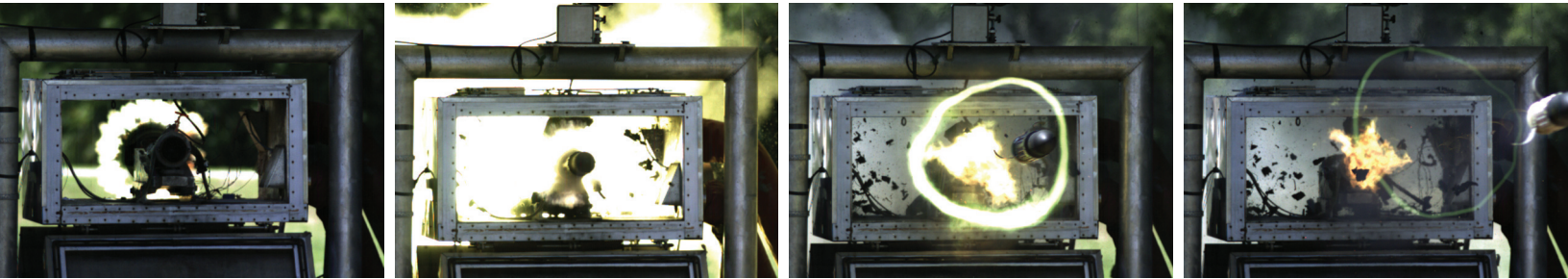# FASTCAM Mini AX200
## COMPACT HIGH-SPEED CAMERAS

## Outstanding Light Sensitivity in a Compact Package

The Photron FASTCAM Mini AX200 camera provides very 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 6,400 frames per second (fps) and reduced resolutions to 900,000 fps, the Mini AX200 delivers the performance required for very 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 AX200 has better sensitivity than most, if not all other high-end 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.

Contained within a 120mm x 120mm x 94mm camera body weighing just 1.5kg, the FASTCAM Mini AX200 is uniquely suited for use in a wide range of applications. The camera is designed for operation in high shock and vibration environments, allowing it to be utilized in automotive crash test facilities and on military test ranges.

### Target applications include:

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

## Benefits

■ Performance examples:
- 6,400 fps @ 1,024 x 1,024 pixels
- 10,000 fps @ 896 x 768 pixels
- 20,000 fps @ 512 x 512 pixels
- 50,000 fps @ 384 x 256 pixels
- 100,000 fps @ 256 x 160 pixels
- 200,000 fps @ 128 x 96 pixels
- 900,000 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

■ Suitable for operation in High-G environments. Operation tested to 100G, 10ms, 6 axes

■ 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) | MAXIMUM RESOLUTION | | RECORDING TIME* (Sec.) | | |
|---|---|---|---|---|---|
| | Horizontal | Vertical | 4GB | 8GB | 16GB |
| 6,400 | 1,024 | 1,024 | 0.43 | 0.85 | 1.71 |
| 10,000 | 896 | 768 | 0.42 | 0.83 | 1.66 |
| 15,000 | 768 | 512 | 0.48 | 0.97 | 1.94 |
| 20,000 | 512 | 512 | 0.55 | 1.09 | 2.18 |
| 30,000 | 512 | 284 | 0.65 | 1.31 | 2.62 |
| 50,000 | 384 | 256 | 0.58 | 1.16 | 2.33 |
| 100,000 | 256 | 160 | 0.70 | 1.40 | 2.80 |
| 200,000 | 128 | 96 | 1.16 | 2.32 | 4.65 |
| 360,000 | 128 | 32 | 1.93 | 3.88 | 7.76 |
| 900,000 | 128 | 16 | 1.55 | 3.10 | 6.21 |

*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 ) |
| **Sensitivity** | ISO 40,000 monochrome, ISO 16,000 color (ISO 12232 Ssat standard) |
| **Shutter** | Global electronic shutter from 1ms to 260ns independent of frame rate |
| **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 |
| **Lens Mount** | Interchangeable G-type F, C standard; M42 optional |
| **Memory** | 4GB ( 2,726 frames @ maximum resolution) standard<br>8GB ( 5,457 frames @ maximum resolution) optional<br>16GB (10,918 frames @ maximum resolution) optional |
| **Camera Control** | High-speed Gigabit Ethernet |
| **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 |
| **Triggering** | Selectable positive or negative TTL 5Vp-p or switch closure |
| **Timing** | Internal clock or external source |
| **I/O** | Input: Trigger (TTL/Switch), Sync, Ready, Event, IRIG<br>Output: Trigger, Sync, Ready, Rec, Expose |
| **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 |

| | |
|---|---|
| **Saved Image Formats** | JPEG, AVI, TIFF, BMP, RAW, RAWW, MRAW, PNG, MOV and FTIF. Images can be saved with or without embedded camera settings |
| **Partition** | Up to 64 memory segments (includes option to record images to one segment while downloading images from another segment) |
| **Data Display** | Frame Rate, Shutter Speed, Trigger Mode, Date or Time, Status (Playback /Record), Real Time, Frame Count and Resolution |
| **Cooling** | Actively cooled |
| **High-G Operation** | Tested to 100G, 10ms, 6 axes |
| **Fan Control** | Allows fan to be temporarily disabled, eliminating vibration |
| **Operating Temp/Humidity** | 0 - 40C (32 - 104°F) / 85% or less (no condensation) |
| **Storage Temp/Humidity** | 0 - 60C (32 - 140°F) / 85% or less (no condensation) |
| **Mounting** | 4 x1/4-20UNC, 4 x M5 |
| **Dimensions** | 120mm (4.7") H × 120mm (4.7") W × 94mm (3.7" ) D excluding protrusions |
| **Weight** | 1.5kg (3.3lbs) |
| **Power Requirement** | 100V-240V AC 55W , 50-60Hz DC operation 22-32 VDC, 55W |