

Intel RealSense D400 Depth Camera Series

Jan. 18, 2018 – As part of the Intel® RealSense™ D400 product family, Intel began shipping two new Intel RealSense D400 Depth Cameras, the D415 and D435, to add 3D capabilities to any prototype development or end user-ready device or machine. Both cameras integrate the latest Intel RealSense vision processor D4 for handling complex depth algorithms to enable next-generation 3D stereo-based computer vision.

Redefining the Future of Computer Vision with Next-Generation Depth Sensing Solutions

As advancements and use cases for computer vision-enabled solutions continue to grow, there will be a greater need for more sophisticated visual intelligence. With Intel RealSense's best-in-class depth perception technology, adding 3D recognition features to devices will unlock a new level of depth data that will improve services and create new experiences.

The D415 and D435 Depth Cameras come in a ready-to-use, USB-powered form factor and are ideal for makers, educators, hardware prototyping and software developers to easily add depth. The cameras can be used both indoors and outdoors and in any lighting environment. The cameras are supported by the Intel RealSense SDK 2.0, which is available for the first time as a cross-platform, open source SDK. Each camera includes different depth technology features, including:

- The D415 Depth Camera features a rolling image shutter and standard field of view for a general-purpose solution to easily add depth and stream data to an existing system.
- The D435 Depth Camera features a global shutter that allows capture with fast motion for use cases such as virtual reality.

Empowering Various Markets to Offer Next-Generation Computer Vision-Enabled Services

Intel and its ecosystem of solution providers are continuing to innovate with computer vision capabilities. Developing future devices such as drones, robotics and other smart camera uses with Intel RealSense's D400 Depth Cameras, will impact various markets, allowing for more sophisticated levels of computer vision to create smarter, optimized services, including:

Retail

- **Robotics** – By enabling retail robots, such as [Simbe's Tally*](#), with computer vision to maneuver through aisles and provide autonomous shelf auditing and analytics, store managers can gain quicker insight into inventory while focusing on customers and overall operations.
- **Smart Shelves** – By powering shelves with image recognition features, retailers can gain real-time insight on how their products are performing from store shelves. This helps sales representatives and store employees to significantly reduce out-of-shelf occurrences, which increases revenues and improves customer experiences.
- **Digital Signage** – With in-store digital signage that uses facial recognition, retailers can provide more targeted content in real time to influence a shopper's buying decision by gaining a shopper's information including gender, age bracket and dwell time.

Sports and Fitness

- Fitness tracker – [Naked's* 3D Fitness Tracker](#), powered by Intel RealSense technology, is an innovative fitness tracker that combines a scale and a smart mirror that scans a person's body

to create a map of their body composition. This helps visualize body changes and track volumetric body fat, body measurements for your apparel shopping and weight.

Intel RealSense Depth Camera D415 and D435 - Technology Specifications

Intel® RealSense™ Depth Camera D415

Use Environment:	Indoor/Outdoor
Depth Technology:	Active infrared (IR) stereo
Image Sensor Technology:	Rolling Shutter; 1.4um x 1.4um pixel size
Main Intel RealSense Products:	Intel RealSense vision processor D4 Intel RealSense module D410
Depth Field of View (FOV)—(Horizontal x Vertical) for HD 16:9:	63.4° x 40.4° (+/- 3°)
Depth Stream Output Resolution:	Up to 1280 x 720
Depth Stream Output Frame Rate:	Up to 90 fps
Minimum Depth Distance (Min-Z):	0.16 m
Maximum Range:	Approx. 10 meters Accuracy varies depending on calibration, scene and lighting condition
RGB Sensor Resolution & Frame Rate:	1920 x 1080 at 30 fps
RGB Sensor FOV (Horizontal x Vertical):	69.4° x 42.5° (+/- 3°)
Camera Dimension (Length x Depth x Height):	99 mm x 20 mm x 23 mm
Connectors:	USB 3.0 Type-C
Mounting Mechanism:	One 1/4-20 UNC thread mounting point Two M3 thread mounting points

Intel® RealSense™ Depth Camera D435

Use Environment:	Indoor/Outdoor
Depth Technology:	Active infrared (IR) stereo
Image Sensor Technology:	Global Shutter; 3um x 3um pixel size
Main Intel RealSense Products:	Intel RealSense vision processor D4 Intel RealSense module D430
Depth Field of View (FOV)—(Horizontal x Vertical) for HD 16:9:	85.2° x 58° (+/- 3°)
Depth Stream Output Resolution:	Up to 1280 x 720
Depth Stream Output Frame Rate:	Up to 90 fps
Minimum Depth Distance (Min-Z):	0.11 m
Maximum Range:	Approx. 10 meters Accuracy varies depending on calibration, scene and lighting condition
RGB Sensor Resolution & Frame Rate:	1920 x 1080 at 30 fps
RGB Sensor FOV (Horizontal x Vertical):	69.4° x 42.5° (+/- 3°)
Camera Dimension (Length x Depth x Height):	90 mm x 25 mm x 25 mm
Connectors:	USB 3.0 Type-C
Mounting Mechanism:	One 1/4-20 UNC thread mounting point Two M3 thread mounting points

Availability and Pricing

The new Intel RealSense [D415](#) and [D435](#) Depth Cameras are available for order now at a retail price of \$149 and \$179. For more information, visit the <https://realsense.intel.com/stereo/>.

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