CM-140 MCL-UV
Progressive Scan

adept electronic solutions
The Machine Vision and Imaging Speciaists
Perth: +61 (08) 9242 5411
Sydney: +61 (02) 9979 2599
Melbourne: +61 (03) 9555 5621
Email: adept@adept.net.au
Web: http://www.adept.net.au

- *Compact series 1/2" progressive scan camera*
- *Monochrome UV-sensitive*
- *1392 (h) x 1040 (v) active pixels*
- *4.65 µm square pixels*
- *16 frames/second with full resolution in continuous operation*
- *16 frames/second with external trigger and full resolution*
- *Up to 38 frames/second with partial scan*
- *25 frames/second with vertical binning*
- *Shutter speed from 59µs to 2 sec. using Pulse Width Control*
- *Programmable exposure from 118µs to 62 ms*
- *Pre-select and Pulse width trigger modes*
- *LVAL-synchronous/-asynchronous operation (auto-detect)*
- *Power over CL (PoCL) version available (CM-140 PMCL-UV)*
- *Auto iris lens video output allows a wider range of light*
- *10 or 8-bit output*
- *Setup by Windows NT/2000/XP via serial communication*

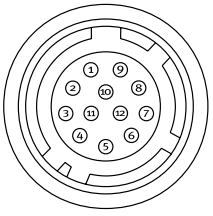
CAMERA Link
(Mini Camera Link)

Specifications for CM-140 MCL-UV

Specifications	CM-140 MCL-UV
Sensor	1/2" progressive scan CCD
Pixel Clock	33.75 MHz
Frame rate full frame	16.14 frames/second (1052 lines per frame)
Active area	6.4 (h) x 4.8 (v) mm
Cell size	4.65 x 4.65 µm
Active pixels	1392 (h) x 1040 (v)
Read-out modes	
Full	1392 (h) x 1040 (v) 16.14 fps
2/3 partial scan	1392 (h) x 694 (v) 20.76 fps
1/2 partial scan	1392 (h) x 520 (v) 24.16 fps
1/4 partial scan	1392 (h) x 269 (v) 32.16 fps
1/8 partial scan	1392 (h) x 130 (v) 38.41 fps
Vertical binning	1392 (h) x 527 (v) 25.37 fps
Sensitivity (CM-140 MCL)	0.3 Lux (On sensor, Max. gain, shutter off, 50% video)
S/N ratio	>50dB (0 dB gain)
Video output	8 or 10 bit in Mini-CL
Auto-iris lens video	0.7 Vpp
Gain	Manual, -3dB to +12dB
Synchronization	Int. X-tal or ext. trigger
Inputs Camera Link	Ext. trigger, LVDS (CC 1)
TTL	Ext. trigger 4V ±2V
Outputs Camera Link	Clk., FVAL, LVAL, Data, EEN
TTL	XEEN
Trigger modes	Pre-select, Pulse Width, Reset Continuous
Electronic shutter	
Pre-set shutter	1/30 to 1/10,000 in 9 steps
Programmable exposure	2L (118µs) to 1052L (62ms) in 1L steps
Pulse Width Control	59µs to 2 sec.
Accumulation	Auto-detect LVAL-synchr. / asynchr.
Control interface	Mini-CL serial communication
Functions controlled by serial communication	Shutter, Trigger, Screening, Readout mode, Trigger Polarity, Black level, Gain,
Indicators on rear panel	LED for power and trigger input
Operating Temperature	-5°C to +45°C
Humidity (operation)	20 - 90% non-condensing
Storage temp./humidity	-25°C to +60°C / 20 to 90% non-condensing
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% 1.8 W
Lens mount	C-mount
Dimensions (H x W x L)	29 x 44 x 66 mm
Weight	120 g

Connector pin-out

DC In / Trigger



HIROSE HR10A-10R-12PB-01

Pin		
	1	Ground
	2	+12V DC
	3	Ground
	4	Auto Iris lens video output
	5	Ground
	6	N/C
	7	N/C
	8	Ground
	9	XEEN out
	10	Trigger in*
	11	+12V DC
	12	Ground

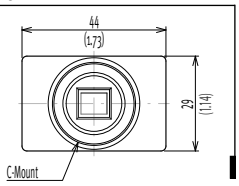
Mini-CL interface

Pin		Signal	Function
1	14	GND	-
2	15	+/-Txo	CL Data
3	16	+/-Tx1	CL Data
4	17	+/-Tx2	CL Data
5	18	+/-Txclk	CL clk
6	19	+/-Tx3	CL Data
7	20	SerTC+/SerTC-	Serial in
8	21	SerTFG+/SerTFG-	Serial out
9	22	CC1-/CC1+	Ext. trig*
10	23	CC2+/CC2-	Not used
11	24	CC3-/CC3+	Not used
12	25	CC4+/CC4-	Not used
13	26	GND	

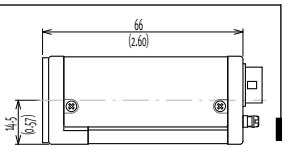
For PoCL version pins 1 and 26 are used for +12V
*) in Mini-CL or 12-pin Hirose

Dimensions

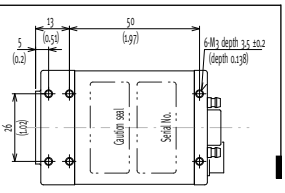
Front view



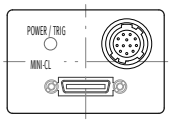
Side view



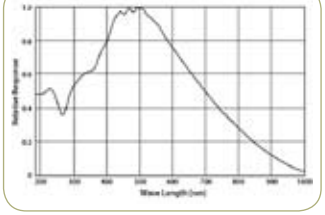
Bottom view



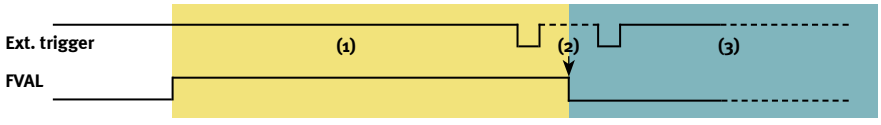
Rear view



Spectral Response CM-140 MCL-UV



FVAL auto-detect trigger function (next LVAL or immediate)



(1) Within this period camera starts accumulation at next LVAL (prevents feed-through noise)
(2) Avoid trigger at FVAL transition, as function may randomly switch between "next LVAL" and "immediate"
(3) Within this period camera starts accumulation immediately (no delay)

Ordering Information

CM-140 MCL-UV	1/2" Monochrome Progressive Scan Camera

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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