

Vision AI Camera

NeoEyes NE101 Series



Introduction

CamThink NE101 series is designed for diverse vision AI applications, featuring event-triggered image capture with low-power consumption less than 1W on the standby mode. NE101 adopts modular design and supports replaceable lenses, communication modules (Wi-Fi Halow/Cat.1), optional housing, and flexible mounting options, ensuring adaptability across AIoT use cases.



Built-in with a high-performance ESP32-S3 MCU.



Event-triggered mechanism based on user scenarios (PIR/Laser Radar/Sound, etc.).



Ultra-low power consumption down to 1W on standby mode.



Supports 4G/Wi-Fi Halow for both long-distant and short-distant communications.



Rich interfaces: USB, GPIO, Type-C, etc.

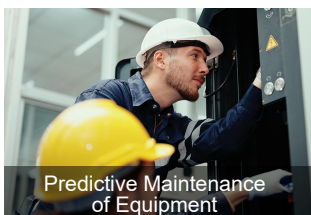


Supports open SDK, firmware for developers' secondary development.

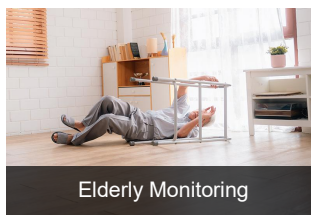
Applications



Smart Metering



Predictive Maintenance of Equipment



Elderly Monitoring



Smart Agriculture



Specifications

Model Name	NE101	NE101-L01GL	NE101-HL00	NE101-HL01
Hardware				
MCU	ESP32-S3			
Memory	8MB RAM			
Flash	16MB			
Communication				
Wireless	Wi-Fi	Cat.1 (Global)	Wi-Fi Halow (868MHz)	Wi-Fi Halow (915MHz)
Bluetooth	Bluetooth v4.2 BR/EDR, BLE			
Optical				
Camera module	OV5640 module (120° / 60° FOV and near/far focus options available)			
Illuminating	LED fill light x 1			
Interfaces				
Expansion IO	UART x 1, 16Pin IO x1 (on the motherboard), I2C, SPI, GPIOs			
Alarm	Alarm x 1 (motherboard)			
Synchronization	Hardware trigger / software trigger / free-run			
Power Supply				
Battery	4 x AA batteries, Type-C charge support (on the motherboard)			
Power consumption	≤ 1W (standby mode)			
Operation				
Temperature	-20°C - 50°C			
Dimension and Installation				
Dimension	77 x 77 x 48mm, plastic housing			
Installation	Optional Wall/Desk/Pole mounting, provide printable 3D bracket file for customization			
Certifications	CE/FCC/RoHs			



Standard Accessories

SKU	Item	Quan.	Description
101913001	Battery	4	AA Batteries

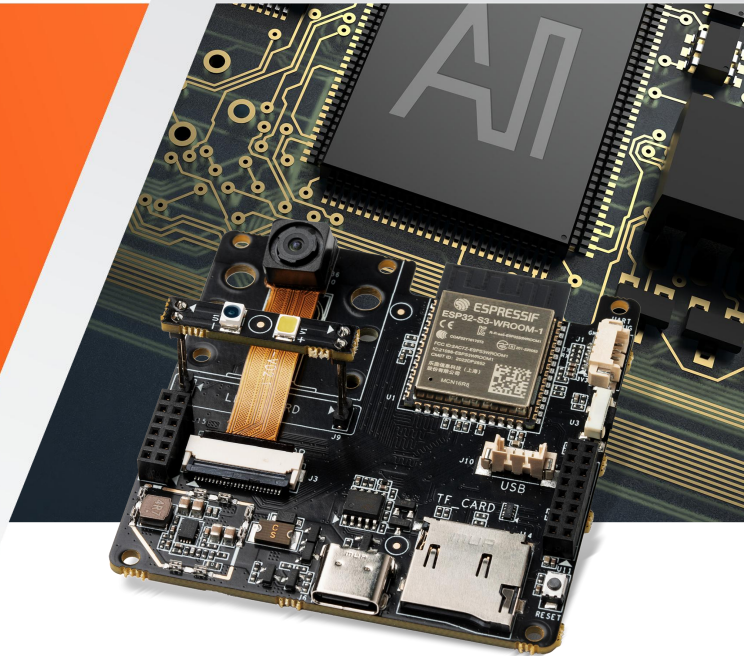
Optional Accessories

SKU	Item	Quan.	Description
101107001	Pole Bracket	1	Suitable for complex scenarios requiring multi-angle adjustment of the camera. The kit includes 2 metal poles and 2 adapters, with customizable metal poles.
101107002	Back Bracket	1	Suitable for wall mounting
101107003	Desk Bracket	1	Suitable for desk installation
101107004	Water Meter Bracket	/	3D design files can be provided for self-3D printing. (Not a physical bracket option)
101107005	Dial Bracket	1	Suitable for fixed installation of instruments with less environmental light impact
100403001 100403002 100403003 100403004	OV5640 Camera Module	1	Supports 4 specifications: 60° FOV, 15cm focus 60° FOV, 4m focus 120° FOV, 8cm focus 120° FOV, 3m focus
101512006 101512007	Antenna	1	Wi-Fi Halow Antenna Cat.1 Antenna
100608001	Wi-Fi-Halow Communication Module	1	Wi-Fi module
100606001	Cat.1 Communication Module	1	Quectel EM05 4G



Vision AI Camera Dev Kit

NeoEyes NE100-MB01



CamThink NE100-MB01 development board is designed to streamline prototyping, testing, and customization for vision AI applications. The NE100-MB01 is based on the ESP32-S3 MCU with outstanding performance on power consumption (less than 1W on standby mode). It supports multiple trigger mechanisms for image capture, which accelerates the prototyping process for developers to implement diverse vision AI applications.

Type-C port supports DC 5V power input.

UART, I2C, GPIO and SPI ports simplify integration.

Rich accessories including antenna, lenses, and communication modules for customization.

Compact size 60 x 60 x 25mm for constrained space design.

Development Board

Streamline Process



Simple and
Rapid Prototyping



Cost-effective
Development Effort



Full-scale Documentations and
Supports



Specifications

Model Name	NE100-MB01
Hardware	
MCU	ESP32-S3
Memory	8MB RAM
Flash	16MB
Network connection	
Wireless	Wi-Fi Halow/LTE Cat.1 module (Optional)
Bluetooth	Bluetooth v4.2 BR/EDR, BLE
Optical	
Camera module	OV5640 module (120° / 60° FOV and near/far focus options available)
Illuminating	1 x 3000K LED, 1 x Photodiode
Interfaces	
Expansion IO	Pinheader for UART, I2C, SPI, GPIO (16-Pin)
USB	x 1
Alarm	Alarm x 1
Power Supply	DC 4-6V by Wafer 2Pins or Type-C@5V
Storage	Micro-TF
Operation	
Operation Temperature	-20°C - 60°C
Storage Temperature	-40°C - 85°C
Dimension and Installation	
Dimension	60 x 60 x 25mm (PCB only)
Certifications	CE/FCC

