

➤ **BM-500 GE / BB-500 GE** Progressive Scan

C3 Camera Suite
Unlimited
Digital
Switchability



- *Member of C3 Basic series*
- *2456 (h) x 2058 (v) 3.45 μ m square pixels*
- *2/3" progressive scan – Monochrome and Bayer mosaic color versions*
- *15 frames/second with full resolution in continuous operation*
- *15 frames/second with external trigger and full resolution*
- *Increased frame rate with vertical binning (BM-500 GE) and partial scan*
- *Sequencer trigger mode for on-the-fly change of gain, exposure and ROI*
- *Edge Pre-Select and Pulse Width trigger modes*
- *Exposure time from 64 μ s to 2 sec. using Pulse Width Control trigger mode*
- *Programmable exposure from 64 μ s to 66 ms in Full Frame scan*
- *Several pre-processing functions for offloading host PC*
- *LVAL-synchronous/-asynchronous operation (auto-detect)*
- *Auto iris lens video output allows a wider range of light*
- *GigE Vision interface with 12, 10 or 8-bit output*
- *Programmable GPIO with opto-isolated inputs and outputs*
- *Comprehensive software tools and SDK for Windows XP/Vista*

GigE™
VISION



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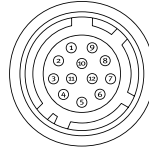
See the possibilities

Specifications for BM-500 GE / BB-500 GE

Specifications	BM-500 GE / BB-500 GE														
Sensor	2/3" progressive scan CCD														
Pixel Clock	60 MHz														
Frame rate full frame	15 frames/second														
Active area	8.45 (h) x 7.10 (v)														
Cell size	3.45 (h) x 3.45 (v)														
Active pixels	2456 (h) x 2058 (v)														
Color (BB-500 GE)	Raw Bayer output, host based interpolation														
Read-out modes	<table border="0"> <tr> <td>Full</td> <td>2456 (h) x 2058 (v) 15 fps</td> </tr> <tr> <td>1/2 partial scan</td> <td>2456 (h) x 1028 (v) 24 fps</td> </tr> <tr> <td>1/4 partial scan</td> <td>2456 (h) x 514 (v) 34 fps</td> </tr> <tr> <td>1/8 partial scan</td> <td>2456 (h) x 258 (v) 43 fps</td> </tr> <tr> <td>2/3 partial scan</td> <td>2456 (h) x 1372 (v) 20 fps</td> </tr> <tr> <td>Vertical binning</td> <td>2456 (h) x 1029 (v) 23 fps*</td> </tr> <tr> <td>Region-of-interest (ROI)</td> <td>User definable. Memory read-out *Note: BM-500 GE only</td> </tr> </table>	Full	2456 (h) x 2058 (v) 15 fps	1/2 partial scan	2456 (h) x 1028 (v) 24 fps	1/4 partial scan	2456 (h) x 514 (v) 34 fps	1/8 partial scan	2456 (h) x 258 (v) 43 fps	2/3 partial scan	2456 (h) x 1372 (v) 20 fps	Vertical binning	2456 (h) x 1029 (v) 23 fps*	Region-of-interest (ROI)	User definable. Memory read-out *Note: BM-500 GE only
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Region-of-interest (ROI)	User definable. Memory read-out *Note: BM-500 GE only														
Sensitivity (BM-500 GE)	0.34 Lux (On sensor, max. gain, shutter off, 50% video)														
Sensitivity (BB-500 GE)	1.0 Lux (On sensor, max. gain, shutter off, 50% video)														
S/N ratio	>50 dB (0 dB gain)														
Video output	GigE Vision, 8-bit, 10-bit or 12-bit														
Auto-iris lens video output	0.7 Vp-p, enabled by internal switch														
Gain	Manual/Automatic Range -3 to 12 dB														
Synchronization	Internal X-tal, External hardware trigger via GPIO Software trigger via GigE Vision														
GPIO Module	Configurable 16-in / 12-out switch 12-bit counter based on Pixel clock														
Input/output switch															
Clock generator (one)															
Pulse generators (four)	20-bit counter programmable for length, start point, stop point, repeat														
Trigger modes	Pre-Select, Pulse Width, Frame Delay and Sequence														
Electronic shutter	Pre-set shutter 1/15 and 1/30 to 1/10,000 in 10 steps														
Programmable exposure (PE)	2L(64µs) to 2072 L (66.44ms) in 1L steps														
Exposure Time (Abs)	µsec – user definable. Same range as PE														
Pulse Width	64µs to 2 sec.														
Pre-processing functions	Output transfer functions (Gamma, multiple-point knee), Bayer white balance, L/R channel balancing, Blemish compensation														
Control interface	Register based. GigE Vision / GenICam compliant														
Functions controlled via GigE Vision interface	Shutter, Gain, Black Level, Trigger mode, Read-out mode, GPIO setup, ROI (GenICam mandatory functions)														
GigE Vision streaming control	Packet size (1428 to 4036 bytes) Delayed (Frame) read-out, 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%. 5.8W														
Lens mount	C-mount														
Dimensions (H x W x L)	55 x 55 x 55														
Weight	210 g														

Connector pin-out

DC In / GPIO



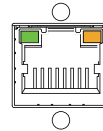
HIROSE HR10A-10R-12PB-01

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

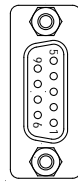
GigE Vision interface Accepts RJ-45 with thumbscrews



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)

D-sub 9 pin connector for GPIO (Auxiliary)

Type: DD-09SSG

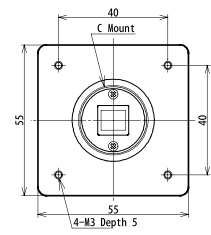


No.	I/O	Name
1	I	LVDS IN1-
2	I	LVDS IN1+
3	I	TTL IN 1*
4	O	TTL OUT 1
5		GND
6		NC
7		NC
8	O	TTL OUT 2
9		GND

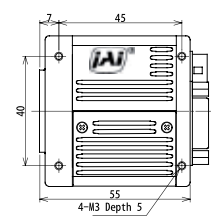
*Can be set to 75 Ω terminator via internal switches

Dimensions

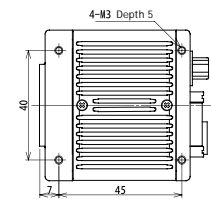
Front view



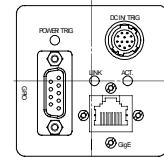
Side view



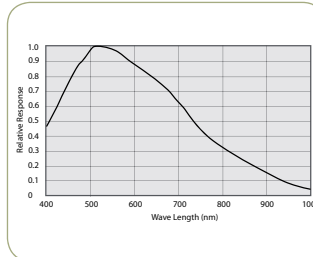
Bottom view



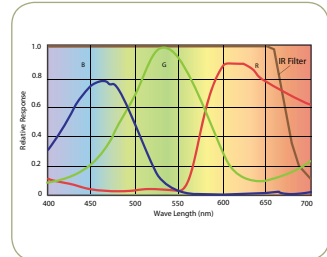
Rear view



Spectral Response BM-500 GE



Spectral Response BB-500 GE



Ordering Information

BM-500 GE	2/3" Monochrome Progressive Scan Camera
BB-500 GE	2/3" Bayer Mosaic Color Progressive Scan Camera

C3 Camera Suite Unlimited Digital Switchability



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