



Product Features

- High resolution 2/3" format 768 x 493 CCD
- Externally variable electronic shutter
- Auto-shutter for exposure control ("i" models only)
- RGB output with optional Y/C (S-VHS)
- Low light sensitivity to 5 Lux at F1.4
- Variable integration
- Available in both NTSC and PAL (TM-76/76i)

General Description

The TMC-74 series high resolution cameras offer users outstanding color fidelity and full broad band response for applications such as agricultural or color part sorting, object recognition, medical research, process monitoring, graphics, and remote observation.

The TMC-74 offers many standard features including VBS, RGB, multiple external sync capability, and high speed variable shutter (1/60 sec. to 1/10,000 sec.). TTL (through-the-lens) auto/manual white balance, AGC on/off switch, and manual gain and hue controls provide ease of use. Low light sensitivity is 5 lux at F1.4. A remote head configuration (one meter standard), and Y/C output also are available. The optional CCA-5 accessory module provides convenient BNC ports for RGB and sync.

The integration option for the TMC-74 allows the CCD imager to be exposed longer than normal TV timing (16.7msec.). This feature provides added sensitivity for dark environment applications such as video microscopy. Because PULNiX uses an interline transfer chip in the TMC-74, a full frame of resolution is obtained. Integration is available in RGB, NTSC, PAL, and Y/C.

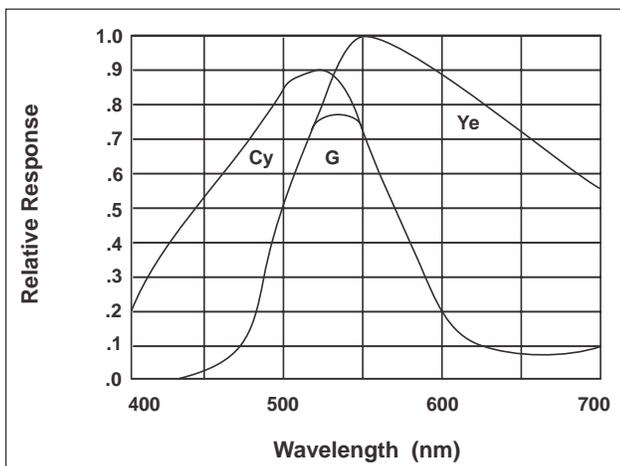
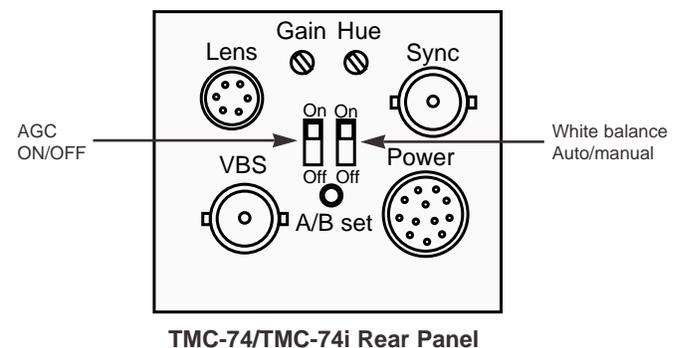
Electronic Shutter

The TMC-74 has a substrate drain shutter mechanism which provides a superb picture at various speeds without smearing. The substrate drain moves the charges vertically. When excess potential is applied to the substrate underneath each cell, a potential barrier is pulled down to release the charge into the drain from all the cells simultaneously. In comparison, conventional CCD shuttering is done with a horizontal charge shift to the drain by interline transferring or reverse transferring of the frame transfer chip.

The electronic shutter rate, which varies from 1/60 to 1/10,000 sec., may be selected externally. Shuttering eliminates the need for costly and distracting strobe lights on a high speed assembly or inspection line.

The TMC-74i version has the additional capability to provide automatic exposure control using the electronic shutter. This eliminates the need for auto iris lenses.

