LADYBUG®6

KEY FEATURES

Highest Accuracy and Image Quality

Industry leading calibration combined with global shutter CMOS sensors and high-end optics deliver an unbeatable survey grade spatial accuracy of ±2 mm at 10 meters. Additionally, the Ladybug6 captures outstanding images across a wide range of lighting conditions with excellent color response, low noise, and a high dynamic range.

Onboard Processing and Feature Rich SDK

Building on our field proven Ladybug5+, the Ladybug6 captures, compresses, and transmits 8-bit or 12-bit pixel data with onboard image processing for optimized workflows. Our feature rich Ladybug Software Development Kit (SDK) enables image acquisition, spherical and panoramic image production, and fine grain control of pre & post acquisition settings via a user friendly interface.

Built for the Outdoors

Designed from the ground up to capture images from moving platforms in outdoor environments, the Ladybug6 features an IP67 certified enclosure, a wide operating temperature range (-30°C to 50°C), support for additional Global Navigation Satellite Systems, and trigger control by hardware or software with advanced APIs for complete camera control.

APPLICATIONS

- HD Mapping
- Asset Management
- Road Inspection
- Street View
- Road Maintenance
- Heritage Scanning
- Building Management

High Accuracy 360˚ Spherical Imaging

Ladybug6 is the leading high-resolution camera that captures 360-degree spherical images on a moving platform in outdoor all-weather conditions. Its industrial grade design and out-of-the-box factory calibration produces 72 Megapixel (MP) images with pixel values that are spatially-accurate within ±2 mm at 10-meter distance.

As the newest member of the field-proven Ladybug family, Ladybug6 builds on its machine vision heritage with increased image resolution, enhanced on-board processing, and IP67 certified enclosure. Support for additional Global Navigation Satellite Systems and advanced APIs, combined with hardware inputs, enable precise camera settings and trigger control. Customer applications include panoramic street image production, road inspection, asset management, feature extraction for HD map generation among several others.

SPECIFICATIONS

	LD6-U3-122S7C
Full Capture Resolution	12,288 x 6,144 (72 MP)
Frame Rate (Free Running)	15 FPS JPEG at 72 MP resolution | 29.9 FPS JPEG at 36 MP resolution
Spatial Accuracy	Within +/- 2 mm at a 10 meter distance
Data Formats	JPEG8, JPEG12
Image Processing (Camera)	Luminance: Auto Gain, Black Level, Gamma | Color: White Balance
Image Processing (SDK)	Luminance: Black Level, Gain, Gamma | Tonal: Tone Mapping | Color: White Balance, Saturation, Leveling, False color removal, Noise Reduction, Sharpening
Image Output (SDK)	Image Projections: Panoramic up to 16,382 x 8,192 (134 MP), Dome, Cubic, Individual Sensor, Rectified File Types: JPEG, BMP, PNG, TIFF
Video Output (SDK)	Video .AVI: H.264 | Video .MP4: H.264, HEVC/H.265, AV1
Data Transfer Interface	USB 3.2 Gen 1 protocol with 5 Gbit/s transfer rate | M12 X-coded 8-pin female connector
General Purpose I/O Ports	12-pin GPIO connector for external trigger input, strobe output, PPS, and power
GPS Integration Interface	Timestamping support: TTL NMEA 0183 GGA, with one of ZDA or RMC | PPS support: PPS via GPIO pin Satellite systems: GPS, Galileo, GLONASS, BeiDou
Power	12-24 V via GPIO (external power required) | 13 W maximum
External Trigger Modes	Standard, skip frames, overlapped, and multi shot trigger modes
Shutter Speed	0.02 ms to 2 seconds (extended shutter)
Shutter Type	Global shutter
Optics	Six high quality 6.94 mm focal length lenses
Focus Distance	~200 cm. Objects have an acceptable sharpness from ~100 cm to infinity
Field of View	~90% of full sphere
Angular FOV	Vertical: ~117.4° | Horizontal: ~85.9°
Spherical Distance	Calibrated from 2 m to infinity
Case	Machined aluminum housing, anodized red or black Five M4-0.7 x 8 mm mounting holes to attach to tripod adapter or custom mount
Dimensions | Mass	198 mm (height) x 269 mm (diameter) | 5.2 kg
Protection Rating	IP67 Certified
Environmental Sensors	Temperature, Humidity
Temperature	Operating: -30° to 50°C | Storage: -30° to 60°C
Humidity	Operating: 20 to 80% (no condensation) | Storage: 20 to 95% (no condensation)
Desiccant	Desiccant plug to minimize moisture in the enclosure and prevent lens fogging
LED	One general purpose status LED for monitoring camera power, initialization, and USB3 activity
Memory Channels	2 memory channels for custom camera settings
Flash Memory	1 MB
Machine Vision Standard	IIDC v1.32
Compliance	CE, RCM, FCC, RoHS, KCC, ACMA, NDAA. The ECCN for this product is: EAR099.
Warranty	2 Years
Recommended Host Operating System	Windows 10 64-bit recording and post-processing, Ubuntu 20.04 64-bit recording
Recommended Host CPU	11th Gen Intel® Core™ i7 processor
Recommended Host RAM	8 GB for capture and recording | 16 GB for post processing
Recommended Compilers (SDK)	Microsoft Visual Studio 2015 or newer | g++ 9.3.0 or newer

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