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RobotEye Catalog 2015



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ROBOTICS BUSINESS REVIEW
GAMECHANGER
AWARDS
WINNER 2015

VISION SYSTEMS

REV25

Camera Pointing Vision

REV25-ST

Stabilized Vision Package

REV60

Camera Pointing Vision

REV60-ST

Stabilized Vision Package

HYPERSPECTRAL

REHS25

Hyperspectral Imaging

3D LIDAR SCANNERS

RE05

3D LIDAR Scanner

RE08

3D LIDAR Scanner

NAKED

REN25

RobotEye Unit

REN60

RobotEye Unit



CUSTOM SYSTEMS

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Product Name	Product Category	Product Description	Product Features	Applications	Documentation
RobotEye RE05 3D LIDAR	LIDAR	The RobotEye RE05 3D LIDAR is the world's smartest 3D laser scanner, enabling on-the-fly adjustment of the scan region and scan resolution. This light-weight, small and ruggedized laser sensor has an unmatched scanning range of 360° in azimuth and 70° in elevation with the ability to acquire 3D point densities of up to 100 points per degree along each axis. The RE05 can be operated by any networked device independent of its operating system. RE05 software toolkit enables easy control of the scanner and data acquisition. The RobotEye RE05 has been designed for an array of applications in the fields of robotics, automation, defence and security, mining, agriculture, and materials handling.	<ul style="list-style-type: none"> 360° scanning range in azimuth 70° scanning range in elevation ability to acquire 3D point densities of up to 100 points per degree along each axis up to 30 kHz measurement rate full field, bounded elevation and region scan modes on-the-fly adjustment of all the above scan parameters 30 m range for natural targets (160 m for high reflectivity targets) centimetre accuracy eye-safe IP65 or IP67 class protection operation in any physical orientation 	<ul style="list-style-type: none"> autonomous vehicle navigation rapid and high resolution 3D mapping mobile robotics industrial process automation mine automation industrial safety security and surveillance as-built 3D reconstruction 	
RobotEye RE08 3D LIDAR	LIDAR	The RobotEye RE08 3D LIDAR is the world's smartest long-range 3D laser scanner, enabling on-the-fly adjustment of the scan region and scan resolution. This ruggedized laser sensor has an unmatched scanning range of 360° in azimuth and 70° in elevation with the ability to acquire 3D point densities of up to 200 points per degree along each axis. The RE08 can be operated by any networked device independent of its operating system. RE08 software toolkit enables easy control of the scanner and data acquisition. Physical separation of the RobotEye RE08 scanning head from the laser unit has allowed for installation in the most extreme environments. The RobotEye RE08 can be deployed on land, in air and at sea, and has been designed for an array of applications in the fields of robotics, automation, defence and security, mining, oil and gas, and agriculture.	<ul style="list-style-type: none"> 360° scanning range in azimuth 70° scanning range in elevation ability to acquire 3D point densities of up to 200 points per degree along each axis up to 30 kHz measurement rate 5 kHz pulse rate with up to 5 returned measurements per pulse in high range mode full field, bounded elevation and region scan modes on the fly adjustment of all the above scan parameters up to 150 m range for natural targets (750 m range for high reflectivity targets) in high range mode up to 100 m range for natural targets (500 m range for high reflectivity targets) in high speed mode one-centimetre accuracy operation under various weather conditions and installation in harshest environments operation in any physical orientation eye-safe IP67 class protection 	<ul style="list-style-type: none"> autonomous vehicle navigation rapid and high resolution 3D mapping mobile robotics industrial process automation mine automation industrial safety aerial surveillance as-built 3D reconstruction airborne remote sensing maritime navigation defense-in-depth situational awareness 	
RobotEye REV25 VISION	VISION	The RobotEye REV25 VISION enables the direction of view of the camera to be changed with unmatched speed and precision. RobotEye VISION systems are the only imaging systems that simultaneously deliver ultra-high speed and precision. Nothing is hidden from the eye of the REV25. This small, lightweight and ruggedized vision system has the ability to track extremely fast-moving objects, or even track multiple objects simultaneously with a single RobotEye REV25. A single RobotEye REV25 not only has the capability to replace multiple cameras within a network, but its unique dynamic capabilities enable instant and detailed scrutiny of any static or mobile target. RobotEye REV25 has been designed for an array of applications in the fields of intelligent security and surveillance, live events broadcasting, situational awareness, robotics, manufacturing, automation, and emergency response.	<ul style="list-style-type: none"> 360° range of motion in azimuth 70° range of motion in elevation full control over motion in both azimuth and elevation ability to reach 10,000°/s velocity and 100,000°/s² acceleration on-the-fly adjustment of all imaging parameters including the imaged region and resolution hardware synchronization of RobotEye, camera and external events ability to track high-speed targets ability to track multiple targets with a single camera wide range of camera options IP65 class protection operation in any physical orientation 	<ul style="list-style-type: none"> transportation security critical infrastructures security sports broadcasting 360° situational awareness high resolution capture of high-speed events and objects giga-pixel panoramic imaging telepresence 	
RobotEye REV60 VISION	VISION	The RobotEye REV60 VISION couples the unmatched dynamic performance and wide range of motion of the REV25 with a wide aperture for applications where time or photons are a sparsity. RobotEye REV60 has similar application areas to the REV25 with particular relevance to the fields of intelligent security and surveillance, defense-in-depth, and border protection.	<ul style="list-style-type: none"> 360° range of motion in azimuth 70° range of motion in elevation full control over motion in both azimuth and elevation ability to reach 5,400°/s velocity and 60,000°/s² acceleration on-the-fly adjustment of all imaging parameters including the imaged region and resolution hardware synchronization of RobotEye, camera and external events ability to track high-speed targets ability to track multiple targets with a single camera wide range of camera options IP65 class protection operation in any physical orientation 	<ul style="list-style-type: none"> military installation security critical infrastructures security sports broadcasting 360° situational awareness high resolution capture of high-speed events and objects seaport surveillance 	supplied on request
