

AUTONOMICS

# Stereovision system for service robots

with high-end embedded  
video processing functions

STEREOVISION



Product  
demo



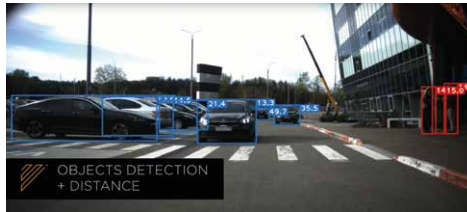
# Features

**Realtime depth sensing**

Last-mile delivery, warehousing, outdoor cleaning — robotization of these routines requires depth perception abilities in order to perform complex tasks such as obstacle detection, visual odometry, SLAM.

**Dense disparity maps**

FPGA-based dense stereo disparity calculation along with embedded real-time subpixel-accuracy postprocessing makes AUTONOMICS STEREOCAM a perfectly suited solution for various applications.



**Obstacles detection**

Built-in pedestrian and vehicle detection functions provided by state-of-the-art deep learning algorithms are essential out-of-the-box features for robots, operating in environments shared with people.

**Rugged design**

Rugged but lightweight aluminum body with IP67 protection level. Stability of factory-calibrated optical parameters even under extreme mechanical and thermal conditions.

**Automotive-grade components**

Automotive-grade components and connectors. Compliance with automotive requirements in terms of EMI, mechanical (vibration, stress), and climatic conditions

**ROS compatible**

ROS compatibility makes it easy to integrate AUTONOMICS STEREOVISION into existing systems.



# Specifications

## Camera specifications

Sensor resolution	<b>1920 x 1080 pixels</b>
Shutter control	<b>Global shutter</b>
Field of view: horizontal / vertical	<b>60° / 32°</b>
Stereo baseline distance	<b>342 mm</b>

## Embedded stereo processing

Embedded Stereo disparity pipeline	<b>FPGA-based: Census, multi-window aggregation, Semi-global Matching with 4 paths and two passes</b>
Embedded Postprocessing	<b>Uniqueness check, WTA with subpixel accuracy (1/16), Consistency check</b>
Stereo processing max performance	<b>2 GDisp/sec</b>

## Object detection/recognition

Classes	<b>Vehicle, Pedestrian, Bike, etc.</b>
Output data	<b>3D bounding box, class, confidence</b>

## Hardware details

Operating Voltage	<b>9 – 36 V DC</b>
Power Consumption	<b>&lt; 40 W</b>
Dimensions	<b>392x100x32 mm</b>
Weight	<b>2 kg</b>
Interfaces	<b>Gigabit Ethernet, CAN</b>
Shock load	<b>75g / 5 ms</b>
Vibration load	<b>5g / 5 Hz – 500 Hz</b>
Ambient operating temperature	<b>-50 °C ... +50 °C</b>



## Contact us

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