

PULNiX TMC-6740GE

Gigabit Ethernet Series



The TMC-6740GE is a miniature, VGA-format color 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 TMC-6740GE include machine vision, medical imaging, intelligent transportation systems, high-definition graphics, gauging, character recognition, robotics, and surveillance.

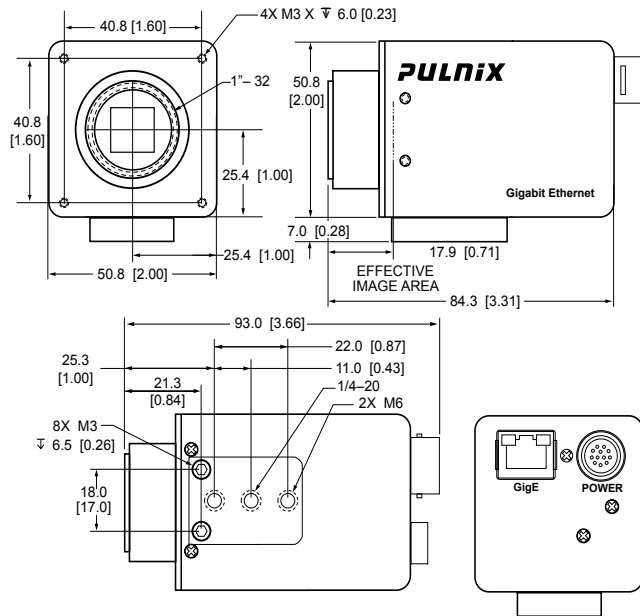
- 1/3" progressive scan IT CCD imager (KAI-0340)
- 640(H) x 480(V) @ 200 fps
- 7.4 μm square pixels
- Miniature 51 x 51 x 84 mm housing
- Raw RGB Bayer color output (non-interpolated)
- Monochrome version available as TM-6740GE
- High speed point-to-point connection, up to 1Gbps
- Gigabit Ethernet output (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)

TMC-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 | 9.0 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 | Optical Filter Removal (OP3-2) |
| Optional Accessories | P/N |
| Power cable | 12P-02S |
| Power supply | PD-12UUP series (includes power connector) |

* Image quality will degrade with increasing temperature.



JAI A-S, Denmark
Phone: +45 4457 8888
www.jai.com

JAI UK Ltd., England
Phone: +44 (0) 189 582 1481
www.jai.com

JAI Corporation, Japan
Phone: +81 045 440 0154
www.jai-corp.co.jp

JAI PULNiX, Germany
Phone: +49-(0) 60 55-93 79-10
www.jaipulnix.com

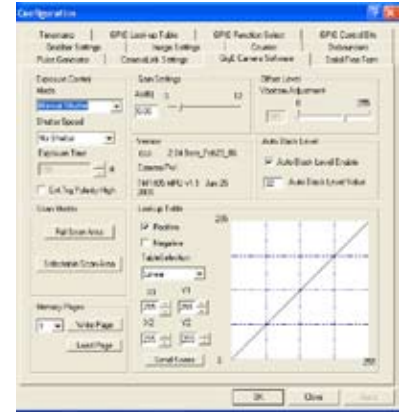
JAI PULNiX Inc., USA
625 River Oaks Pkwy
San Jose
CA 95134
USA

Phone +1 408 383 0300
(toll-free) 1 800 445 5444
Fax +1 408 383 0301
www.jaipulnix.com

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:

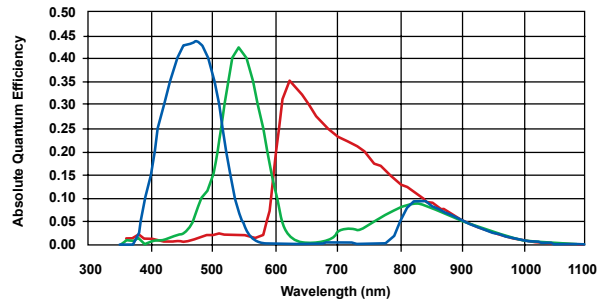
- Shutter control for manual async. and pulse width control
- Gain control
- A/D reference voltage control
- Save settings
- Load settings
- Report settings
- LUT setting and graphic display
- Scanning mode selection and Option selections



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

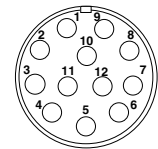
Spectral Response†



† Raw CCD response without included filter

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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