**Product Brief**

# GigE-Connect™ EM2-1000 IP Engine

**In-camera Gigabit Ethernet Connectivity OEM Board**

## General Description

GigaLinx's GigE-Connect™ EM2-1000 in-camera IP engine enables the integration of high-performance Gigabit Ethernet (GigE) into industrial cameras in a quick, simple and cost effective manner.

The EM2-1000 is the smallest footprint and lowest power commercially available GigE board, requiring less than 1.8W at full throughput and taking up a space of only 40.5mm X 55mm.

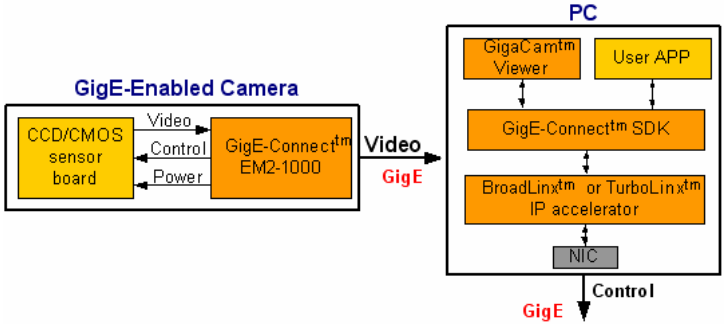
The EM2-1000 has a direct interface to a CCD/CMOS sensor board enabling a full GigE camera solution with only two boards. Typical CCD supply voltages are also generated on board.

As part of GigaLinx's end-to-end GigE Connectivity solution, the EM2-1000 engine is bundled with two innovative and field-proven applications:

- **GigaLinx's BroadLinx™ and TurboLinx™ Drivers:** significantly reducing the PC's CPU load required for handling of the high-bandwidth data traffic.
- **GigE-Connect™ Software Development Kit (SDK):** A GenICam compliant API for camera enumeration, image capture and camera control including easy to follow code examples.

## System Block Diagram

The following diagram illustrates GigaLinx's end-to-end GigE connectivity solution, comprising both hardware and software:




## Applications

- Industrial cameras:
  - Product inspection
  - Traffic monitoring
  - Post and parcel sorting
- Military cameras
- Medical cameras

## Key Features

The EM2-1000 provides numerous beneficial features that make it stand out from all other commercially available GigE solutions:

- Smallest footprint: 40.5mm X 55mm
- Lowest power consumption: 1.8W at full streaming
- Available as full-source-code reference design (GigE-Connect™ RDS)
- Over 950Mb/s NET video bandwidth
- Provides power supplies for CCD/CMOS sensors
- Full camera solution with only two boards
- Full compliance with both GigE Vision and GenICam standards
- Bundled with GigE-Connect™ SDK for rapid development
- Low cost
- Six optically isolated input/output signals

For more information on GigaLinx's GigE-Connect™ Connectivity Solution, please visit **www.GigaLinx.net**.

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# Specifications

## Video

- **Data Formats:** Monochrome, RGB, Bayer
- **Supported Pixel Depths:** 8, 10, 12, 16
- **Cameras:** Supports both area and line scan cameras
- **Image Size:** Up to 4K X 4K

## Network

- **Type:** 1000Base-T Ethernet II 802.3
- **Supported Protocols:** UDP, IP, ICMP, ARP, DHCP, GigE Vision
- **Error Correction:** Built-in error correction mechanism
- **On-board Frame Buffer:** 32MB (expandable to 128MB) for error correction and burst modes
- **Bandwidth:** More than 950Mb/s net video bandwidth

## Software

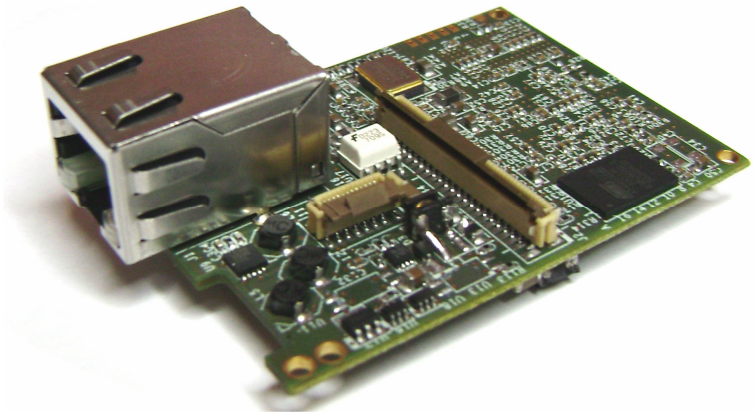
- **Comprehensive GenICam-Compliant SDK:** For image grabbing and camera control
- **GigE-Connect™ BroadLinx™ and TurboLinx™ Offloading Engines:** dramatically reducing CPU utilization

## Mechanical / Electrical

- **Board Footprint:** 40.5mm X 55mm
- **Power Supply:** 8V to 27V
- **Power Consumption at Full Streaming:** 1.8W (excluding power consumed by sensor board)
- **Operating Temperature:** 0° to 70°

## Power Supply for CCD/CMOS Sensor Board

- +18V, 35mA Max
- -12V, 80mA Max
- +5V, 200mA Max
- +3.3V, 500mA Max



**PRELIMINARY**

Specifications subject to change without prior notice



GENICAM GIGE VISION

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