seeed studio

INDUSTRIAL PRODUCT DATASHEET

reCamera Pro 4GB - Open AI Camera, More than Just "People Detection"

reCamera Pro 4GB is an open AI camera that combines computer vision, multi-modal sensing, and flexible automation workflows for applications including smart retail, gas station security, elderly fall detection, smart factory quality...

SKU	UPDATED	PRICE
100034201	2026-10-21 01:37:23	$349.90(Excl. VAT)



Overview



reCamera Pro 4GB is an advanced edge AI camera built on the Rockchip RV1126B AI SoC with a 3 TOPS NPU and quad-core Arm Cortex-A53 CPU, featuring an 8MP starlight sensor, interchangeable lenses, dual microphones, IMU, and GPIO/UART expansion for local multi-modal AI inference. It supports YOLO, LLM, VLM, STT, and TTS models, flexible event-driven triggers and actions, and industry protocols including RTSP, ONVIF, MQTT, HTTP, UART, and CAN, enabling integration with NVR, PLC, and IoT systems for applications such as smart retail, gas station security, elderly fall detection, smart factory quality inspection, smart access control, night-time warehouse monitoring, and construction site sandbag counting.

Key Features

Note:

reCamera Pro is now available for pre-order.
The first production batch is expected to arrive at our warehouse in **mid-August**. Orders will be shipped as soon as inventory becomes available.
Thank you for your support!

Product Overview

reCamera is Seeed Studio's product family of AI cameras, designed to bring intelligent vision capabilities to the edge. The current reCamera product portfolio is shown below.
reCamera Pro is an advanced edge AI camera that combines computer vision, multi-modal perception, and flexible automation workflows in one compact device. It runs AI models locally, from YOLO-based object detection to LLM, VLM, STT, and TTS models, enabling responsive AI inference directly at the edge.
Designed for customizable AI applications, reCamera Pro supports diverse triggers including AI detection, audio events, GPIO signals, HTTP requests, UART commands, and scheduled tasks. With industry-standard protocols including RTSP, ONVIF, MQTT, HTTP, and UART, it seamlessly integrates with existing NVR, PLC, and IoT systems.
With an 8MP starlight sensor, interchangeable lenses, built-in microphones, IMU sensors, SenseCraft AI, and an intuitive Web UI, reCamera Pro empowers developers to quickly build, customize, and deploy intelligent edge AI applications — from AI vision prototypes to real-world automation solutions.
Built around the Rockchip RV1126B AI SoC, reCamera Pro is a powerful Edge AI Camera capable of running a wide range of AI models locally. With a 3 TOPS NPU and quad-core Arm Cortex-A53 CPU, it delivers real-time inference for computer vision tasks (such as object detection, classification, and recognition）, VLM, LLM and speech AI applications.

Run different AI Models Locally

Supported AI models include:

- **Computer Vision Models** (YOLO)
- **Vision Language Models (VLM)**
- **Large Language Models (LLM)**
- **Speech-to-Text (STT)**
- **Text-to-Speech (TTS)**

AI Performance Benchmark

- **Vision CNN:** YOLO11 @ 43 FPS (640 × 640)
- **LLM:** Qwen2 0.5B (W8A8) — 13.63 tokens/s
- **VLM:** InternVL3-1B — 6.08 tokens/s
- **STT:** Whisper Base with real-time support (RTF ~0.40–0.50)
- **TTS:** MMS-TTS with real-time support (RTF ~0.09–0.18)

Compatible with Popular AI Frameworks

Support for ONNX, PyTorch, TensorFlow Lite, Caffe, and Darknet, with RKNN-Toolkit2 for efficient model conversion and deployment.

Feature 2：Enable Multi-Modal Sensing for Smarter Event Detection

Vision alone isn't always enough to fully understand real-world events. By combining audio and external sensor data with visual information, AI can gain richer context for more accurate event understanding. reCamera Pro combines vision, audio, motion, and external sensor inputs to understand real-world events from multiple perspectives.
With built-in dual microphones, IMU, and expandable GPIO and UART interfaces, it enables multi-modal AI applications beyond traditional camera-based detection

Intelligent Event Detection with Multiple Inputs

Dual Microphones

Enable always-on audio monitoring for intelligent event triggering.
Detect events such as:

- Glass breaking
- Abnormal impact sounds
- Custom voice keywords (e.g., "Hands Up")

Built-in IMU

Monitor vibration, movement, and orientation changes in real time.
Applications like:

- Device Impact Detection
- Shock Event Alerts
- Device Orientation Monitoring

GPIO & UART Sensor Expansion

Connect external sensors and devices to expand AI applications, like:

- CO2 sensor
- Temperature sensor
- Radar sensor
- Human presence sensors
- more...

Turn AI perception into automated actions with flexible event-driven workflows. reCamera Pro works not only as a standard IPC camera, but also as an intelligent edge device that responds to AI detection results, audio events, sensor inputs, and external commands. Define custom triggers and actions to automate different scenarios without additional controllers.

