

GigE Vision Camera GP-182000/C

(1/1.8", 2 Mega GigE camera)



World's Smallest
Gigabit Ethernet Camera from
GEViCAM

GigE
VISION
also available

Features

- 1Gigabit/s high speed point-to-point transmission
- No frame grabber required for image capture
- 100m with Gigabit Ethernet cable CAT5e or CAT6
- GigE Vision standard compliant version also available
- Field upgradeable firmware via Ethernet
- Excellent S/N: >58dB for 12-bit, 10-bit or 8-bit output, 12 to 8-bit Gamma conversion and custom LUT
- No-delay asynchronous reset with time stamp and async shutter
- GPIO for local I/O, RS-485 communication for auxiliary devices, Audio I/O, Auto-iris lens drive
- Color (RGB Bayer) versions available
- Miniature, robust package (34 x 34 x 68 mm)
- Industrial Ethernet and GPIO connectors
- Various drivers available for existing machine vision software
- Extensive software developer's kit (SDK)
- Most importantly, low-cost yet high-performance

General Description

The GEViCAM GP-Series is comprised of Gigabit Ethernet cameras for industrial applications. They are designed on a common platform and comply with the GigE Vision standard for plug-and-play performance as well as a proprietary high performance SDK. GP-182000 uses 1/1.8" VGA, CCD (ICX274) with a 12-bit A/D converter. The normal data output is selectable for 12-bit, 10-bit (MSB), or 8-bit (MSB) at 40 MHz to maintain excellent over-all camera S/N ratio of >56 dB at factory default. The frame rate is 17 fps for full resolution and 30 fps for the partial scan.

For multiple camera applications, it accepts external trigger via GPIO (general purpose I/O) and resets the internal timing with no-delay and a time stamp to provide exact image locations. This eliminates a need for external sync (HD/VD), which tends to generate some PLL jitter.

Streamlined designs for the camera and GigE section reduce the component count and make these cameras very compact and low cost, yet high performance. This is an ideal opportunity to upgrade machine vision applications from conventional analog cameras (+ frame grabber) to a frame grabber-less systems for improved cost-

performance.

GigE Vision itself has further advantages over conventional systems. It allows multiple camera operations on the net, multicasting (multiple computers per camera), long cable distance (100m without repeaters), auxiliary device control via GPIO, plug-and-play compatibility with commonly available software and camera systems, common camera control protocol or GUI, etc. The firmware or software is field upgradeable via Ethernet even if the original camera is installed in a remote area.

The GPIO uses a 14-pin MDR connector and interfaces with TTL (trigger and strobe), RS-485 or CAN, opto-isolated I/Os, and digital audio. A user can download the control protocol for a local auxiliary devices such as a PLC or surveillance controls, where the GigE camera then operates as a local server. Audio CODEC is standard for remote audio input and output via Ethernet.

The platform provides full progressive scan, partial scan, various exposure controls, and other special functions. GigE buffer also allows various sizes of images (Region of interest) to captured and transmitted.

Please refer to GP-series data sheet for the detail.

GigE Vision Camera GP-182000 / GP-182000C

*Product specifications and features are subject to change without notice.

Specifications

(C:Bayer Color version)

	GP-182000 / 182000C
CCD Imager	1/1.8", 2 Mega
Active Pixels (data out)	1628 x 1236
Pixel Size (μm)	4.4 x 4.4
Active Area (mm)	7.16 (H) x 5.44 (V)
Scanning Mode	Progressive scan full
Frame Rate	17 fps @ 40 MHz (30 fps at partial scan)
Data Clock	40 MHz
Data Output	Gigabit Ethernet
Resolution	1628 x 1236
S/N Ratio	>58 dB
Minimum Illumination	0.5 lux at 17 fps
Gamma	1.0 / 0.45 LUT
Power Requirement	12 V DC ±10%, 5W
Lens Mount	C-mount or CS
Operating Temperature	-10°C to +50°C
Vibration	7Grms
Shock	70G
Size (mm)	34 x 34 x 68
Weight	115g (4oz)

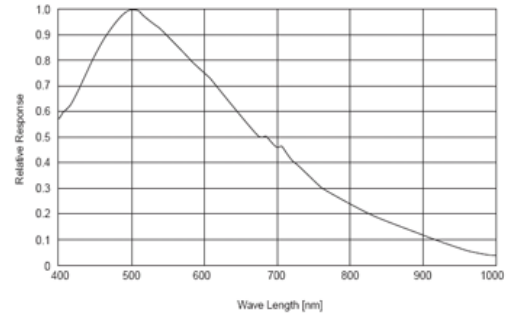
1/1.8" 2 Mega CCD

GP-182000 is specifically designed to provide excellent S/N ratio and optimized data rate for Gigabit Ethernet.

<GP-182000 Spectral Response>

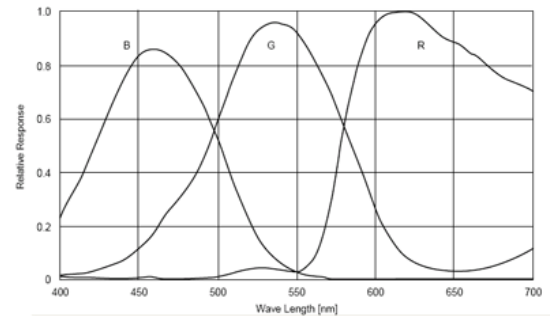
[ICX274AL]

Spectral Sensitivity Characteristics (excludes lens characteristics and light source characteristics)

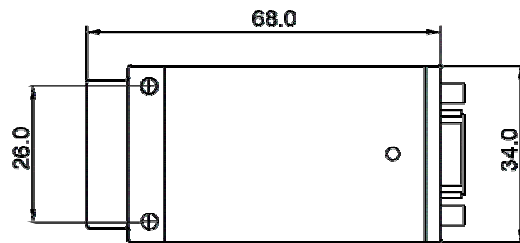


[ICX274AQ]

Spectral Sensitivity Characteristics (excludes lens characteristics and light source characteristics)

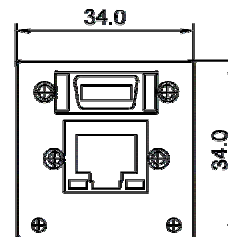
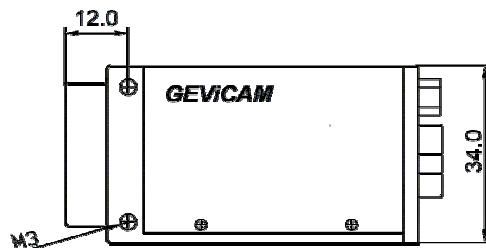
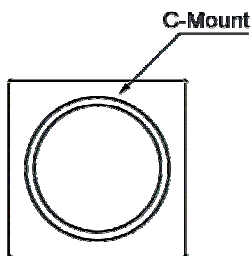


Physical Dimensions



GPIO Pin Assignment

1	12V RTN (GND)	8	Power in 12V
2	GND	9	Trigger in (TTL)
3	Strobe out	10	RS-485 -
4	RS-485 +	11	Opto D1 in -
5	Opto D1 in +	12	Opto D2 out -
6	Opto D2 out +	13	Audio out
7	GND	14	Audio in



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