



Smart Compression for Smarter Surveillance

Transforming Video
and Image Data
Efficiency for Smart
Surveillance and
Smart City
Infrastructure

Massive Bandwidth & Storage Reduction

Achieves up to 90–98% savings in
video data size without
compromising quality.

Seamless Compatibility with Existing Systems

Works with standard camera
protocols (H.264, H.265) and
integrates effortlessly into
current surveillance
infrastructure.

End-to-End Data Security

Built-in real-time encryption
ensures secure transmission and
storage of compressed video and
images.

Software Specifications

Compressor Module

1. Real-time compression of live video feeds with up to 98% data reduction.
2. Compatible with standard video streams (H.264/H.265) without hardware changes.
3. Supports low-bandwidth networks like 3G/4G, Femtocell, TETRA, and Satellite.
4. Maintains high visual quality, suitable for legal or forensic review.

Stream Module

1. Designed for compressing archived or batch video data.
2. Useful for offloading heavy historical footage to the cloud or secure backups.
3. Compression does not affect frame referencing, allowing smooth playback.
4. Includes secure encryption, preventing unauthorized access or tampering.
5. Edge Case: Handles variable bitrate videos, avoiding quality degradation in critical surveillance zones.

Integration & API Layer

1. Offers APIs for seamless integration into third-party VMS (Video Management Systems).
2. Custom SDKs available for edge devices and embedded platforms (e.g., Raspberry Pi).
3. Flexible support for both centralized and distributed architectures.
4. Real-time status logs and health checks for diagnostics and monitoring.

Technical Specifications

CPU

- Intel® Processor N100 (Alder Lake-N)
- Total Cores: 4
- Total Threads: 4
- Max Turbo Frequency: 3.40 GHz
- Cache: 6 MB Intel® Smart Cache
- Intel® Gaussian & Neural Accelerator 3.0
- Intel® Image Processing Unit 6.0
- Support for Intel® Virtualization Technology

GPU

- Intel® UHD Graphics
- Graphics Max Dynamic Frequency: 750 MHz
- DirectX Support: 12.1
- OpenGL Support: 4.6
- OpenCL Support: 3.0

RAM

- LPDDR5 RAM
- Maximum Frequency of 4800 MT/s - 8GB

Storage

- Optional Onboard eMMC
- SPI Flash for BIOS
- 1x M.2 M Key Connector with PCIe 3.0 4-lane for M.2 2230 NVMe SSD
- Can connect up to 256GB Storage

Display

- Dual Display Outputs via Two Micro HDMI up to 4Kp60

Ethernet

- 1x 2.5G Ethernet Port with PoE Support (Additional PoE HAT Required)

Wireless Connectivity

- IEEE 802.11 a/b/g/n/ac/ax (WiFi 6) and Bluetooth 5.2 with BLE

Audio

- 1x Headphone Jack with Microphone Input

USB

- 1x USB 2.0 HOST Type A Port
- 3x USB 3.0 HOST Type A Ports

Connectivity

- 1x RTC Battery Socket
- 1x 2-Pin Fan Header
- 1x 2-Pin Power Input Header
- 40-Pin Color GPIO Header:
 - Up to 2x SPI
 - Up to 2x UART
 - Up to 2x I2C
 - Up to 16x PWM
 - Up to 8x PIO (Programmable IO)
 - 2 x 5V DC power out
 - 2 x 3.3V power out

Buttons

- 1x Power Button is used for powering on and off
- 1x BOOTSEL Button is used to put the RP2040 into USB mass storage mode for firmware upload.

Software

- Supports Windows 11
- Ubuntu Linux 24.04

Power Requirements

- USB Type-C PD Version 2.0 with 12V/2.5A.
- Recommended: At least 18W without USB load or 25W with full USB ports load

Operating Conditions

- Recommended temperature range: 0 ~ 50°C

Dimensions

- 85 mm x 56 mm

* The images are for illustration purposes only and may not accurately represent the actual product.