

❖ 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 11.49 μs 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

GiGETM
VISION



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) μ m
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 μ W/cm ² 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	0.4L (11.49 μ s) to 982L (31.761 ms) in 1L steps (28.725 μ s)
	Pulse Width Control	1/13,000 sec. (2.4L) to 2 sec.
	GPIO plus Pulse Width	Fine adjustment via GPIO
	Auto shutter	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 $\pm$ 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

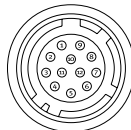
* Use 3CCD-type lens without IR filter

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

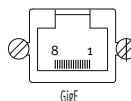
GPIO



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

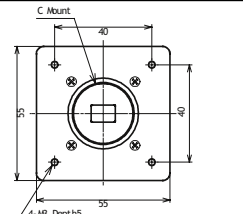
GigE Vision Interface RJ-45 with locking screws



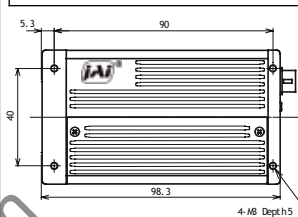
Pin		Pin	
1	TRD+(0)	5	TRD-(2)
2	TRD-(0)	6	TRD-(1)
3	TRD+(1)	7	TRD+(3)
4	TRD+(2)	8	TRD-(3)

Dimensions

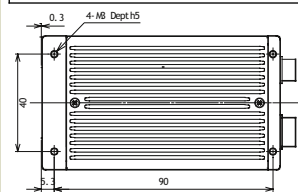
Front view



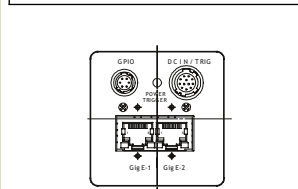
Side view



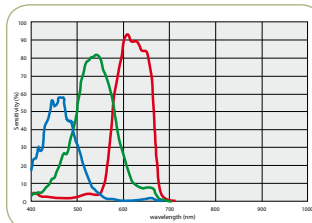
Bottom view



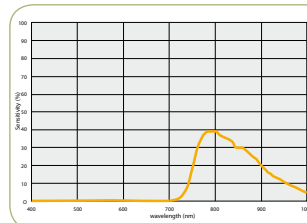
Rear view



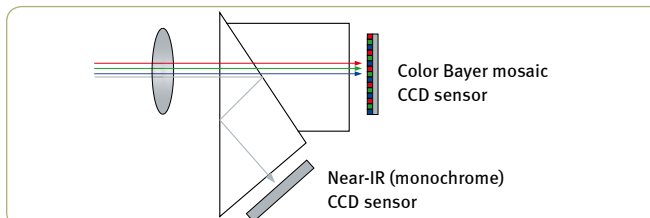
Visible Response AD-130 GE



Near-IR Response AD-130 GE



2CCD Prism



Europe, Middle East & Africa
Phone +45 4457 8888
Fax +45 4491 3252

Asia Pacific
Phone +81 45 440 0154
Fax +81 45 440 0166

Americas
Phone (Toll-Free) 1 800 445 5444
Phone +1 408 383 0300



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