

CV-M2 CL / CV-M8 CL

Progressive Scan



adept
electronic solutions

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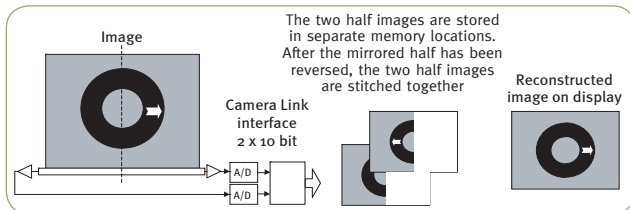
- *Digital 1" progressive scan CCD camera*
- *Monochrome and Bayer mosaic color versions*
- *1600 (h) x 1200 (v) pixels active area*
- *7.4 μm square pixels*
- *30 frames/second with full resolution in continuous operation*
- *Up to 208 frames/second with partial scan*
- *Single- or Dual-tap operation*
- *Shutter speed from 72 μs to 2 sec. using Pulse Width Control*
- *Programmable exposure from 41 μs to 33 ms (dual-tap operation)*
- *Pre-select, Pulse Width, Restart Continuous, Burst and PIV trigger modes*
- *LVAL-synchronous/-asynchronous operation*
- *Auto-iris lens video output allows a wider range of light*
- *NTSC monitor output for simple camera adjustment*
- *Camera Link interface with 10- or 8-bit output*
- *Setup by Windows NT/2000/XP via serial communication*



Specifications for CV-M2 CL / CV-M8 CL

Specifications	CV-M2 CL / CV-M8 CL
Sensor	1" progressive scan CCD
Pixel Clock	40 MHz
Frame rate	Single-tap 17.17 frames/sec. (1216 lines/frame) Dual-tap 30.12 frames/sec. (1216 lines/frame)
Active area	11.8 (h) x 8.9 (v) mm
Cell size	7.4 (h) x 7.4 (v) μ m
Active pixels	1600 (h) x 1200 (v)
Color (CV-M8 CL)	Raw Bayer output for host-based interpolation
Read-out modes	Single Dual
Full	1600 (h) x 1200 (v) 17 fps 30 fps
1/2 partial scan	1600 (h) x 600 (v) 32 fps 54 fps
1/4 partial scan	1600 (h) x 300 (v) 57 fps 91 fps
1/8 partial scan	1600 (h) x 150 (v) 95 fps 138 fps
Variable partial scan	1600 (h) x ≥ 50 (v) ≤ 167 fps ≤ 208 fps
Sensitivity (CV-M2 CL)	0.2 Lux (On sensor, Max. gain, Shutter OFF, 50% video)
Sensitivity (CV-M8 CL)	1 Lux (On sensor, Max. gain, Shutter OFF, 50% video)
S/N ratio	>50dB (0 dB gain)
Video output	8- or 10-bit in CL
Auto-iris lens video	0.7 Vp-p, 75 Ω
Gain	Manual, -3dB to +12dB
Synchronization	Int. X-tal or ext. trigger
Inputs	Camera Link Ext. trigger, LVDS (CC 1) TTL Ext. trigger 4V \pm 2V
Outputs	Camera Link Clk., FVAL, LVAL, Data, EEN TTL EEN
Trigger modes	Pre-select, Pulse Width, Restart Continuous, Burst and PIV trigger
Electronic shutter	
Pre-set shutter	1/17 (Single) or 1/30 (Dual) to 1/10,000, 10 steps
Programmable exposure (PE)	1L to 1216L (S: 72 μ s to 58ms / D: 44 μ s to 22ms)
Pulse Width	1.5H to ∞ , 72 μ s to \leq 2ms (recommended)
Accumulation	Auto-detect LVAL-synchr. / asynchr.
Control interface	CL serial communication
Functions controlled by serial communication	Shutter, Trigger mode, Readout mode, Trigger Input, Black level and Gain,
Operating Temperature	-5°C to +45°C
Humidity (operation)	20 – 90% non-condensing
Storage temp./humidity	-25°C to +60°C / 20 to 90%
Vibration	10G (20Hz to 200 Hz XYZ)
Shock	70G
Regulations	CE (EN 61000-6-2, EN-61000-6-3), FCC part 15 class B, RoHS/WEEE
Power	12V DC +/-10% 6.6 W
Lens mount	C-mount
Dimensions	40 x 50 x 120 mm (H x W X L)
Weight	310 g

Dual-tap readout principle

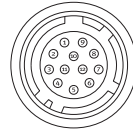


Ordering Information

CV-M2 CL 1" Monochrome Progressive Scan Camera
CV-M8 CL 1" Bayer mosaic color Progressive Scan Color Camera

Connector pin-out

DC In / Trigger



HIROSE HR10A-10R-12PB-01

Pin	Signal
1	Ground
2	+12V DC
3	Ground
4	Auto iris lens video output
5	Ground
6	RXD RS-232C*
7	TXT RS-232C*
8	Ground
9	XEEN out
10	Trigger input (TTL)*
11	+ 12V DC
12	Ground

Camera Link interface

26 pin MDR connector
3M 10226-1A10JL



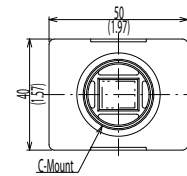
Pin	Signal	Function
1	14 GND	
2	15 Xo-/Xo+	CL Data
3	16 X1-/X1+	CL Data
4	17 X2-/X2+	CL Data
5	18 Xclk-/Xclk+	CL Clk
6	19 X3-/X3+	CL Data
7	20 SerTC+/SerTC-	Serial in
8	21 SerTFG+/SerTFG-	Serial out
9	22 CC1-/CC1+	Trigger*
10	23 CC2-/CC2+	Not used
11	24 CC3-/CC3+	Not used
12	25 CC4-/CC4+	Not used
13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

Camera Link base configuration.

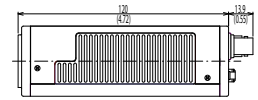
* In Camera Link or 12 pin Hirose

Dimensions

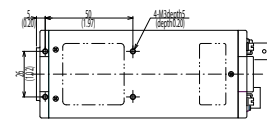
Front view



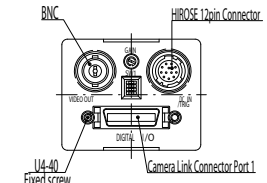
Side view



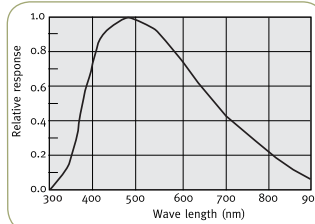
Bottom view



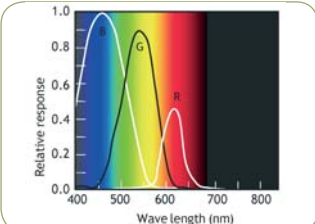
Rear view



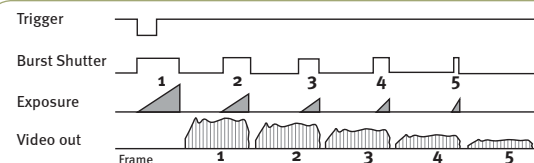
Spectral Response CV-M2 CL



Spectral Response CV-M8 CL



Burst Trigger



C3 Camera Suite Unlimited Digital Switchability

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