NEOUSYS TECHNOLOGY

Nuvis-534RT Series

AMD Ryzen™ V1000 Ultra-compact Vision Controller with Vision-specific I/O and real-time control

Preliminary

CE FC

Key Features

· **AMD Ryzen™ Embedded V1807B quad-core 45W CPU**
· **Integrated vision-specific I/O**
  - 4-CH CC/ CV lighting controller
  - 4-CH camera trigger outputs
  - 1-CH quadrature encoder input
  - 8-CH isolated DI and 8-CH isolated DO
· **Patented MCU-based, real-time I/O control by DTIO V2* and NuMCU**
· **Built-in camera interfaces**
  - Four Gigabit PoE+ ports with screw-lock
  - Four USB 3.1 ports with screw-lock
· **M.2 2280 M key NVMe (Gen3 x2) socket for fast storage access**

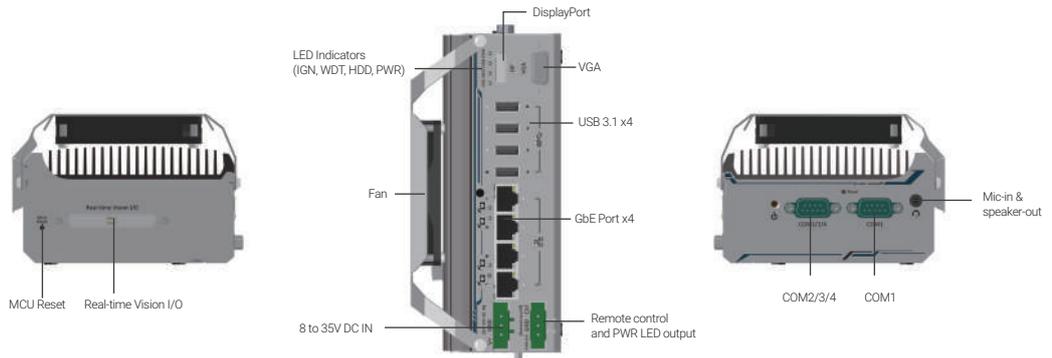CONTACT US   GET QUOTE   **R.O.C Patent No. I526834*

Introduction

Nuvis-534RT is a high-performance, ultra-compact vision controller with integrated camera interfaces, vision-specific I/Os and real-time control for machine vision applications. Powered by AMD Ryzen™ Embedded V1807B 4-core/ 8-thread processor, it provides superb performances equivalent to mainstream desktop CPUs while retaining a compact 8.2 cm x 11.8 cm x 17.6 cm (3.4" x 4.6" x 6.9") dimensions.

Nuvis-534RT offers unique vision-oriented I/O configurations, including constant-current lighting controller to directly drive LED lights, isolated 12V trigger output to activate cameras, encoder input to acquire position information and DIO to connect to sensors/ actuators. All of the above vision-oriented I/Os can be managed by Neousys' patented DTIO V2 or NuMCU technology to guarantee real-time trigger/ response in micro-second scale. The combination of high performance and small footprint gives Nuvis-534RT a distinctive 1-2 punch advantage where the vision system can be easily deployed with USB 3.1 and GigE cameras and without space restrictions.
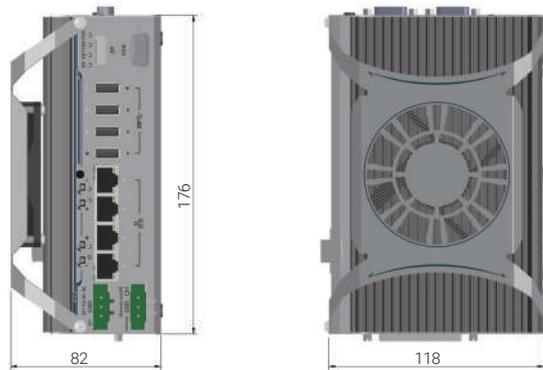
Specifications

System Core	
Processor	AMD Ryzen™ V1807B CPU (4C/ 8T, 2M Cache, 3.35/ 3.8 GHz,35W - 54W TDP)
Graphics	Vega GPU with 11 compute units
Memory	Up to 32 GB DDR4-3200 SDRAM by one SODIMM socket
TPM	Supports TPM 2.0

Vision-Specific I/O Interface	
LED Lighting Controller	4-CH LED lighting controller output , supporting - Constant current mode (up to 2 A per channel, 100 kHz dimming control) - Constant voltage mode (24 VDC, 100 kHz dimming control)
Camera Trigger	4-CH camera trigger output (isolated 12 VDC output)
Encoder Input	1-CH quadrature encoder input (A/ B/ Z)
Isolated Digital Output	4-CH isolated high-speed DO (<2 us transient time, for strobe/PWM) 4-CH isolated high-current DO (up to 500 mA rated current for actuator)
Isolated Digital Input	8-CH isolated high-speed digital input (<2 us transient time)
Real-time I/O Control	Patented MCU-based real-time I/O control with DTIO V2 or NuMCU firmware

General I/O Interface	
Ethernet port	4x Gigabit Ethernet ports by Intel® I350-AM4 controller
PoE+	IEEE 802.3at PoE+ PSE, 80 W total power budget
USB 3.1	4x USB 3.1 Gen1 (5 Gbps) ports
Video Port	1x VGA , supporting 1920 x 1200 resolution 1x DP connector, supporting 4k2k resolution
Serial Port	1x Software-programmable RS-232/422/485 ports (COM1) 3x 3-wire RS-232 ports (COM2/3/4) or 1x RS-422/485 port (COM2)
Audio	1x 3.5 mm jack for mic-in and speaker-out

Storage Interface	
M.2	1x M.2 2280 M key NVMe socket (PCIe Gen3 x2) for NVMe SSD

Power Supply	
DC Input	1x 3-pin pluggable terminal block for 8 to 35V DC input
Remote Ctrl. & Status Output	1x3-pin pluggable terminal block for remote control and PWR LED output

Mechanical	
Dimension	82 mm (W) x 118 mm (D) x 176 mm (H)
Weight	1.5 kg
Mounting	DIN-rail mount (standard) or Wall-mount (optional)
Fan	External-accessible 80mm x 80mm fan for system heat dissipation

Environmental	
Operating Temperature	-25°C ~ 70°C */**
Storage Temperature	-40°C ~85°C
Humidity	10%~90% , non-condensing
Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
EMC	CE/FCC Class A, according to EN 55032 & EN 55024

* For sub-zero and over 60°C operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.
** Operating temperature is up to 70°C only if external-accessible fan is installed.

Appearance

Dimensions

Unit : mm

176

82

118

Ordering Information

Model No.	Product Description
Nuvis-534RT-DTIO	AMD Ryzen™ V1807B ultra-compact vision controller with vision-specific I/O and real-time control by DTIO
Nuvis-534RT-NuMCU	AMD Ryzen™ V1807B ultra-compact vision controller with vision-specific I/O and real-time control by NuMCU