

# PULNiX

## TMC-1405GE



The TMC-1405GE is a miniature, high-resolution, (1.4 megapixels) color progressive scan CCD camera. The imager resolution is 1392 x 1040 @ 30 fps. The interline transfer (IT) CCD permits full vertical and horizontal resolution of high-speed shuttered images. Applications for the TMC-1405GE include machine vision, medical imaging, intelligent transportation systems, high-definition graphics, gauging, character recognition, robotics, and surveillance.

- 1/2" progressive scan IT CCD imager (ICX205AK)
- 1392(H) x 1040(V) @ 30 fps
- 4.65  $\mu\text{m}$  square pixels
- Miniature 51 x 51 x 84 mm housing
- Monochrome version is available as TM-1405GE
- 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
- 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)



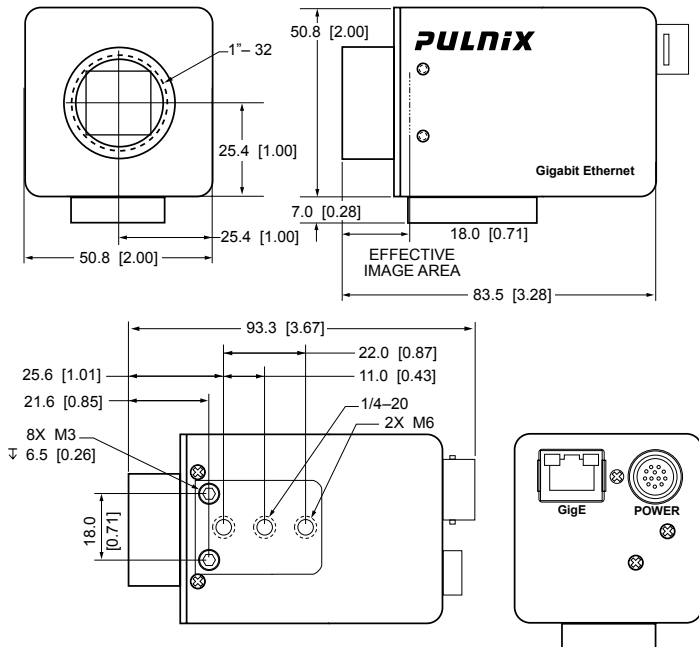
## TMC-1405GE SPECIFICATIONS

Imager	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
Display Mode (Active Pixels)	1392 (H) x 1040 (V) @ 30 Hz
Sync	Internal/External auto switch HD/VD, 4.0 Vp-p impedance 4.7 $\Omega$ VD=30 Hz $\pm$ 2%, non-interlace HD=31.09 kHz $\pm$ 2%
Data Clock Output	50.00 MHz
Resolution	Digital: 1392 (H) x 1040 (V)
S/N Ratio	51dB min.
Min. Illumination	2.0 lux, f=1.4 (no shutter) @ 30 fps
Video Output	Gigabit Ethernet
Gamma	Programmable LUT (1.0 std)
Lens Mount	C-mount (use >1/2" format lenses)
Power Requirement	12V DC $\pm$ 10%, 420 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)	51 mm x 51 mm x 84 mm
Weight	212 grams, 4.9 oz (without tripod)

### MUST BE ORDERED SEPARATELY

Optional Functions	Optical Filter Removal (OP3-2)
Optional Accessories P/N	
Power Cable	12P-025
Power Supply	PD-12U series

\* Image quality will degrade with increasing temperature.



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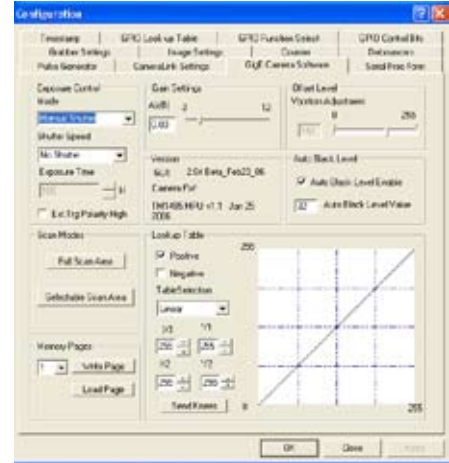
Phone +1 408 383 0300  
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Fax +1 408 383 0301  
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## Graphical User Interface

A user-friendly graphical user interface (GUI) is provided in the CS-232E kit. This interface allows users to control the following functions of the TMC-1405GE camera:

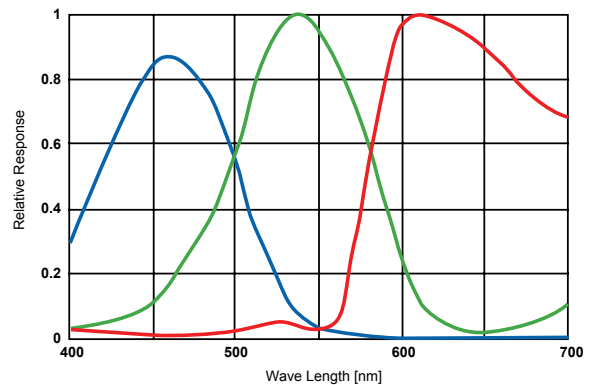
- Shutter control for manual async. and pulse width control
- Gain control
- A/D reference voltage control
- Save settings
- Load settings
- Report settings
- LUT setting and graphic display
- Scanning mode selection and Option selections

Camera parameters can be uploaded from the PC to the camera. Once these parameters are stored in EEPROMs, an instantaneous change from one setting to another can be done with a delay of a few frames in between.



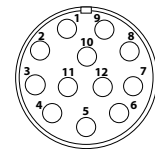
Software available for download at [www.jai.com](http://www.jai.com)

## Spectral Response



### 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



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