CV-A33 CL

Digital Quad Speed Progressive Scan Camera

- *1/2" progressive scan monochrome CMOS sensor*
- *659 (h) x 493 (v) 9.9 µm square pixels*
- *118 frames/second at full resolution*
- *10 bit video output as Camera Link*
- *400 frames/second for 659 (h) x 120 (v) pixels (example)*
- *4953 frames/second for 659 (h) x 3 (v) pixels*
- *Programmable X and Y origin and size for window of interest*
- *Edge pre-select (EPS) and pulse width control (PWC) trigger modes*
- *Global shutter for simultaneous full frame exposure*
- *Programmable shutter from 18.6 µsec. to 8.3 msec.*
- *A-series platform*
- *Accepts standard C-mount lenses*
- *Short ASCII commands for fast mode setup via serial port*
- *Setup by Windows 98/NT/2000 software via RS 232C or Camera Link*

The leading manufacturer of high performance camera solutions

Specifications for CV-A33 CL

Specifications

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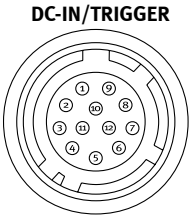
Scanning system	Progressive scan
Pixel clock	40 MHz
Line frequency	59.44 kHz (673 pixel clock/line)
Frame rate for full frame	118.4 frames/sec. (502 lines/frame)
CCD sensor	1/2" progressive scan monochrome CMOS image sensor
Sensing area	6.61 (h) x 4.97 (v) mm
Cell size	9.9 (h) x 9.9 (v) µm
Effective pixels	667 (h) x 502 (v)
Pixels in video output Full Min. window size	 659 (h) x 493 (v) 118.4 frames /sec. 2 (h) x 3 (v) 4953 frames / sec.
Sensitivity on sensor	1.2 Lux, Max. gain, 50% video
S/N ratio	>45 dB
Digital video output	10/8 bits in Camera Link
Gain Gain range	Remote +0 to +15 dB
Synchronization	Int. X-tal. Ext. random trigger
Inputs Camera Link TTL	Ext. trigger Ext. trigger TTL 4 ±2 V
Outputs Camera Link TTL	Pixel clock, LVAL, FVAL, DVAL, EEN EEN
Control interface	TXD and RXD via RS 232C TXD and RXD via Camera Link
Trigger modes	Continuous, Edge pre-select, Pulse width control
Exposure	LVAL-asynchronous
Shutter	Global (simultaneous exposure for all pixels)
Readout modes	Full Partial as user selectable window
Shutter speed (fixed)	1/120 through 1/20,000 seconds
Programmable exposure	1 LVAL to 493 LVAL (16.8 µsec. to 8.3 msec.)
Pulse width control	>1H to ∞ (>16.8 µsec.) < 1 sec. recommended
Partial readout window of interest	X origin, Y origin X width, Y height in 1 pixel increments
Functions controlled by RS 232C	Shutter, Trigger, Scanning, Readout, Trigger input, Black level and Gain
Operating temperature	-5°C to +45°C
Humidity	20 - 80% non-condensing
Storage temp./humidity	-25°C to 60°C/ 20% - 90%
Power	12V DC ± 10%. 2.5 W
Lens mount	C-mount
Dimensions	35 x 44 x 58 mm (HxWxD)
Weight	120g

Connection Description

DC-IN/TRIGGER

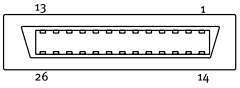


HIROSE HR10A-10R-12PB-01

Pin		
	1	Ground
	2	+12V DC
	3	Ground
	4	N/C
	5	Ground
	6	RXD RS 232C *
	7	TXD RS 232C *
	8	Ground
	9	EEN output
	10	Trigger input (TTL)*
	11	N/C
	12	Ground

Camera Link interface

26 pin MDR connector
3M 10226-1A10JL



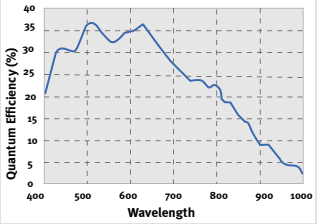
Digital I/O

	Pin	Signal	Function
1	14	GND	
2	15	Xo-/Xo+	CL Data
3	16	X1-/X1+	CL Data
4	17	X2-/X2+	CL Data
5	18	Xclk-/Xclk+	CL Clk
6	19	X3-/X3+	CL Data
7	20	SerTC+/SerTC-	Serial in*
8	21	SerTFG-/SerTFG+	Serial out*
9	22	CC1-/CC1+	Trigger*
10	23	CC2+/CC2-	Not used
11	24	CC3-/CC3+	Not used
12	25	CC4+/CC4-	Not used
13	26	GND	

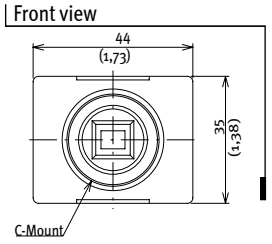
Camera Link base configuration.

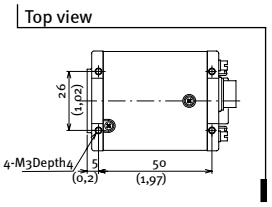
*) In CL or Hirose 12-pin connector

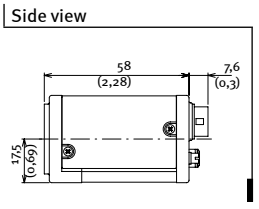
Quantum Efficiency

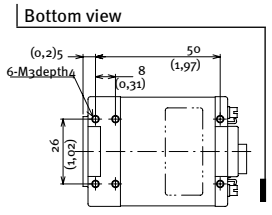


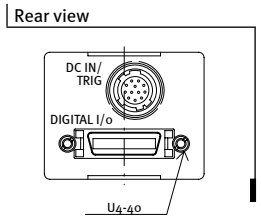
Dimensions



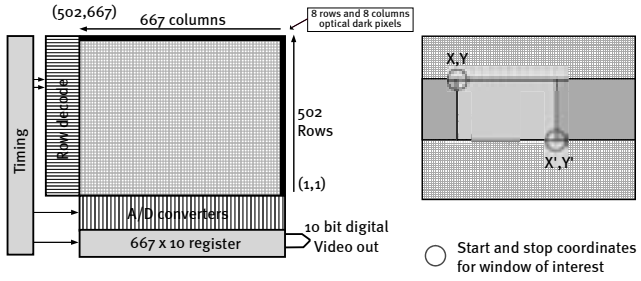








Sensor layout - Window of interest function



The sensor is an array of active photosensitive pixels, with a global shutter function that activates all pixels simultaneously .
The readout can be random, row by row.
The digitized row signals are placed in a horizontal register. From here they are read out with 667 pixel clock pulses, even if the selected window of interest has fewer columns.
The frame speed depends only on the height of the window, not of the width.

Ordering Information

CV-A33 CL 1/2" Digital Quad Speed Progressive Scan Camera

THE MECHADEMIC COMPANY

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