

Datasheet

Gigasetix BL Series

SMARTEK Vision – Business Class GigE Vision Cameras at Economy Prices

SMARTEK Vision's latest board level version of the Gigasetix camera series provides you with the freedom to create successful integration into OEM devices and applications where space is limited. This flexibility is achieved by the use of a remote sensor head with adaptable cable lengths of up to 15cm, a single motherboard and Power over Ethernet (PoE). The remote sensor head and motherboard which includes the processing and data interface electronics is the same platform as our well-established Gigasetix Industrial Camera Series.

A flexible customization service for the mechanics, functionality, and integrated I/O-extension port provides our customers with a quick and cost effective solution to meet individual requirements.

Key Benefits & Features:

- Remote camera head with standard C-Mount lens adapter (further types e.g. M12 on request)
- Single mainboard with 65x43mm footprint
- Power over Ethernet (PoE)
- Extension port for further connectivity (OEM)
- Wide selection of high-end CCD/CMOS sensors from Aptina, Sony and Truesense Imaging
- Trigger latency of just ~2µs, jitter <0.5µs
- Partial scan, Area of Interest (AOI), binning
- Excellent thermal linkage, low power consumption
- Comprehensive C/C++ SDK, Windows and Linux

The Gigasetix camera series offers best-in-class image quality with minimal noise and a comprehensive feature set. The range of image sensor options available include: 4 Aptina CMOS sensors, 10 Sony CCD sensors and 3 Truesense Imaging CCD sensors, ensuring that we can offer the right camera model for almost every Machine Vision application. Ultra low trigger latency of 2µs on 2 input and 2 output ports allows for optimum synchronization of camera arrays with LED strobe illumination. Throughout the design of these cameras, utilization of industrial standards such as: C-mount, Hirose-connector and RJ45 connectors for CAT5e or CAT6 cables allows for significant cost reduction for your machine vision system, without any compromise in quality.

- Fully GigE Vision and Gen<i>Cam compliant hardware and software
- Ethernet cables allow for operating distances up to 100m
- Plug & Play, attach the camera to your Ethernet network and start working
- 2 input and 2 output channels, opto-isolated



Model Overview:

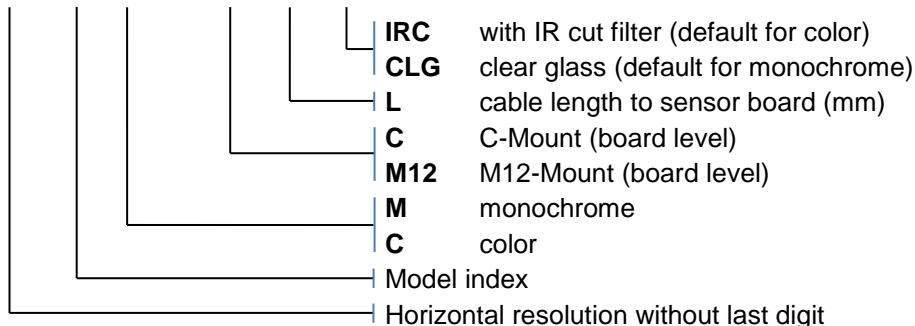
Model	Sensor	Sensor Technology	Resolution	Frame Rate [fps]	Sensor Size [inch]	Pixel Size [µm]	Exposure Time	Power Input (PoE) [W]	Pixel Depth [bit]
GC1281M-BL	Aptina MT9M001	CMOS, Rolling shutter	1280x1024 1.3 MP	30	1/2"	5.2	32µs - 0.5s	2.3 (3.0)	8
GC2041C-BL	Aptina MT9T031	CMOS, Rolling shutter	2048x1536 3.1 MP	12	1/2"	3.2	53µs - 10s	2.2 (2.8)	8
GC2591M-BL GC2591C-BL	Aptina MT9P031	CMOS, Rolling shutter	2592x1944 5.0 MP	14	1/2.5"	2.2	36µs - 10s	2.2 (3.0)	8
GC3851M-BL GC3851C-BL	Aptina MT9J003	CMOS, Rolling shutter	3856x2764 10.7 MP	7	1/2.3"	1.67	36µs - 10s	2.5 (3.2)	8
GC651M-BL GC651C-BL	Sony ICX618	CCD, Progressive scan	658x494 0.33 MP	120	1/4"	5.6	10µs - 10s	2.3 (3.0)	8, 14
GC652M-BL GC652C-BL	Sony ICX424	CCD, Progressive scan	658x494 0.33 MP	97	1/3"	7.4	10µs - 10s	2.5 (3.2)	8, 14
GC653M-BL GC653C-BL	Sony ICX414	CCD, Progressive scan	658x494 0.33 MP	97	1/2"	9.9	10µs - 10s	2.5 (3.2)	8, 14
GC781M-BL GC781C-BL	Sony ICX415	CCD, Progressive scan	782x582 0.45 MP	68	1/2"	8.3	10µs - 10s	2.5 (3.2)	8, 14
GC1031M-BL GC1031C-BL	Sony ICX204	CCD, Progressive scan	1034x778 0.81 MP	30	1/3"	4.65	10µs - 10s	2.2 (3.0)	8, 14
GC1291M-BL GC1291C-BL	Sony ICX445	CCD, Progressive scan	1296x966 1.3 MP	30	1/3"	3.75	10µs - 10s	2.5 (3.2)	8, 14
GC1391M-BL GC1391C-BL	Sony ICX267	CCD, Progressive scan	1392x1040 1.4 MP	20	1/2"	4.65	10µs - 10s	2.5 (3.2)	8, 14
GC1392M-BL GC1392C-BL	Sony ICX285	CCD, Progressive scan	1392x1040 1.4 MP	32	2/3"	6.45	10µs - 10s	2.8 (3.5)	8, 14
GC1621M-BL GC1621C-BL	Sony ICX274	CCD, Progressive scan	1628x1236 2.0 MP	25	1/1.8"	4.4	10µs - 10s	2.7 (3.4)	8, 14
GC2441M-BL GC2441C-BL	Sony ICX625	2 Tap CCD, Progressive scan	2448x2058 5.0MP	15	2/3"	3.45	10µs - 10s	3.6 (4.5)	8, 14*
GC1021M-BL GC1021C-BL	Truesense Imaging KAI-01050	2 Tap CCD, Progressive scan	1024x1024 1.0 MP	61	1/2"	5.5	10µs - 10s	3.4 (4.1)	8, 14*
GC1601M-BL GC1601C-BL	Truesense Imaging KAI-02050	2 Tap CCD, Progressive scan	1600x1200 1.9 MP	35	2/3"	5.5	10µs - 10s	3.5 (4.2)	8, 14*
GC1921M-BL GC1921C-BL	Truesense Imaging KAI-02150	2 Tap CCD, Progressive scan	1920x1080 2.1 MP	33	2/3"	5.5	10µs - 10s	3.6 (4.3)	8, 14*

