



The TM-6740GE is a miniature, VGA-format monochrome progressive scan interline transfer (IT) CCD camera with Gigabit Ethernet output. The imager resolution is 640 x 480 pixels at a frame rate of 200 fps. Applications for the TM-6740GE include machine vision, medical imaging, intelligent transportation systems, high-definition graphics, gauging, character recognition, robotics, and surveillance.

- 1/3" progressive scan IT CCD imager (KAI-0340)
- 640(H) x 480(V) @ 200 fps
- 7.4  $\mu\text{m}$  square pixels
- Miniature 51 x 51 x 84 mm housing
- Color version (RGB Bayer CFA) available as TMC-6740GE‡
- High speed point-to-point connection, up to 1Gbps
- Gigabit Ethernet output (8-bit/10-bit selectable), 100 m with CAT 5E or CAT 6 cable
- 200 frames per second in full frame. Partial scan & binning modes up to 3205 frames per second
- Maximum dynamic range control with PULNiX-exclusive, patent-pending built-in look-up table (8-bit only)
- Full-frame shutter to 1/64,000 sec.
- Asynchronous reset, no-delay shutter
- Built-in pattern generator
- Extensive software developer's kit (SDK)

‡ For more information see the TMC-6740GE data sheet

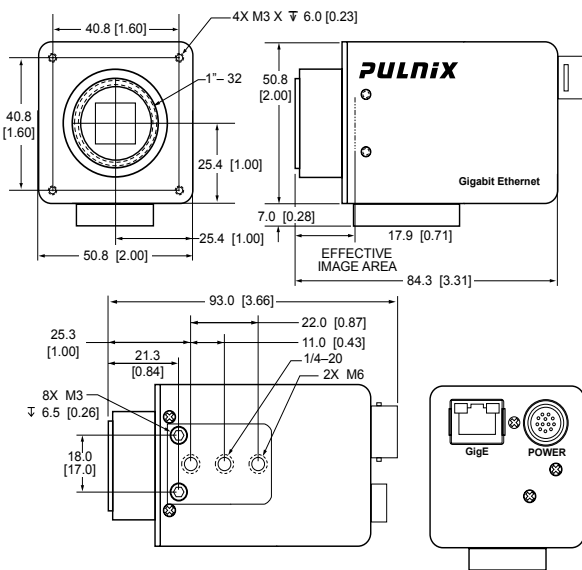
## TM-6740GE Specifications

Imager	1/3" progressive scan interline transfer CCD
Active Area	4.74mm x 3.55mm
Active Pixels	640 (H) x 480 (V)
Cell Size	7.4µm x 7.4µm
Display Mode: (Active Pixels)	A 640 (H) x 480 (V) @ 200 Hz B 640 (H) x 160 (V) @ 540 Hz (partial scan) C 224 (H) x 480 (V) @ 500 Hz (partial scan) D 224 (H) x 160 (V) @ 1250 Hz (partial scan)  Horizontal and vertical 2x and 4x binning independently selectable
Sync	Internal/external auto switch HD/VD, 4.0 Vp-p impedance 4.7k Ω VD=frame rates ± 2%, non-interlace HD=100 kHz ± 2%
Data Clock Output	40.00 MHz
Resolution	Digital: 640 (H) x 480(V)
S/N Ratio*	50 dB min.
Min. Illumination	1.1 lux f=1.4 (no shutter) @ 200 fps Sensitivity: 30µ V/e-
Video Output	Gigabit Ethernet, Analog 714 mV 75Ω
Gamma	Programmable LUT (Gamma 1.0 std)
Lens mount	C-mount (use ≥ 1/3" format lenses)
Power Requirement	12V DC ± 10%, 440 mA (typical at 23°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)	51mm x 51mm x 85mm
Weight	194 grams, 6.8 oz (without tripod mount)

### MUST BE ORDERED SEPARATELY

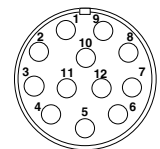
Optional Functions	Internal Filter Added (OP3-1); Optical Filter Removal (OP3-2); Glassless CCD Imager (OP21); UV Imager, Quartz window (OP21-QUV)
Optional Accessories	P/N
Power cable	12P-025
Power supply	PD-12UUP series (includes power connector)

\* Image quality will degrade with increasing temperature.



### 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 INTEG/ROI
6 VINIT in	12 Reserved



### Shutter Speed

	Manual	Async
0	1/frame rate	Async no shutter
1	1/250	1/64,000
2	1/500	1/32,000
3	1/1,000	1/16,000
4	1/2,000	1/8,000
5	1/4,000	1/4,000
6	1/8,000	1/2,000
7	1/16,000	1/1,000
8	1/32,000	1/500
9	1/64,000	Ext. pulse width control

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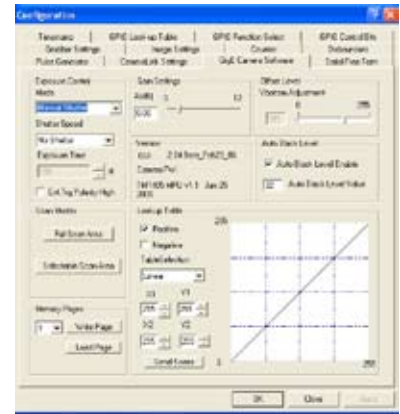
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## Graphical User Interface

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:

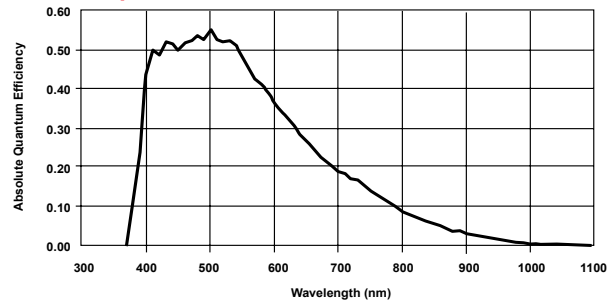
- Shutter control for manual async. and pulse width control
- Gain control
- A/D reference voltage control
- Save settings
- Load settings
- Report settings
- LUT setting and graphic display
- Scanning mode selection and Option selections



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



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