

➤ **TM-4100 GE / TMC-4100 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**
- **8-bit or 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)**
- **Full-frame shutter to 1/16,000 sec.**
- **Asynchronous reset, no-delay, pulse width control shutter**
- **Extensive software developer's kit (SDK)**
- **Monochrome or color**

GigE™
VISION

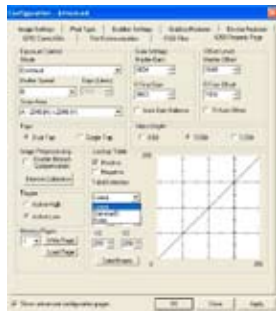
Specifications for TM-4100GE/TMC-4100GE

Specifications	TM-4100GE/TMC-4100GE
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 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)
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	> 50 dB
Sensitivity	Mono 0.12 lux f=1.4 (no shutter) @ 15 fps, Color 0.8 lux f=1.4 (no shutter) @ 15 fps, Pixel sensitivity: 31 μV/e-
Video output	Analog 1.0 Vp-p, 75 Ω Digital Gigabit Ethernet
Color (TMC/RMC-4100 only)	Raw Bayer output for host-based interpolation
Gamma	Programmable LUT (Gamma 1.0 std)
Lens mount	C-mount (use M1" 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	197 g (without tripod)

GUI 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:

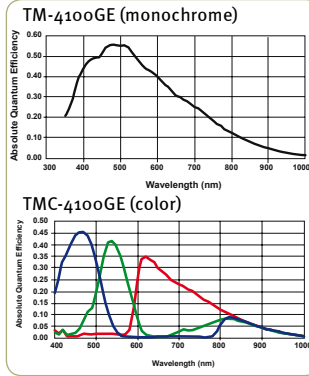
- Shutter control for manual async. and pulse width control
- Gain control
- A/D reference voltage control
- Save settings
- Load settings
- Report settings
- LUT setting and graphic display
- Scanning mode selection and option selections



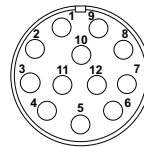
The SDK also provides functions for controlling the grabbing of images, and configuring local I/Os, by means of an integrated API and a set of powerful C++ classes. Changes in the camera's acquisition modes automatically update the API for easy image acquisition. CPU usage is only a few percent, due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

Software available for download at www.jai.com

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 INTEG/ROI |
| 6 VINIT in | 12 NC |

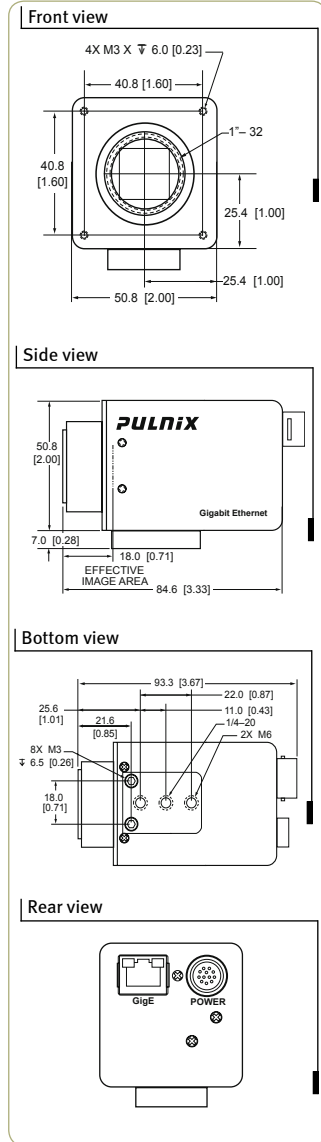
Shutter Speed

	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-4100GE (mono), TMC-4100GE (color)
RoHS Compliant	RM-4100GE (mono), RMC-4100GE (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)
Optional Accessories (MUST BE ORDERED SEPARATELY)	
Power Supply	PD-12UUP (includes power connector)
Power Supply/2m cable	PD-12UU/12P-02S

Dimensions



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