



Monochrome XGA Format 1/3" Type CCD
Camera For High Speed Machine Vision

CS3950D



Key Features

HIGH RESOLUTION is achieved through 800K CCD for sharp XGA (1024 x 768) resolution

ALL PIXEL READOUT enables the camera to read out all image data in 1/30 sec, even under RTS

SQUARE PIXEL PATTERN CCD makes it easier and faster to perform computation correctly for image processing use

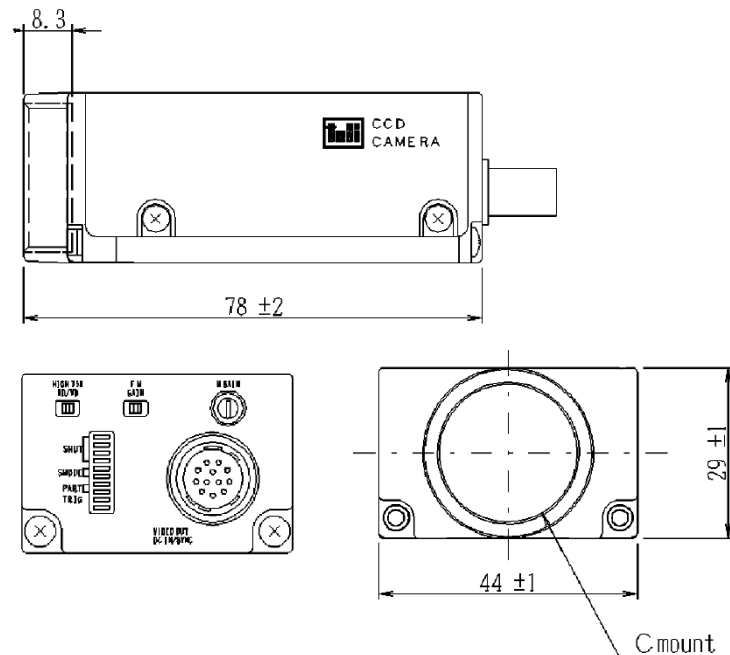
PARTIAL SCAN mode reads out only 1/2 or 1/4 of the screen, resulting in faster operation

RESTART/RESET function, when set on, allows the camera to capture images at any timing given by R.R. pulse input (VD input)

External Sync and Random Trigger Shutter

SPECIFICATIONS

Image Sensor	All Pixel Read Out CCD
Total Pixels	1077(H) x 788(V)
Active Pixels	1034(H) x 779(V)
Video Output Pixels	1024(H) x 768(V)
Scanning Area	5.80(H) x 4.92(V) mm (same as 1/3 Type CCD)
TV System	Special Format (Non Conforming to EIA)
Scanning Lines	796 Lines
Interlace	Non-interlace mode
Sync System	Internal/External Automatic Switch Over
Video Output	VS 1.0V(p-p)/75 Ohm, AC Coupled, 1 Line
Resolution	770 TV Lines (H), 768 TV Lines (V)
Signal-to-Noise	Standard: 50dB
Illumination	Standard: 400 lx (F5.6) Minimum: 4 lx (F1.4)
Gain	FIX, MANU
Gamma	1 (Fixed)
White Clip Level	Approx. 840mV(p-p) (Excluding SYNC)
Power Source	DC12V $\pm 10\%$ Ripple Voltage: 50mV(p-p) or less
Power Consumption	Approx. 2.0W
Internal Sync	
Base Clock Frequency	29.5MHz (1CLK)
H Sync Frequency	23.23kHz
V Sync Frequency	29.2Hz (under non-interlace)
External Sync	
Input Signal	HD/VD
Input Impedance	75-Ohm/High impedance 10k Ohm
Interlace	Non-interlace
Polarity	Negative
Pulse Width	HD: 3.46 \pm 1 micro s (LOW) VD: From 125 through 400 micro s (LOW)
Repeating Frequency	$F_H = 23.23\text{kHz} \pm 1\%$ $F_V = F_H / 796$
Phase Difference	HD/VD: 0 \pm 5.0 micro s
Electronic Shutter	12 Step (1/60 through 1/100000)
Dimensions	44 x 29 x 78 mm
Weight	130g
Lens Mount	C Mount
Environment Condition	0° to 40° C, 30 to 90% Humidity

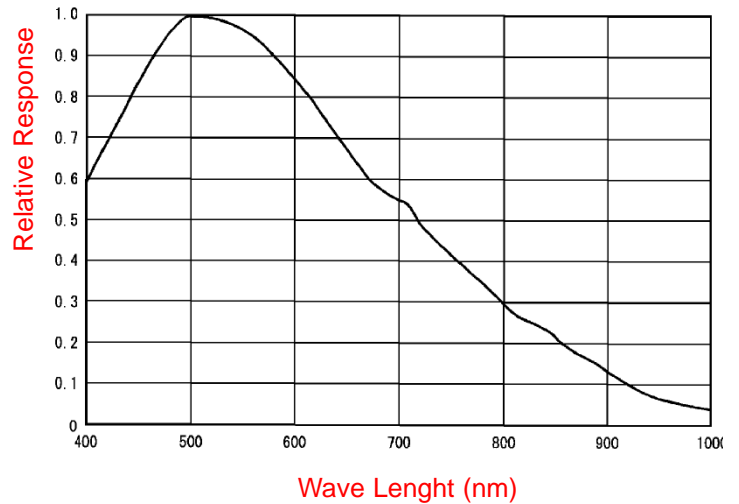


Typical Applications

Video image capture applications for the CS3950D include high speed machine vision, factory automation, inspection, quality control, positioning and many others.

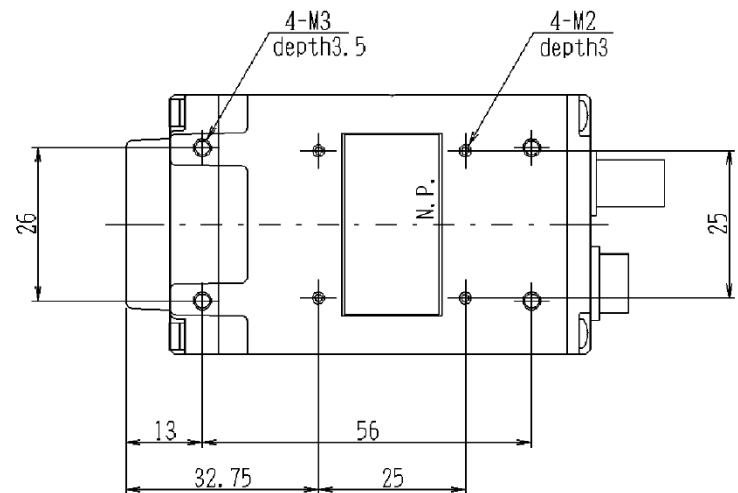
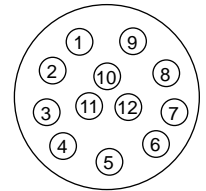
Typical Spectral Response

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



DC IN/SYNC HR10A-10P-12S (Hirose Elec.)

Pin Number	Signal Name
1	DC12V GND
2	DC12V
3	VIDEO GND
4	VIDEO OUT
5	HD GND
6	HD IN
7	VD IN.
8	TRIG GND
9	N.C.
10	WEN OUT
11	TRIG IN
12	VD GND



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