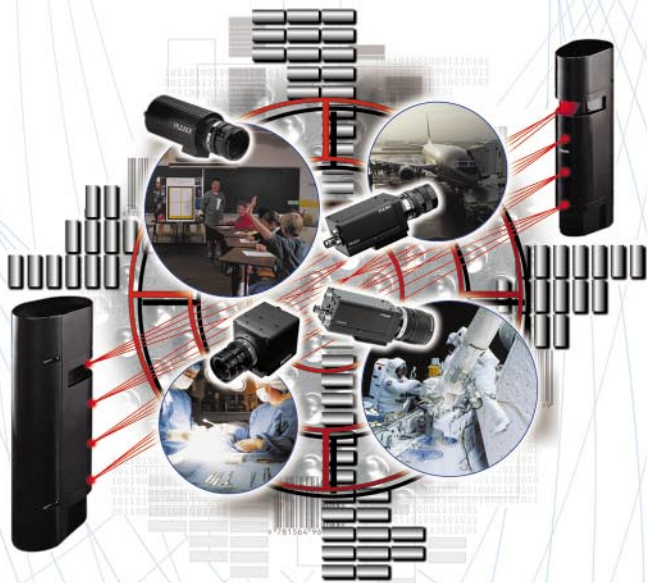


PEC3010

Miniature CCD Colour Camera



PULNiX

The PEC3010 camera is a miniature high resolution CCD camera that gives outstanding colour fidelity in high resolution colour applications. The design is excellent for applications that require a small compact camera such as robotics, machine vision systems, microscopy, medical research, pipe inspection, and remote observation.

The PEC3010 has many features in the miniature package which include Y/C (S-VHS), external synchronisation (VBS), automatic shutter to replace auto iris lens (selectable), variable shutter speeds, integration and flickerless shutter.

Also the PEC3010 has selectable auto white balance and manual white balance to meet all light temperature needs. The automatic gain control and manual gain control are selectable.

The camera uses a 1/3" CCD imager sensor which is used with an exclusive digital control software enabling the camera to give a good image continuously regardless of the environmental conditions.

The PEC3010 can be externally synchronised by using a VBS composite sync input.

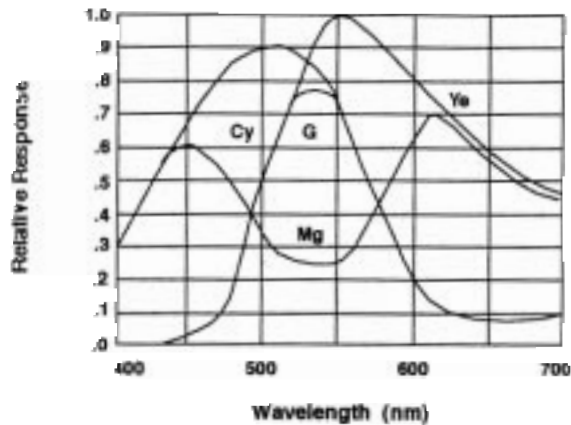
Features

- High resolution (480 horizontal TV lines)
- High sensitivity
- PAL and Y/C (SVHS) output
- AGC switchable
- White balance full auto or manual
- High speed shutter, 1/50 to 1/10,000 sec. selectable
- Stepless auto exposure
- Flickerless shutter
- Wide dynamic range and excellent S/N ratio
- Full colour genlock
- RS232 control

Applications

- Vision Systems
- Robotics
- CCTV
- Image Processing
- Video Conferencing
- Microscopy
- Medical Imaging

Spectral Response



Electronic Shutter

The PEC3010 provides superb images at the various shutter speeds available with no smearing. This is achieved by utilising the substrate drain mechanism of the imager.

The shutter speed range of the camera is 1/50 to 1/10,000 sec; this is suitable for most applications and can eliminate the need for an auto iris lens and/or strobe lighting.

There is also available on the camera as standard a CCD Iris which is seamless from 1/50 to 1/10,000 sec; this adjusts the sensitivity to a wide dynamic range.

The PEC3010 also has as standard a slow speed shutter function. This enables the camera to integrate from 2 fields to 16 fields, selectable.

The camera has available the flickerless shutter mode which can be used to give good stable pictures under difficult light conditions such as fluorescent lamps.

Shutter Speed

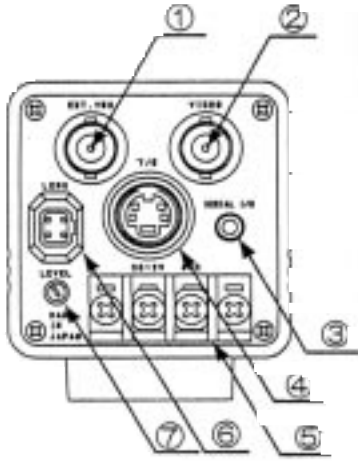
High Speed Shutter Mode

Shutter Speed	SW3	SW4	SW5	SW6
1/50	OFF	OFF	OFF	OFF
1/125	ON	OFF	OFF	OFF
1/250	OFF	ON	OFF	OFF
1/500	ON	ON	OFF	OFF
1/1000	OFF	OFF	ON	OFF
1/2000	ON	OFF	ON	OFF
1/4000	OFF	ON	ON	OFF
1/10,000	ON	ON	ON	OFF

