ROSEEK®

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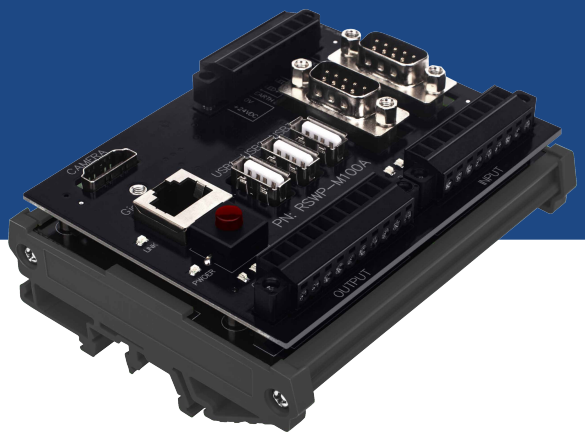
Woodpecker1 Series

Open Industrial Smart Camera



Application

- Surface Inspections, High-accuracy measuring
- OCR, Bar code/2D code recognition
- Matching, Classification

Features

- INTEL® ATOM™ CPU E3845 (1.91GHz quad-core)
- 4G-byte DDR3L, 64G-byte storage soldered on board
- 64-bit OS: Windows 10 IoT Enterprise and Linux (Ubuntu 14.04)
- 0.3 to 12MP CCD/CMOS image sensor
- HDMI display port
- Two constant current LED drivers
- Free standard accessories: I/O module and connecting cables
- Rock-solid system stability, operating temperature from -40°C to +80°C
- 3-year warranty

Camera Selection Guide

Specifications

Model	Mono/Color	Resolution	Max FPS	Sensor	Sensor Technology	Optical Size	Pixel Size	Sensitivity Ratio*
RSWP105M	Mono	0.3MP (640x480)	120	SHARP RJ33B4AA0DT	Global Shutter CCD	1/3"	7.4um	14.9
RSWP105S	Color	0.3MP (640x480)	120	SHARP RJ33B3AA0DT	Global Shutter CCD	1/3"	7.4um	10
RSWP105N	Mono	0.3MP (640x480)	200	SHARP RJ33B4AD0DT	Global Shutter CCD	1/3"	7.4um	14.9
RSWP105A	Color	0.3MP (640x480)	200	SHARP RJ33B3AD0DT	Global Shutter CCD	1/3"	7.4um	10
RSWP111M	Mono	1.2MP (1280x960)	54	ONSEMI MT9M031I12STM	Global Shutter CMOS	1/3"	3.75um	2.7
RSWP111S	Color	1.2MP (1280x960)	54	ONSEMI MT9M031I12STC	Global Shutter CMOS	1/3"	3.75um	2.3
RSWP115M	Mono	1.2MP (1280x960)	30	SHARP RJ33J4CA0DT	Global Shutter CCD	1/3"	3.75um	4.7
RSWP115S	Color	1.2MP (1280x960)	30	SHARP RJ33J3CA0DT	Global Shutter CCD	1/3"	3.75um	3.2
RSWP112M	Mono	1.3MP (1280x1024)	105	ONSEMI NOIP3SN1300A	Global Shutter CMOS	1/2"	4.8um	3.4
RSWP112S	Color	1.3MP (1280x1024)	105	ONSEMI NOIP3SE1300A	Global Shutter CMOS	1/2"	4.8um	2.9
RSWP126N	Mono	2MP (1616x1232)	50	SHARP RJ31N4AD0DT	Global Shutter CCD	1/1.8"	4.4um	5.5
RSWP126B	Color	2MP (1616x1232)	50	SHARP RJ31N3AD0DT	Global Shutter CCD	1/1.8"	4.4um	3.7
RSWP127S	Color	2MP (1616x1232)	15	SONY ICX274AQ	Global Shutter CCD	1/1.8"	4.4um	1.1
RSWP130M	Mono	3.2MP (2064x1536)	55	SONY IMX265LLR	Global Shutter CMOS	1/1.8"	3.45um	4.7
RSWP130S	Color	3.2MP (2064x1536)	55	SONY IMX265LQR	Global Shutter CMOS	1/1.8"	3.45um	3
RSWP155M	Mono	5MP (2448x2048)	15	SHARP RJ32S4AD0DT	Global Shutter CCD	2/3"	3.45um	2.6
RSWP155A	Color	5MP (2448x2048)	15	SHARP RJ32S3AD0DT	Global Shutter CCD	2/3"	3.45um	1.7
RSWP150M	Mono	5.1MP (2456x2048)	35.7	SONY IMX264LLR	Global Shutter CMOS	2/3"	3.45um	4.7
RSWP150S	Color	5.1MP (2456x2048)	35.7	SONY IMX264LQR	Global Shutter CMOS	2/3"	3.45um	3
RSWP160M	Mono	6.3MP (3072x2048)	30	SONY IMX178LLJ	Rolling Shutter CMOS	1/1.8"	2.4um	1.6
RSWP160S	Color	6.3MP (3072x2048)	30	SONY IMX178LQJ	Rolling Shutter CMOS	1/1.8"	2.4um	1.1
RSWP1C0S	Color	12MP (4000x3000)	20	SONY IMX226CQJ	Rolling Shutter CMOS	1/1.7"	1.85um	0.74

