

➤ **TM-6710 CL** Monochrome Progressive Scan CCD



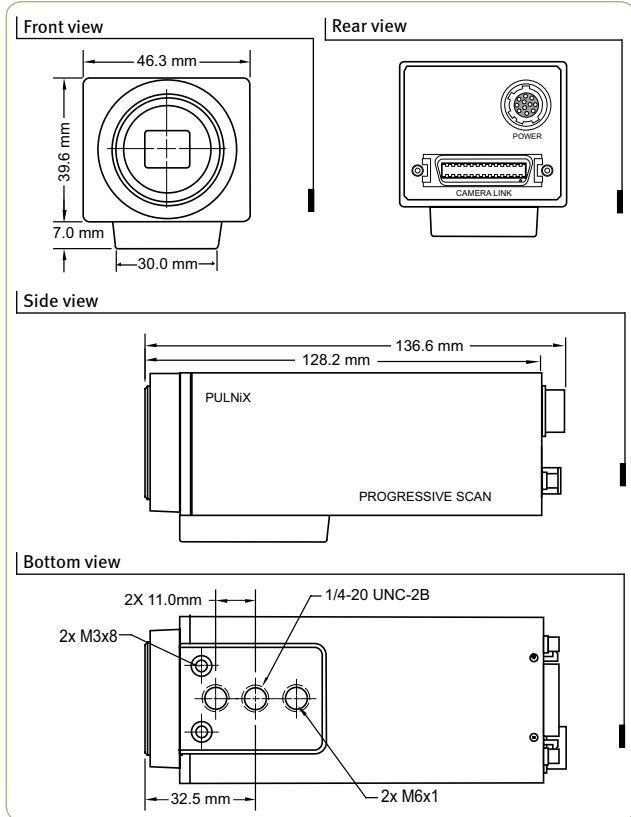
- *1/2" quad-speed progressive scan interline transfer CCD imager (KAI-0330D)*
- *648(H) x 484(V) resolution*
- *9.0 µm square pixels*
- *120/60 Hz selectable frame rate*
- *Up to 300 fps in partial scan modes (200 or 100 lines, image center)*
- *Full frame shutter, 1/60 to 1/32,000 sec.*
- *Asynchronous reset with external shutter control*
- *8-bit x 2 (or 8-bit x 1) digital Camera Link output*
- *On chip micro-lens*
- *Low smear at fast shutter*



Specifications for TM-6710CL

Specifications		TM-6710CL
Sensor		1/2" progressive scan interline transfer CCD
Active area		5.8mm x 4.3mm
Active pixels		648 (H) x 484 (V)
Cell size		9.0 μm x 9.0 μm
Readout modes	A B C	648 (H) x 484 (V) @ 120/60 Hz selectable 648 (H) x 200 (V) @ 236 Hz (partial scan) 648 (H) x 100 (V) @ 300 Hz (partial scan)
Synchronization		HD = 30.49 KHz ± 5% (at 50.980 MHz) Vertical async reset or VD = 120Hz ± 5% HD = 23.97 KHz ± 5% (at 40.00 MHz - optional) Vertical async reset or VD = 96 Hz ± 5% (opt)
Pixel clock		25.49 MHz (50.980 MHz analog) or 20.03 MHz (40.06 MHz analog)
TV resolution	Analog	500 pixels (H) x 484 lines (V)
S/N ratio		>45 dB (AGC off)
Sensitivity		2.8 lux f=1.4 (no shutter) @ 120 fps Pixel sensitivity: 11.5 μV/e-
Video output	Analog Digital	1.0 Vp-p composite, 75 Ω non-interlace Camera Link (Base configuration)
Gamma		1.0 (0.45 is a factory option)
Lens mount		C-mount
Power		12V DC, 700 mA
Operating temperature		-10° C to 50° C
Vibration		7 Grms (10 Hz to 2000 Hz) Random
Shock		70 G, 11 ms, half-sine
Dimensions (H x W x L)		40 mm x 46 mm x 128 mm
Weight		260 g

Dimensions



Mode Control Software

User-friendly GUI software (p/n 69-0062) is provided for Mode Switch control. This interface allows the user to control the following functions:

- Gain Control
- Ch.A Vref control
- Ch.B Vref control
- Clock selection
- Async/Manual shutter control
- Factory set recall
- Power up
- User page storage
- Direct Shutter
- Partial Scan rate

Connector Pin-out

12-Pin Connector

1 GND (power)	7 VD in
2 +12V	8 GND
3 GND (analog)	9 HD in
4 Video out	10 RXD (RS-232)*
5 GND (digital)	11 INTEG/ROI*
6 VINIT in*	12 TXD (RS-232)*

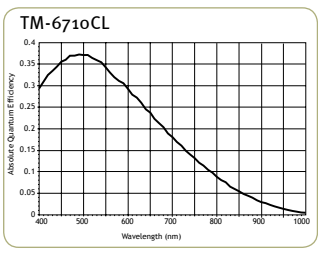
* TM-6710 only, for CL models CL cable should be used.

Shutter Speed

	Manual	Async
0	no shutter	no shutter
1	1/250	1/32,000
2	1/500	1/16,000
3	1/1,000	1/12,000
4	1/2,000	1/8,000
5	1/4,000	1/4,000
6	1/8,000	1/2,000
7	1/12,000	1/1,000
8	1/16,000	1/500
9	1/32,000	Ext. pulse width control

(For 60 fps mode, the shutter speed is half)

Spectral Response



Ordering Information

Camera	
Lead Processing	TM-6710CL
RoHS Compliant	TM-6710CL
Optional Functions	
Internal IR Filter Added	OP3-1
Optical Filter Removal	OP3-2
Ultraviolet Imager	OP21-UV
200 Ohm Termination	OP84
Full RS-644 Output	OP89-1
Optional Accessories (MUST BE ORDERED SEPARATELY)	
I/O	26CL-02-26 digital output cable
Power Cable	12P-02S
Power Supply/2m cable	PD-12UUP Series (includes connector)

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