Low Speed Shutter Mode

Shutter Speed	SW3	SW4	SW5	SW6
2 FLD	OFF	OFF	OFF	ON
4 FLD	ON	OFF	OFF	ON
6 FLD	OFF	ON	OFF	ON
8 FLD	ON	ON	OFF	ON
10 FLD	OFF	OFF	ON	ON
12 FLD	ON	OFF	ON	ON
14 FLD	OFF	ON	ON	ON
16 FLD	ON	ON	ON	ON

Connector



1. EXT.VBS INPUT
BNC Connector
2. Video out
BNC Connector
3. Jack for SERIAL I/O
RS-232
4. Y/C OUT Terminal



PIN NO	SIGNAL
1	Y OUT (1Vp-p at 75Ω)
2	CHROMA OUT (300mVp-p at 75Ω)
3	GND (Y OUT)
4	GND (CHROMA OUT)

5. Terminal for Power Supply
10 to 12VDC

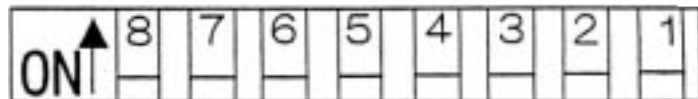
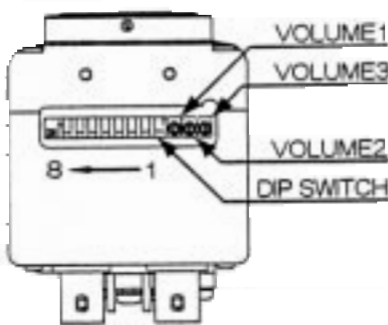
6. Connector for Auto Iris



7. Iris Level
Adjusts Iris level control when using direct drive lenses.

Dip Switch and Volume Controls

Dip Switch



- * Volume 1: No function
- * Volume 2: Adjusts Red colour of white balance.
- * Volume 3: Adjusts Blue colour of white balance.

** These adjustments Vol 2 and 3 work when "SW1" is in the "ON" position.

	Function	OFF	ON
1	White Balance	Auto	Manual
2	AGC	ON	OFF
3	Shutter Speed	High Bit	
4	Shutter Speed		
5	Shutter Speed	Low Bit	
6	Shutter Mode	*	
7			
8	Nega/Posi Exchange	Posi	Nega

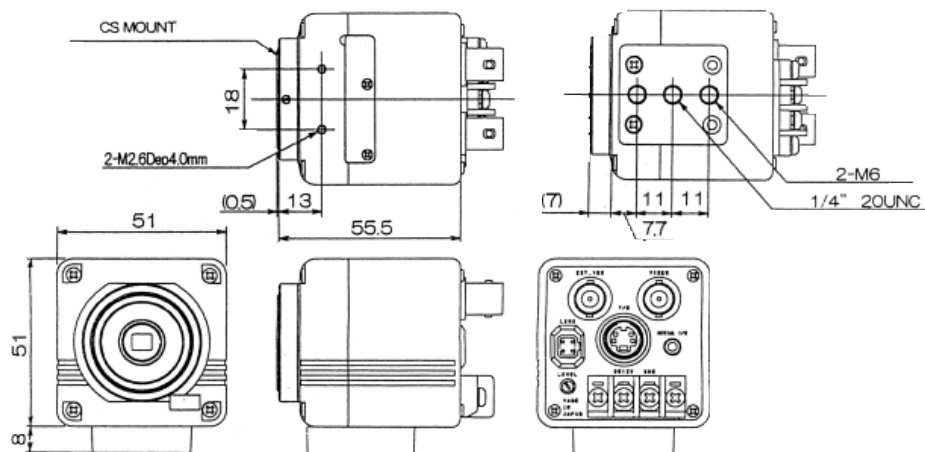
*	Shutter Mode	SW6	SW7
	Electronic Shutter	ON	ON
	Flickerless Shutter	OFF	ON

SW3 - SW5 Indefinite

Specifications

Model	Miniature CCD Colour Camera
Model Number	PEC3010 (PAL) (NTSC version available)
Imager	1/3" Interline transfer CCD
Pixel	752(H) x 582(V)
Cell Size	6.5µm(H) x 6.25µm(V)
Resolution	480 TVL (H)
Scanning	625 lines, 2:1 interlace
Vertical Frequency	50.00Hz
Horizontal Frequency	15.625kHz
Sync.	Internal / External VBS (Csync)
S / N Ratio	Better than 48dB (AGC = off)
Min. Illum.	1.0 lux at f=1.2
Output	1.0 Vp-p composite video at 75Ω and SVHS (Y/C)
White Balance	Full Auto / Manual Adjustment
AGC	ON / OFF selectable via Dip switch
Gamma	0.45
Lens Mount	CS Mount (C Mount adapter optional)
Shutter	Electronic Iris: 1/50 ~ 1/10,000 sec.
	Fixed Shutter: Low Speed Shutter 2FLD ~ 16FLD (8 Steps) integration
	High Speed Shutter: 1/50, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, and 1/10000 sec.
	Flickerless Shutter
Back Light	ON
Serial I/O	RS-232
N/P Exchange	Selectable
Power Req.	10 to 12VDC, 250mA
Operating Temp.	-10°C to +40°C
Auto Iris	Direct Drive
Size (W x H x L)	51mm x 51mm x 55.5mm
Weight	190g

Physical Dimensions (mm/inch)



WARNING: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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



PULNiX's Certificate No.: 5123

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