▪ 640 x 480 ▪ 200 FPS ▪ GigE Vision

# TM-6740 GE / TMC-6740 GE

## Progressive Scan CCD

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- *1/3” progressive scan IT CCD (Kodak KAI-0340)*
- *640(H) x 480(V) @ 200 fps*
- *7.4 µm 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)*
- *Partial scan & binning modes up to 3205 frames per second*
- *Maximum dynamic range control through 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)*
- *Monorchrome or color*

GiGE VISION™

# Specifications for TM-6740GE/TMC-6740GE

| Specifications | | TM-6740GE/TMC-6740GE |
|---|---|---|
| Sensor | | 1/3" progressive scan interline transfer CCD |
| Active area | | 4.74mm x 3.55mm |
| Active pixels | | 640 (H) x 480 (V) |
| Cell size | | 7.4 µm x 7.4 µm |
| Readout modes | A<br>B<br>C<br>D | 640 (H) x 480 (V) @ 200 Hz<br>640 (H) x 160 (V) @ 540 Hz (partial scan)<br>224 (H) x 480 (V) @ 500 Hz (partial scan)<br>224 (H) x 160 (V) @ 1250 Hz (partial scan)<br><br>Horizontal and vertical 2x and 4x binning independently selectable |
| Synchronization | | Internal/External auto switch<br>HD/VD, 4.0 Vp-p impedance 4.7K Ω<br>VD= frame rates ± 2%, non-interlace<br>HD=100 kHz ± 2% |
| Pixel clock | | 40.00 MHz |
| S/N ratio | | >50 dB |
| Sensitivity | Mono<br>Color | 1.4 lux f=1.4 (no shutter) @ 200 fps,<br>11.0 lux f=1.4 (no shutter) @ 200 fps,<br>Pixel sensitivity: 30 µV/e- |
| Video output | | Gigabit Ethernet, Analog 714 mV 75 Ω |
| Color (RMC/TMC-6740 only) | | Raw Bayer output for host-based interpolation |
| Gamma | | Programmable LUT (Gamma 1.0 std) |
| Lens mount | | C-mount (use >1/3" format lenses) |
| Power | | 12V DC ± 10%, 440 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 | | 194 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:

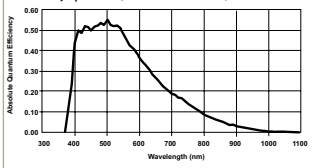
- Shutter control for manual async. and pulse width control
- Gain control
- A/D reference voltage control
- Save settings
- Load settings
- Report settings
- LUT setting and graphic display
- Scanning mode selection and Option selections

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.

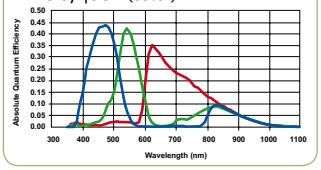
Software available for download at www.jai.com

## Spectral Response

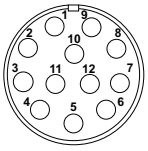
TM-6740GE (monochrome)




TMC-6740GE (color)




## Connector Pin-out




**12-Pin Connector**

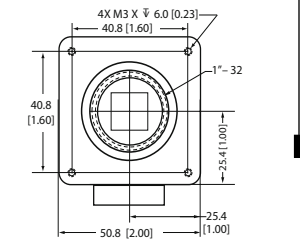
| | | | |
|---|---|---|---|
| 1 | GND (power) | 7 | VD in |
| 2 | +12V | 8 | Strobe out |
| 3 | GND (analog) | 9 | HD in |
| 4 | Video out | 10 | Reserved |
| 5 | GND (digital) | 11 | INTEG/ROI |
| 6 | VINIT in | 12 | Reserved |

## Shutter Speed

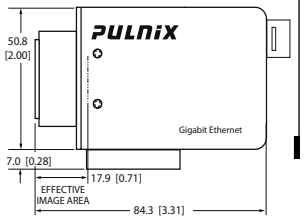
| | Manual | Async |
|---|---|---|
| 0 | 1/frame rate | no shutter |
| 1 | 1/250 | 1/64,000 |
| 2 | 1/500 | 1/32,000 |
| 3 | 1/1,000 | 1/16,000 |
| 4 | 1/2,000 | 1/8,000 |
| 5 | 1/4,000 | 1/4,000 |
| 6 | 1/8,000 | 1/2,000 |
| 7 | 1/16,000 | 1/1,000 |
| 8 | 1/32,000 | 1/500 |
| 9 | 1/64,000 | Ext. pulse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

## Dimensions

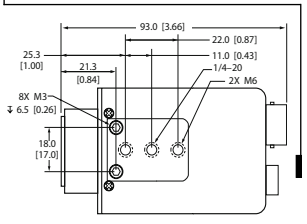
Front view



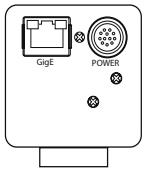

Side view




Bottom view




Rear view




## Ordering Information

| | |
|---|---|
| **Camera** | |
| Lead Processing | TM-6740GE (mono), TMC-6740GE (color) |
| RoHS Compliant | RM-6740GE (mono), RMC-6740GE (color) |
| **Optional Functions** | |
| Internal IR Cut Filter Added | OP3-1 |
| Optical Filter Removal | Op3-2 (color only) |
| Ultraviolet Imager (quartz window) | OP21-QUV (monochrome only) |
| **Optional Accessories (must be ordered separately)** | |
| Power Cable | 12P-02S |
| Power Supply | PD-12UUP series (includes power connector) |

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10425 Rev B.05.16.2007