

❖ CM-140 GE / CB-140 GE

Progressive Scan



- Member of C3 Compact series, covering VGA to UXGA resolution
- 1380 (h) x 1040 (v) 4.65 μm square pixels
- 1/2" progressive scan - Monochrome and Bayer mosaic color versions
- 31 frames/second with full resolution in continuous operation
- 30 frames/second with external trigger and full resolution
- Increased frame rate with vertical binning (CM-140 GE) and partial scan
- Exposure time from 31 μs to 2 sec. using Pulse Width trigger mode
- Programmable exposure from 61.2 μs to 32.2 ms
- Sequencer 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

GigETM
VISION

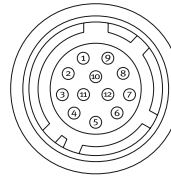


Specifications for CM-140 GE / CB-140 GE

Specifications	CM-140 GE / CB-140 GE
Sensor	1/2" progressive scan
Pixel Clock	65 MHz
Frame rate full frame	31.08 frames/second (1052 lines per frame)
Active area	6.4 (h) x 4.8 (v) mm
Cell size	4.65 x 4.65 pixels
Active pixels	1380 x 1040
Color (CB-140 GE)	Raw Bayer output, host-based interpolation
Read-out modes	Full 1380 (h) x 1040 (v) 31.08 fps 1/2 partial scan 1380 (h) x 520(v) 46.57 fps 1/4 partial scan 1380 (h) x 260 (v) 61.92 fps 1/8 partial scan 1380 (h) x 130 (v) 73.97 fps 2/3 partial scan 1380 (h) x 694 (v) 39.97 fps Vertical binning 1380 (h) x 520 (v) 48.86 fps* Region-of-interest (ROI) User definable. Memory read-out *NOTE: CM-140 GE only
Sensitivity (CM-140 GE)	0.3 Lux (On sensor, max. gain, shutter off, 50% video)
Sensitivity (CB-140 GE)	1.6 Lux (On sensor, max. gain, shutter off, 50% video)
S/N ratio	>50dB (odB 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, -3 to +12 dB
Synchronization	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) Reset-continuous trigger, Delay Readout
Electronic shutter	Pre-set shutter 1/31 to 1/10,000 in 10 steps Programmable exposure 2L (61.2µs) to 1052L (32.2ms) in 1L steps Exposure Time (Abs) µsec - user definable. Same range as PE Pulse Width 31µs to 2 sec.
Control interface	Register based. GigE Vision/GenICam compliant
Functions controlled via GigE Vision interface	Shutter, Gain, Black level, Trigger mode, Readout mode, GPIO setup, ROI (GenICam 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	12V DC +/-10%. 3.5W
Lens mount	C-mount
Dimensions (H x W x L)	29 x 44 x 75 mm
Weight	125 g

Connector pin-out

DC In / GPIO



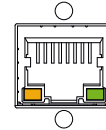
HIROSE HR10A-10R-12PB-01

Connector Pin-out

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

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

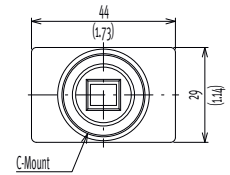
GigE Vision interface Accepts RJ-45 with thumbscrews



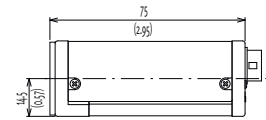
- Pin 1 TRD+(0) 5 TRD-(2)
2 TRD-(0) 6 TRD-(1)
3 TRD+(1) 7 TRD+(3)
4 TRD+(2) 8 TRD-(3)

Dimensions

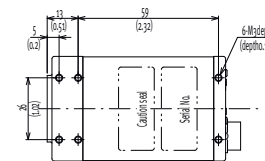
Front view



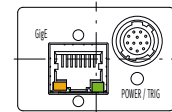
Side view



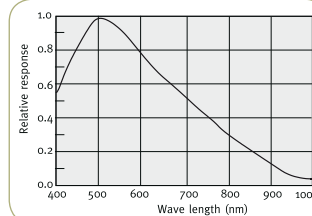
Bottom view



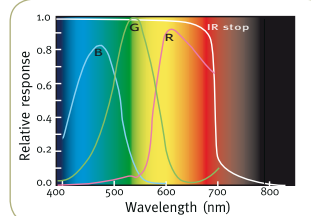
Rear view



Spectral Response CM-140 GE



Spectral Response CB-140 GE



Ordering Information

CM-140 GE 1/2" Monochrome Progressive Scan Camera
CB-140 GE 1/2" Bayer Mosaic Color Progressive Scan Camera

C3 Camera Suite Unlimited Digital Switchability

Europe, Middle East & Africa
Phone +45 4457 8888
Fax +45 4491 8880

Asia Pacific
Phone +81 45 440 0154
Fax +81 45 440 0166

Americas
Phone (Toll-Free) 1 800 445 5444
Phone +1 408 383 0300



See the possibilities

Visit our web site on www.jai.com