

## ❖ TM-1405GE/TMC-1405GE

Progressive Scan CCD



- 1/2" progressive scan IT CCD (ICX205AL/ICX205AK)
- 1392(H) x 1040(V) @ 30 fps
- 4.65  $\mu\text{m}$  square pixels
- Compact 51 x 51 x 84 mm housing
- High speed point-to-point connection, up to 1Gbps
- Gigabit Ethernet output (8-bit/10-bit selectable)
- Maximum dynamic range control through built-in look-up table (8-bit only)
- User-definable variable partial scan
- PW controlled or fixed electronic shutter to 1/21,000 sec.
- Asynchronous reset, no-delay shutter
- Extensive software developer's kit (SDK)
- Monochrome or color

**GigE**<sup>TM</sup>  
VISION



# Specifications for TM-1405GE/TMC-1405GE

Specifications		TM-1405GE/TMC-1405GE
Sensor		1/2" progressive scan interline transfer CCD
Active area		6.47mm x 4.84mm
Active pixels		1392 (H) x 1040 (V)
Cell size		4.65 $\mu$ m x 4.65 $\mu$ m
Readout mode		1392 (H) x 1040 (V) @ 30 Hz User-definable partial scan
Synchronization		Internal/External auto switch HD/VD, 4.0 Vp-p impedance 4.7K $\Omega$ VD= 30 Hz $\pm$ 2%, non-interlace HD=31.09 kHz $\pm$ 2%
Pixel clock		50.00 MHz
S/N ratio		>51 dB min.
Sensitivity	Mono Color	0.8 lux f=1.4 (no shutter) @ 30 fps, 6.0 lux f=1.4 (no shutter) @ 30 fps
Video output		Gigabit Ethernet (8-bit/10-bit)
Color (RMC/TMC-1405 only)		Raw Bayer output for host-based interpolation
Gamma		Programmable LUT (Gamma 1.0 std)
Shutter speed (programmable)		1/30 to 1/21,000 in increments of 32.16 $\mu$ s
Lens mount		C-mount (use 1/2" format lenses)
Power		12V DC $\pm$ 10%, 420 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 84 mm
Weight		212 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:

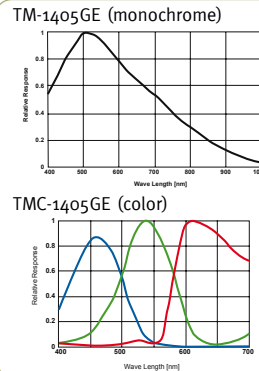
- Shutter control for manual async. and pulse width control
- Gain control
- A/D reference voltage control
- Save settings
- Load settings
- Report settings
- LUT setting and graphic display
- Scanning mode selection and Option selections



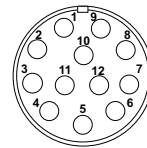
The SDK also provides functions for controlling the grabbing of images, and configuring local I/Os, by means of an integrated API and a set of powerful C++ classes. Changes in the camera's acquisition modes automatically update the API for easy image acquisition. CPU usage is only a few percent, thanks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

Software available for download at [www.jai.com](http://www.jai.com)

## Spectral Response



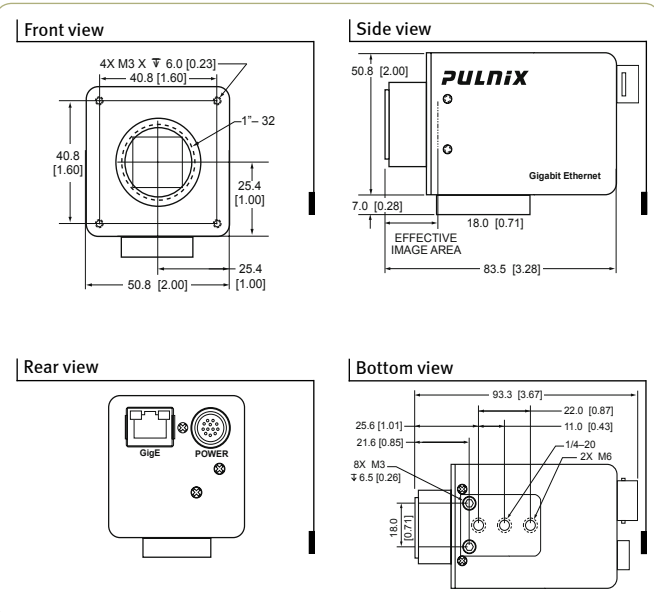
## Connector Pin-out



### 12-Pin Connector

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

## Dimensions



## Ordering Information

Camera	
Lead Processing	TM-1405GE (mono), TMC-1405GE (color)
RoHS Compliant	RM-1405GE (mono), RMC-1405GE (color)
Optional Functions	
Internal IR Filter Added	OP3-1
Optical Filter Removal	OP3-2
Configure to 15 fps	OP7-5
Ultraviolet Imager	OP21-1UV (monochrome only)
Optional Accessories (must be ordered separately)	
Power Cable	12P-02S
Power Supply	PD-12UUP series (includes power connector)