



High-quality camera modules for performance-critical embedded vision applications

The ODM camera product family features rugged camera modules that are ready for production, as well as board-level and enclosed camera assemblies that we can customize to your requirements.

We integrate high-performance image sensors and optics using the latest manufacturing technologies, ensuring consistent performance across operating conditions. This includes robotic active alignment of optics and 100% unit inspection. Whether volumes are 10 or 10 million, D3 is prepared to support your product with advanced manufacturing in the USA or offshore, using the same validated processes and equipment.

MARKETS

Industrial

Materials Handling, Robotics, Machine Vision

Transportation

Automotive, Trucking, Industrial Vehicles

Medical and Scientific Imaging

Medical Devices, Instrumentation, Endoscopes, Lab Equipment

Defense

Surveillance, UAVs/Drones

Commercial

IoT, Security and Surveillance, Retail and Point-of-Sale, Building Automation

FEATURES

Quality-controlled assembly with 100% unit inspection to specification

High-performance image sensors from major manufacturers

Wide range of COTS and custom lenses

Camera software support

Designed for performance-critical products with long-lifetime availability and support

Customization and integration with DesignCore™ embedded vision platforms

CAMERA MODULE FAMILY BY D3

D3 SENSOR MODULES — D3SM



Board-level assemblies with direct sensor interface, e.g., MIPI CSI-2. Production-optimized modules designed for integration into embedded systems.

D3 CAMERA MODULES — D3CM



Enclosed assemblies supporting standard camera interfaces, e.g., USB 3.0, GigE, CoaXPress®, FPD-Link™ III, BroadR-Reach®, and GMSL2. For higher performance and more flexibility than COTS camera modules.

D3 RUGGED CAMERA MODULES — D3RCM



Ruggedized, fully-enclosed assemblies with sealed connectors supporting automotive or industrial interfaces, e.g., FPD-Link™ III, BroadR-Reach®, Ethernet, and GMSL2. For production-ready embedded vision in harsh and rugged environments.

CAMERA MODULE FAMILY BY D3 — OVERVIEW

D3 SENSOR MODULES — D3SM

Board-level assembly	Unenclosed image sensor board with board-level connector, image sensor, lens mount, and actively aligned lens integrated into a single assembly
Direct digital sensor output	Parallel video, MIPI CSI-2, LVDS
Support for platform family development	Multiple modules with common connector, pinout, and voltage
Support for popular development board interfaces	D3 DesignCore™ Camera Mezzanine Board, DragonBoard™ Camera Kit, BeagleBoard, and more
Options	ISP, software drivers, autofocus, environmental (including commercial, industrial, and automotive temperature), more

D3 CAMERA MODULES — D3CM

Enclosed camera assembly	Packaged camera solution including actively aligned optics, image sensor, and camera interface. Designed to support rapid evaluation of sensor, optical, and interface combinations. Unsealed enclosure, passive or fan-cooled.
Standard camera output	USB 3.0, GigE, BroadR-Reach®, CoaXPress®, FPD-Link™ III, GMSL2
Support for platforms	Embedded platforms, frame grabber, standard PC, or x86 hardware
Options	ISP, software drivers, autofocus, environmental (including commercial, industrial, and automotive temperature), more

D3 RUGGED CAMERA MODULES — D3RCM

Enclosed and fully ruggedized camera assembly	Image sensor, board, 100% machine-aligned optics, ruggedized enclosure. Can be designed for IP67, automotive, industrial standards. Fully-validated and production ready solutions available.
Rugged camera interface	Interface with automotive and industrial platforms including FPD-Link™ III, BroadR-Reach®, and GMSL2.
Mounting interfaces	Integrated into packaging
Options	ISP, software drivers, autofocus, environmental (including commercial, industrial, and automotive temperature), more

NEXT STEPS

D3 Sensor Modules, Camera Modules, and Rugged Camera Modules are compatible with DesignCore™ Development Kits and Starter Kits. Work with our design services team to use these kits and other platforms for rapid technology evaluation, prototypes, and system development. Then rely on us to provide ODM camera modules in the volumes you need for your production systems.

ACCELERATE TIME TO MARKET

D3 Engineering supports vision system development with camera modules, DesignCore™ Platforms, and embedded system design services. Our expertise with radar, image sensors, optics, video analytics, and imaging system design will help you get to market faster, while reducing the risks and costs of new product development.

ORDER A CAMERA MODULE: [D3Engineering.com/store](https://www.d3engineering.com/store)

CALL: **1-585-429-1550**

EMAIL: sales@D3Engineering.com

VISIT: [D3Engineering.com/products/camera-modules](https://www.d3engineering.com/products/camera-modules)