Flexible Trigger Sources

Supported triggers:

- AI Detection
- Audio Event
- Sensor Event
- GPIO
- UART
- HTTP Command
- Timer

Customizable Actions

Supported actions:

- Capture Image
- Record Video
- Play Audio
- HTTP Callback
- MQTT Publish
- RTSP Streaming
- Save to NVR
- Send Alert

Feature 4： Embedded WEB UI For Quick Setup
Configure, deploy and monitor your AI camera directly through a browser—without complicated development tools. The built-in Web UI simplifies device setup, AI model management, workflow configuration, and system maintenance.

Web-Based Management Features

Support:

- Main Stream / Sub Stream Configuration
- AI Workflow Configuration
- Model Output Management
- Device Monitoring
- Terminal Management
- Privacy Mask Configuration
- System Settings

Feature 5 ：Build Custom AI Models in 1 Minute with No Code and Few Samples

With **SenseCraft AI**, a no-code AI training platform in the SenseCraft AIoT ecosystem, reCamera Pro makes custom AI model development simple. Train, convert, and deploy custom vision and sound classification models with no code and only a few samples. These models can be adapted to a wide range of real-world applications, allowing AI to learn the visual and audio patterns that humans naturally recognize.

Vision classification models

Vision classification models can learn many of the visual judgments humans make every day. By training with your own examples, reCamera Pro can recognize differences in appearance, quality, condition, and categories—enabling applications such as quality grading, object classification, scene recognition, and custom inspection tasks.

Create Models Like:

- Inventory Status Recognition
- Queue Status Recognition
- Material Level Monitoring

Sound classification models

Sound classification models enable AI to recognize the sounds humans naturally identify—what a sound is and whether it is normal or unusual.

Applications include:

- Glass breaking, alarms, horns, dog barking, and emergency keywords such as “Help”
- Machine abnormal noise and equipment condition monitoring
- Cough pattern and voice condition analysis
- Custom sound event recognition

With reCamera Pro, you can combine audio and vision for richer, more intelligent analysis.
In addition to rapid model training, SenseCraft AI streamlines the deployment workflow

1. One-click ONNX model conversion and optimization for Edge AI deployment
2. Many ready models for deploy

Feature 6 ：Seamlessly Integrate with Existing Systems

Connect reCamera Pro with your existing infrastructure through widely adopted industrial and security protocols. Designed for integration with video management systems, PLC automation, and IoT platforms, reCamera Pro helps accelerate AI deployment without replacing your current systems.

Supported Protocols

- RTSP, RTMP, ONVIF, HTTP, MQTT, UART, CAN

Can be Used with:

- Video Management Systems (VMS)
- NAS
- Network Video Recorders (NVR)
- Smart Buildings
- PLC Automation Systems
- Factory Automation
- IoT Platforms

It also works with **Frigate** & Home Assistant.

Feature 7 ：Easy Development with Flexible APIs

Access the full capabilities of reCamera Pro through standard HTTP APIs.
Developers can remotely control devices, retrieve AI results, manage workflows, and integrate camera functions into applications without relying on proprietary communication protocols.
Check API on **Wiki**

Feature 8 ：Support Flexible Camera Lens Options for Diverse Applications

Adapt your Edge AI Camera to different environments with flexible lens configurations.
reCamera Pro supports:

- M12 Lens
- CS Mount
- C Mount

Feature 9： Build Vision Automation with Natural Language Commands

Transform natural language instructions into automated camera workflows. reCamera Pro is powerful enough to install lightweight agent like NanoBot, PicoClaw, ZeroClaw, without manually creating complex automation logic.

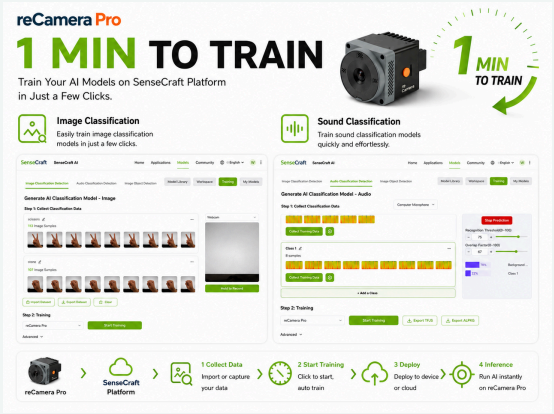
reCamera Pro provides an **official API Skill** that packages camera controls, AI inference results, and common device functions into Agent-ready tools.
Examples:

- **Send me a message if someone walks by.**
- **Take a photo when you see a cat.**
- **Start recording if someone enters the area.**

