



# **CV-A10 CL**

## **Progressive Scan Monochrome Camera**



- *Compact 1/2" progressive scan monochrome camera*
- *Camera Link equivalent of the popular CV-M10*
- *782 (h) x 582 (v) 8.37µm square pixels*
- *60 fps with full resolution*
- *250 with 1/8 partial scan*
- *Vertical and horizontal binning for higher frame rates and sensitivity*
- *High speed shutter from 1/60 to 1/300,000 second*
- *8 or 10 bit output via Camera Link*
- *Edge pre-select, pulse width and sensor gate trigger modes*
- *Programmable exposure, auto shutter and smearless readout*
- *Reset Continuous Trigger (RCT)*
- *Iris video output, auto shutter and AGC allow a wider light range*
- *LVAL synchronous or asynchronous accumulation*
- *Setup by Windows NT/2000/XP software via RS 232C or Camera Link*

***The leading manufacturer of high performance camera solutions***

# Specifications for CV-A10 CL

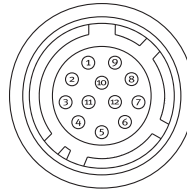
Specifications	CV-A10 CL
Scanning system	Progressive scan
Pixel clock	36.15 MHz
Line frequency	37.5 kHz (964 pixel clock/line)
Frame rate for full frame	60 frames/sec. (625 lines/frame)
CCD sensor	1/2" progressive scan monochrome
Sensing area	6.4 (h) x 4.8 (v) mm
Cell size	8.3 (h) x 8.3 (v) $\mu$ m
Effective pixels	782 (h) x 582 (v)
Pixels in video output	
Full	768 (h) x 576 (v) 60 fps
1/2 partial	768 (h) x 287 (v) 112 fps
1/4 partial	768 (h) x 143 (v) 177 fps
1/8 partial	768 (h) x 71 (v) 250 fps
Sensitivity on sensor	0.1 Lux (Max. gain, 50% video)
S/N ratio	>55 dB
Digital video output	8 or 10 bits in Camera Link
Iris video output. Analogue	0.7 Vpp
Gain	Manual - automatic
Gain range	-3 to +12 dB
Synchronization	Int. X-tal. Ext. HD/VD or random trigger
Ext HD/VD in. (Normal mode only)	4 V $\pm$ 2 V. TTL or 75 $\Omega$ terminated
Inputs	Camera Link TTL Ext. trigger Ext. trigger TTL 4 $\pm$ 2 V
Outputs	Camera Link TTL Pixel clock, LVAL, FVAL, DVAL, EEN EEN
Trigger modes	Continuous, Edge pre-select, Pulse width control and Sensor gate control and Reset continuous trigger
Accumulation	LVAL synchronous or asynchronous
Shutter speed EPS	1/60 to 1/300,000 second
Programmable exposure	1/8 line to 628 lines. (3.3 $\mu$ s to 16.7 ms)
Pulse width control	2 lines to 120 frames. (33 $\mu$ s to 2 s)
Auto shutter range	1/60 to 1/25,000
Readout modes	Partial scan. Full, 1/2, 1/4, 1/8 Vertical binning. Off, 2, 3 or 4 Horizontal binning. Off, 2, 3 or 4 Smearless
Control interface	RS 232C or Camera Link
Functions controlled by RS 232C	Shutter, Trigger, Scanning, Readout, Polarity, Black level, Gain, Gamma
Operating temperature	-5°C to +45°C
Humidity	20 - 80% non-condensing
Storage temp./humidity	-25°C to 60°C/ 20% to 90%
Vibration	10G (20Hz to 200Hz XYZ)
Shock	70G
Regulations	CE (EN50081-1 and EN50082-1), FCC part 15
Power	12V DC $\pm$ 10%. 5 W
Lens mount	C-mount
Dimensions	35 x 44 x 80 mm (HxWxD)
Weight	150g

## Ordering Information

CV-A10 CL 1/2" Progressive Scan Monochrome Camera

## Connection Description

### DC-IN/TRIGGER

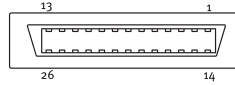


HIROSE HR10A-10R-12PB-01

- |     |    |                        |
|-----|----|------------------------|
| Pin | 1  | Ground                 |
|     | 2  | +12V DC                |
|     | 3  | Ground                 |
|     | 4  | Iris video             |
|     | 5  | Ground                 |
|     | 6  | HD input/RXD RS 232C * |
|     | 7  | VD input/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 10226-1A10L

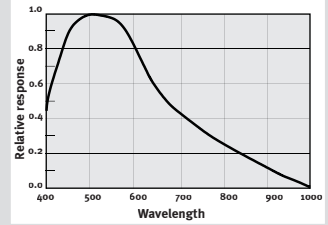


- | Pin | Signal | Function        |             |
|-----|--------|-----------------|-------------|
| 1   | 14     | GND             |             |
| 2   | 15     | X0-/X0+         | CL Data     |
| 3   | 16     | X1-/X1+         | CL Data     |
| 4   | 17     | X2-/X2+         | CL Data     |
| 5   | 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.

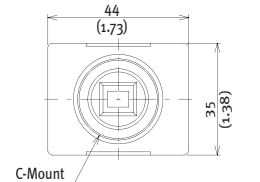
\* In 12 pin Hirose or Camera Link

## Spectral Sensitivity

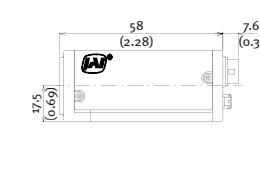


## Dimensions

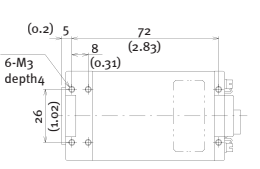
### Front view



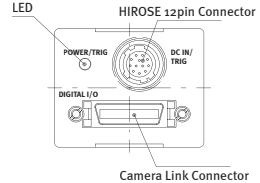
### Side view



### Bottom view



### Rear view



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