

❖ CM-141 MCL / CB-141 MCL Progressive Scan

C3 Camera Suite
Unlimited
Digital
Switchability



- *C3 Compact series 2/3" progressive scan camera*
- *Monochrome and Bayer mosaic color versions*
- *1392 (h) x 1040 (v) active pixels*
- *6.45 μm square pixels*
- *30 frames/second triggered and continuous operation with full resolution*
- *Up to 141 frames/second with variable partial scan*
- *50 frames/second with vertical binning (CM-141 MCL only)*
- *Shutter speed from 63 μs to 2 sec. using Pulse Width Control*
- *Preset shutter from OFF (1/30) to 1/10,000*
- *Programmable exposure from 63 μs to 33ms*
- *Pre-select, Pulse width and reset continuous trigger modes*
- *Smearless EPS mode available*
- *LVAL-synchronous/-asynchronous operation (auto-detect)*
- *Auto iris lens video output allows a wider range of light*
- *8, 10 or 12-bit output*
- *Setup by Windows NT/2000/XP via serial communication*
- *Camera link interface (available with Power over Camera Link)*
- *Right angle option available*

**CAMERA
Link**
(Mini Camera Link)



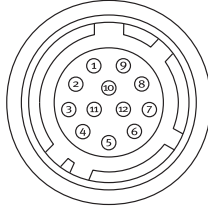
Specifications for CM-141 MCL / CB-141 MCL

Specifications	CM-141 MCL / CB-141 MCL
Sensor	Sony ICX-285AL 2/3" progressive scan CCD (CM-141 MCL) Sony ICX-285AQ 2/3" progressive scan CCD (CB-141 MCL)
Pixel Clock	58 MHz
Frame rate full frame	30.12 frames/second (1052 lines per frame)
Active area	8.98 (h) x 6.7 (v) mm 2/3" diagonal
Cell size	6.45 (h) x 6.45 (v) μm
Active pixels	1392 (h) x 1040 (v)
Color (CB-141 MCL)	Selectable Raw Bayer 8, 10 or 12 bit
Read-out modes	Full scan 1392 (h) x 1040 (v) 30.12 fps 2/3 partial scan 1392 (h) x 694 (v) 41.05 fps 1/2 partial scan 1392 (h) x 520 (v) 50.06 fps 1/4 partial scan 1392 (h) x 260 (v) 74.57 fps 1/8 partial scan 1392 (h) x 130 (v) 98.73 fps Vertical binning 1392 (h) x 520 (v) 50.18 fps* (Note) Variable Partical scan Start line from 1 to 1033, high (Lines) from 8 to 1040 *NOTE: CM-141 MCL only
Sensitivity (CM-141 MCL)	0.03 Lux (On sensor, Max. gain, shutter off, 50% video)
Sensitivity (CB-141 MCL)	0.2 Lux (On sensor, Max. gain, shutter off, 50% video)
S/N ratio	>58dB (0 dB gain)
Video output	8, 10 or 12 bit in Mini-CL
Auto-iris lens video	0.7V p-p
Gain	-3dB to 24dB
Synchronization	Int. X-tal or ext. trigger
Inputs	Camera Link TTL Ext. trigger, LVDS (CC 1) Ext. trigger 4V ±2V
Outputs	Camera Link TTL Clk., FVAL, LVAL, Data, EEN XEEN
Trigger modes	Edge pre-select, Pulse Width, RCT, Smearless EPS
Electronic shutter	Pre-set shutter speed 1/30 to 1/10,000 in 10 steps Programmable exposure 2L (63μs) to 1052L (33.19ms) in 1L steps Pulse Width Control 63μs to 2 sec.
Accumulation	Auto-detect LVAL-synchr. / asynchr.
Control interface	Mini-CL serial communication
Functions controlled by serial communication	Shutter, Trigger mode, Readout mode, Trigger Polarity, Black level, Gain,
Indicators on rear panel	LED for power and trigger input
Operating Temperature	-5°C to +50°C
Humidity (operation)	20% - 90% non-condensing
Storage temp./humidity	-25°C to +60°C / 20%-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% 3.6 W
Lens mount	C-mount
Dimensions (H x W x L)	29 x 44 x 75 mm (CM/CB-141 MCL) 29 x 44 x 93.5 mm (CM/CB-141 MCL-RA with Right Angle)
Weight	130 g (CM/CB-141 MCL) 160 g (CM/CB-141 MCL-RA with Right Angle)

Ordering Information
CM-141 MCL 2/3" Monochrome Progressive Scan
CB-141 MCL 2/3" Bayer Mosaic Color Progressive Scan
CM-141 MCL-RA 2/3" Monochrome Progressive Scan (with Right Angle)
CB-141 MCL-RA 2/3" Bayer Mosaic Color progressive Scan (with Right Angle)
All versions available with Power over Camera Link (PMCL)

Connector pin-out

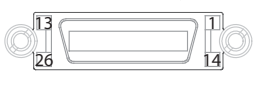
DC In / Trigger



HIROSE HR10A-10R-12PB-01

Pin	Signal
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

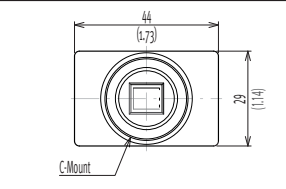


Pin	Signal	Function
1 14	GND	-
2 15	-/+ Tx0	CL Data
3 16	-/+ Tx1	CL Data
4 17	-/+ Tx2	CL Data
5 18	-/+ Txclk	CL clk
6 19	-/+ Tx3	CL Data
7 20	SerTC+/SerTC-	Serial in
8 21	SerTFG+/SerTFG-	Serial out
9 22	CC1-/CC1+	Ext. trig*
10 23	CC2+/CC2-	Not used
11 24	CC3-/CC3+	Not used
12 25	CC4+/CC4-	Not used
13 26	GND	-

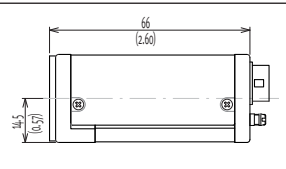
*) in Mini-CL or 12-pin Hirose

Dimensions

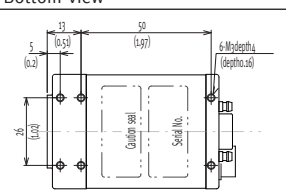
Front view



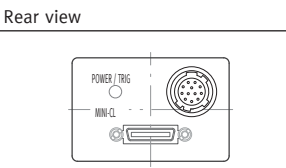
Side view



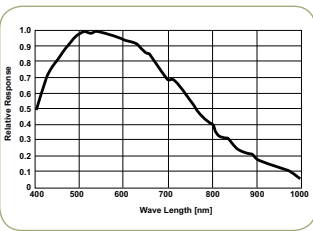
Bottom view



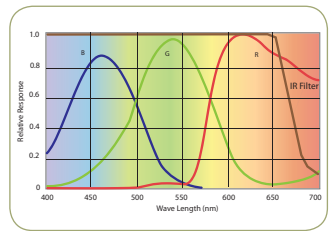
Rear view



Spectral Response CM-141 MCL




Spectral Response CB-141 MCL



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

Ext. trigger (1) (2) (3)

FVAL



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

Company and product names mentioned in this datasheet are trademarks or registered trademarks of their respective owners. IAI A/S cannot be held responsible for any technical or typographical errors and reserves the right to make changes to products and documentation without prior notification.

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



See the possibilities

Visit our web site on www.jai.com