

## PRODUCT DATASHEET

# MH6

FASTCAM series by Photron



### HD Camera Head Performance:

1920 x 1400 pixels at 750fps  
1920 x 1080 pixels at 1,000fps  
1280 x 800 pixels at 2,000fps  
1280 x 256 pixels at 5,000fps

### ST Camera Head Performance:

800 x 600 pixels at 1,000fps  
800 x 312 pixels at 2,000fps  
800 x 120 pixels at 5,000fps

### Class Leading Light Sensitivity:

ISO 5,000 color  
ISO 12,500 monochrome

### Global Electronic Shutter:

4 $\mu$ s independent of frame rate

### Dynamic Range (ADC):

24-bit color  
8-bit monochrome

### Ultra-Compact and Lightweight:

#### HD Camera Head:

35mm x 35.4mm x 35.4mm, weight 100g  
1.38in x 1.39in x 1.39in, weight 0.22 lbs

#### ST Camera Head:

15mm x 15mm x 15mm, weight 12g  
0.59in x 0.59in x 0.59in, weight 0.026 lbs

#### Processor:

210mm x 70mm x 150mm, weight 3kg  
8.27in x 2.76in x 5.91in, weight 6.61 lbs

### Internal Recording Memory:

24GB divided between all connected camera heads

### High-Speed Interface:

Provides camera control and image download to network via fast Gigabit Ethernet, and USB3 interface for local image download

### Recording Memory Protection:

Automatic download to internal 512GB SSD  
Automatic save to NVRAM after power failure

### High-G Rated:

**Camera Heads:** 160G, 10 msec, 6 axes, 1,000 times  
**Processor:** 100G, 10 msec, 6 axes, 1,000 times

## RUGGEDIZED MULTI-HEAD HIGH-SPEED CAMERA SYSTEM

Specifically developed for on-board automotive safety testing and defense applications, the FASTCAM MH6 can capture high-speed images in severely space constrained locations during impact.

The FASTCAM MH6 system supports up to six compact HD camera heads (35.4 x 35 x 35.4mm, weight 100g), or 12 miniature ST camera heads (15 x 15 x 15mm, weight 15g). A combination of HD and ST camera heads may each be connected via a 10m cable to the main processor, facilitating a wide range of camera head viewing angles and mounting positions within the vehicle. All camera heads are extremely rugged and have been operationally tested to 160G. Each MH6 camera head, regardless of type (HD or ST), provides outstanding image quality and industry leading light sensitivity of ISO 5,000 color and ISO 12,500 monochrome. HD camera heads capture images with 1080 full HD resolution at 1,000 frames per second (fps) and are compatible with readily available 1-inch C-mount ruggedized lenses. ST camera heads capture images with 800 x 600 (SVGA) resolution at 1,000fps and utilize M10.5 ruggedized lenses.

The MH6 processor internally handles distribution of trigger and synchronisation to each camera head and incorporates two levels of security for the captured image data - automated image transfer to built-in non-volatile memory in the event of a power failure and automated image download to an internal 512GB SSD. After the test, image transfer to a computer is possible via Gigabit Ethernet and USB3.

A built-in 3-axis / 1kHz acceleration sensor in the processor can be used to trigger the system based on detected shock level and serves as a backup to the main trigger input.

In addition, the FASTCAM MH6 camera can be installed inside test vehicles to capture the behavior of the dummy.



### HD-Cam

35.4 x 35 x 35.4 mm  
1920 x 1080 @1,000fps



### ST-Cam

15 x 15 x 15 mm  
800 x 600 @1,000fps

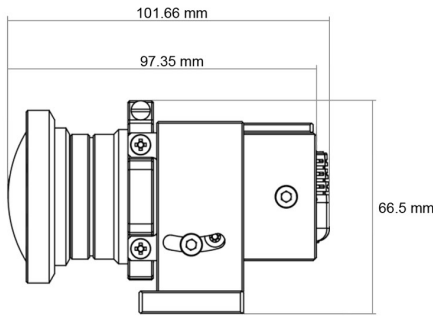
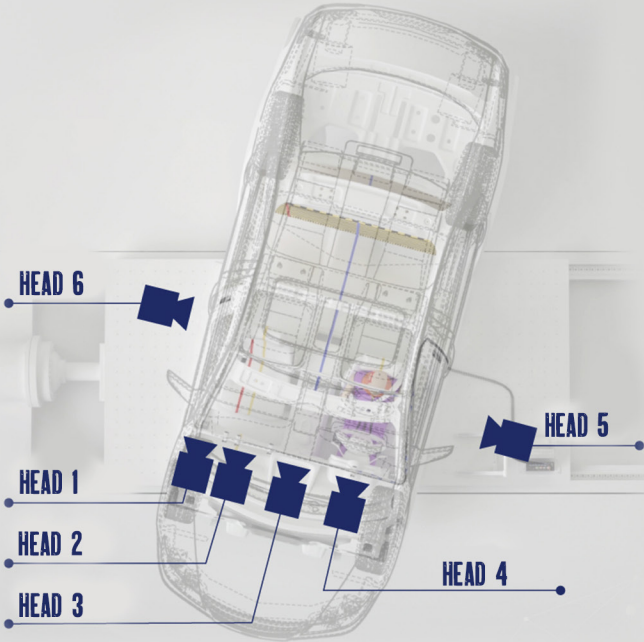
## Performance and Operation Specifications

