DEWESoft®

DS-CAM INDUSTRIAL VIDEO CAMERAS

Industrial cameras with cutting-edge CMOS sensor technology
in reliable industrial design with global shutters and JPEG compression

▲ INDUSTRIAL VIDEO CAMERAS

INTRODUCTION

Video greatly benefits the majority of measurement applications – may it be the recording of measurements in detail for easier analysis or observing a transient event happening in the blink of an eye.

A combination of excellent image quality and high frame rates is provided by the cutting-edge CMOS sensor technology.

Connected through GigE Vision 2.0 to Dewe-softX acquisition and analysis software - and synchronized with other measurement devices - the merging of video and data becomes a simple routine.

FUNCTIONALITY

The color type of camera can be used for recording with high resolution or at high speed. Applications range from high-resolution/low-frame-rate picture acquisition as a supplement to other measurements to low-resolution/high-frame-rate recording of transients.

The DS-CAM-640c color camera is capable of RAW video recording at high resolution and best pixel quality of 2048×1536px with 39fps on 1Gb Ethernet or with 85% JPEG compression high frame rates of 640fps at 640×480px and a maximum frame rate of 5000fps at 1920x16px.

When a higher framerate and a crisp image quality outweigh the benefit of the color video a monochrome camera can be used.
This camera can be used for recording at higher speeds, produces a sharper image, and is more sensitive to light for lower lighting conditions.

Applications range mostly in High framerate recording of transients that require greater sharpness.

The monochrome model DS-CAM-1100m, on standard 1Gb Ethernet, can record 45 frames per second in RAW format at the highest resolution of 1920x1464px and 12 Bits per pixel quality. At VGA resolution of 640x480px with 85% JPEG compression it is capable of 1100fps with a maximum frame rate of 6000fps at 1920x16px.

Both cameras can reduce the pixel quality from 12 to 10 or 8 bits per pixel and onboard JPEG compression. The reduction of quality not only reduces the bandwidth and pixel quality but also lighting requirements and provides the possibility of higher frame rates.

APPLICATIONS

A vast range of measurement applications benefits from the addition of video recording. It gives a detailed view of events synchronized with acquired sensor data - and simplifies analysis:

- Recording of the test environment
- High-speed recording of transients
- Supplementation to other sensors as a visual aid for analysis
- Visual monitoring over larger distances
- Monitoring of multiple dispersed locations

KEY FEATURES ◭

BENEFITS

HIGH PERFORMANCE - AFFORDABLE PRICE
Excellent image quality and high frame rates at a reasonable price - great price-performance ratio.

GOOD PICTURE QUALITY - HIGH RESOLUTION
A maximum resolution coupled with 12 bits per pixel offers a big picture with good quality.

SEIZE ANY MOMENT - HIGH-SPEED VIDEO ACQUISITION
If higher speed is required a reduction of resolution and reduction of pixel quality in addition to JPEG compression is possible to achieve high framerates.

REMOTE OPERATION - LONG CABLE LENGTH
Data is transferred via the "handshake" method - there is virtually no data loss. Quality video can be sent over cable up to 100m or more if additional repeaters are introduced to the system.

EXPANDABLE - STANDARD LAN SUPPORTED
Expand with popular 2,5 Gbit, 5 Gbit, and 10 Gbit LAN technology - readily available switches and LAN cards.

PTP "READY" - HIGH LEVEL OF SYNCHRONIZATION
Possible PTP synchronization by later software implementation will enable a simple yet effective method of extreme accuracy between multiple cameras and DEWESoft PTP compatible devices over PTP supported network equipment.

DISPERSED OR REMOTE RECORDING
A long signal cable – length up to 100m over CAT5e or CAT6 or more over optical cable – enables dispersed or remote recording and monitoring.

RJ45 CONNECTOR FOR SIMPLE HARDWARE CONFIGURATION
A common RJ45 connector for data transfer can be connected directly to a PC Ethernet card or a GigE switch.

