP	122°	1.44	30	FOVEA lens, 4k, Hight RI, very low F/#
DSL186	1/1.7"	8MP	140°	1.8	25	RGBIR lens, 4k, Hybrid, HDR
DSL387	1/1.7"	4.1MP	120°	1.8	30	FOVEA lens, All Glass. High RI

Table only shows a selection. Additional lens and module options are available.

Fast Prototyping

We provide prototyping services for complete lens assemblies often as the first step after a new custom design.

Sunex can produce prototypes with short lead times to verify the design before transitioning further on the path to mass production using state-of-the-art fabrication processes for glass and plastic optical elements and all mechanical components.

Sensor Module Capabilities

Depending on the requirements, we can provide design and manufacturing services for a complete sensor module. We strive to find the best solution for your needs, from designing the schematic, creating the PCB layout, and sourcing all components to building according to your PCB design and parts consignment.

At Sunex, we have the in-house expertise and capabilities for lens and sensor board design, high volume manufacturing, automated active alignment and testing to support the most demanding vision applications..

Empower your algorithms with AI VISION MODULE™

Consulting – Design – Manufacturing - Support

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