

## CM-141 PMCL / CB-141 PMCL Progressive Scan

**C3** Camera Suite  
Unlimited  
Digital  
Switchability



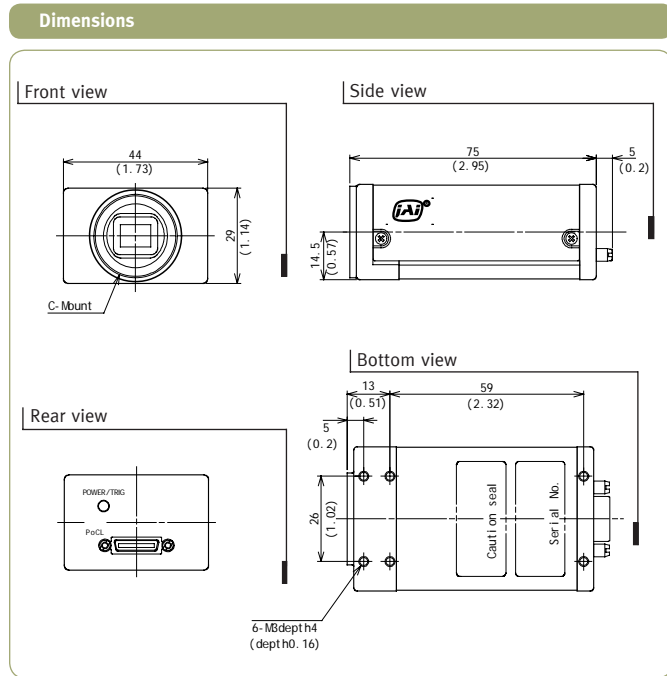
- C3 Compact series 2/3" progressive scan camera
- Monochrome and Bayer mosaic color versions
- 1392 (h) x 1040 (v) active pixels
- 6.45  $\mu\text{m}$  square pixels
- 30 frames/second triggered and continuous operation with full resolution
- Up to 141 frames/second with variable partial scan
- 50 frames/second with vertical binning (CM-141 PMCL only)
- Shutter speed from 63 $\mu\text{s}$  to 2 sec. using Pulse Width Control
- Preset shutter from OFF (1/30) to 1/10,000
- Fine exposure from 1/15847 to 1/85149 by 1 pixel clock unit
- Pre-select, Pulse width and reset continuous trigger modes
- Smearless EPS mode available
- LVAL-synchronous/-asynchronous operation (auto-detect)
- 8, 10 or 12-bit output
- Setup by Windows 2000/XP via serial communication
- Power over Camera Link Interface (PoCL)
- Right angle option available

**CAMERA  
Link**  
(Power over Camera Link)



# Specifications for CM-141 PMCL / CB-141 PMCL

Specifications	CM-141 PMCL / CB-141 PMCL
Sensor	Sony ICX-285AL 2/3" progressive scan CCD (CM-141 PMCL) Sony ICX-285AQ 2/3" progressive scan CCD (CB-141 PMCL)
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 1024, high (Lines) from 8 to 1032 *NOTE: CM-141 PMCL 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	γ58dB (0 dB gain)
Video output	8, 10 or 12 bit in Mini-CL
Gain	-3dB to 24dB
Synchronization	Int. X-tal or ext. trigger
Inputs	Camera Link Ext. trigger, LVDS (CC 1)
Outputs	Camera Link Clk., FVAL, LVAL, Data, EEN
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.
Fine exposure	1/15847 to 1/85149 by 1 pixel clock
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	PoCL Standard
Lens mount	C-mount
Dimensions (H x W x L)	29 x 44 x 75 mm (CM/CB-141 PMCL) 29 x 44 x 93.5 mm (CM/CB-141 PMCL-RA with Right Angle)
Weight	130 g (CM/CB-141 PMCL) 160 g (CM/CB-141 PMCL-RA with Right Angle)

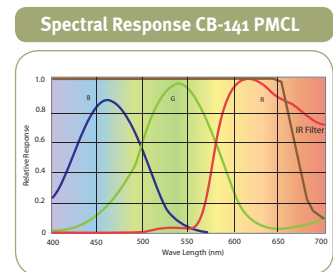
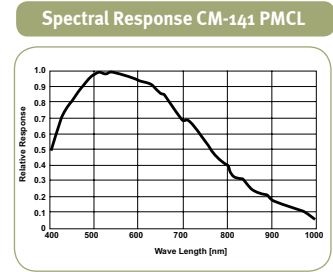


### Connector pin-out

#### Mini-CL interface

Pin	Signal	Function	
1	26	Power	DC +12V
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	14	GND	

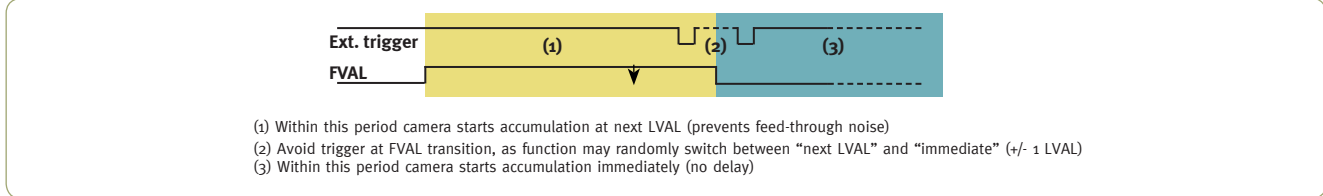
\* ) in Mini-CL or 12-pin Hirose



### Ordering Information

CM-141 PMCL 2/3" Monochrome Progressive Scan  
 CB-141 PMCL 2/3" Bayer Mosaic Color Progressive Scan  
 CM-141 PMCL-RA 2/3" Monochrome Progressive Scan (with Right Angle)  
 CB-141 PMCL-RA 2/3" Bayer Mosaic Color progressive Scan (with Right Angle)

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



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