External Functions



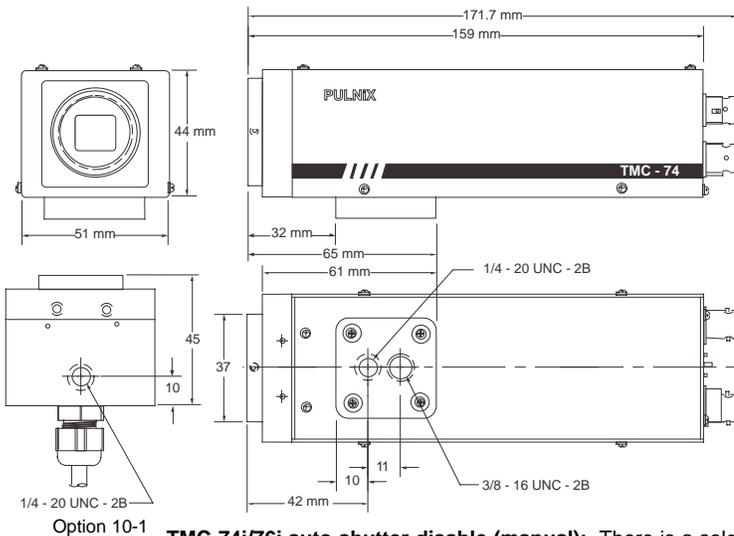
Specifications

Model	TMC-74/TMC-74i (NTSC)	TMC-76/TMC-76i (PAL)
Imager	2/3" Interline transfer CCD	
Pixel	768(H) x 493(V)	756(H) x 581(V)
Cell size	11 x 13 μm	11 x 11 μm
Color filter	Ye, G, Cy stripe color filter	
Scanning	525 lines	625 lines
Sync	fHD=15.734KHz \pm 0.01%	fHD=15.625KHz \pm 0.01%
Shutter	VBS (color burst lock) or Vs (black video):1.0 Vp-p or TTL HD, VD, Interlace or Non-interlace (optional) VBS subcarrier phase adjustable	
TV resolution	1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 ("i" series to 1/31,500 sec. auto shutter mode only)	
S/N ratio	330(H) x 500(V)	
Min. illumination	50 dB (AGC - off)	
Video output	5 lux at F=1.4 3200°K	
Color balance	1.0 Vp-p 75 Ω	
AGC	Sync 0.3 Vp-p or TTL B/W (or Y) 1.0 Vp-p Chroma 285 mVp-p	
Gamma	Through-the-lens auto white balance (memory) and manual hue adjustment	
Lens mount	ON-OFF manual gain adjustment	
Power req.	0.45 or 1 adjustable	
Operating temp.	C-mount, 2/3" format, back focus adjustable	
Vibration & shock	12V DC, 420mA	
Size (W x H x L)	-10° C to +50° C	
Weight	Vibration 7G, Shock 70G	
Power cable	51mm x 44mm x 159mm (2.0" x 1.73" x 6.3")	
Auto iris connector	372 grams (13.1 oz.)	
Functional options	12P-02 (not required if CCA-5 ordered)	
Accessories	PD-12 or PD-12P (includes power connector)	
	PC-6P	
	See current price list for options	
	CCA-5 with 12P-02MF for RGB; SC-745 Shutter Controller (included)	

Note: Due to ongoing product improvements, specifications may change without notice.

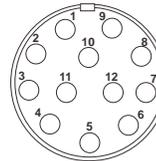
Physical Dimensions

Pin Configuration



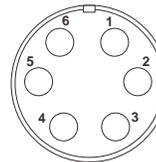
TMC-74i/76i auto shutter disable (manual): There is a solder jumper W9 on the driver board (middle board) for auto and manual selection. Apply solder jumper to disable auto shutter for manual selection.

Physical specifications and pin configurations apply for all versions.



12-Pin Connector

- 1 GND
- 2 +12V
- 3 GND
- 4 VIDEO (VBS)
- 5 GND
- 6 SYNC OUT
- 7 R OUT - (Y)
- 8 GND
- 9 G OUT - (CHROMA)
- 10 GND
- 11 B OUT
- 12 GND



6-Pin Connector

- 1 D2
- 2 GND
- 3 VIDEO (IRIS)
- 4 +12V
- 5 D0
- 6 D1

TMC-74 SERIES

TMC-74 SERIES/297



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