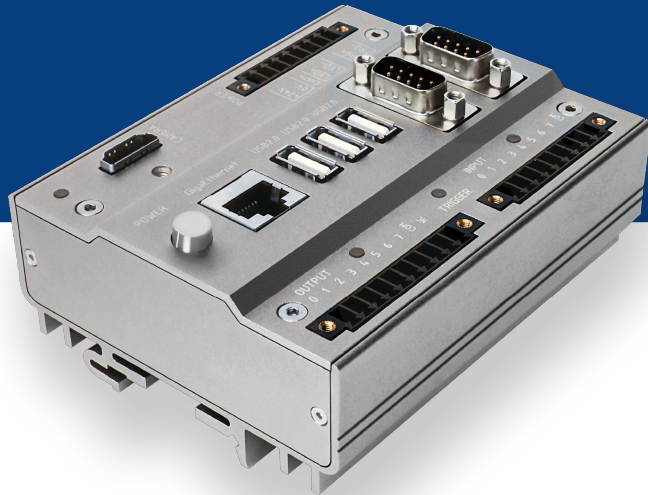


# ROSEEK®

www.roseek.com

## Woodpecker1 Series Industrial Smart Camera



### Applications .....

- Industrial Machine Vision

### Features .....

- Intel® ATOM™ Processor E3845 Quad Core 1.91 GHz
- 4G-byte DRAM, 64G-byte storage for OS, soldered onboard
- Abundant CCD/CMOS sensors, resolution from 0.4MP to 20MP
- HDMI display port
- 2 constant current LED drivers inside
- IO module and cables are included as standard
- The ability of connecting GigE cameras or USB2.0 cameras
- Wide operation temperature -40°C to +80°C
- 3-year warranty

# Woodpecker1 Series

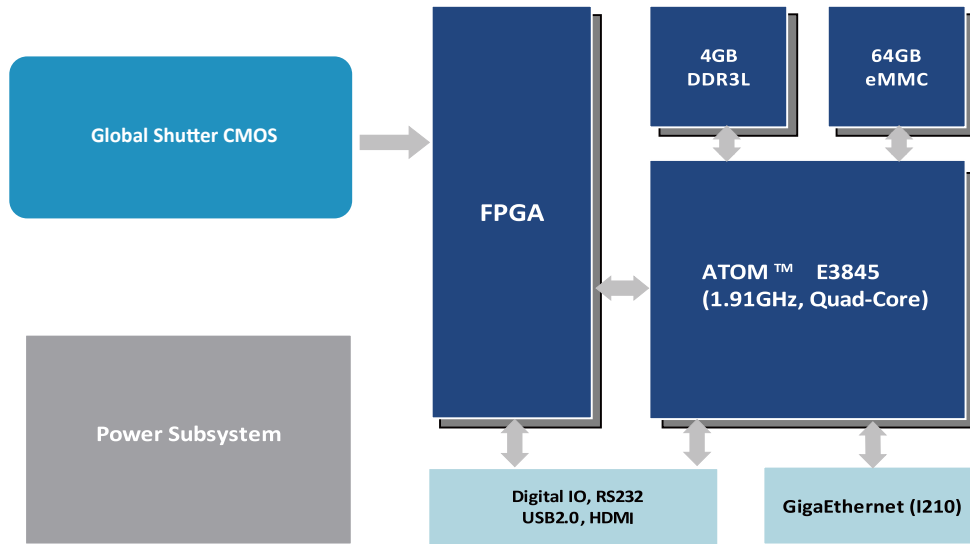
## Industrial Smart Camera

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

### Specifications

Items	Details
CPU Model	Intel® ATOM™ processor E3845
CPU Type	64-bit Quad Core @ 1.91GHz
L2 Cache	2M-byte
DRAM	4G-byte DDR3L-1333 (soldered onboard)
Storage	64G-byte eMMC5.0 flash (soldered onboard) for OS
OS Support (64-bit)	Windows 10 IoT Enterprise, Linux (Ubuntu)
Network Port	1x Giga Ethernet (Intel® I210) ports
USB Port	3x USB 2.0 Port, 1x Internal USB 2.0 Port for Dongle
Serial Port	1x RS232 (TX and RX only), 1x isolated RS485
Digital I/O	8x isolated inputs, 8x isolated outputs, 1x isolated trig inputs, Support 12V/24V DC
Watchdog timer	1 to 256 second, setup by software
Display port	1x HDMI type A
Illumination Control	Two constant current LED drivers (light intensity adjustable): One inside camera drives ROSEEK LED board with max output 0.3A/24V, and the other inside IO module can drive user's LED board with max output 1.5A/24V.
Status LEDs	5 dual color LEDs: Power, Network, 3 user configurable
Camera consumption	12W max
Power Supply	20-30VDC (24VDC recommended), 2A max
Operation Temperature	-40°C to +80°C wild temperature
Construction	Rugged full metal casing, fanless
Dimensions	110 x 61 x 47 mm
Camera Weight	380 g
Regulation	CE

