

PULNiX TMC-4100GE



The TMC-4100GE is a miniature, very high-resolution (4.2 megapixels) color progressive scan CCD camera with Gigabit Ethernet output and a frame rate of 15 fps at full 2048 x 2048 resolution. The TMC-4100GE features the latest Kodak KAI-4021 interline transfer (IT) CCD imager for the best image quality and sensitivity. Applications for the TMC-4100GE include machine vision, medical imaging, intelligent transportation systems, high-definition graphics, gauging, and surveillance.

- 1.2" progressive scan IT CCD imager (KAI-4021)
- 2048 x 2048 resolution @ 15 fps
- 7.4 μm square pixels
- Miniature 51 x 51 x 85 mm housing
- Raw RGB Bayer color output (non-interpolated)
- Monochrome version available as TM-4100GE
- High speed point-to-point connection, up to 1Gbps
- Gigabit Ethernet output (8-bit/10-bit), 100 m with CAT 5E or CAT 6 cable
- Maximum dynamic range control with PULNiX-exclusive, patent-pending built-in look-up table
- Image center partial scan (1000, 500, 250 lines)
- Full-frame shutter to 1/16,000 sec.
- Asynchronous reset, no-delay shutter
- Extensive software developer's kit (SDK)

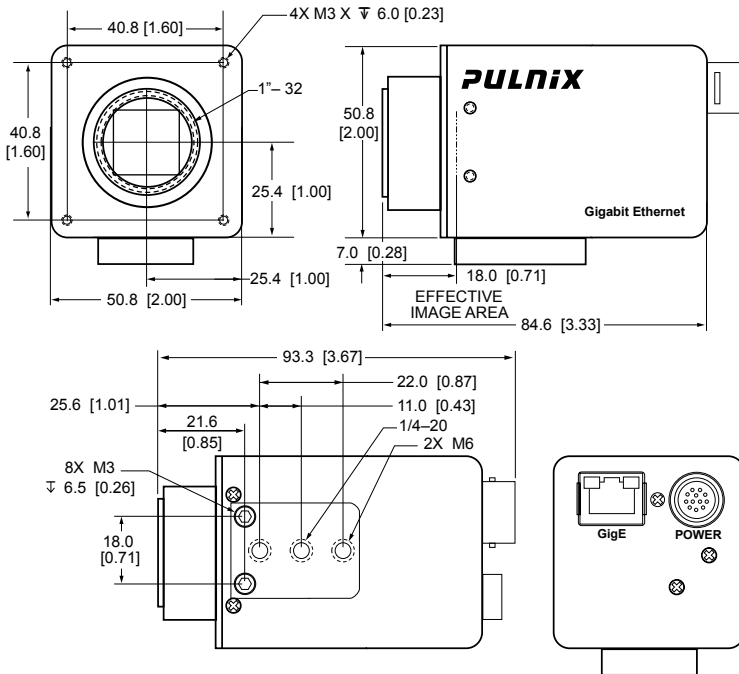
TMC-4100GE Specifications

Imager	1.2" progressive scan interline transfer CCD		
Active Area	15.15mm x 15.15mm		
Active Pixels	2048 (H) x 2048 (V)		
Cell Size	7.4 μm x 7.4 μm		
Display Mode (Active Pixels)	A	2048 (H) x 2048 (V) @ 15 Hz	
	B	2048 (H) x 1000 (V) @ 28 Hz (partial scan)	
	C	2048 (H) x 500 (V) @ 50 Hz (partial scan)	
	D	2048 (H) x 250 (V) @ 80 Hz (partial scan)	
Sync	Internal/External auto switch HD/VD, 4.0 Vp-p impedance 4.7k Ω VD=14.79 Hz ± 2%, non-interlace HD=30.78 kHz ± 2%		
Data Clock Output	40.00 MHz		
Resolution	Digital: 2048 (H) x 2048 (V)		
S/N Ratio	50 dB min.		
Min. Illumination	0.8 lux Sensitivity: 31μ V/e- f=1.4 (no shutter) @ 15 fps		
Video Output	Gigabit Ethernet		
Gamma	Programmable LUT (Gamma 1.0 std)		
Lens Mount	C-mount (use >1" format lenses)		
Power Requirement	12V DC ± 10%, 590 mA (typical at 25° C)		
Operating Temp.	-10° C to 50° C		
Vibration	7 Grms (10 Hz to 2000 Hz) Random		
Shock	70G, 11 ms, half-sine		
Size (W x H x L)	51mm x 51mm x 85mm		
Weight	197 grams, 6.9 oz (without tripod mount)		

