

❖ BM-500 GE / BB-500 GE

Progressive Scan



PRELIMINARY

- Member of C3 Basic series
- 2456 (h) x 2058 (v) 3.45 μm 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
- Exposure time from 64 μs to 2 sec. using Pulse Width Control trigger mode
- Programmable exposure from 64 μs to 66 ms in Full Frame scan
- GPIO in combination with Pulse width trigger for more precise exposure time
- Sequencer trigger mode for on-the-fly change of gain, exposure and ROI
- Edge Pre-select and Pulse width trigger mode
- LVAL-synchronous/-asynchronous operation (auto-detect)
- Auto iris lens video output allows a wider range of light (Can be Selected by DIP switch)
- 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

GigETM
VISION



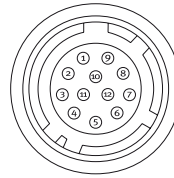
Specifications for BM-500 GE / BB-500 GE

PRELIMINARY

| 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 7.07 (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 | 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 1039 (v) 22 fps* Region-of-interest (ROI) User definable. Memory read-out *Note: Vertical binning is for 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 or 10-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 |
| Input/output switch | 12-bit counter based on 25 MHz clock or Pixel clock |
| Clock generator (one) | 20-bit counter programmable for length, start point, stop point, repeat |
| Pulse generators (four) | |
| Inputs | [only valid for CL models] |
| Outputs | [only valid for CL models] |
| 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 | 2L(64µs) to 2072 L (66.44ms) in 1L steps |
| Exposure Time (Abs) | µsec – user definable. Same range as PE |
| Pulse Width | max. 2 sec (Can be set by 100µs unit or Pixel Clock unit) |
| 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, Delayed (Frame) read-out, inter-packet delay Jumbo frame can be set at max. 4K (4040), Default packet size is 1428 Byte |
| 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%. 5.5W |
| Lens mount | C-mount |
| Dimensions (H x W x L) | 55 x 55 x 55 |
| Weight | xx g |

Connector pin-out

DC In / GPIO



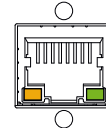
HIROSE HR10A-10R-12PB-01

Connector Pin-out

| | |
|--------|----------------|
| Pin 1 | GND |
| Pin 2 | +12 V DC input |
| Pin 3 | |
| Pin 4 | |
| Pin 5 | |
| Pin 6 | |
| Pin 7 | |
| Pin 8 | |
| Pin 9 | |
| Pin 10 | |
| Pin 11 | |
| Pin 12 | |

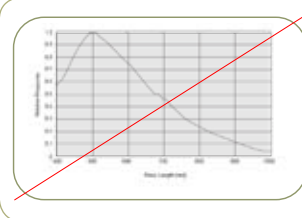
* Pins 3 and 4 can be configured by internal switch selection

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) |

Spectral Response BM-500 GE /



Spectral Response BM-500 GE /

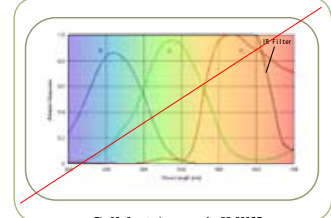


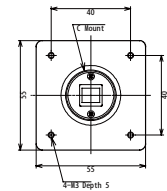
Fig.30. Spectral response for BB-500GE

Ordering Information

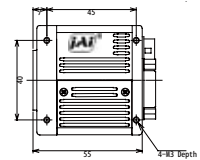
BM-500 GE 2/3" Monochrome Progressive Scan Camera
BB-500 GE 2/3" Bayer Mosaic Color Progressive Scan Camera

Dimensions

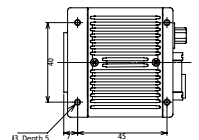
Front view



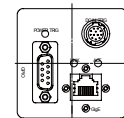
Side view



Bottom view



Rear view



C3 Camera Suite Unlimited Digital Switchability

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