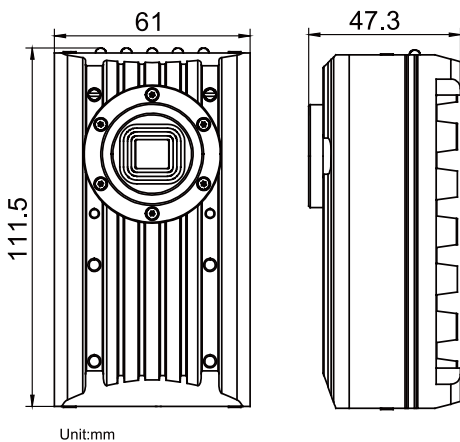
## System Structure



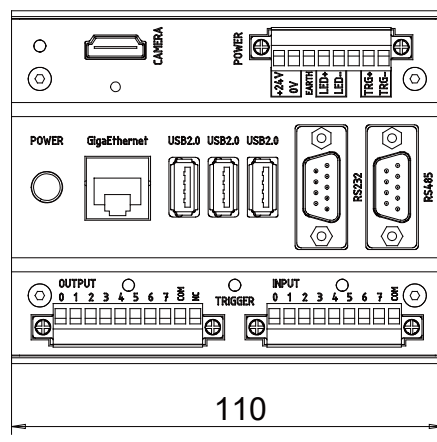
The main components of Woodpecker1 camera includes: Sensor, FPGA and CPU.

- 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.

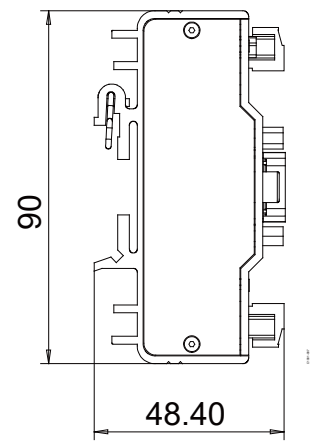
## Dimensions



Smart Camera



I/O Module



# Development of Smart Camera

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- **Easy to Develop**

- For Windows version, the developing environment is Microsoft Visual Studio 15 (free).
- For Linux version, the developing environment is Ubuntu 16.04 (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 perfect 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.



# Camera Selection Guide

## Specifications

Type Number	Grabbing Camera (global shutter)							Sensor Size
	Type	Resolution	MAX FPS	Shutter	Pixel Size(um)	Sensitivity Ratio**	Sensor	
RSWP101MELN	Mono	0.4MP (720x540)	200	Global	6.9	20.0	SONY IMX287LLR CMOS	1/3"
RSWP101SCLN	Color	0.4MP (720x540)	200	Global	6.9	12.0	SONY IMX287LQR CMOS	1/3"
RSWP112MELN	Mono	1.3MP (1280x1024)	90	Global	4.8	3.4	ONSEMI NOIP3SN1300A CMOS	1/2"
RSWP112SCLN	Color	1.3MP (1280x1024)	90	Global	4.8	2.9	ONSEMI NOIP3SE1300A CMOS	1/2"
RSWP113MELN	Mono	1.6MP (1456x1088)	107	Global	3.45	4.9	SONY IMX273LLR CMOS	1/3"
RSWP113SCLN	Color	1.6MP (1456x1088)	107	Global	3.45	3.0	SONY IMX273LQR CMOS	1/3"
RSWP126MELN	Mono	2MP (1616x1232)	30	Global	4.4	5.5	SHARP RJ31N4AD0DT CCD	1/1.8"
RSWP126ACLN	Color	2MP (1616x1232)	30	Global	4.4	3.7	SHARP RJ31N3AD0DT CCD	1/1.8"
RSWP130MELN	Mono	3.2MP (2048x1536)	55.6	Global	3.45	4.7	SONY IMX265LLR CMOS	1/1.8"
RSWP130SCLN	Color	3.2MP (2048x1536)	55.6	Global	3.45	3.0	SONY IMX265LQR CMOS	1/1.8"
RSWP150MELN	Mono	5MP (2448x2048)	35.7	Global	3.45	4.7	SONY IMX264LLR CMOS	2/3"
RSWP150SCLN	Color	5MP (2448x2048)	35.7	Global	3.45	3.0	SONY IMX264LQR CMOS	2/3"
RSWP155MELN	Mono	5MP (2448x2048)	15	Global	3.45	2.6	SHARP RJ32S4AD0DT CCD	2/3"
RSWP155ACLN	Color	5MP (2448x2048)	15	Global	3.45	1.7	SHARP RJ32S3AA0DT CCD	2/3"
RSWP1M0MELN	Mono	20MP (5472x3648)	15	Rolling	2.4	2.0	SONY IMX183CLK CMOS	1"
RSWP1M0SCLN	Color	20MP (5472x3648)	15	Rolling	2.4	1.2	SONY IMX183CQJ CMOS	1"

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## About Us

Shanghai Ruishi Machine Vision Technology Co., Ltd (ROSEEK) was established in 2006. We focus on embedded imaging equipment, including ITS smart cameras, machine vision cameras and vision controllers. Our products feature high performance and high reliability.

We have the broadest smart camera portfolio in the world. As the first company introducing smart camera to China ITS market, ROSEEK now provides over 20,000 smart cameras per year for customers all around the world.



ISO9001:2008 certified.

**We Focus on Embedded Imaging Equipment**

# ROSEEK®

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