

## ❖ CV-A10 GE / CV-A70 GE Progressive Scan



- *1/2" progressive scan camera*
- *Monochrome and Bayer color versions*
- *782 (h) x 582 (v) 8.37µm square pixels*
- *60 fps with full resolution*
- *250 fps with 1/8 partial scan*
- *Vertical binning for higher frame rates and sensitivity*
- *High speed shutter from 1/60 to 1/300,000 second*
- *8 or 10-bit output*
- *Edge pre-select, and pulse width trigger modes*
- *Sequencer trigger mode for on-the-fly change of shutter, and gain*
- *Auto exposure and smearless mode*
- *Auto-Iris lens video output, auto shutter and AGC allow a wider light range*
- *Programmable GPIO*
- *Comprehensive software suite and SDK for Windows XP*

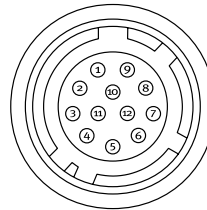


# Specifications for CV-A10 GE / CV-A70 GE

Specifications	CV-A10 GE / CV-A70 GE
Sensor	1/2" progressive scan IT CCD
Pixel clock	36.15 MHz
Frame rate full frame	60 frames/sec. (1125 lines/frame)
Active area	6.4 (h) x 4.8 (v) mm
Cell size	8.3 (h) x 8.3 (v) $\mu$ m
Active pixels	767 (h) x 576 (v)
Color (CV-A70 GE)	Raw Bayer output for host-based interpolation
Read-out modes	Full 767 (h) x 576 (v) 60 fps 1/2 partial scan 767 (h) x 287 (v) 112 fps 1/3 partial scan 767 (h) x 143 (v) 177 fps 1/4 partial scan 767 (h) x 71 (v) 250 fps 2x Vert. binning* 767 (h) x 287 (v) 107 fps 3x Vert. binning* 767 (h) x 191 (v) 144 fps 4x Vert. binning* 767 (h) x 143 (v) 174 fps Region-of-interest(ROI) User definable. Memory read-out * NOTE: CV-A70 GE does not support binning
Sensitivity (CV-A10 GE)	0.1 Lux (On sensor Max. gain, shutter off, 50% video)
Sensitivity (CV-A70 GE)	1.2 Lux (On sensor, max gain, shutter off, 50% video)
S/N ratio	>55 dB (Gain 0 dB, shutter off)
Video output	GigE Vision, 8 or 10 bits
Auto-iris lens video output	0.7 Vpp
Gain	Manual/Automatic Range. -3 to +12 dB
Synchronization	External hardware trigger via GPIO Software trigger via GigE Vision
GPIO Module	Configurable 12-in / 9-out switch (LUT) 12-bit counter (based on 25MHz clock or pixel clock) 20-bit counters programmable for Length, start point, stop point, repeat
Hardware trigger modes	Continuous, Edge Pre-select (EPS), Pulse Width Control (PWC) Sequence (Gain, shutter)
Electronic shutter	Preset shutter 1/60 to 1/300,000 sec. in 14 steps Programmable exposure 1/8 line to 628 lines (3.3 $\mu$ s to 16.7ms) Auto exposure 1/60 to 1/25,000 second (cont. mode only) Exposure time (Abs) $\mu$ sec - user definable. Same range as PE Pulse width control 66.7 $\mu$ s to 2 sec.
Control interface	Register based GigE Vision (GenCam compliant)
Functions controlled via GigE Vision interface	Shutter, Trigger mode, Readout mode, GPIO setup, ROI, Gain, Black level (GenCam mandatory functions)
GigE Vision streaming control	Packet size, Delayed (frame) Readout, Inter-packet delay
Indicators on rear panel	Power / Hardware trigger, GigE link, GigE activity
Operating temperature	-10°C to +45°C
Humidity	20 - 90% non-condensing
Storage temp./humidity	-25°C to +60°C/20% to 90%
Vibration	10G (20Hz to 200Hz XYZ)
Shock	70G
Regulations	CE (EN61000-6-2 and EN61000-6-3), FCC part 15 class B RoHS / WEEE
Power	12V DC $\pm$ 10%. 5.5 W
Lens mount	C-mount
Dimensions (H x W x L)	55 x 55 x 55 mm
Weight	220 g

## Connector Pin-out

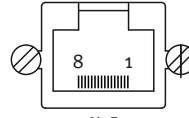
### DC In / GPIO



HIROSE HR10A-10R-12PB-01

- Pin 1 GND  
 2 +12 VDC input  
 3 GND  
 4 Iris video  
 5 GND  
 6 LVDS + / TTL IN 1  
 7 LVDS - / TTL IN 2  
 8 TTL OUT 1  
 9 TTL OUT 2  
 10 TTL IN 3  
 11 N/C  
 12 GND

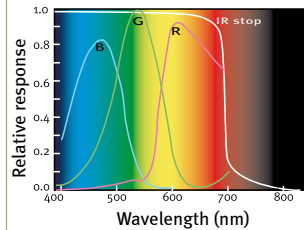
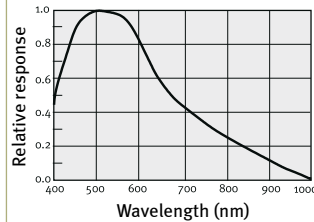
### GigE Vision interface RJ-45 with locking screws



GigE

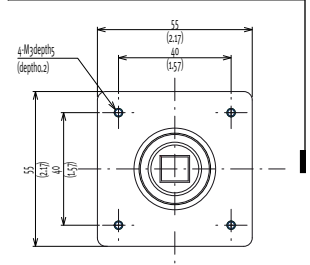
- Pin 1 TRD+(o) 5 TRD-(2)  
 2 TRD-(o) 6 TRD-(1)  
 3 TRD+(1) 7 TRD+(3)  
 4 TRD+(2) 8 TRD-(3)

## Spectral Response

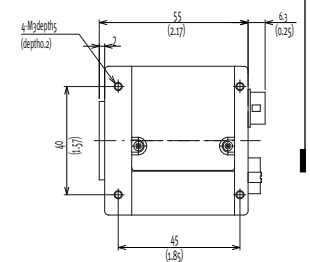


## Dimensions

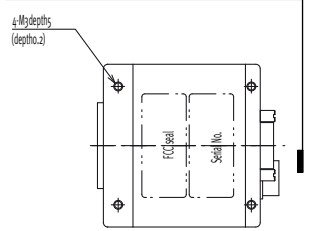
### Front view



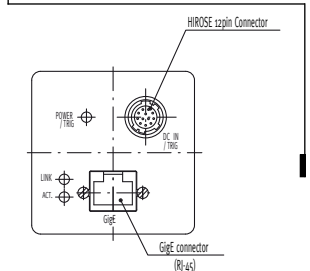
### Side view



### Bottom view



### Rear view



## Ordering Information

- CV-A10 GE 1/2" monochrome progressive scan camera  
 CV-A70 GE 1/2" Bayer mosaic color progressive scan

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