COGNEX

MVS-8600 Series

High-Speed Camera Link Frame Grabbers for Machine Vision

The MVS-8600 Series of Camera Link frame grabbers provides fast acquisition of very large images. MVS-8600 Series frame grabbers are available for PCI and PCI Express. All models support monochrome and color cameras and area and line scan formats.

The frame grabbers support cameras with Base and Medium configurations. They include a choice of video inputs for optimum configuration for each application. MVS-8600 frame grabbers can seamlessly be integrated with Cognex VisionPro™ and CVL™ software to solve a wide range of alignment, inspection and identification problems.

Power Over Camera Link

The MVS-8602e PCI Express board supports the Power over Camera Link (PoCL) standard. Power can be supplied to a PoCL camera directly from the frame grabber, eliminating the need for a separate power supply.

Fast Image Transfer in Parallel with Acquisition

Unlike direct connect camera interfaces, MVS-8600 Series frame grabbers provide high-speed image transfer directly to system memory without increasing the PC processor load with data copy operations. This maximizes acquisition speed while freeing the processor for image analysis. With pipelined processing and on-board image buffering, the MVS-8600 architecture allows a new image to be acquired while the previous image is still being transferred.

Integrated I/O

By incorporating on-board triggers, strobes and general-purpose I/O, the MVS-8600 Series lowers the cost and complexity of integrating additional I/O to the vision system. All MVS-8600 input lines generate interrupts based on programmable rising or falling edges and variable pulse widths, providing compatibility with a wide variety of sensors.

The two-channel MVS-8602e supports Base, Dual Base and Medium Camera Link configurations, and is designed to handle synchronous, asynchronous and multi-tap image acquisition.

The MVS-8600 Series includes on-board encoder inputs to synchronize line scan cameras to the conveyor. The encoder tracks forward and backward motion, eliminating the need for additional hardware between the encoder and the frame grabber.

This I/O design provides a complete closed-loop system that ensures complete reliability and control from trigger to image transfer.

Camera Support

Cognex's software architecture allows the MVS-8600 Series to work with the newest high-performance cameras while maintaining support for legacy cameras. Users can mix and match area and line scan cameras, or color and monochrome cameras, in the same application. With support for older cameras to the latest high-speed, large-format sensors, the MVS-8600 Series covers a broad range of applications.

Advantages

- Parallel acquisition and Direct Memory Access for high-speed and high-resolution applications
- Combine area scan, line scan, monochrome and color Camera Link cameras on a single frame grabber
- Tightly-integrated Cognex software tools provide the most reliable, accurate, and repeatable results

Software Development Environments

The MVS-8600 Series supports Cognex machine vision software to meet the speed, accuracy and reliability requirements of the most demanding machine vision applications.

VisionPro is a vision software package for the Microsoft® Visual Studio® .NET programming environment. It combines the power and flexibility of .NET programming with the ease of a graphical application development environment. This enables equipment makers, system integrators and automation engineers to quickly develop and deploy any machine vision application.

CVL is a C++ library that enables users to develop powerful, fully customized solutions. Users can freely modify the sequence of vision processing operations, define custom tools, link vision tools and perform a variety of specialized vision functions such as pixel-level processing and complex image buffering.

MVS-8602e is a PCI Express bus frame grabber that supports the Power over Camera Link (PoCL) standard. It features two independent image acquisition channels and supports pixel clock rates up to 85 MHz. Users can connect up to two cameras in Base configuration or one camera in Medium configuration. The MVS-8602e frame grabber handles asynchronous, synchronous, and multi-tap image acquisition.

MVS-8602 operates on a PCI or PCI-X bus and supports two independent image acquisition channels and pixel clock rates up to 66 MHz. Users can connect up to two area scan, line scan, or combination Camera Link cameras in Base configuration. The MVS-8602 frame grabber handles asynchronous, synchronous, and multi-tap image acquisition.

Hardware Specifications

	MVS-8602e	MVS-8602
Acquisition		
Video input	1 Medium or 2 Base cameras	2 Base cameras
	6 total taps	
	Color or monochrome	
Power over Camera Link (PoCL) support	Yes	No
Camera Link acquisition rate	Up to 85MHz per port	Up to 66MHz per port
Camera scan modes	Area scan or line scan	
	Up to 64k x 64k area scan	
	Up to 64k x infinity line scan	
Bus rate	1000MB/s peak, 800MB/s sustained	533MB/s peak, 360MB/s sustained
LUTs	Dual 256k x 12-bit	
DMA channels	2	
Memory		
On-board SDRAM for FIFO buffer	128MB	48MB
I/O		
Parallel I/O configurations	8 inputs, 8 outputs, all opto-isolated	
	Software loadable	
Trigger lines	2	
Strobe lines	2	
Encoder inputs	2 x 2-phase	
Opto-isolation available via connection module	Yes	
Architecture		
PC requirements	1GHz Pentium class CPU or greater	
	A PCI Express video card with at least 32MB RAM	
	One available expansion slot, PCI Express x4 or higher	One available PCI or PCI-X expansion slot
	Microsoft Windows 7 or Windows XP	
PCI interface	PCI Express x4	33/66MHz PCI
Mechanical		
Form factor	PCI short card: 107mm (4.2") x 168mm (6.6")	
Power		
Board power requirements (excluding camera requirements)	Total 7.8W 12V @ 650mA	Total 15W 5V @ 3.0A
Power protection	Resettable fuses	
Environmental		
Operating temperature	0° to 70°C (32° to 158°F)	
Operating humidity	Up to 95% non-condensing	
Certifications		
Approvals	FCC (Class A), CE (Class A), RoHS	

COGNEX **Companies around the world rely on Cognex vision and ID to optimize quality, drive down costs and control traceability.**

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