MUST BE ORDERED SEPARATELY

Optional Functions	Optical Filter Removal (OP3-2); 10-bit output (OP93-1)
Optional Accessories	P/N
Power Cable	12P-02S
Power Supply	PD-12UUP series (includes power connector)

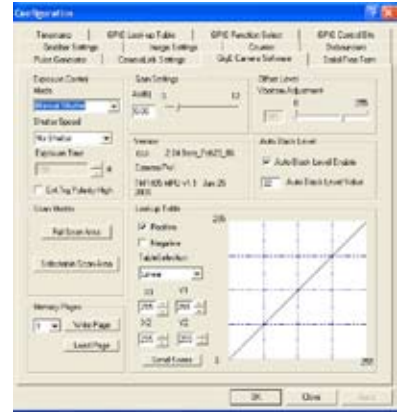
* Image quality will degrade with increasing temperature.



Graphical User Interface

A user-friendly graphical user interface (GUI), provided as part of the camera's extensive software development kit (SDK), allows users to control various camera functions, including:

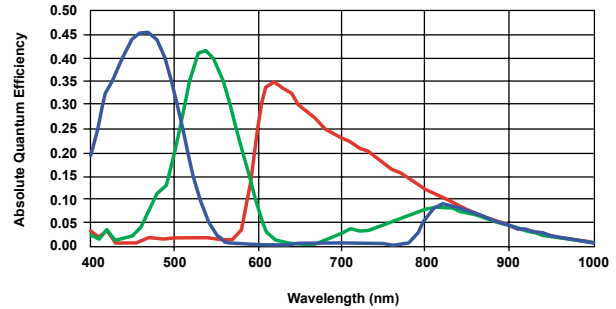
- Shutter control for manual async. and pulse width control
- Gain control
- A/D reference voltage control
- Save settings
- Load settings
- Report settings
- LUT setting and graphic display
- Scanning mode selection and Option selections



The SDK also provides functions for controlling the grabbing of images, and configuring local I/Os, by means of an integrated API and a set of powerful C++ classes. Changes in the camera's acquisition modes automatically update the API for easy image acquisition. CPU usage is only a few percent, thanks to the TCP/IP offload engine.

Software available for download at www.jai.com

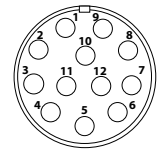
Spectral Response†



† Raw CCD response without included filter

12-Pin Connector

1 GND (power)	7 VD in
2 +12V	8 Strobe out
3 GND (analog)	9 HD in
4 Video out	10 Reserved
5 GND (digital)	11 INTEG/ROI
6 VINIT in	12 Reserved



Shutter Speed

	Manual	Async
0	1/frame rate	Async no shutter
1	1/60	1/16,000
2	1/125	1/8,000
3	1/250	1/4,000
4	1/500	1/2,000
5	1/1,000	1/1,000
6	1/2,000	1/500
7	1/4,000	1/150
8	1/8,000	1/125
9	1/16,000	Ext. pulse width control

JAI A-S, Denmark
Phone: +45 4457 8888
www.jai.com

JAI UK Ltd., England
Phone: +44 (0) 189 582 1481
www.jai.com

JAI Corporation, Japan
Phone: +81 045 440 0154
www.jai-corp.co.jp

JAI PULNiX, Germany
Phone: +49-(0) 60 55-93 79-10
www.jaipulnix.com

JAI PULNiX Inc., USA
625 River Oaks Pkwy
San Jose
CA 95134
USA

Phone +1 408-383-0300
(toll-free) 1 800 445 5444
Fax +1 408 383 0301
www.jaipulnix.com

JAI
PULNiX
www.jaipulnix.com