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Zebra **Concord PoE**

Multi-port Gigabit Ethernet adaptors with PoE for GigE Vision

Overview

GigE Vision interface cards for simplified cabling

Zebra® Concord PoE is a new generation of Gigabit Ethernet adaptors for interfacing one or more GigE Vision® cameras supporting power-over-Ethernet (PoE). Available with two or four Gigabit Ethernet ports, these network interface cards (NICs) simplify system configuration, not only by handling command and streaming protocols but also providing power over a single standard Cat 5e/6 cable per camera connection. An isolated PoE implementation protects cameras, board, and host computer from damage due to electrical faults and stray current that adversely affects camera detection.

ToE

Zebra Concord PoE also provides—as an option—a useful ToE capability for multiple cameras working together. The hardware-assisted ToE capability allows the sending of a software trigger or an action-command to one or more cameras based on an external input event. The ToE applies to camera(s) on the same or multiple Ethernet ports for a given trigger event. Moreover, this ToE feature helps reduce trigger latency and remove jitter brought on by a non-deterministic host environment.

Real-time I/Os

The ToE option includes digital I/Os that are managed by a dedicated hardware-assisted mechanism for real-time performance. The mechanism enables output events to occur at precise moments in time, based on elapsed time, or for specific input events. An input event can come directly from a discrete input—including from a rotary encoder—or be count-derived from a discrete input. Programmed output events are stored in a hardware list, which is traversed based on a clock or an input event. The carrying out of an output event results in a state transition, pulse, or pulse train on a specific discrete output. Multiple cascadable hardware timers are available to count or generate specific events.

Zebra Concord PoE at a glance

Simplify cabling between cameras and vision computer through PoE support

Facilitate multi-camera configurations with two or four Gigabit Ethernet ports

Trigger multiple cameras simultaneously and reliably using hardware-assisted trigger-over-Ethernet (ToE)

Synchronize to automation devices in real-time through digital I/Os with hardware-assisted management

Deploy pre-licensed for GigE Vision support in Aurora Imaging Software, formerly Matrox Imaging Library (MIL)

Avoid the need for a separate hardware key through a license fingerprint for additional Aurora Imaging software features

Certified for use with GigE Vision systems

Software Environment

Pairs with Aurora Imaging software

The Zebra Concord PoE board gives access to the GigE Vision support in Aurora Imaging Software, thus removing the need for an additional feature license. The card also acts as a license fingerprint and can store a supplemental license for Aurora Imaging software, avoiding the need for a separate hardware key.

Field-proven application development software

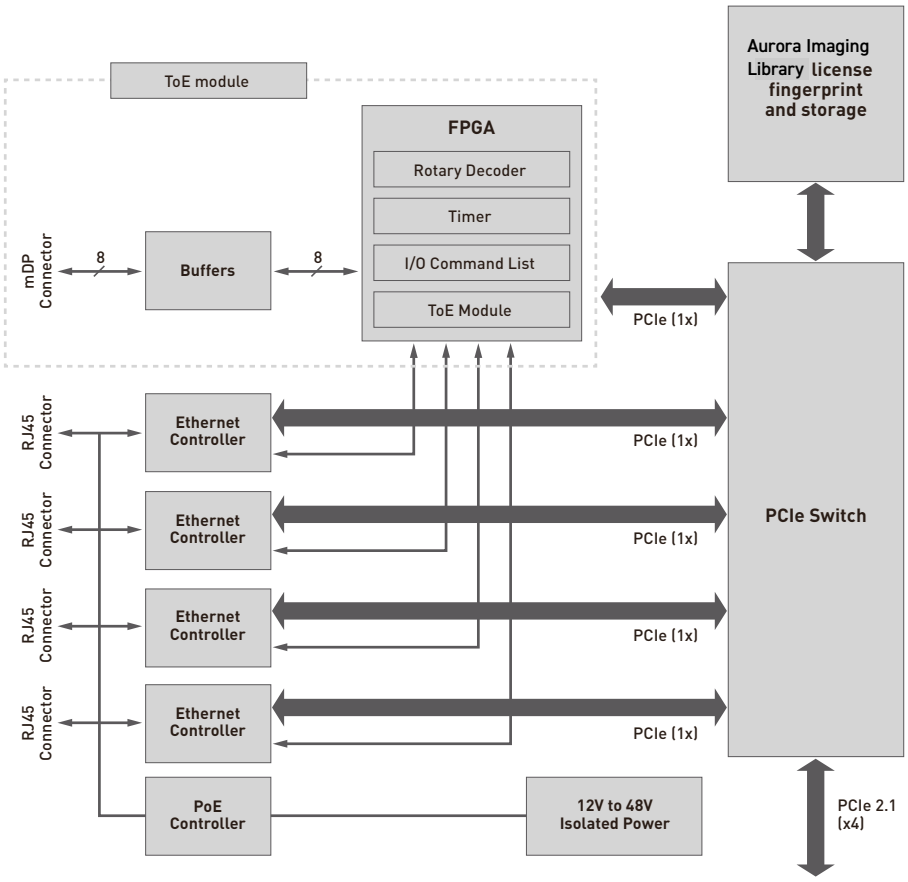
Zebra Concord PoE is supported by both Aurora Imaging Software and Aurora Design Assistant software[1,2,] formerly Matrox Design Assistant (DA). Each software offers developers a different environment with the same underlying vision tools.

