iVIS-200 Series

Intel® Atom™ E3845 Processor Board for x86-based Smart Camera Framework

iVIS-227B-ITS

iVIS-210B-MVS

Features

- Intel® Atom™ E3845 quad-core 1.91 GHz processing power
- Built-in GigE/USB3/USB2 camera interfaces
- Patented DTIO technology for accurate trigger/strobe control
- Built-in 500 mA constant current and 24 V constant voltage LED controller
- 802.3at PoE+ PD and auxiliary DC dual power input
- M12 connectors for water-proof design

Introduction

iVIS-200 is a Atom™ E3845 processing unit as part of an innovative smart camera framework, where you can build up your own x86-based smart camera by integrating an off-the-shelf camera.

iVIS-200 integrates leading-edge technologies its ultra-compact footprint. In addition to internal GigE/USB3/USB2 camera interfaces, it incorporates Neousys' DTIO technology for precise trigger/strobe control and built-in constant current/constant voltage LED controller for directly driving LED light. Moreover, iVIS-200 carries 802.3at PoE+ PD (Powered Device) capability, so you can simply access and power your smart camera with just one Ethernet cable.
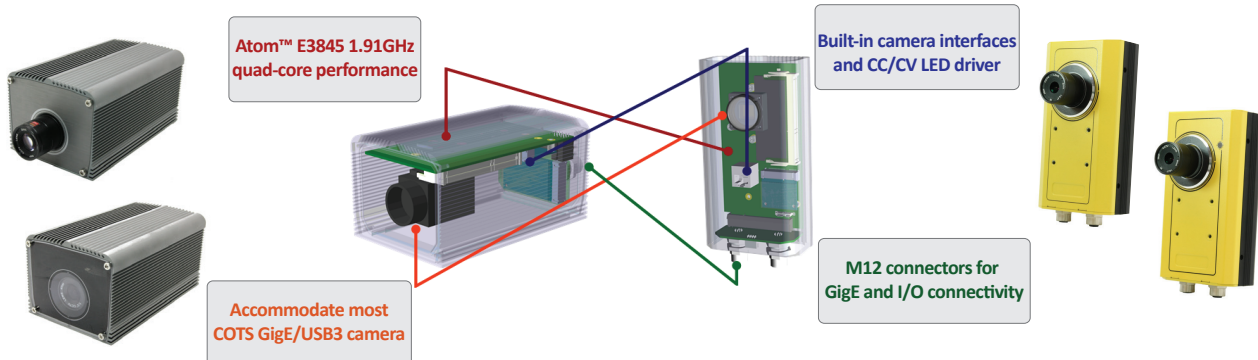
Targeting on different vertical markets, iVIS-200 series is offered in several barebone configurations. iVIS-210B-MVS and iVIS-211B-MVS are designed for machine vision applications. Both of them come with a slim enclosure to accommodate Basler Dart and Point Grey Chameleon3 board camera respectively. iVIS-220B-ITS and iVIS-227B-ITS, aiming at intelligent traffic system, are equipped with an IP50 and an IP67 enclosure to accommodate a 29mm x 29mm USB3/GigE camera. They also feature a mini-PCIe slot with SIM support for installing a 3G/4G/WIFI module.

iVIS-200 and the innovative framework expand the possibility of smart camera. With iVIS-200, you can quickly develop a smart camera based on Windows/Linux open platform and maximize your effort on vision software.

Product Highlights

x86-based Smart Camera Framework for Machine Vision and Intelligent Transportation System

iVIS-200 presents a new concept of creating a smart camera. By integrating off-the-shelf GigE/USB3 camera into a x86-based processing unit, you can simply develop your smart camera using Windows-based or Linux-based commercial or open source vision software, which significantly expands the possibility and flexibility for a smart camera system. iVIS-200 is offered in several configurations for machine vision and intelligent transportation system applications.

Atom™ E3845 1.91GHz quad-core performance

Built-in camera interfaces and CC/CV LED driver

Accommodate most COTS GigE/USB3 camera

M12 connectors for GigE and I/O connectivity

Built-in Constant Current and Constant Voltage LED Controller with Patented DTIO Technology

iVIS-200 incorporates LED illumination controller for directly driving the LED light. It supports both 500 mA max. adjustable constant current mode and 24 V constant voltage mode. PWM dimming control is also included to control the intensity of light. Combining Neousys' DTIO, a MCU-based trigger control mechanism, iVIS-200 can respond to a trigger signal with LED strobe and camera trigger at a deterministic 10us timebase. You can have a highly integrated smart camera system that always captures the image with right illumination when object is in position!

