

# Raptor-1000

## Scalable Intelligent Gigabit Ethernet Camera

The Raptor-1000 product line consists of intelligent highly scalable machine vision cameras. It provides a solution to a wide variety of machine vision applications from simple Gigabit Ethernet connectivity to high speed FPGA image processing inside a single GigE capable camera.

### Raptor Series

The Raptor product line is designed from the ground up with the latest technology while keeping in mind cost, performance and machine vision system requirements. It provides a total solution utilizing high-tech hardware and a complete machine vision software suite. Because application requirements fluctuate heavily, the system is designed to be highly flexible and easy to use. All raptor systems are housed in a strong industrial grade aluminum casing for maximum durability.

### Raptor-1000

The Raptor-1000 is the first intelligent scalable machine vision camera system with GigE connectivity. It uses a 1.3 MPixel CMOS sensor with a High-fill factor. Both rolling and synchronous shutter are available as well as multi-slope technology to increase the standard optical dynamic range from 64dB to 80-100dB. The sensor is capable of transferring images of 1280x1024@27 frames/second in both 10-bit grayscale or 10-bit color. On board color conversion and interpolation from bayer pattern to RGB is optionally available.

This product is available in several different versions. The main version is capable of transferring images over Gigabit Ethernet without any image manipulation. The second more advanced version (Raptor-1000-002), includes a threshold algorithm to supply the original image plus a thresholded version of the image in the same transferred frame. More versions are available with histogram algorithms, convolution and other matrix and kernel operations, blob-analysis and others. Please see our website for the latest updates.

### Scalability

The Raptor product was developed with scalability in mind. All Raptor products are developed with the same technology and architecture. This allows customers to experiment and become familiar with the Raptor products before buying higher-end systems. If, during the development process, a system is not reaching the full speed requirements of the application, a higher performance version can be purchased without the need to rewrite software, configuration files, etc. Just plug it into the new system, load the previous design file and you're done!



# Raptor-1000

## Technical specifications:

### CHARACTERISTICS

Power requirements	DC 15 V
Power consumption	1.5 W
Power out voltage	DC 12V, 10V, 8V, 5V
Max. output current	1.5 A
Operating temperature	0 to 50 °C
Weight	340 g minimal for basic version. (excluding lens)
Dimensions (WxHxD)	96 x 71 x 35,5 mm
CMOS Sensor	1.3MPixel 10-bit ADC Color/Grey scale versions
Dynamic range	64 dB (single slope) 80-100 dB (multi slope)
Shutter	Rolling curtain and Synchronous
Pixel size	6.7_μm square
Fill Factor	100%
Process	0,35_μm triple metal CMOS
Optical format	2/3" (8.6 mm x 6.9 mm)
Resolution	1280x1024
Max full frame rate	27 fps @ full resolution
ROI Windowing	Yes
ROI frame rate (some variants)	100 fps @ 640x480 res. 1657 fps @ 100x100 res.
Lens mount	C-Mount

### POWER IN CONNECTOR

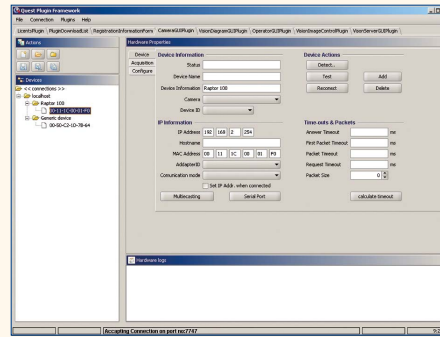
### POWER OUT CONNECTOR

Hirose HR10A-10P-12S		Hirose HR10A-10R-12S	
Pin	Function	Pin	Function
1	GND	1	GND
2	+15V DC	2	+15V DC
3	TTLIN3	3	TTLIN3
4	TTLOUT2	4	TTLOUT2
5	DGND	5	DGND
6	TTLIN2	6	TTLIN2
7	TTLOUT1	7	TTLOUT1
8	TTLIN1	8	TTLIN1
9	TTLOUT0	9	TTLOUT0
10	TTLIN0	10	TTLIN0
11	RS232_TX	11	RS232_TX
12	RS232_RX	12	RS232_RX

### NETWORK CONNECTOR

#### RJ45 1000BaseT

Pin	Function	Pin	Function
1	BI_DA+	5	BI_DC-
2	BI_DA-	6	BI_DB-
3	BI_DB+	7	BI_DD+
4	BI_DC+	8	BI_DD-

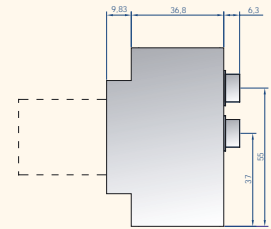
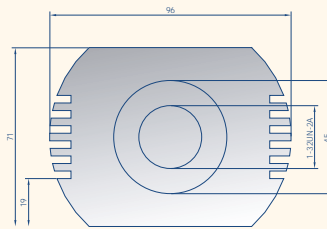
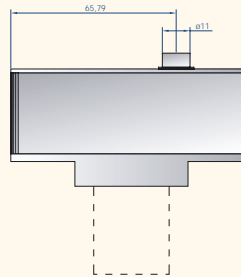


### Software

The Raptor-1000 comes with a full software suite and development library to integrate the product into machine vision applications.

This software suite is based on a state of the art plugin structure allowing new plugins to be added with future releases. Automatic software updates will be one of the features, and advanced licensable machine vision algorithm plugins will be available in the future for integration.

Free plugin updates for the Raptor will be available on an ongoing basis.



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