Product Gallery









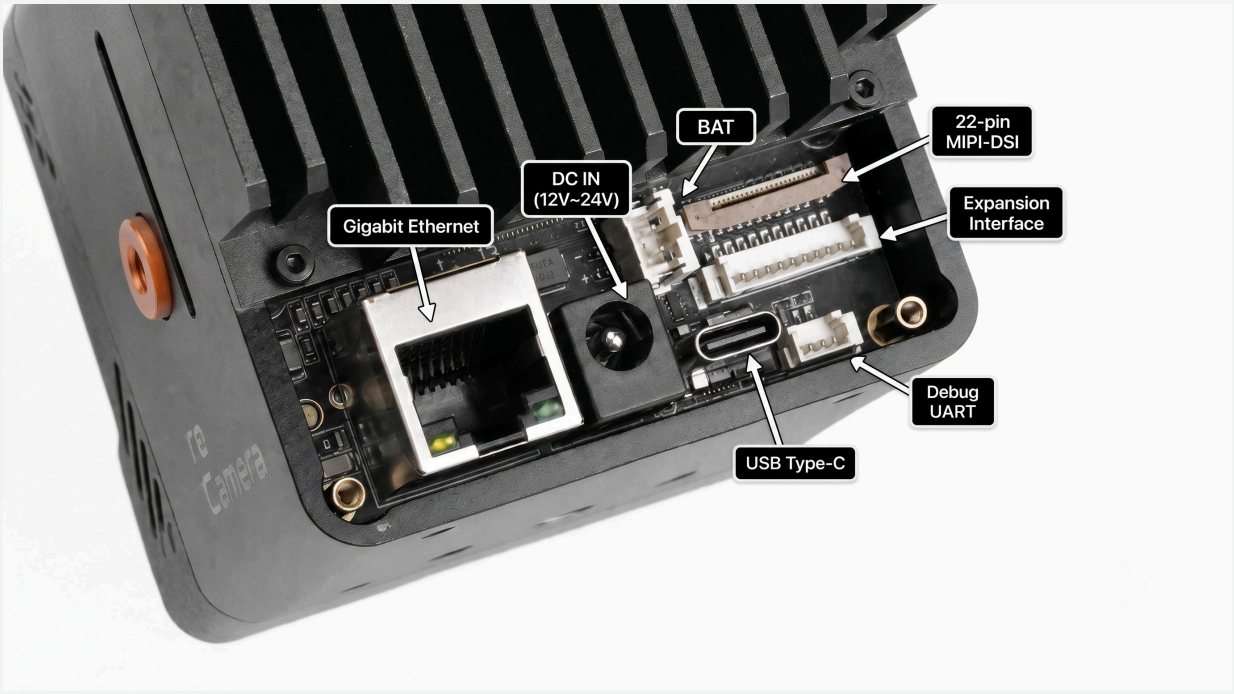


Specification

AI Performance	3TOPS @ INT8
SOC	RV1126B
CPU	Quad-core Arm Cortex-A53 processor

MCU	RISC-V MCU as Co-processor
Memory	2GB/4GB
eMMC	16GB
Operating System	Buildroot
Video Codec	Supports 4K@45fps H.264/H.265 encoding and 4K30 decoding
Camera Sensor	SC850SL
Optical Format	1/1.8-inch, starlight-level
Pixels	8MP
Pixel Size	2.0μm
Resolution	3840×2160
Max Frame rate	4k30fps
Output Format	RAW,MP4,JPG
lens mount	M12 x 0.5mm
Focal Length	2.75mm
Aperture	F2.4
FOV	123°±5°
Minimum Focus Distance	0.6m ~ Infinity
Focus Distance（DOF）	2.7m
Ethernet	1000Mbps
Wireless	Wi-Fi 2.4G/5G WIFI 5.0 Bluetooth 5.4
USB	USB Type-C(3.0)
Expansion	removable TF card (up to 512GB, not included)
CSI	Supports 2-channel 4-wire MIPI-CSI interfaces
Output Port	2 x CAN 2 x GPIO 1 x UART 1 x Debug UART 1 x MIPI DSI
Button	A custom button
Status Light	Power indicator light*1, Status indicator light*1
Fill Light	/
Mic	mic * 2
Speaker	Built-in speaker
Dimension	67*67*89.8mm
Power Supply	12V 2A (DC), POE, TYPE-C, Battery(7.4V)
Weight (Net)	324g±1g

Hardware Overview



Applications

- **Smart Retail**
- **Gas Station Security**
- **Elderly Fall Detection & Care**
- **Smart Factory Quality Inspection**
- **Smart Access Control with Face & PPE Recognition**
- **Night-Time Warehouse Security Monitoring**
- **Construction Site Sandbag Counting & Tracking**

Part List

reCamera Pro	x1
Power Adapter (UK)	x1
Type-C Data Cable	x1

Compliance & Logistics



HSCODE	8525891900
USHSCODE	8525895050
UPC	
EUHSCODE	8517600000
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- https://www.seeedstudio.com/reCamera-Pro-4GB.html
- Quick Start
- Hardware Usage

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