500 mA max. adjustable CC output or 24V CV output or to drive LED light

100 kHz, 250 steps PWM dimming control

## Compatible with Off-the-Shelf USB 3.0 and GigE Cameras

iVIS-200 is designed to work with off-the-shelf USB3/GigE camera to offer more choices in camera resolution and frame rate. For your selected camera, you can find a corresponding iVIS-200 model to accommodate it. iVIS-210B is well fit for Basler Dart board camera and iVIS-211B is for Point Grey Chameleon3. iVIS-220B and iVIS-227B, on the other hand, can accommodate most cameras with cross section of 29mm x 29mm, via either USB 3.0 or GigE interface.

iVIS-210 with
Basler Dart

iVIS-211 with
Point Grey Chameleon3
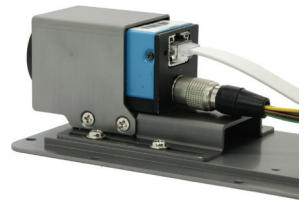
iVIS-220 with
The Imaging Source DMK 23G618

* The model names, trademarks and company names listed here belong to their respective owners and are for representation purposes only.
** Lens and cameras shown on the photos are for demonstration purposes only and are excluded in the iVIS-200 series barebone.

Applications
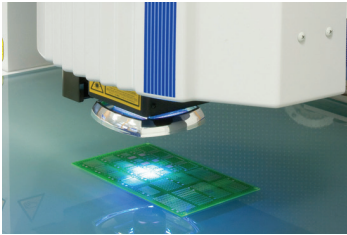
1. AOI

2. Robotic Vision

3. Mobile NVR

4. LPR/ANPR

Specifications

	iVIS-210B-MVS iVIS-211B-MVS	iVIS-220B-ITS iVIS-227B-ITS			iVIS-210B-MVS iVIS-211B-MVS	iVIS-220B-ITS iVIS-227B-ITS
System Core			**Storage/Expansion Interface**			
Processor	Intel® Atom™ Bay Trail-I E3845 Quad-core processor		mSATA	1x half-size mSATA port		
Graphics	Integrated Intel® HD Graphics		Mini-PCIe	-	1x full-size mini-PCIe socket with SIM support	
Memory	1x SODIMM socket for DDR3L-1333, up to 8GB		**OS Support**			
On-board Camera Interface			Windows	Windows 7 32/64-bit, WES7		
Ethernet	1x GigE interface by Intel® I210		Linux	Ubuntu 14.04, OpenSuSE 13.1, Fedora 20		
USB	1x USB 3.0 interface		**Power Supply**			
Trigger I/O	1-CH trigger-Out (to camera) and 1-CH strobe-in (from camera)		PoE+ PD	Support IEEE 802.3at PoE+ PD (powered via Ethernet cable)		
Panel I/O Interface (M12 connectors)			Auxiliary DC-IN	Support 12/24 VDC auxiliary power input when PoE+ PSE is not available		
Ethernet	1x Gigabit Ethernet ports by Intel® I210		**Mechanical**			
Trigger Input	2-CH isolated trigger input (<2us L-to-H and H-to-L propagation delay)		Dimension	83mm (W) x 43mm (D) x 153mm (H)	88mm (W) x 153mm (D) x 74mm (H)	
Strobe Output	1-CH isolated strobe output (24 VDC / 0.5 A rated)		Weight	0.55 kg	0.95 kg	
LED Illumination Controller	1-CH LED Illumination driving output, supporting 24 VDC constant voltage mode or 500 mA max. adjustable constant current mode with 100 KHz, 250 steps PWM dimming control		**Environmental**			
			Operating	-25°C ~ 60°C, 100% CPU loading */**		
COM	1x 3-wire RS-232		Storage Temperature	-40°C ~85°C		
Auxiliary I/O Interface (internal wafer connector)			Humidity	10%~90% , non-condensing		
VGA	1x VGA port		Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, w/o add-on card, according to IEC60068-2-64)		
USB	1x USB 2.0 port		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, w/o add-on card, according to IEC60068-2-27)		
			EMC	CE/FCC Class A, according to EN 55022 & EN 55024		

* When using built-in LED illumination controller to drive LED light, 24 VDC input is required to meet the rated current of the M12 connector
** The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neousys Technology

Order Information

iVIS-210B-MVS

Intel® Atom™ E3845 Smart Camera framework for MV application, accommodating Basler Dart camera (CS-mount)

iVIS-211B-MVS

Intel® Atom™ E3845 Smart Camera framework for MV application, accommodating Point Grey chameleon3 camera (CS-mount)

iVIS-220B-ITS

Intel® Atom™ E3845 Smart Camera framwork for ITS application, accommodating COTS 29mm x 29mm USB3/GigE camera, with IP50 enclosure

iVIS-227B-ITS

Intel® Atom™ E3845 Smart Camera framwork for ITS application, accommodating COTS 29mm x 29mm USB3/GigE camera, with IP67 enclosure

Cable kit for USB 3.0 camera

Cable kit for GigE camera

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