*adjustable via firmware

All cameras are also available in compact or 90° angled enclosures. We offer customizations for all our camera models also for low quantities.

Ordering Information for Giganetix Board Level Series:

GC<XXX><N><C>-BL-<M>-<L>-<F>



Accessories (sold separately):

Our team assists you in finding the optimal accessories (lenses etc.) for your camera.

- Cabling: Standard I/O cables with flying leads and end ferrules
Ethernet CAT5e/6 with straight RJ45 plugs and screw lock
All cables are also available with angled plugs, and in chain / hi-flex versions
- Power supply: 12V wall mount power supply
- Strobe controller: SMARTEK Vision IP Strobe Controller with 1, 2 and 4 Channels (up to 20A at 200V)
- Mounting plates: Tripod mount adapter for standard 1/4" tripod mounts

Further Specifications:

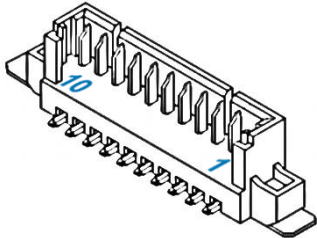
- Video interface: Gigabit Ethernet 1000BASE-T
- Video format: Mono 8/16, Bayer 8/16
- Synchronization: Via external trigger, single shot or free run
- Exposure control: Freely programmable via GigE Vision interface
- Optical filters: IR-cut default for color models
- Digital input: 2 input channels
- Digital output: 2 output channels
- IO extension: Extension port for further connectivity (OEM)
- Sensor cable: 40mm standard length, up to 150mm on request
- Power supply: 10-24V DC or Power over Ethernet (PoE)
- Mount: C-Mount, M12 on request
- Operating temp.: from -5°C/+23°F up to +45°C/+113°F

Software Environment:

- Firmware update: via Ethernet
- Client software: SMARTEK Vision GigEVisionClient
Camera stream display and image capturing, intuitive graphical user interface for the adjustment of all available settings, GigE Vision and Gen<i>Cam compliant
- Driver: GigE Vision compliant Giganetix IP filter driver for all Windows™ and Linux platforms
- SDK: Giganetix GEV SDK with documented API, freely applicable for most GigE Vision compliant cameras
- Interoperability: Validated with Halcon™, VisionPro™, Matrox Imaging Library™, LabView™ and many others

Power and I/O Interface:

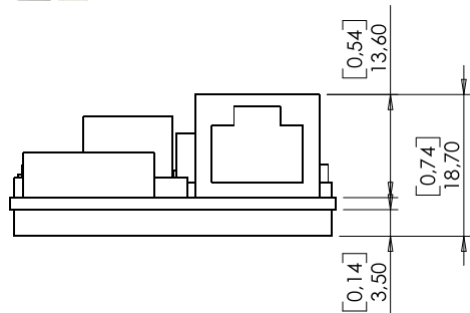
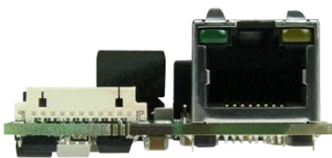
Type: Molex Picoblade (53398-1071) 10 Pin



- | | | |
|---------------------|----------------|----------------|
| 1 – 10-24V DC input | 5 – Output 2 + | 9 – Input 2 + |
| 2 – Power GND | 6 – Output 2 - | 10 – Input 2 - |
| 3 – Output 2 + | 7 – Input 1 + | |
| 4 – Output 2 - | 8 – Input 1 - | |

Dimensions in mm / [inch]:

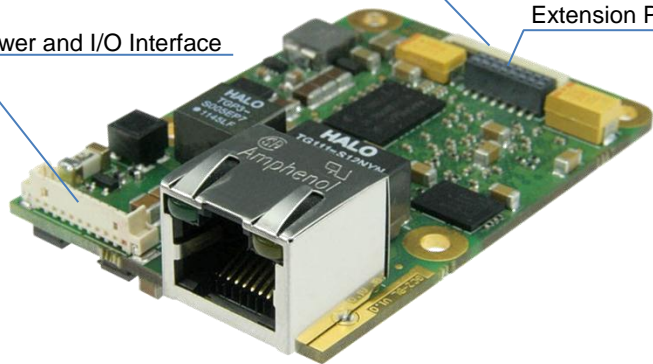
Mainboard: 65x43x19mm



Sensor Head Interface

Power and I/O Interface

Extension Port (OEM)



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