



2.1 Megapixel Monochrome Machine
Vision Camera with 10 Bit LVDS Output

CS3920



Key Features

ULTRA HIGH RESOLUTION performance through adoption of Two Megapixel CCD (2.1 million pixels) for 1636(H) x 1236(V) resolution

SQUARE-GRID PATTERN 1/2 TYPE CCD makes it easier and faster to perform computation correctly for image processing

FULL FRAME SHUTTER reads out all pixels even under RTS mode with no deterioration in vertical resolution up to 7.5 FPS

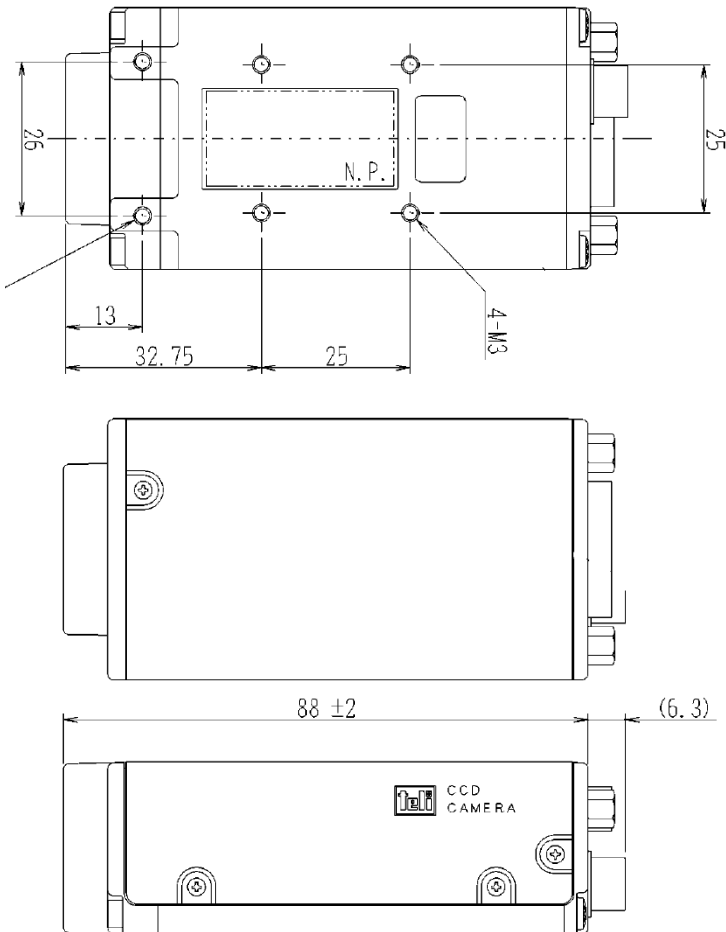
RANDOM TRIGGER SHUTTER is built in to enable the camera to capture images at any given times (1/30s to 1/10,000s)

LVDS DIGITAL OUTPUT is available (EIA-644 single channel 10 bit)

MULTI-SPEED MODES give user option of All Pixel Read Out, High-Speed Draft and Partial Scan

SPECIFICATIONS

Image Sensor	1/2 Type Interline CCD
Scanning System	Progressive Scan
Total Pixels	1688(H) x 1248(V)
Active Pixels	1636(H) x 1236(V)
Pixel Size	3.9(H) x 3.9(V) micron m
Aspect Ratio	4:3
Sync System	Internal Fixed
Illumination	400lx (F4, 3200K)
Gamma	OFF(1.0)
Video Output	Digital Output: EIA-644 Data: 10bit (18MHz) Analog Output: 1.0V(p-p)/75-ohm (unbalanced)
Signal Output	WEN: 4V(p-p), 1st FLD Positive HD: EIA-644, VD: EIA-644
External Trigger Input	4.0V(p-p) (Negative) Input impedance: 10k-ohm Pulse interval (width): More than 103 micro S
Shutter Speed	8 Scales, from 1/30s to 1/10000s
AGC	±6dB
Power Source	DC12V ±10%
Power Consumption	2.3W
Lens Mount	C Mount
Dimensions	44(W) x 29(H) x 88(D)mm
Weight	135g
Operatating Temperature	0 to 40 degree Celsius



Typical Applications

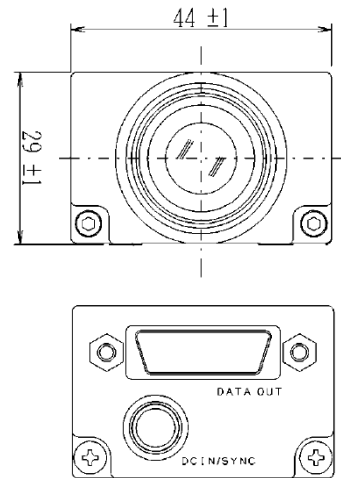
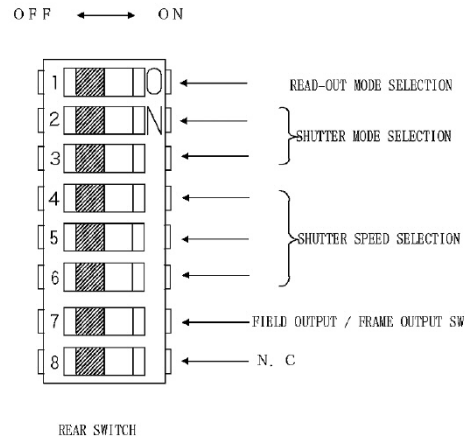
Video image capture applications for the CS3920 include high-detail machine vision, factory automation, inspection, quality control, microscopy and many others.

High-speed draft mode

By reading out just 2 lines out of total 8 lines, pixel data in all effective image area are read out in just 1/4 of the time needed under frame read-out mode. Under the high-speed draft mode, output lines will be 325 lines.

Setting Camera Modes

Setting the CS3920's readout, shutter, shutter speed and output modes is done with the SW1 on the Process board (the top board inside camera).



DATA OUT

Connector (Camera side): DX10A-28S
(Cable side): DX30A-28P, DX-28-CV1

Pin Number	Signal Name
1	DATA0-H
2	DATA0-L
3	DATA1-H
4	DATA1-L
5	DATA2-H
6	DATA2-L
7	DATA3-H
8	DATA3-L
9	DATA4-H
10	DATA4-L
11	DATA5-H
12	DATA5-L
13	DATA6-H
14	DATA6-L
15	DATA7-H
16	DATA7-L
17	DATA8-H
18	DATA8L
19	DATA9-H
20	DATA9-L
21	VD-H
22	VD-L
23	HD-H
24	HD-L
25	CLK-H
26	CLK-L
27	TRIG IN
28	GND

DC IN/SYNC

Connector (Camera side): HR10A-7R-6PB
Plug (Cable side): HR10A-7P-6S

Pin Number	Signal Name
1	VIDEO
2	VIDEO_GND
3	GND
4	TRIG
5	WEN
6	+12V



TOSHIBA TELI CORPORATION

7-1, 4-chome Asahigaoka
Hino-shi, Toyko 191-0065 Japan
TEL: +81-042-589-8771
FAX: +81-042-589-8774
www.toshiba-teli.co.jp

TOSHIBA TELI AMERICA, INC.

33 Hammond, Suite 211
Irvine, California 92618 USA
TEL: +1-949-770-TELI(8354)
FAX: +1-949-206-0210
www.toshiba-teli.com