|                          | HD Camera Head   | ST Camera Head                                       |
|--------------------------|--|--|
| Full frame performance   | 750fps, 1920 x 1400 pixels   | 1,000fps, 800 x 600 pixels                           |
| 1,000fps                 | 1920 x 1080 pixels (FHD)   | 800 x 600 pixels (SVGA)                              |
| 2,000fps                 | 1280 x 800 pixels  | 800 x 312 pixels                                     |
| 5,000fps                 | 1280 x 256 pixels  | 800 x 120 pixels                                     |
| Sensor size / Pixel size | 12.67 x 9.24mm / diagonal 15.68mm<br>6.6µm square pixel  | 5.28 x 3.96mm / diagonal 6.6mm<br>6.6µm square pixel |
| Light Sensitivity        | ISO 5,000 color, ISO 12,500 monochrome   |  |
| Minimum Exposure Time    | Global electronic shutter to 4µs selectable independent of frame rate                                |  |
| Dynamic Range (ADC)      | 8-bit monochrome, 24-bit color   |  |
| Memory Capacity          | 24GB shared between active channels. With automatic NVRAM back up                                    |  |
| Data Storage             | Built-in 512GB SSD with autosave function  |  |
| Input / Output           | Input: Trigger (TTL/Switch), sync, ready, event, IRIG<br>Output: Trigger, sync, ready, rec, exposure |  |
| Camera Control Interface | High-speed Gigabit Ethernet and USB3   |  |
| Supported OS             | Microsoft Windows operating systems including: 7, 8, 8.1, 10, 11 (32/64-bit)                         |  |

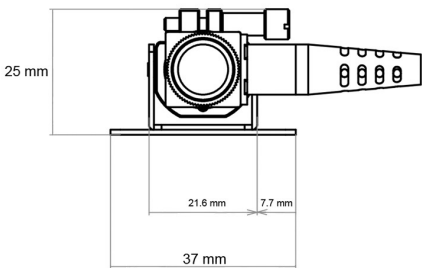
## Performance and Operation Specifications

| Mechanical                    |   |   |
|-------------------------------|---|---|
|                               | HD Camera Head                                    | ST Camera Head                                |
| Lens Mount                    | C-mount   | M10.5   |
| Total Camera Cable Length     | 7m / 10m  | 8m / 11m                                      |
| Head Size (HWD)               | 35.4mm x 35mm x 35.4mm (1.38in x 1.39in x 1.39in) | 15mm x 15mm x 15mm (0.59in x 0.59in x 0.59in) |
| Head Weight                   | 100 grams (0.22lbs)                               | 12 grams (0.026lbs)                           |
| Processor Size (HWD)          | 210mm x 70mm x 150mm (8.27in x 2.76in x 5.91in)   |   |
| Processor Weight              | 3kg (6.61lbs)                                     |   |
| Environmental                 |   |   |
| Operating Temperature         | 0 to 40C, 32° to 104°F                            |   |
| Storage Temperature           | -20 to 60C, -4° to 140°F                          |   |
| Humidity                      | 85% or less (non-condensing)                      |   |
| Operational Shock Camera Head | 160G, 10ms, 6-axes, 1,000 times                   |   |
| Operational Shock Processor   | 100G, 10ms, 6-axes, 1,000 times                   |   |

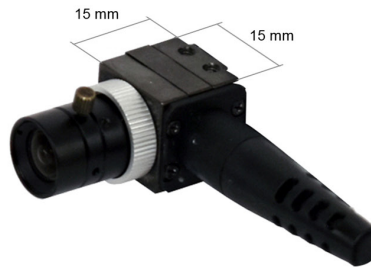
\* Specifications subject to change without notice.



## HD-Cam



## ST-Cam



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