* The sensitivity ratio is a linear ratio based on the sensitivity value of SONY CCD ICX445AQA.The higher this ratio is, the more

Woodpecker1 Series

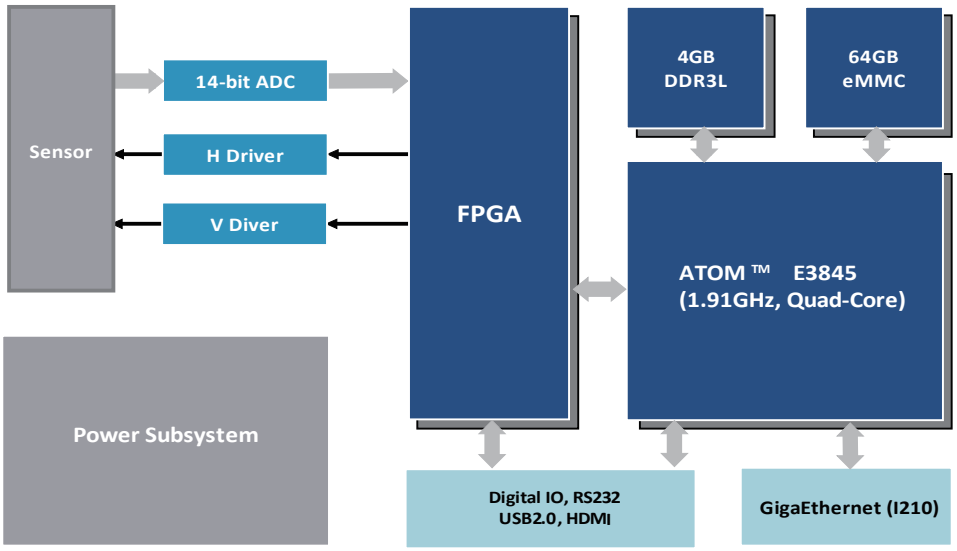
Open Industrial Smart Camera

Open Industrial Smart Camera is a highly integrated x86-based industrial machine vision system which includes image acquirement, processing and system communication. ROSEEK provides high reliability hardware platform for machine vision applications developed by user or any third-party software providers.

Hardware

Items	Details
CPU Model	INTEL® ATOM™ CPU E3845
CPU Type	64-bit quad-core 1.91GHz
CPU L2	2M-Byte
Memory	4G-Byte DDR3L-1333 (soldered onboard)
Storage	64G-byte eMMC5.0 flash (soldered onboard)
Ethernet	One INTEL® I210 controller for Gigabit Ethernet
USB Ports	Three USB 2.0 ports One internal USB 2.0 (inside camera casing, dedicated for USB dongle)
Serial Ports	Two 9-pin RS232 ports with Tx/Rx signal only
Digital I/O	Eight isolated input ports (5V/12V/24VDC supported) Eight isolated output ports (5V/12V/24VDC supported) One isolated trigger input (5V/12V/24VDC supported)
Watchdog	Hardware Watchdog timer (1 to 256 second adjustable)
LED Driver	Two constant current LED drivers, output current adjustable: Internal LED driver only supports ROSEEK LED board, with max output 0.2A/24V External LED driver (in IO module) supports general LED board, with max output 1.5A/24V
LED Indicator	Five red/green indicators: Power, LAN and three user-define LEDs
Display Port	One HDMI port
Power Supply	Up to 12W
Power Consumption	20 to 30VDC (24VDC recommended) up to 2A current
Operating Condition	-40℃ to +80℃
Hardware Structure	Aluminum alloy casing, fanless design
Dimensions	110 x 61 x 47 mm
Weight	380 g
Standard	CE

