



VISION



AI



CLOUD



SECURITY

Embedded Vision Camera Platform

IMAGE COMING SOON

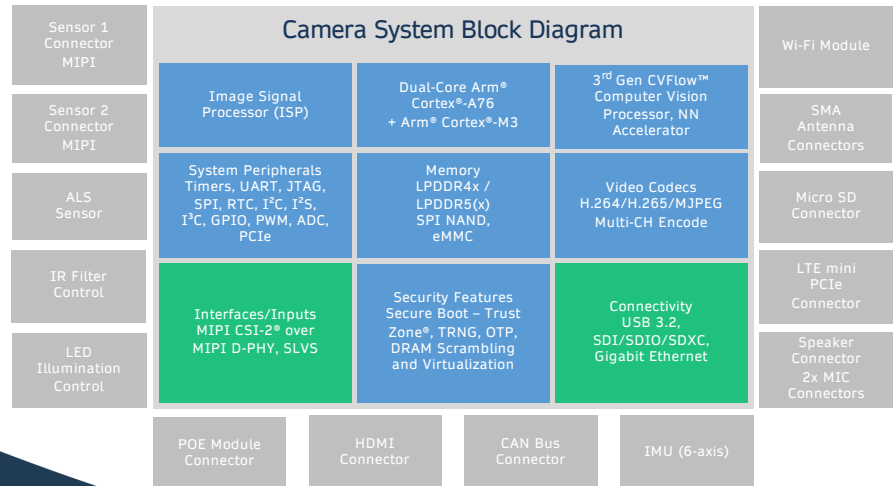
iVS-CV72

Unlock the full potential of vision data for your application.

Embedded, modular, cloud-connected, and secure – iENSO develops and delivers vision systems for any application.

Key features:

- Ambarella™ CV72 SoC based
- Dual-core Arm®Cortex®-A76 up to 1.6 GHz
- Arm®Cortex®-M3 up to 576 MHz
- 4Kp60+ maximum encoding performance
- 3rd Generation Computer Vision Engine featuring CVflow®
- CNN / DNN inference acceleration for detection, classification, and more
- Accelerators for conventional computer vision (CV) operations
- Accelerators for nonlinear functions and transformer neural networks
- 3 Billion parameter LLM / VLM support
- PCIe Interface
- 360° fisheye lens distortion correction
- H.265/HVEC, H.264, MJPEG encoding
- Support for 32-bit LPDDR4x / LPDDR5(x)
- Secure boot with TrustZone® and secure memory
- Broad image sensor support
- Based on 5nm low-power CMOS process



Give your vision the edge

- Application-based turnkey embedded vision solutions
- Edge AI for powerful on-device decision-making
- Flexible Cloud platform and end-to-end security



HARDWARE SPECIFICATIONS - iVS-CV72

Featuring Ambarella CV72 Vision AI SoC

Processor	<ul style="list-style-type: none"> • Dual-core Arm® Cortex®-A76 up to 1.6 GHz • Arm® Cortex®-M3 up to 576 MHz • 5 nm low-power CMOS
Sensor I/O	<ul style="list-style-type: none"> • 2 physical sensor inputs • MIPI CSI-2®, SLVS • Supports up to 12MP CMOS image sensor
Advanced Image Signal Processing	<ul style="list-style-type: none"> • Lens shading correction • Multi-exposure HDR • 3D motion compensated temporal filtering (MCTF) • Digital PTZ • OSD engine, overlays, privacy mask • Crop, mirror, flip, rotation • Geometric lens distortion correction • Gamma compensation and color enhancement
Video Processing	<ul style="list-style-type: none"> • H.265 / HEVC, H.264 / AVC, MJPEG • 4KP60+ encoding performance • Dynamic region of interest (ROI) encoding per frame • Multiple CBR and VBR rate control modules
AI Power Intelligence Video Analytics	<ul style="list-style-type: none"> • CVFlow® 3.0 vision processor for CNN/DNN edge analytics • Support for latest transformer neural networks • Pre-integrated AI Detectors or provide your own • Can utilize models trained with industry-standard tools such as Caffe, ONNX, TensorFlow or PyTorch
Networking & Connectivity	<ul style="list-style-type: none"> • Wi-Fi 802.11ax 2.4/5GHz, 2x2 MU-MIMO • Ethernet PoE module (optional) • LTE (optional)
Audio	<ul style="list-style-type: none"> • Audio Codec • Line In and Line Out
Memory	<ul style="list-style-type: none"> • 32-bit Bus width • Up to 32Gb LPDDR4x/LPDDR5(x) DRAM • 4Gb SPI NAND Flash option • 128Gb eMMC
Other Features	<ul style="list-style-type: none"> • HDMI • IMU (6-axis) • USB 3.2 (Device / Host configurable) • Micro SD • LED flash control • IR filter control • Support for zoom/varifocal lenses • CAN bus support optional
Security	<ul style="list-style-type: none"> • AES / SHA1 / SHA2-256 crypto acceleration • Secure boot with TrustZone® and secure memory, TRNG, OTP, DRAM scrambling and virtualization
Power In	<ul style="list-style-type: none"> • USB-C – 5VDC 3A • PoE+ (802.3at type) with PoE module option
Physical	<ul style="list-style-type: none"> • Board size - 80 x 80 (mm) / 3.1 x 3.1 (inch) • Custom board size available
Environmental	<ul style="list-style-type: none"> • Operating temperature: -20°C to 50°C / -4°F to 122°F • Operating humidity: 5% to 90%
OS	<ul style="list-style-type: none"> • Linux support (Yocto)
Camera Modules	<ul style="list-style-type: none"> • Image sensor modules up to 12MP • Thermal sensor module options • Multiple fixed lens options • Varifocal / zoom lens options • IR or white LED illumination options • IR Filter for night vision options



SURVEILLANCE



CONSTRUCTION



INDUSTRIAL / ROBOTICS



UAV's



SPORTS ANALYTICS



Additional information:

For compatible image sensor modules (ISM's) contact us at vision@ienso.com



www.ienso.com



Established in 2003, iENSO's cutting-edge Embedded Vision Platform as a Service (EVPaaS) platform empowers you to customize an embedded vision solution – integrating hardware, software, and connectivity – to transform your product concept into reality.

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