

## ➤ AD-130 GE

2 CCD Multi-spectral camera

**C3** Camera Suite  
 Unlimited  
 Digital  
 Switchability



- *Multi-spectral prism camera with two 1/3" CCDs*
- *Simultaneously captures visible and near-IR through the same optical path*
- *1296 (h) x 966 (v) active pixels per channel*
- *3.75 μm square pixels*
- *31 frames per second with full resolution*
- *Increased frame rate with partial scanning*
- *Programmable exposure from 11.49μs to 31.761ms*
- *GenICam Exposure Time Abs, pulse controlled, and auto shutter modes*
- *Sequence trigger mode for on-the-fly change of gain, exposure and ROI*
- *LVAL synchronous/asynchronous operation (auto-detect)*
- *RGB 24-bit/30-bit or raw Bayer 8-bit, 10-bit or 12-bit output for color channel*
- *8-bit, 10-bit or 12-bit monochrome output for near-IR channel*
- *Separate AGC (automatic gain control) for each channel*
- *Programmable GPIO with opto-isolated inputs and outputs*
- *Comprehensive control tool and SDK for Windows XP/Vista*

**GiGE**<sup>™</sup>  
 VISION



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# Specifications for AD-130 GE

Specifications		AD-130 GE
Sensor	Visible Near-IR	1/3" color Bayer mosaic IT CCD (ICX447) 1/3" Monochrome IT CCD (ICX447)
Pixel Clock		51.324 MHz
Frame rate full frame		31 frames/sec.
Active area		4.86 (h) x 3.63 (v) mm
Cell size		3.75 (h) x 3.75 (v) μm
Active pixels		1296 (h) x 966 (v)
Read-out modes	Full Variable partial scan	1296 (h) x 966 (v) 31.484 fps Programmable start line: 0 to 962 Programmable height: 8 to 966 lines
Sensitivity	Visible	0.4 Lux (max. gain, shutter off, 50% video)
Sensitivity	Near-IR	0.02 μW/cm <sup>2</sup> at 800nm (max. gain, shutter off, 50% video, f/2.2)
S/N ratio	Visible	>52dB (Green ch., 0 dB gain, 10-bit)
S/N ratio	Near-IR	>54 dB (0 dB gain, 10-bit)
Video output	Visible Near-IR	30/24-bits RGB or 8, 10 or 12-bit raw Bayer 8, 10, or 12-bit monochrome
Auto-iris lens video		0.7 Vp-p, w/o sync
Gain	Master gain R/B gain AGC	0 dB to +21 dB (visible) -3 dB to +21 dB (NIR) -7 dB to +10 dB (visible only) 0 dB to +21 dB
Synchronization		Int. X-tal
GPIO Module	Input/output switch Clock generator (one) Pulse generator (four)	Configurable 14-in/32-out switch 12-bit counter based on pixel clock 20-bit counters with programmable length, start point, stop point, repeat
Hardware trigger modes		Edge Pre-select, Pulse Width Control, Reset Continuous, Frame Delay, Sequence
Electronic shutter	Exposure time Abs Pulse Width Control GPIO plus Pulse Width Auto shutter	0.4L (11.49 μs) to 982L (31.761 ms) in 1L steps(28.725 μs) 1/13,000 sec. (2.4L) to 2 sec. Fine adjustment via GPIO 1/31 to 1/366 sec. (982L to 95L)
White balance		Visible (color channel) only Gain range: -7 dB to +10 dB 2800K to 9000K
LUT/Gamma		1.0/0.6/0.45/LUT
Functions controlled via GigE Vision interface		Shutter, gain, black level, trigger mode, read-out mode, GPIO setup, ROI (GenICam mandatory functions)
GigE streaming protocol		Packet size (1476 to 16020 bytes), delayed (frame) read-out, inter-packet delay
Indicators on rear panel		Power/hardware trigger, GigE link / activity
Operating Temperature		-5°C to +45°C
Humidity (operation)		20 - 80% non-condensing
Storage temp./humidity		-25°C to +60°C / 20 to 80% non-condensing
Vibration		3 G (15Hz to 200 Hz XYZ)
Shock		50G
Regulations		CE (EN 61000-6-2, EN-61000-6-3), FCC part 15 class B, RoHS
Power		12-24V DC ± 10%. 8.0 W typical (full frame @ 12V)
Lens mount		C-mount (Max 4.0 mm thread)*
Dimensions (H x W x L)		55(H) x 55(W) x 98.3(D) mm
Weight		340 g

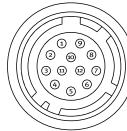
\* Use 3CCD-type lens without IR filter

## Ordering Information

AD-130GE Digital 2CCD Progressive Scan Multi-Spectral Camera

## Connector pin-out

### DC In / GPIO

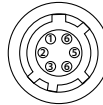


HIROSE HR10A-10R-12PB-01

Pin	1	Ground
	2	+12V DC input
	3	OPT In 2 (-)/GND (*)
	4	OPT In 2 (+)
	5	Auto Iris video out (*)
	6	OPT In 1 (-)
	7	OPT In 1 (+)
	8	OPT Out 1 (-)
	9	OPT Out 1 (+)
	10	OPT Out 2 (-)
	11	OPT Out 2 (+)
	12	+12V DC input
		Ground

\* Select by SW700

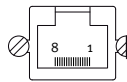
### GPIO



HIROSE 6-pin

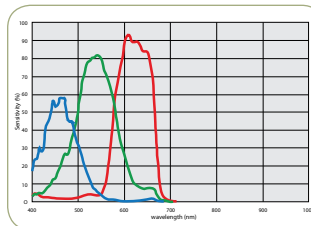
Pin	1	LVDS In 1 (-)
	2	LVDS In 1 (+)
	3	TTL In 1
	4	TTL Out 1
	5	TTL In 2
	6	GND

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

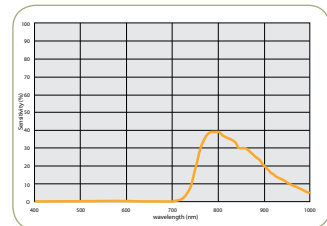


Pin	1	TRD+(0)	Pin	5	TRD-(2)
	2	TRD-(0)		6	TRD-(1)
	3	TRD+(1)		7	TRD+(3)
	4	TRD+(2)		8	TRD-(3)

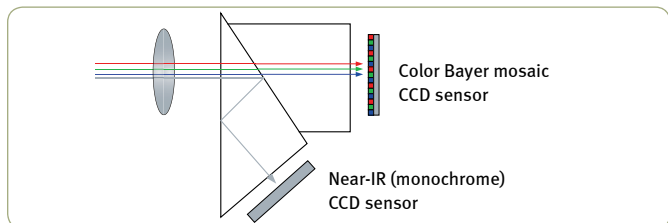
## Visible Response AD-130 GE



## Near-IR Response AD-130 GE



## 2CCD Prism



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