



Ultra-compact, lightweight miniature remote-head camera with 2/3" CCD sensor and RS170 Timing

CS8311Bi



Key Features

HIGH RESOLUTION the 380,000 pixel CCD produces 570TV line horizontal resolution for high-density images with minimum moire-fringes

ULTRA-COMPACT AND LIGHTWEIGHT body frees designer from space restriction problems

ELECTRONIC SHUTTER MODE allows the camera to capture very fast moving objects clearly and sharply

AUTOMATIC GAIN CONTROL permits camera to obtain optimal images constantly even when incoming light levels fluctuates

RESTART/RESET lets camera capture images at any timing given by R.R. pulse input (VD input)

SPECIAL SHUTTER & RANDOM TRIGGER SHUTTER allows the camera to capture images cued by external trigger input

SPECIFICATIONS

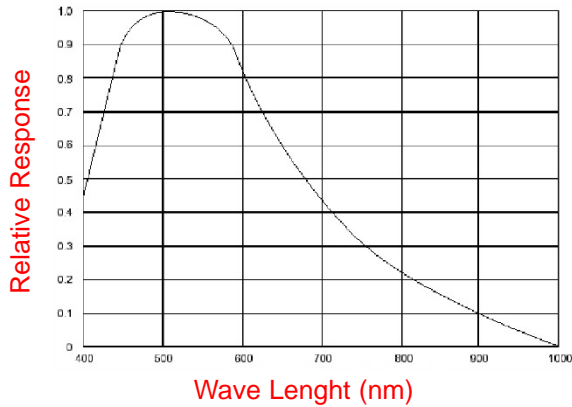
Image Sensor	EIA Standard
Active Pixel	768 (H) x 494 (V)
Chip Size	11.6 μm x 13.5 μm
Active Image Area	8.8mm (H) x 6.6mm (V) (same as 2/3 Type CCD)
Number of Scanning Lines	525 Lines
Scanning System	2:1 Interlace
Scanning Frequencies	
Horizontal Drive	15.734 kHz
Vertical Drive	59.94 Hz
Aspect Ratio	4:3
Sensitivity	Standard: 100 lx (F4, 3100 K), Min: 0.3 lx (F1.4, 3100 K)
Video Output	
VS (Video and SYNC)	1.0 V(p-p)/75 Ohm
Resolution	Horizontal: 570 TV Lines, Vertical: 485 TV Lines
Signal-to-Noise	56 dB
Gamma	1.0 Fixed
Input Signal	
HD,VD, R, R and SYNC	4.0±2.0 V(p-p)
Input impedance	75Ω/HIGH selection can be made using the internal switch
Pulse polarity	Negative polarity
Pulse width	HD : 6.4±3 μsec VD : 150 to 800 μsec
Frequency	Horizontal(f _H): 15.734 kHz±2% Vertical(f _V) : 2f _V /525
Number of scanning lines	525 lines
Output Signal	
Clock pulse	The clock pulse is available, if necessary
Pulse level	2.5V(p-p)/high impedance
Frequency	14.318181 MHz±100ppm
HD/VPD Pulses	
Pulse level	4.5V(p-p) / high impedance
Interlace	2:1
Polarity	Negative
Pulse width	HD : 6.36±0.1 μsec VD : 572±1 μsec
Frequency	Horizontal(f _H) : 15.73426 kHz± 2Hz
Sensitivity Setting	FIX, AGC, MGC
AGC	Stablized by AGC within 2 dB for +6 dB or -12 dB of the output signal variation
MGC	Sensitivity can be set manually
Gamma Correction	0.45/1.0 selectable
White Chip	Clip level should be set for 1.0V at factory
Electronic Shutter	ON/OFF Selectable, 1/125, 1/250, 1/500, 1/1000, 1/2000,1/4000,1/10000 sec and flickerless (1/100 or 1/120)
Special Shutter	Any shutter timing and shutter speed can be set according to the shutter trigger and R.R. pulse inputs
Restart	Provides ON/OFF switch inside of the camera
Power Source	DC12V±10%
Power Consumption	220mA
Ambient Condition	0° to +40° C, Humidity less than 90%
Lens Mount	C-mount
Dimensions	Camera Head: 44(W) x 29(H) x 32.5(D) CCU: 44(W) x 29(H) x 64(D) mm, Camera Cable: 600mm
Weight	Camera Head: 70g, CCU: 90g

Typical Applications

Video image capture applications for the CS8311Bi include machine vision, factory automation, inspection, quality control, positioning and many others.

