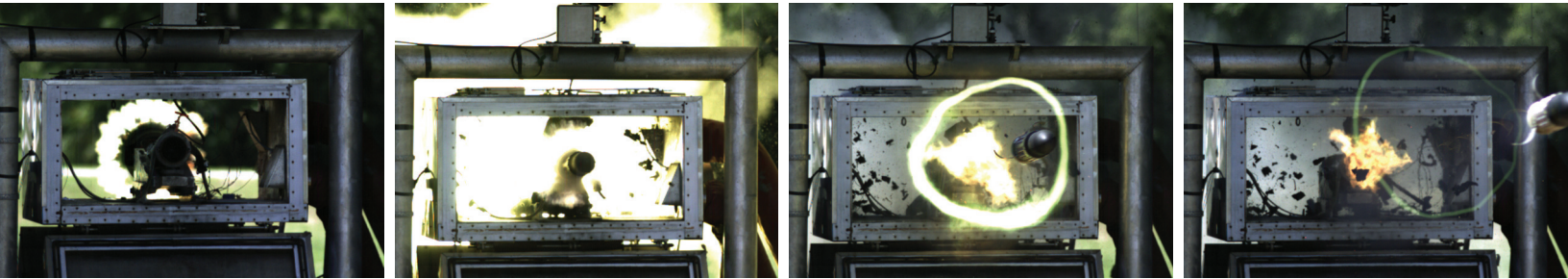




FASTCAM Mini AX100/AX50

COMPACT HIGH-SPEED CAMERAS



Outstanding Light Sensitivity in a Compact Package

The Photron FASTCAM Mini AX100 and Mini AX50 high-speed cameras provide high frame rates, extraordinary light sensitivity and superior image quality in a compact, lightweight and rugged camera design. Providing 1,024 x 1,024 pixel resolution at up to 4,000 frames per second (fps) and reduced resolutions to 540,000 fps, the Mini AX100 and Mini AX50 deliver the performance required for demanding industrial, military and laboratory applications.

With light sensitivity of ISO 40,000 monochrome and ISO 16,000 color (using the ISO 12232 Ssat standard), the FASTCAM Mini AX100 and Mini AX50 have better sensitivity than other mid-range high-speed cameras. Higher light sensitivity means that less additional lighting is required to capture a high-speed event. It also means that faster frame rates, shorter shutter speeds and greater depths of field are provided under equivalent lighting conditions.

The FASTCAM Mini AX100 and Mini AX50 are identical with a single exception. The Mini AX100 is the faster camera, providing 4,000 fps at full resolution. The lower priced Mini AX50 allows 2,000 frames per second at full resolution.

Target applications include:

- Biomechanics
- Life sciences
- Fluid dynamics / PIV
- Offboard automotive safety testing
- Defense and aerospace research
- Material sciences

Benefits

- Performance examples (assumes Mini AX100):
 - 4,000 fps @ 1,024 x 1,024 pixels
 - 10,000 fps @ 768 x 528 pixels
 - 20,000 fps @ 384 x 384 pixels
 - 50,000 fps @ 256 x 128 pixels
 - 100,000 fps @ 128 x 96 pixels
 - 540,000 fps @ 128 x 16 pixels
- Self-contained, compact and lightweight camera 120mm (4.7") H × 120mm (4.7") W × 94mm (3.7") D excluding protrusions, and 1.5kg (3.3lbs)
- Sensitivity: ISO 12232 Ssat standard
 - ISO 40,000 monochrome
 - ISO 16,000 color
- 4GB, 8GB and 16GB memory options and high performance Gigabit Ethernet interface to PC



