

## ❖ CM-200 GE / CB-200 GE

Progressive Scan

**C<sub>3</sub> Camera Suite**  
 Unlimited  
 Digital  
 Switchability



- Member of C<sub>3</sub> Compact series, covering VGA to UXGA resolution
- 1624 (h) x 1236 (v) 4.4µm square pixels
- 1/1.8" progressive scan - Monochrome and Bayer mosaic color versions
- 25 frames/second with full resolution in continuous operation
- 24 frames/second with external trigger and full resolution
- Increased frame rate with vertical binning (CM-200 GE) and partial scan
- Exposure time from 32µs to 2 sec. using Pulse Width trigger mode
- Programmable exposure from 64µs to 40ms
- Sequence trigger mode for on-the-fly change of gain, exposure and ROI
- LVAL Synchronous/-asynchronous operation (auto-detect)
- Auto iris lens video output allows a wider range of light
- GigE Vision interface with 10 or 8-bit output
- Programmable GPIO with opto-isolated inputs and outputs
- Comprehensive software tools and SDK for Windows XP/Vista

**GigE**<sup>™</sup>  
 VISION

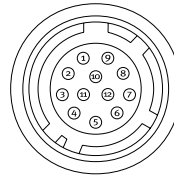
# Specifications for CM-200 GE / CB-200 GE

Specifications	CM-200 GE / CB-200 GE
Sensor	1/1.8" CCD
Pixel Clock	65 MHz
Frame rate full frame	25 frames/second
Active area	7.13 (h) x 5.37 (v) mm
Cell size	4.4 x 4.4 μm
Active pixels	1624 (h) x 1236 (v)
Color (CB-200 GE)	Raw Bayer output, host-based interpolation
Read-out modes	
Full	1624 (h) x 1236 (v) 25 fps
1/2 partial scan	1624 (h) x 616 (v) 43.82 fps
1/4 partial scan	1624 (h) x 308 (v) 69.59 fps
1/8 partial scan	1624 (h) x 156 (v) 97.96 fps
2/3 partial scan	1624 (h) x 824 (v) 35.07 fps
Vertical binning	1624 (h) x 627 (v) 44.49 fps*
Region-of-interest (ROI)	User Definable. Memory read-out *Note: CM-200 GE only
Sensitivity (CM-200 GE)	0.21 Lux (On sensor, max. gain, shutter off, 50% video)
Sensitivity (CB-200 GE)	0.7 Lux (On sensor, max. gain, shutter off, 50% video)
S/N ratio	>50 dB (0 dB gain)
Video output	GigE Vision, 8-bit or 10-bit
Auto-iris lens video output	0.7 Vp-p, enabled by internal switch
Gain	Manual -3dB to +24 dB
Synchronization	Internal X-tal, External hardware trigger via GPIO Software trigger via GigE Vision
GPIO Module	
Input/output switch	Configurable 14-in/9-out switch (LUT)
Clock generator (one)	12-bit counter based on 25MHz clock or Pixel Clock
Pulse generators (four)	20-bit counters programmable for length, start point, stop point, repeat
Hardware trigger modes	Continuous, Pre-Select Pulse Width, Sequence (Gain, Shutter, ROI), Delayed Readout
Electronic shutter	
Pre-set shutter	1/25 to 1/10,000 in 10 steps
Programmable exposure	2L to 1251L (64 μm to 40ms)
Exposure Time (Abs)	μsec – user definable. Same range as PE
Pulse Width	32 μs to 2 sec.
Control interface	Register based GigE Vision/GenCam compliant
Functions controlled via GigE Vision interface	Shutter, Gain, Black level, Trigger mode, Readout mode, GPIO setup, ROI (GenCam mandatory functions)
GigE Vision streaming control	Packet size (1428 to 4040 bytes), Delayed (frame) readout, Inter-packet delay,
Indicators on rear panel	Power / Hardware trigger, GigE link, GigE activity
Operating Temperature	-5°C to +45°C
Humidity (operation)	20 - 90% non-condensing
Storage temp./humidity	-25°C to +60°C / 20 to 90%
Vibration	10G (20Hz to 200 Hz XYZ)
Shock	70G
Regulations	CE (EN 61000-6-2, EN-61000-6-3), FCC part 15 class B, RoHS/WEEE
Power	12-24V DC +/-10%, 4.2W (@12V)**
Lens mount	C-mount
Dimensions (H x W x L)	29 x 44 x 75 mm
Weight	125 g

\*\*NOTE: voltages above 13.2V DC only supported on CM-200 models with serial numbers of 201004 or higher and on CB-200 models with serial numbers of 200730 or higher

## Connector pin-out

### DC In / GPIO



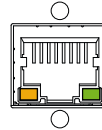
HIROSE HR10A-10R-12PB-01

### Connector Pin-out

- |        |                                |
|--------|--------------------------------|
| Pin 1  | GND                            |
| Pin 2  | +12 V DC input                 |
| Pin 3  | Opto in 2(-)/GND               |
| Pin 4  | Opto in 2(+)* / Auto iris lens |
| Pin 5  | Opto in 1(-)                   |
| Pin 6  | Opto in 1(+)                   |
| Pin 7  | Opto out 1(-)                  |
| Pin 8  | Opto out 1(+)                  |
| Pin 9  | Opto out 2(-)                  |
| Pin 10 | Opto out 2(+)                  |
| Pin 11 | +12V DC input                  |
| Pin 12 | GND                            |

\* Pins 3 and 4 can be configured by internal switch selection

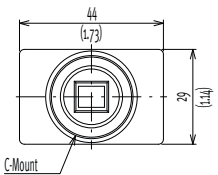
### GigE Vision interface Accepts RJ-45 with thumbscrews



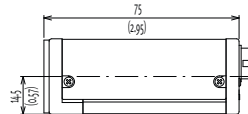
- |       |         |       |         |
|-------|---------|-------|---------|
| Pin 1 | TRD+(0) | Pin 5 | TRD-(2) |
| Pin 2 | TRD-(0) | Pin 6 | TRD-(1) |
| Pin 3 | TRD+(1) | Pin 7 | TRD+(3) |
| Pin 4 | TRD+(2) | Pin 8 | TRD-(3) |

## Dimensions

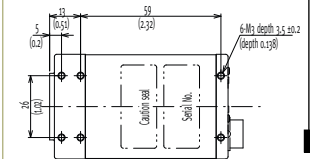
### Front view



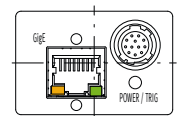
### Side view



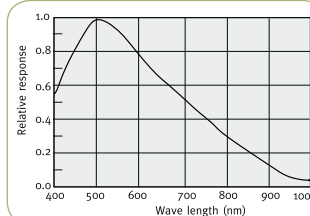
### Bottom view



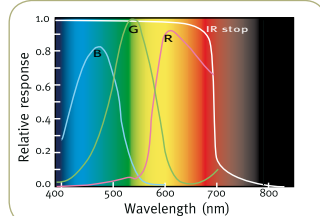
### Rear view



## Spectral Response CM-200 GE



## Spectral Response CB-200 GE



## Ordering Information

- |           |   |
|-----------|---|
| CM-200 GE | 1/1.8" Monochrome Progressive Scan Camera         |
| CB-200 GE | 1/1.8" Bayer Mosaic Color Progressive Scan Camera |

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