RobotEye REV25-ST VISION STABILIZED	VISION	The RobotEye REV25-ST VISION is a 3-axis ultra-high performance stabilized vision system which brings the VISION capabilities of the REV25 to any mobile platform on land, in air and at sea. While simultaneously stabilizing, this small, lightweight and ruggedized vision system has the ability to track extremely fast-moving objects, or concurrently track multiple objects from any mobile platform. RobotEye REV25-ST has been designed for mobile platforms in an array of applications in the fields of ISR, aerospace and defense, unmanned systems, and emergency response.	<ul style="list-style-type: none"> 800 Hz stabilization update frequency stabilization in world coordinate frame 360° range of motion in azimuth 70° range of motion in elevation full control over motion in both azimuth and elevation ability to reach 10,000°/s velocity and 100,000°/s² acceleration on-the-fly adjustment of all imaging parameters including the imaged region and resolution hardware synchronization of RobotEye, camera and external events ability to track high-speed targets ability to track multiple targets with a single camera wide range of camera options operation in any physical orientation IP65 class protection 	<ul style="list-style-type: none"> land and marine border protection airborne surveillance 360° battlefield situational awareness emergency response vehicles security vehicles submarine situational awareness telepresence 	
RobotEye REV60-ST VISION STABILIZED	VISION	The RobotEye REV60-ST VISION is a wide aperture 3-axis ultra-high performance stabilized vision system which brings RobotEye REV60 VISION capabilities to any mobile platform on land, in air and at sea. RobotEye REV60-ST has similar application areas to the REV25-ST with particular relevance to the fields of homeland security, ISR, aerospace and defense, border security, and maritime surveillance.	<ul style="list-style-type: none"> 800 Hz stabilization update frequency stabilization in world coordinate frame 360° range of motion in azimuth 70° range of motion in elevation full control over motion in both azimuth and elevation ability to reach 5,400°/s velocity and 60,000°/s² acceleration on-the-fly adjustment of all imaging parameters including the imaged region and resolution hardware synchronization of RobotEye, camera and external events ability to track high-speed targets ability to track multiple targets with a single camera wide range of camera options operation in any physical orientation IP65 class protection 	<ul style="list-style-type: none"> land and marine border protection airborne surveillance sports broadcasting 360° battlefield situational awareness emergency response vehicles security vehicles submarine situational awareness aerial cinematography 	supplied on request
RobotEye REHS25 HYPERSPECTRAL	HYPERSPECTRAL	The RobotEye REHS25 HYPERSPECTRAL transforms any single point spectrometer into a mapping hyperspectrometer. This hyperspectral imaging system couples the wide field of view and pointing precision of the RobotEye with any commercial off-the-shelf single point spectrometer to achieve rapid imaging with both high spatial and spectral resolution. Physical separation of the RobotEye REHS25 scanning head from the spectrometer has allowed for installation in the most extreme environments. The small and lightweight RobotEye REHS25 has wide optical throughput covering 450-2500 nm and can be mounted on any mobile platform for applications in precision agriculture, oil and gas, forestry management, environmental monitoring, and industrial automation.	<ul style="list-style-type: none"> 400-2500 nm optical throughput 360° range of motion in azimuth 70° range of motion in elevation full control over motion in both azimuth and elevation on-the-fly adjustment of all scan parameters including the imaged region and spatial resolution hardware synchronization of RobotEye, spectrometer and external events ability to couple RobotEye with any single point spectrometer rapid wide-area imaging large optical aperture for short integration time installation in harshest environments operation in any physical orientation 	<ul style="list-style-type: none"> aerial surveillance and reconnaissance nutrient and water status of crop pollution and emission monitoring identification oil and gas reserves mineral reserve identification airborne remote sensing forest fire monitoring leak detection industrial sorting and classification automated food processing 	
RobotEye REN25 NAKED	NAKED	The RobotEye REN25 NAKED brings the world's fastest and most precise sensor pointing capability to any sensor payload, including thermal, visible and terahertz cameras, and laser rangefinders. This unit has been designed for OEM integration in the defense and aerospace, security and surveillance, robotics and automation, precision agriculture and virtual reality markets.	<ul style="list-style-type: none"> 360° range of motion in azimuth 70° range of motion in elevation ability to reach 10,000°/s velocity and 100,000°/s² acceleration on-the-fly adjustment of all RobotEye parameters ability to add any sensor unit operation in any physical orientation 	<ul style="list-style-type: none"> OEM integration for aerospace and defense security and surveillance precision agriculture virtual reality and telepresence robotics factory automation 	
RobotEye REN60 NAKED	NAKED	The wide aperture RobotEye REN60 NAKED brings the world's fastest and most precise sensor pointing capability to any sensor payload, including thermal, visible and terahertz cameras and laser rangefinders. This unit has been designed for OEM integration in applications where time or photons are a sparsity such as defense and aerospace, security and surveillance, customs and border protection.	<ul style="list-style-type: none"> 360° range of motion in azimuth 70° range of motion in elevation ability to reach 5,400°/s velocity and 60,000°/s² acceleration on-the-fly adjustment of all RobotEye parameters ability to add any sensor unit operation in any physical orientation 	<ul style="list-style-type: none"> OEM integration for aerospace and defense security and surveillance customs and border protection 	supplied on request

