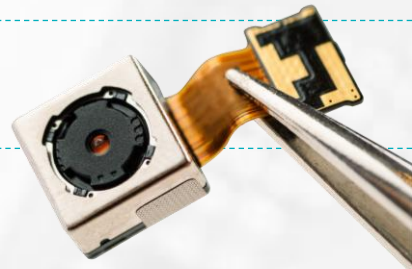
INV-OX08B40-8MP

8MP (4K) RGB Rolling Shutter Camera Module

OMNIVISION's OX08B40 is a front-view, 8.3MP image sensor that features the automotive industry's best HDR of 140 dB and adds a new benchmark in LED flicker mitigation (LFM) performance, enabled by the sensor's on-chip HALE (HDR and LFM engine) combination algorithm. The optimal clarity and range offered by this sensor, in combination with integrated ASIL C features, is vital for front-view automotive applications, such as ADAS and level 3+ autonomous vehicles, where the ability to accurately detect people and objects from far away in all lighting conditions is safety-critical.
The OX08B40 utilizes OMNIVISION's dual conversion gain (DCG™) technology to achieve 82 dB dynamic range on the first exposure, whereas competitors' image sensors only provide a dynamic range of 60 dB or less. Unlike DCG™, the competing method, known as staggered HDR, relies on additional passes that introduce motion artifacts and diminish range, especially in low light. Additionally, our 3D stacking technology allowed us to integrate our unique HALE combination algorithm into the OX08B40.

- Advanced lateral overflow integration capacitor (LOFIC) for superior LED flicker mitigation.
- Captures up to 140 dB to handle extreme lighting transitions without motion artifacts.
- Full characterization of shading, distortion, and intrinsic/extrinsic parameters.
- Optimized BLC, LSC, and CCM tailored for automotive and high-end machine vision.
- High-precision Auto Exposure, Auto White Balance, and rapid focus response.
- High sensitivity and low noise floor for critical object detection in dark environments.
- Specialized IQ tuning for ADAS, autonomous driving, and high-performance edge analytics.



Resolution	Sensor Vendor	Image Sensor	Interface	Focus	Optical Size	EFL	FOV (degrees)	Focus Range	Optical Distortion	Module Size (mm)	Application
8MP	OmniVision	OX08B40	MIPI	FF	1/1.73"	2.3	30	60cm~∞	-	30x30x25mm	Drones, Security, ADAS