HCAGQ

Ultra-HD High-Speed Series — Back-Illuminated

High-Definition, High-Speed Camera for the Aerospace Industry



Back-Illuminated Series

The HCAGQ series employs a BSI back-illuminated CMOS sensor, offering excellent light sensitivity.
Its housing features an optimized heat dissipation design and high integration,

enabling it to withstand harsh environmental conditions—including low pressure at high altitudes, strong vibrations, intense electromagnetic interference, and extreme high or low temperatures.

Equipped with a high-capacity CF memory card and an integrated battery, the HCAGQ series supports offline operation without an external power source,

making it ideal for applications in aerospace, rocket launches, and automotive crash testing.

Core Features







Stack BS Process

Effectively enhance quantum efficiency and photo sensitivity

Pullable Storage

Supports CF card storage

Battery Life: 20 Minutes

Equipped with a built-in nickel-metal hydride battery; safe and risk-free.

IRIG-B/IEEE1588

Time code timing

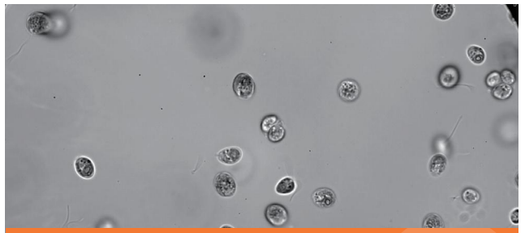
-40℃～70℃

Comply with extreme operating conditions, including airborne conditions.

National Standard Design

Anti-vibration design, EMC protection design

Application Cases



▶ Cell Research



▶ Seat safety testing



▶ rocket launching



▶ Aircraft payload

CoreFunctions

10GigE

Military standard wide temperature range

IRIG B

Image Trigger

automatic exposure

Double exposure

High sensitivity, high image quality, and high dynamic range mode

3G-SDI

1TB CF card storage

Performance Parameter

Model	HCAGQ-501
Full-frame resolution	2560×2048
Full-frame frame rate	1000fps
Pixel size	5.5μm
Minimum exposure time	1μs
Dynamic range	62dB
Simulated gain	×2、×4、×8
Depth	8bit/10bit/12bit
Colour	Monochrome (M) / Color (C)
Incoming signal	Trigger signal, synchronization signal, Ready signal, IRIG-B signal
Output signal	Trigger signal, synchronization signal, Ready signal
Video interface	3G-SDI

※ For detailed specifications, please refer to the product leaflet.

Frame Rate Table

Resolution ratio	Frame rate(fps)	Internal storage(s)	Internal storage(s)
		64GB	32GB
2560×2048	1000	13	6
2560×1536	1200	14	7
2560×1024	2000	13	6
2560×512	3600	14	7
2560×128	10500	19	9

※The recording duration for the 128GB version is twice that of the 64GB version; based on this, the recording durations for the 32GB and 16GB versions can be calculated. The recording times in the table above are calculated based on an 8-bit image bit depth.

Storage Configuration

Model	HCAGQ-501
RAM	32GB/64GB

Mechanical Specifications

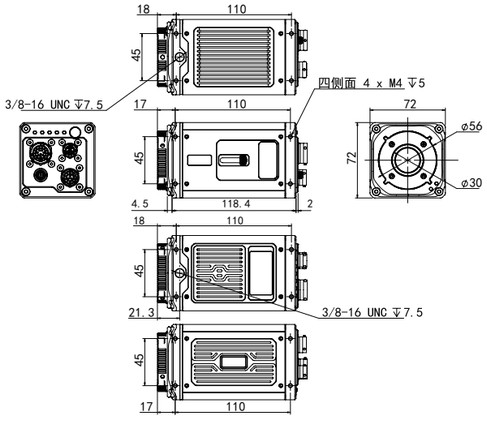
Camera size	120D×72W×72H	Installation hole positions	Top/Bottom: 3/8" mounting hole × 1
Camera weight	1.4 kg (with built-in battery) / 1.1 kg (without battery)	Power	＜25W
Power supply mode	DC24V	Lens interface	E-port and C-port are available (with locking function)

Environmental Suitability

Working temperature	-10–50 °C; wide-temperature variant available: –40–70 °C	EMC	Complies with CE102, RE102, CS101, CS 114, and RS103 of GJB151B-2013
Working humidity	Below 95% (no condensation)		
Storage temperature	-40~70°C	Vibration resistance	W0:0.08g2/Hz。 Three axes: X, Y, and Z; 20 minutes per axis
Heat dissipation method	Passive heat dissipation		

Machine Drawing

HCAGQ Series (C-mount)



HCAGQ Series (E-mount)