100Mbit TO 10Gbit SUPPORTED
100Mbit, 1Gbit, 2.5Gbit, 5Gbit & 10Gbit network speeds supported.

NO LICENSE REQUIRED
No additional DEWESoftX software license is required for working with the GigE plugin. Acquisition and analysis of video are therefore free or can be freely integrated with your existing license-supported measurement setup.

IP65 PROTECTION ADD-ON
With the help of DS-CAM-IP65-COVER, an IP65 rating is achieved that will fully prevent ingress of dust and protect against light rain.

STANDARD SUPPORTING EQUIPMENT
Standard cables, standard switches, and standard Ethernet cards equal an inexpensive and readily available solution.

▲ SPECS

Category	DS-CAM-640C	DS-CAM-1100M
Type of camera	GigE Vision 2.0	GigE Vision 2.0
Color	Yes	No
Sensor type	CMOS 1/1.8"	CMOS 2/3"
Lens mount	C-Mount	C-Mount
Image Pre-Processing	Auto gain and white balance	Auto gain and white balance
Compression	JPEG Software adjustable	JPEG Software adjustable
Max Performance	2048 × 1536 px & 37FPS @ 12Bpp, RAW (Gbit LAN)	1920 × 1464 px & 45FPS @ 12Bpp, RAW (Gbit LAN)
Optimal Speed vs Performance	640 x 480 px & 640FPS @ 8Bpp, JPEG [85%] (Gbit LAN)	640 x 480 px & 1100FPS @ 8Bpp, JPEG [85%] (Gbit LAN)
Max Speed	1920 x 8 px & 5700FPS @ 8Bpp, JPEG [85%] (Gbit LAN)	1920 x 8 px & 6400FPS @ 8Bpp, JPEG [85%] (Gbit LAN)
Operating temperature	0 to 60 °C	0 to 60 °C

SW MODULES	HARDWARE	APPLICATIONS
DewesoftX & GigE V.7.4 plugin	PS-120W-L1B2f-PHG	Video analysis applications
	POWER-SPLITTER-1xL-1B2m-5xL1B2f + PS-120W-L1B2f	Multiple cameras
	KRYPTON TH with separate LAN network	Temperature measurement
Polygon plugin	DS-IMU1, DS-VGPS-HS	Automotive
Power plugin	SIRIUS HS, SIRIUS XHS	E-mobility
Fatigue analysis plugin	IOLITEi-3xMEMS-ACC-40g	Structure analysis
Sound intensity plugin	SIRIUS	Acoustic measurement

RELATED PRODUCTS/SOLUTIONS

- **DS-CAM-IP65-COVER**
  IP65 lens cover consisting of an adapter and a tube for mounting on camera - a combined length of 60mm.
- **POWER-SPLITTER-1xL1B2m-5xL1B2f**
  Power distribution box with 1x L1B2m for input and 5x L1B2f for output and PS-120W-L1B2f - Standard SIRIUS power supply.
- **PS-120W-L1B2f-PHG**
  AC/DC DS-CAM power supply with L1B2f-PHG connector capable of directly connecting to DS-CAM's power plug.
- **M1208-RJ45-10m**
  10m CAT6A cable for DS-CAM-640c & DS-CAM-1100m with M12X8/RJ45 connectors.
- **L1B2m-M1212-10m**
  10m Power connection cable for DS-CAM-640c and DS-CAM-1100m

Supported 3rd party equipment
- **ASUS XG-C 100C 10G**: 10Gbit desktop PC expansion LAN card
- **QNAP QSW-2104-2T**: Switch with 4x 2.5Gbit and 2x10Gbit RJ45 ports
- **Netgear ProSafe MS510TXPP:** Switch with 8+2-Ports (2x10GbE, 2x5GbE, 2x2.5GbE, 4x1GbE)
- **CISCO: IE-3300-8T2X-E:** Switch with PTP and 8x1Gbit RJ45 and 2x10Gbit SFP ports

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