Aurora Imaging Software is a comprehensive software development kit (SDK) with a 25-plus-year history of reliable performance. This toolkit features interactive software and programming functions for image capture, processing, analysis, annotation, display, and archiving operations, with the accuracy and robustness needed to tackle the most demanding applications. Refer to the Aurora Imaging Software datasheet for more information.

Aurora Design Assistant is an integrated development environment (IDE) for Windows® where vision applications are created by constructing an intuitive flowchart instead of writing traditional program code. Aurora Design Assistant's IDE also enables users to design a graphical web-based operator interface for the application. Refer to the Aurora Design Assistant datasheet for more information.

Connectivity

Zebra Concord PoE block diagram



Specifications

Zebra Concord PoE	
Hardware	
Host interface	
Interconnect	PCIe® 2.1 x4
Camera/video interface	
Standard	GigE Vision
Configuration	Two (2) or four (4) ports
Speeds	10 / 100 / 1,000 Mbps
Controllers	Intel® Ethernet Controller I210-IT
Connectors	RJ-45
Power output	PoE
	15.4 W maximum per port
	Electrically isolated
	Source power from PCIe + 12 V rail or optionally from PC power supply via 6-pin connector
General purpose I/Os	
Types	Six (6) isolated inputs
	Two (2) isolated outputs
Connector	One (1) mDP connector accessed through a mDP-to-HD15 adaptor
Physical	
Form factor	Half-length, full-height, PCIe add-in card
Product dimensions	167.65 x 111.15 x 18.7 mm (6.6 x 4.38 x 0.74 in)[2]
Power consumption	4.6 W typical (excluding PoE)
	37.5 W maximum (from PCIe +12 V rail)
	68.5 W maximum (from auxiliary 6-pin connector)
Environmental	
Operating temperature	0°C to 55°C (32°F to 131°F)
Operating relative humidity	Up to 95% (non-condensing)
Certifications	
	FCC Class A
	CE Class A (EN55011, EN61326-1 industrial environment, EN61010-1, EN61010-2-201)
	ICES-003 / NMB-003 Class A
	RCM Class A
	KC Class A
	CSA certified
Software	
Compatible Software	Aurora Design Assistant
Operating system support	Windows 7 (32[5]-/64-bit)
	Windows 10 (32[5]-/64-bit)
	Linux®[6]
Licensing provisions	Aurora Design Assistant license fingerprint and storage

Ordering Information

Part number	Description
Hardware	
CON P 2	Zebra Concord PoE dual-port PCIe 2.1 x4 Gigabit Ethernet NIC with PoE. Partially licensed for Aurora Design Assistant.
CON P 4	Zebra Concord PoE quad-port PCIe 2.1 x4 Gigabit Ethernet NIC with PoE. Partially licensed for Aurora Design Assistant.
CON P T 2	Zebra Concord PoE dual-port PCIe 2.1 x4 Gigabit Ethernet NIC with PoE and hardware-assisted ToE. Partially licensed for Aurora Design Assistant. Note: Includes a mDP-to-HD15 GPIO cable adaptor.
CON P T 4	Zebra Concord PoE quad-port PCIe 2.1 x4 Gigabit Ethernet NIC with PoE and hardware-assisted ToE. Partially licensed for Aurora Design Assistant and Aurora Imaging Library. Note: Includes a mDP-to-HD15 GPIO cable adaptor.
Software	
Included with CONP2, CONP4, CONPT2 and CONPT4	Licensed for the Aurora Design Assistant Interface (GigE Vision) run-time package. See Aurora Design Assistant and Aurora Imaging Library datasheets for more information. Aurora Imaging Library-Lite software available for download from www.matrox.com/imaging Support Aurora Imaging Library-Lite DOWNLOAD.

Endnotes:
1. The software may be protected by one or more patents; see www.matrox.com/patents for more information.
2. ToE support with Aurora Imaging Library only.
3. Dimensions (length x width x height) are taken from bottom edge of goldfinger to top edge of board. These measurements do not include mounting bracket.
4. Through an update.
5. Aurora Imaging Library only.
6. Ask for availability.

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