

## ❖ CM-140 GE-UV Progressive Scan

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



- Member of C<sub>3</sub> Compact series
- 1392 (h) x 1040 (v) 4.65  $\mu$ m square pixels
- 1/2" progressive scan - Monochrome
- 16 frames/second with full resolution in continuous operation
- Increased frame rate with vertical binning and partial scan
- Exposure time from 31  $\mu$ s to 2 sec. using Pulse Width trigger mode
- Programmable exposure from 61.2  $\mu$ s 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

**GigE**<sup>TM</sup>  
VISION

# Specifications for CM-140 GE-UV

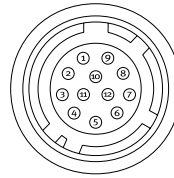
Specifications	CM-140 GE-UV
Sensor	1/2" progressive scan
Pixel Clock	33.75 MHz
Frame rate full frame	16.14 frames/second (1052 lines per frame)
Active area	6.4 (h) x 4.8 (v) mm
Cell size	4.65 x 4.65 pixels
Active pixels	1392 x 1040
Read-out modes	Full 1392 (h) x 1040 (v) 16 fps 1/2 partial scan 1392 (h) x 520(v) 24.16 fps 1/4 partial scan 1392 (h) x 260 (v) 32.16 fps 1/8 partial scan 1392 (h) x 130 (v) 38.41 fps 2/3 partial scan 1392 (h) x 694 (v) 20.76 fps Vertical binning 1392 (h) x 520 (v) 25.37 fps* Region-of-interest (ROI) User definable. Memory read-out *NOTE: CM-140 GE only
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	Configurable 14-in/9-out switch (LUT)
Input/output switch	12-bit counter based on 25MHz clock or Pixel Clock
Clock generator (one)	
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-continous trigger, Delay Readout
Electronic shutter	Pre-set shutter 1/16 to 1/10,000 in 10 steps
Programmable exposure	2L (117.8µs) to 1052L (61.97ms) 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/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	12V DC +/-10%. 4.1W
Lens mount	C-mount
Dimensions (H x W x L)	29 x 44 x 75 mm
Weight	125 g

## Ordering Information

CM-140 GE-UV 1/2" Monochrome Progressive Scan Camera

## Connector pin-out

### DC In / GPIO



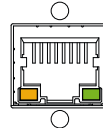
HIROSE HR10A-10R-12PB-01

### 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

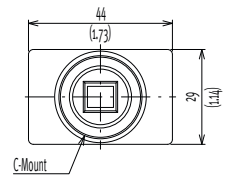
### GigE Vision interface Accepts RJ-45 with thumbscrews



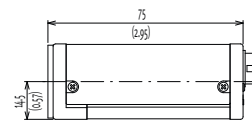
- Pin 1 TRD+(0) 5 TRD-(2)
- 2 TRD-(0) 6 TRD-(1)
- 3 TRD+(1) 7 TRD+(3)
- 4 TRD+(2) 8 TRD-(3)

## Dimensions

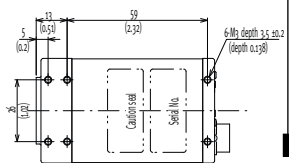
### Front view



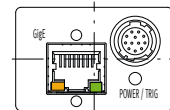
### Side view



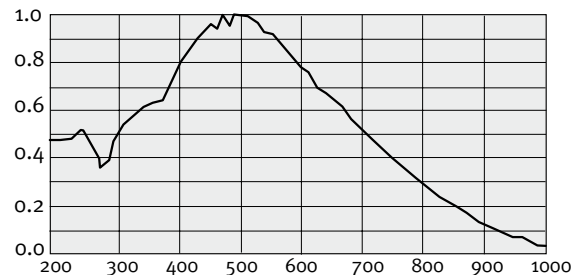
### Bottom view



### Rear view



## Spectral Response CM-140 GE-UV



## C3 Camera Suite Unlimited Digital Switchability

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