▪ 659 x 494 ▪ 120 FPS ▪ CL

AT-030 MCL

3CCD Progressive Scan RGB Color

C3 Camera Suite
Unlimited
Digital
Switchability

ADEPT TURNKEY
The Machine Vision and Imaging Specialists
Perth: +61 (08) 9242 5411 **Sydney:** +61 (02) 9979 2599
Melbourne: +61 (03) 9384 1775

Email: sales@adeptturnkey.com.au
Website: http:www.adeptturnkey.com.au

- *3 x 1/3" CCD progressive scan RGB color camera for vision applications*
- *659(h) x 494 (v) active pixels for each CCD (7.4 µm square)*
- *Compact RGB prism for C-mount lenses*
- *Chromatic shading reduction permits wider choice of lenses*
- *120.5 frames per second with full resolution*
- *Pre-set or variable partial scan available for faster frame rates*
- *Vertical binning for higher sensitivity and frame rate*
- *24-bit RGB output via single port Camera Link base configuration*
- *30-bit or 36-bit output via dual port Camera Link medium configuration*
- *Linear matrix circuit with manual control or sRGB or Adobe RGB pre-sets*
- *Knee function available for knee-point and knee-slope settings*
- *Edge pre-select, pulse width control, fast PWC, and reset continuous trigger modes*
- *Pre-set shutter from OFF (1/120) to 1/130,000 in 10 steps*
- *Individually programmable shutter/exposure for R, G, and B*
- *Manual, continuous, one-push auto, or pre-set white balance*
- *Setup by Windows XP/Vista/7 software via RS 232C*

CAMERA Link

www.adept.net.au

Specifications for AT-030 MCL

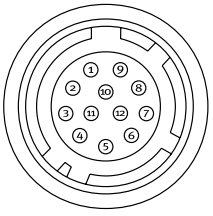
Specifications	AT-030 MCL
Sensor	3 x 1/3" progressive scan CCD - ICX424AL
Pixel Clock	58 MHz
Frame rate full frame	120.49 frames/second (511 lines per frame)
Active area	4.88 (h) x 3.66 (v) mm
Cell size	7.4 (h) x 7.4 (v) µm
Active pixels	659 (h) x 494 (v)
Read-out modes	
Full	659 (h) x 494 (v) 120.49 fps
2/3 partial scan	659 (h) x 328 (v) 169.62 fps
1/2 partial scan	659 (h) x 246 (v) 208.72 fps
1/4 partial scan	659 (h) x 122 (v) 322.36 fps
1/8 partial scan	659 (h) x 60 (v) 422.96 fps
Variable partial	Programmable start line (1-493) & height (2-494)
Vertical binning	659 (h) x 247 (v) 193.88 fps
Sensitivity (on sensor)	0.34 Lux, max gain, 50% video
S/N ratio	>50 dB. (Green ch., 0 dB gain)
Video output	3 x 8 bit RGB: single port Camera Link base 3 x 10 bit RGB: dual port Camera Link medium 3 x 12 bit RGB: dual port Camera Link medium
Auto-iris lens video	0.7 V p-p, 75 Ω NUM luminance signal w/o sync
Gain, manual	Manual for all 3 colors Master -3 to +21 dB R and B -7 to +10 dB
Synchronization	Int. X-tal
Inputs Camera Link	Ext. trigger, (LVDS)
TTL	Ext. trigger 4 Vpp ±2 V. (TTL or 75 Ω)
Outputs Camera Link	RGB 8/10/12 bit video output. Do – D9 Pixel clock, DVAL, LVAL, FVAL and EEN (LVDS)
TTL	XEEN output 4 Vpp from 75 Ω source (TTL)
Trigger modes	Continuous, Edge Pre-Select, Pulse Width Control, Fast PWC, Reset Continuous
Electronic shutter	
Pre-set shutter	1/120 (off) to 1/130,000 sec. in 10 steps. All or R, G, B individually
Programmable exposure	1L – 511L in 1L (16.2 µs) steps. All or R, G, B individually
Pulse Width Control	2L (32.4 µs) to 122,640L (2 sec.)
White balance	Manual/one-push, continuous, Preset(4000K, 4600K, 5600K) Note: 7800K is Factory default setting
Tracking range	-6 to +6 dB. (4000K to 9000K)
Gamma	1.0 (OFF) , 0.6, 0.45 or LUT (Look Up Table)
Knee function	Knee point and knee slope for R, G, and B channel
Linear Matrix	Manual for R,G and B / Preset (sRGB, Adobe RGB)
Blemish Compensation	ON (use factory preset data) or OFF
Control interface	EIA-644 LVDS
Operating Temperature	-5° C to +45° C
Humidity (operation)	20 - 80% non-condensing
Storage temp./humidity	-25° C to 60° C / 20% - 80 % non-condensing
Vibration	3G (15 Hz to 200 Hz XYZ)
Shock	50 G
Regulations	CE (EN 61000-6-2, EN 61000-6-3), FCC part 15 class A, RoHS
Power	12V to 24V DC ± 10%. 6W typical (full frame @ 12V)
Lens mount	C-mount (Max 4.0 mm thread)
Dimensions (H x W x L)	55 mm x 55 mm x 78.3 mm
Weight	290 g

Ordering Information

AT-030MCL	1/3" 3CCD Progressive Scan RGB Color Camera

Connector pin-out

DC In / Trigger



HIROSE HR10A-10R-12PB-01

Pin		
	1	Ground
	2	+12V DC input
	3	Ground
	4	Iris video
	5	Ground
	6	—
	7	—
	8	Ground
	9	XEEN out
	10	Trigger in
	11	—
	12	Ground

Camera Link Interface

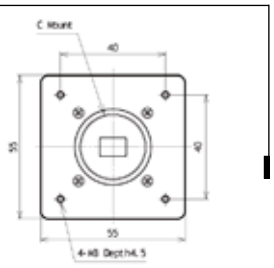
26 pin MCL connector HDR-EA26LFYPG1+

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

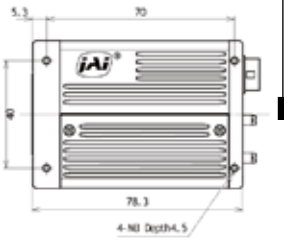
** Via Camera Link or 12-pin Hirose Information shown is for Port 1. For Port 2, which is used when providing 30-bit or 36-bit output via Camera Link medium configuration, pinout is similar, except pins 7-12 and 20-25 are not used.*

Dimensions

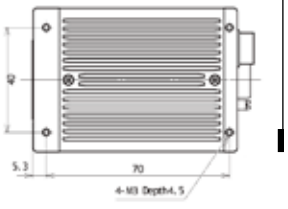
Front view



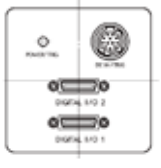
Side view



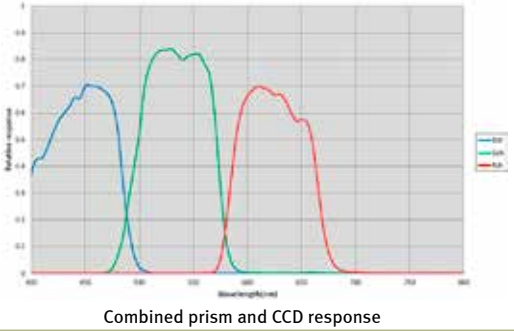
Bottom view



Rear view



Spectral Response



Combined prism and CCD response

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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

Visit our web site on www.jai.com

www.adept.net.au

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