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Specifications: Partial Frame Rate / Recording Duration Table

| FRAME RATE (fps) | Mini AX100 | | | | | Mini AX50 | | | | |
|---------------------|--------------------|----------|------------------------|------|-------|--------------------|----------|------------------------|-------|-------|
| | MAXIMUM RESOLUTION | | RECORDING TIME* (Sec.) | | | MAXIMUM RESOLUTION | | RECORDING TIME* (Sec.) | | |
| | Horizontal | Vertical | 4GB | 8GB | 16GB | Horizontal | Vertical | 4GB | 8GB | 16GB |
| 2,000 | 1,024 | 1,024 | 1.36 | 2.73 | 5.46 | 1,024 | 1,024 | 1.36 | 2.73 | 5.46 |
| 4,000 | 1,024 | 1,024 | 0.68 | 1.36 | 2.73 | 640 | 640 | 3.49 | 6.99 | 13.98 |
| 6,000 | 1,024 | 736 | 0.63 | 1.26 | 2.53 | 640 | 480 | 1.55 | 3.10 | 6.21 |
| 10,000 | 768 | 528 | 0.71 | 1.41 | 2.82 | 384 | 384 | 1.94 | 3.88 | 7.76 |
| 20,000 | 384 | 384 | 0.97 | 1.94 | 3.88 | 256 | 256 | 2.18 | 4.37 | 8.73 |
| 50,000 | 256 | 128 | 1.75 | 3.49 | 6.99 | 128 | 96 | 4.65 | 9.31 | 18.63 |
| 76,500 | 128 | 128 | 2.28 | 4.56 | 9.13 | 128 | 64 | 4.56 | 9.13 | 18.26 |
| 100,000 | 128 | 96 | 2.33 | 4.66 | 9.32 | 128 | 32 | 6.98 | 13.97 | 27.95 |
| 170,000 | 128 | 32 | 4.11 | 8.22 | 16.44 | 128 | 16 | 8.21 | 16.44 | 32.88 |
| 540,000 | 128 | 16 | 2.59 | 5.17 | 10.35 | n/a | n/a | n/a | n/a | n/a |

* Multiply frame rate by time to determine approximate number of frames recorded.

| | | | |
|-------------------------------|--|--------------------------------|--|
| Sensor | 1,024 x 1,024 pixels, 20µm pixel size, 12-bit ADC (Bayer system color, 36 bit-single sensor) | Saved Image Formats | JPEG, AVI, TIFF, BMP, RAW, RAWW, MRAW, PNG, MOV and FTIF. Images can be saved with or without embedded camera settings |
| Sensitivity | ISO 40,000 monochrome, ISO 16,000 color (ISO 12232 Ssat standard) | Partition | Up to 64 memory segments (includes option to record images to one segment while downloading images from another segment) |
| Shutter | Global electronic shutter from 1ms to 1.05µs independent of frame rate | Data Display | Frame Rate, Shutter Speed, Trigger Mode, Date or Time, Status (Playback/Record), Real Time, Frame Count and Resolution |
| Extended Dynamic Range | Selectable in twenty steps (0 to 99%, in 5% increments) to prevent over-exposure of pixels in brightly lit areas of the image | Cooling | Actively cooled |
| Lens Mount | Interchangeable G-type F, C standard; M42 optional | Fan Control | Allows fan to be temporarily disabled, eliminating vibration |
| Memory | 4GB (2,726 frames @ maximum resolution) standard 8GB (5,457 frames @ maximum resolution) optional 16GB (10,918 frames @ maximum resolution) optional | Operating Temp/Humidity | 0 - 40C (32 - 104°F) / 85% or less (no condensation) |
| Camera Control | High-speed Gigabit Ethernet | Storage Temp/Humidity | 0 - 60C (32 - 140°F) / 85% or less (no condensation) |
| Low Light Mode | Low light mode drops the frame rate and shutter time to their maximum values, while maintaining other set parameters, to enable users to position and focus the camera | Mounting | 4 x 1/4-20UNC, 4 x M5 |
| Triggering | Selectable positive or negative TTL 5Vp-p or switch closure | Dimensions | 120mm (4.7") H × 120mm (4.7") W × 94mm (3.7") D excluding protrusions |
| Timing | Internal clock or external source | Weight | 1.5kg (3.3lbs) |
| I/O | Input: Trigger (TTL/Switch), Sync, Ready, Event, IRIG Output: Trigger, Sync, Ready, Rec, Expose | Power Requirement | 100V-240V AC 55W , 50-60Hz DC operation 22-32 VDC, 55W |
| Phase Lock | Enables cameras to precisely synchronize to a master camera or external source, such as IRIG time codes | | |
| Trigger Modes | Start, Center, End, Manual, Random, Random Reset | | |

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