

❖ **TM-4200 GE / TMC-4200 GE** Progressive Scan CCD



- 1.2" progressive scan IT CCD (Kodak KAI-4021)
- 2048 x 2048 resolution @ 15 fps dual-tap
- 7.4 μm square pixels
- Software-selectable single-tap mode available @ 8 fps
- 12-bit A/D (linear) or 8-bit/10-bit with look-up table (LUT)
- GigE Vision Ethernet output and analog output
- 100 m with standard CAT 5E or CAT 6 cable
- Image center partial scan (1000, 500, 250 lines)
- 2X2 binning and user-definable variable partial scan
- Full-frame shutter to 1/16,000 sec.
- Asynchronous reset, no-delay, pulse width control shutter
- Defective pixel compensation
- PIV (particle imaging velocimetry) mode
- Extensive software developer's kit (SDK)
- Monochrome or color

GigE[™]
VISION



Specifications for TM-4200GE/TMC-4200GE

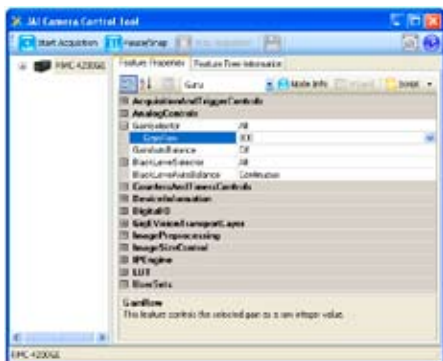
Specifications		TM-4200GE/TMC-4200GE
Sensor		1.2" progressive scan interline transfer CCD
Active area		15.15mm x 15.15mm
Active pixels		2048 (H) x 2048 (V)
Cell size		7.4 μm x 7.4 μm
Readout modes	A B C D U	2048 (H) x 2048 (V) @ 15 Hz 2048 (H) x 1000 (V) @ 28 Hz (partial scan) 2048 (H) x 500 (V) @ 50 Hz (partial scan) 2048 (H) x 250 (V) @ 80 Hz (partial scan) User-definable partial scan
Synchronization		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%
Pixel clock		40.00 MHz
S/N ratio		> 58 dB
Sensitivity	Mono Color	0.12 lux f=1.4 (no shutter) @ 15 fps, 0.8 lux f=1.4 (no shutter) @ 15 fps, Pixel sensitivity: 31 μV/e-
Video output	Analog Digital	1.0 Vp-p, 75 Ω Gigabit Ethernet (8-bit/10-bit/12-bit)
Color (TMC/RMC-4200 only)		Raw Bayer output for host-based interpolation
Gamma		Programmable LUT (Gamma 1.0 std)
Shutter speed (programmable)		1/15 to 1/16,000 in increments of 32.5 μs
Lens mount		C, F, M42 mount (use "1" format lenses)
Power		12V DC ± 10%, 590 mA (typical at 25° C)
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)		51 mm x 51 mm x 85 mm
Weight		214 g (without tripod)

GUI Interface

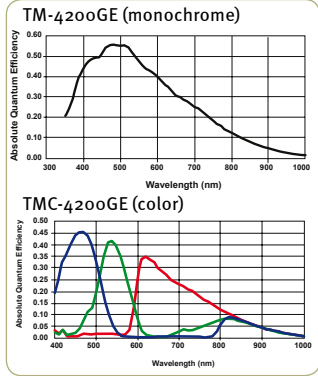
This camera can interface with any GigE Vision compliant software and hardware. The JAI SDK is provided to allow users to control various camera functions including:

- Exposure control for free running, triggered, and pulse width control.
- Gain and black level
- Save settings
- Load settings
- LUT control to maximize dynamic range
- Scan mode selection.
- Pulse generators

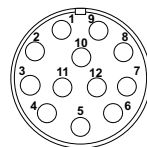
The SDK provides functions for controlling image capture, as well as easy interfaces for setting camera functions and an API for .NET and C++ interfaces. CPU usage can be kept low via the JAI GigE Vision Filter Driver.



Spectral Response



Connector Pin-out



12-Pin Connector

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

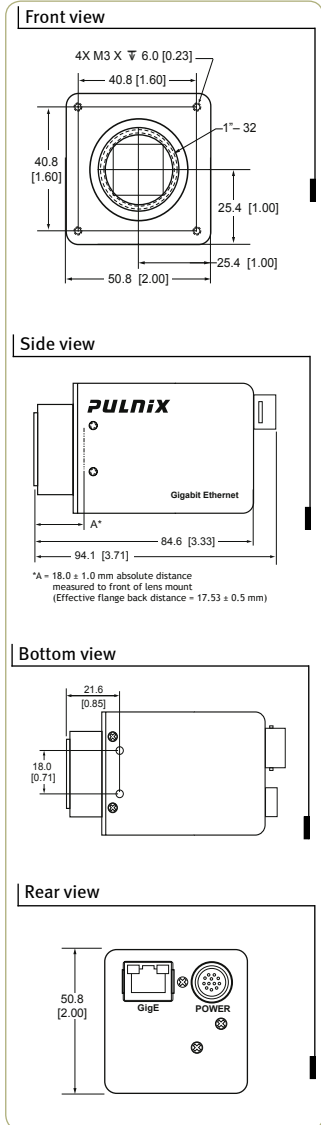
Shutter Speed

	Manual	Async
0	1/frame rate	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	1/250
8	1/8,000	1/125
9	1/16,000	Ext. pulse width control

Ordering Information

Camera	
Lead Processing	TM-4200GE (mono), TMC-4200GE (color)
RoHS Compliant	RM-4200GE (mono), RMC-4200GE (color)
Optional Functions	
Internal IR Filter Added	OP3-1 (monochrome only)
Optical Filter Removal	OP3-2 (color only)
Glassless CCD Imager	OP21
Ultraviolet Imager	OP21-UV (monochrome only)
F mount	OP65-6
M42 mount	OP65-7
M42 mount, 10mm back focus	OP65-8
Optional Accessories (MUST BE ORDERED SEPARATELY)	
Power Supply	PD-12UUP (includes power connector)
Power Supply/2m cable	PD-12UU/12P-02S
Tripod Adapter Kit	TP-20

Dimensions



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