

# CANCam-GigE Camera Series

As Gigabit Ethernet allows simple and cheap data transfer over long distances, this technology is interesting for machine vision too. GigE Vision® is a protocol especially for machine vision devices, which specifies how to communicate between application and GigE device, e.g. a camera. Sensor to Image developed and offers a scalable GigE solution for various vision applications.

CANCam-GigE is available in three different variants: as camera, data grabbing and transmitting device, as a Host (display device) or as a universal communication module.

**DEVICE:** Camera or Converter

As camera CANCam-GigE is available with different CCD or CMOS sensor for area or line scan applications. Different video-interface modules are also available to support other video sources as Camera Link or NTSC/PAL.

The DEVICE is fully GigE Vision® compliant and therefore could be used with any GigE Vision® or GenICam™ compliant imaging software, e.g. CommonVisionBlox supplied by Stemmer Imaging.

**HOST:** Display

CANCam-GigE is able to act as a controller to get image data sent over GigE Vision displayed on a TFT or VGA screen. In this mode CANCam-GigE works as a GigE Vision® receiver and sends the captured data to a DVI/VGA based display controller board. This HOST can be used as a small visualization device e.g. to adjust GigE cameras without the need of PCs.



CANCam-GigE OEM version

**Non Streaming DEVICE:**

communication module  
For developers it is possible to integrate the CANCam-GigE communication module with own hardware. For this the design flow is detailed documented, so it is possible to realize communication between customized data acquisition or output boards and the GigE communication board. In addition it is possible to modify and update firmware, so own features can be implemented easily. Of course it is possible to realize customized solutions, e.g. to bring the communication board into another form factor.

To allow quick access to this technology, a reference design for each configuration is available, which includes detailed documentation and

the FPGA framework to enable the developer to create his own solution.

On software side, the CANCam-GigE communication board is supplied with Sensor to Image Sphinx library or is able to communicate with any other certified GigE Vision® compliant software to allow easy software development.



CANCam-GigE

### GigE Vision® and Networking Features

Gigabit Ethernet based
Fully compliant GigE Vision® firmware load
Compatible with all 3rd party GenICam™ compliant vision software libraries (MIL, LabView, Halcon, Sapera, CVB, VisionPro, StreamPix, TroublePix,...)
Low-cost, easy-to-use equipment
Compatible with 10/100/1000 Mb/s IP/Ethernet networks
Supports IEEE 802.3 (Ethernet), IP, IGMP v.2, UDP and ICMP (ping)
Long reach: 100 m point-to-point, further with Ethernet switches or fiber converters
Multicast capability enables advanced distributed processing and control architectures

### Sphinx SDK

PC filter driver and acquisition library for Windows and LINUX OS (sources on request)
Sample applications, including GigE Vision®/GenICam™ compliant viewer (sources on request)
Driver installation tool
Documentation

### Characteristics enclosed Version

Sensor	CMOS/CCD imager from sensor list below
Temperature Range	0°C to +70°C, optional -40°C to +85°C
Power Supply	8–15 V, 3 Watt
Dimensions Housing in mm	110×68×112
Lense Thread	C-Mount

### Characteristics OEM Version

FPGA / CPU	Xilinx Spartan S3A-1800 / µBlaze
Memory CPU / Framebuffer / Flash / EEPROM	32 MByte / 32 MByte / 8 MByte / 8 kByte
Module Interface (without AddOn)	55 LVTTTL lines, e.g. for data/adress bus, chip select
RS232 / CAN Interface / TTL-IO	1 / Yes / 2 in + 2 out
Temperature Range	0°C to +70°C, optional -40°C to +85°C
Power Supply	8–15 V, optional up to 30V, 2.5 Watt
Dimensions PCB in mm	90×20×86

### Available Sensor boards

Sensor	GigE-0460	GigE-0836M/C	GigE-1323M/C	GigE-1330M	GigE-3015C	GigE-2k15
Sensor Type	CMOS matrix	CCD matrix	CCD matrix	CMOS matrix	CMOS matrix	CMOS linear
Monochrome/Color	m/c	m/c	m/c	m	c	m
Shutter	global	global	global	rolling	rolling	global
Pixel	752×480	1024×768	1296×996	1280×1024	2048×1536	2048
Pixel Size	6 µm×6 µm	4.65 µm×4.64 µm	3.75 µm×3.75 µm	5.2 µm×5.2 µm	3.2 µm×3.2 µm	7 µm×7 µm
Pixel Clock	27 MHz	20 MHz	36 MHz	48 MHz	48 MHz	30 MHz
Frames/s	60	36	23	30	15	15000

Other sensors on request

### AddOn Modules

Sensor Interface	– or –	Interface for up to 2 Sensor to Image sensor boards
FPGA Sensor Interface FPGA:		Interface for 1 Sensor to Image sensor board
Spartan3 -400 or 1000		
Framebuffer: 8-32 MB SDRAM		
Image Processing Memory: 8-32 MB SDRAM		

### Connectors

Power / IO / RS232	DSUB15
Network	RJ45
Sensor	25pin ZF connector

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