

## ❖ TM-1405 GE / TMC-1405 GE

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

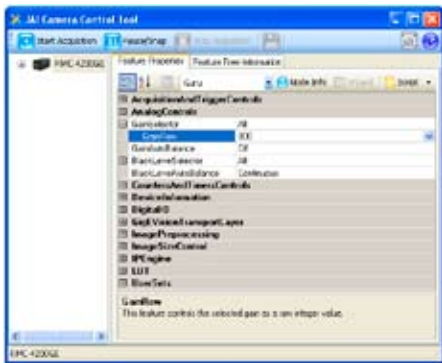
Specifications		TM-1405GE/TMC-1405GE
Sensor	1/2" progressive scan interline transfer CCD	
Active area	6.47mm x 4.84mm	
Active pixels	1392 (H) x 1040 (V)	
Cell size	4.65 μm x 4.65 μm	
Readout mode	1392 (H) x 1040 (V) @ 30 Hz User-definable partial scan	
Synchronization	Internal/External auto switch HD/VD, 4.0 Vp-p impedance 4.7K Ω VD= 30 Hz ± 2%, non-interlace HD=31.09 kHz ± 2%	
Pixel clock	50.00 MHz	
S/N ratio	>51 dB min.	
Sensitivity	Mono	0.8 lux f=1.4 (no shutter) @ 30 fps,
	Color	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 μs	
Lens mount	C-mount (use 1/2" format lenses)	
Power	12V DC ± 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

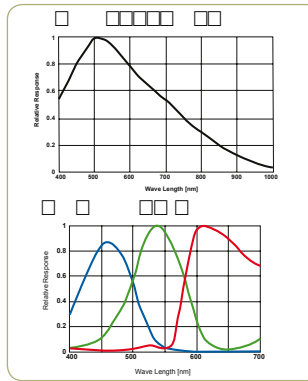
This camera can interface with any GigE Vision compliant software and hardware. The JAI SDK is provided to allow users to control various camera functions including:

- 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

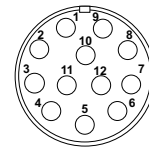
The SDK provides functions for controlling image capture, as well as easy interfaces for setting camera functions and an API for .NET and C++ interfaces. CPU usage can be kept low via the JAI GigE Vision Filter Driver.



## Spectral Response



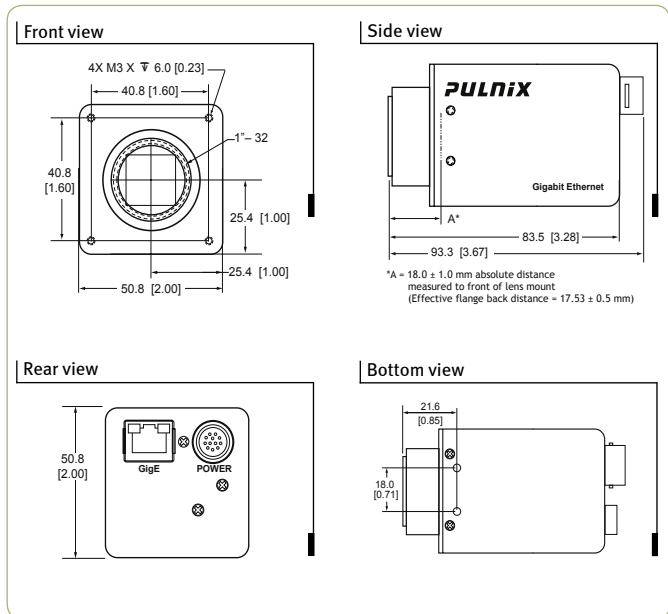
## Connector Pin-out



### 12-Pin Connector

1	GND (power)	7	VD in
2	+12V	8	Strobe out
3	GND (analog)	9	HD in
4	Video out	10	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)

Tripod Adapter Kit	TP-20
Power Cable	12P-02S
Power Supply	PD-12UUP series (includes power connector)

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