Typical Spectral Response

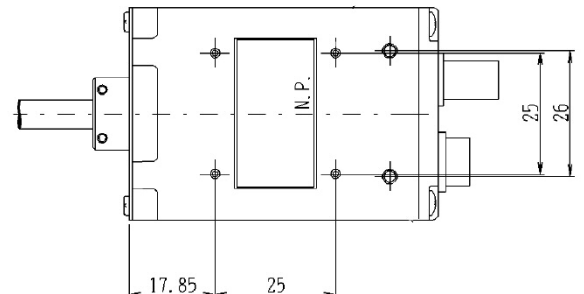
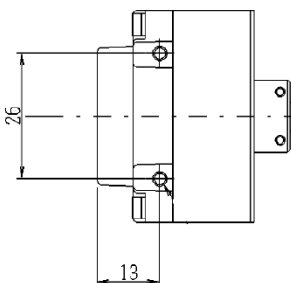
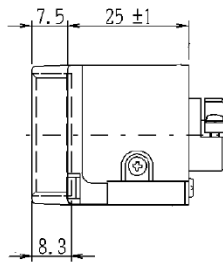
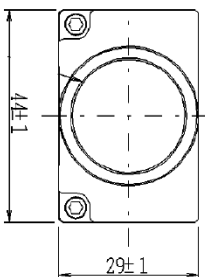
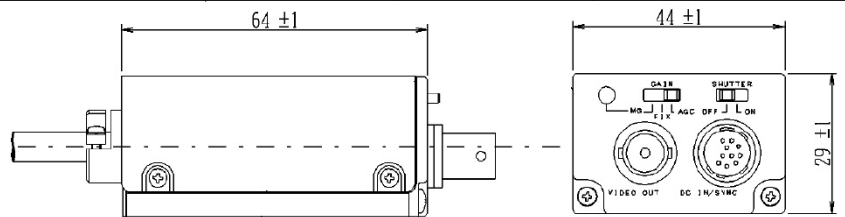
(lens characteristics and light source is not reflected in table)



DC IN/SYNC CONNECTOR ASSIGNMENT

Camera Connector: HR10A-10P-12S (Hirose Denki)

PIN	EXTERNAL SYNCHRONIZATION			INTERNAL SYNCHRONIZATION
	HD AND VD	VS/SYNC	Restart+Reset	
1	GND	GND	GND	GND
2	+12V	+12V	+12V	+12V
3	Video output (GND)	Video output (GND)	Video output (GND)	Video output (GND)
4	Video output (signal)	Video output (signal)	Video output (signal)	Video output (signal)
5	HD input (GND)		HD output (GND)	HD input (GND)
6	HD input (signal)		HD output (signal)	HD output (signal)
7	VD input (signal)	VS/SYNC input (signal)	R+R input (signal)	VD output (signal)
8	Shutter trigger input/ Clock output (GND)	Shutter trigger input/ Clock output (GND)	Shutter trigger input/ Clock output (GND)	Shutter trigger input/ Clock output (GND)
9	Shutter trigger input/ Clock Output (signal)	Shutter trigger input/ Clock Output (signal)	Shutter trigger input/ Clock Output (signal)	Shutter trigger input/ Clock Output (signal)
10	GND	GND	GND	GND
11	+12V	+12V	+12V	+12V
12	VD input (GND)	VS/SYNC (GND)	R+R input (GND)	VD output (GND)



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