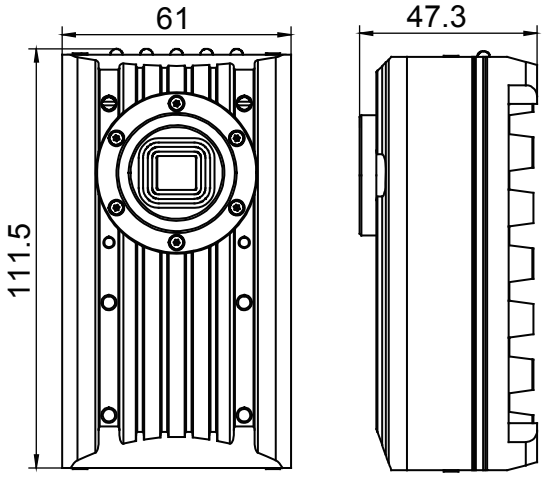
System Structure



The main components of Woodpecker1 camera includes: Sensor, FPGA and CPU.

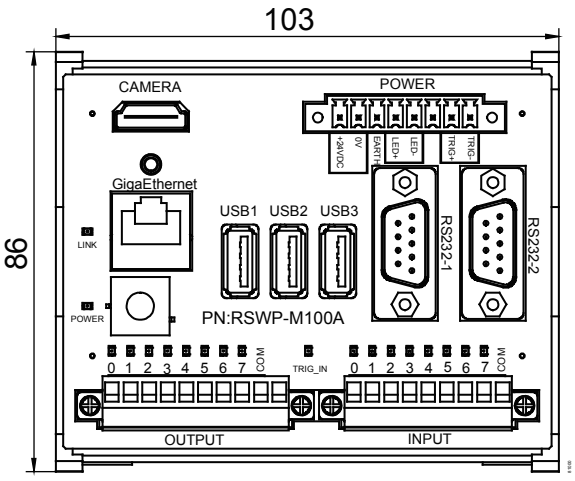
- Sensor Woodpecker1 series smart camera equips high end CCD/CMOS for excellent image quality.
- FPGA The Image Signal Preprocessing (ISP) engine developed by ROSEEK is embedded in an FPGA for image interpolating, enhancement, denoising, white-balancing, saturation adjustment, etc.
- CPU Woodpecker1 series smart camera equips Intel® ATOM™ E3845, a powerful CPU for all kinds of machine vision applications. Any user-developed or third-party software is supported.

Dimensions



Unit:mm

Smart Camera



I/O Module

- **Easy to Develop**

  - For Windows version, the developing environment is Microsoft Visual Studio 15 (free).
  - For Linux version, the developing environment is Ubuntu 14.04 (Standard C/C++).

- **Thorough Service**

  - OS pre-installation service
  - OS switch between Windows and Linux (only with ROSEEK-provided OS images)
  - Camera recovery, including BIOS and OS recovery

- **Abundant Resources**

  - ROSEEK provides mature SDK including all hardware driver APIs (image acquisition, image preprocessing, exposure control, flash light control, etc.), easy-to-use hardware encoding APIs.

  - The IPP library from Intel® is also available. It is a developing library facing multiple fields with prefect compatibility on both Windows and Linux platform. Supporting multi-core processor, it is also a highly optimized function set (including parallel processing optimization, optimization based on specific processors and other optimizations) which can be used for multimedia processing (voice processing, image processing, video processing, etc.), data processing, communication and many other applications.

  - Woodpecker1 series smart camera is an open and easy-to-develop platform. It fully supports all kinds of third party software, including OpenCV, SimpleCV, HALCON, LabVIEW, Matlab, etc.

About Us

Shanghai Ruishi Machine Vision Technology Co., Ltd (ROSEEK) was established in 2006. We focus on designing and manufacturing high performance and high reliability embedded imaging device. Our main products cover machine vision, ITS and security market. As the first company introduced smart camera to Chinese intelligent image processing market, ROSEEK now provides over 20,000 cameras per year for domestic and overseas customers from Asia, Eastern Europe, Africa and Australia.

All ROSEEK products are designed independently. We provide 3-year warranty with thorough support.

We are the pioneers in machine vision smart camera intelligentization.
We are the trendsetter of the embedded intelligent processing platform.

ISO9001:2008 certified.

We Focus on Embedded Imaging Equipment

ROSEEK®

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