

# XCG Series Colour Models

Digital Video  
Camera Module



IMAGE SENSING SOLUTIONS

Sony proudly introduces two new raw color GigE cameras to its popular XCG Series: the high-quality, high-performance XCG-5005CR and XCG-U100CR.



**XCG-U100CR**  
2 Mega Raw Colour



**XCG-5005CR**  
5 Mega Raw Colour

## Key Features

### ■ GigE Vision Interface

The adoption of the GigE Vision interface (Ver. 1.2) adds to the outstanding value and performance of the XCG-5005CR and the XCG-U100CR cameras. Answering the growing demand for large-scale systems, they can transfer large amounts of data over long distances (up to 100 meters). In addition, the overall cost of a vision system can be reduced with these cameras thanks to the availability of a variety of peripheral devices.

### ■ High Frame Rate Image Transfer

The XCG-5005CR and the XCG-U100CR cameras feature a high readout rate of uncompressed images for smooth and clear results. The XCG-5005CR achieves 15fps and the XCG-U100CR achieves 27fps.

**These cameras incorporate the GigE Vision® interface, which is specifically standardized for machine-vision applications based on Gigabit Ethernet technology.**

In accordance with the growing demand for large-scale systems, this interface enables the cameras to transfer a large amount of data over long distances. The use of an Ethernet cable and the availability of a wide variety of peripheral devices contribute to significant cost-cutting benefits when designing a complete vision system.

The new XCG cameras use a CCD with a color mask (commonly called a "Bayer filter") and output the "raw color" pixel values in 8, 10 or 12 bit to be converted to a color image on a computer. The color conversion that takes place in the computer is supported by Sony's XCG-Software and a variety of commercially available third-party software programs.

In addition, the XCG-5005CR and the XCG-U100CR cameras offer unique benefits that are inherited from the Sony's XCD Series such as Bulk Trigger mode and Sequential Trigger mode.

By utilizing the features and benefits of the GigE Vision interface, the XCG-5005CR and the XCG-U100CR cameras expand the possibilities for intelligent traffic, factory automation, food and beverage inspection, and pharmaceutical applications.

## Lineup

|  | XCG-U100CR                    | XCG-5005CR             |
|--|-------------------------------|------------------------|
| Progressive Scan IT CCD                        | 1/1.8-type                    | 2/3-type               |
| Cell Size (H) x (V)                            | 4.4 x 4.4µm                   | 3.45 x 3.45µm          |
| Standard Picture Size (H) x (V) and Frame Rate | 1,600 x 1,200 (UXGA) at 27fps | 2,448 x 2,048 at 15fps |

## Key Features

### ■ Bulk Trigger Mode/Sequential Trigger Mode

In addition to its conventional trigger mode, the XCG-5005CR and the XCG-U100CR cameras also feature advanced "Bulk Trigger" and "Sequential Trigger" modes. Both cameras support 16 memory channels that can store up to 16 different camera setups (exposure, gain, LUT). "Bulk Trigger" mode allows the XCG cameras to capture up to 16 images in rapid succession using a single software or hardware trigger. "Sequential Trigger" mode allows the camera to capture a single image using successive setups stored in the memory channels with each software or hardware trigger.

### ■ Low Power Consumption and Compact Design

These compact, lightweight cameras feature low power consumption, and the ability to operate at temperatures of up to 50°C / 122°F

### ■ High Resistance to Shock and Vibration

Due to their robustness and vibration resistance, the XCG cameras deliver outstanding performance in the most challenging environmental conditions.

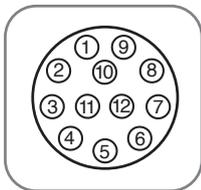
## Specifications

|                               | XCG-U100CR  | XCG-5005CR   |
|-------------------------------|---|--|
| <b>Camera</b>                 |   |  |
| Image sensor                  | 1/1.8-type progressive scan IT CCD  | 2/3-type progressive scan IT CCD                   |
| Standard output pixels        | 1600 (H) x 1200 (V)   | 2448 (H) x 2048 (V)                                |
| Standard frame rate           | 27 fps  | 15 fps   |
| Cell size (H x V)             | 4.4 x 4.4 μm  | 3.45 x 3.45 μm                                     |
| Color filter                  | Elementary color mosaic   |  |
| Minimum illumination          | 6 lx (F1.4, +18 dB, Shutter: off, 50% video level)  | 6 lx (F1.4, +18 dB, Shutter: off, 50% video level) |
| Sensitivity                   | 2000 lx at F5.6 (0 dB)  | 2000 lx at F8 (0 dB)                               |
| Gain                          | Auto/Manual (0 dB to +18 dB)  |  |
| Shutter speed                 | 2 sec to 1/100,000 sec  |  |
| <b>Camera Features</b>        |   |  |
| Video output resolution depth | RAW 8: 8 bits/pixel<br>RAW 10: 10 bits/pixel<br>RAW 12: 12 bits/pixels  |  |
| Readout modes                 | Normal, Partial scan  |  |
| White balance                 | One Push WB, Manual   |  |
| Readout features              | Gamma (variable), Built-in test pattern   |  |
| Synchronization               | Hardware trigger / Software trigger,<br>Trigger start / Trigger start and exposure duration,<br>Bulk / Sequential trigger mode,<br>Trigger inhibit setting,<br>Trigger delay setting/Strobe control |  |
| Memory channel                | 16 channels for parameter settings  |  |
| User memory                   | 1024 Byte   |  |
| <b>Interfaces</b>             |   |  |
| Video output                  | Gigabit Ethernet(1000Base-T)  |  |
| Digital I/Os                  | ISO IN (1x), ISO OUT (1x), TTL OUT (1x)   |  |
| <b>General</b>                |   |  |
| Lens mount                    | C mount   |  |
| Power requirements            | DC +12 V (+10.5 V to +15.0 V)   |  |
| Power consumption             | 3.5 W   | 4.3 W  |
| Operating temperature         | -10°C to +50°C (14°F to 122°F)  |  |
| Storage temperature           | -30°C to +60°C (-22°F to +140°F)  |  |
| Operating humidity            | 20% to 80% (no condensation)  |  |
| Storage humidity              | 20% to 95% (no condensation)  |  |
| Vibration resistance          | 10 G (20 Hz to 200 Hz)  |  |
| Shock resistance              | 70 G  |  |
| Dimensions (W x H x D)        | 44 x 33 x 67.5 mm (1 3/4 x 1 5/16 x 2 3/4 inches)<br>(not including protruding parts)   |  |
| Mass                          | 145 g (5.1 oz)  |  |
| Regulations                   | UL2044, FCC Class A, CE: EN55022, AS/NZ: EN55022, VCCI: Class A   |  |

## Pin assignment

### 12-pin connector

| Pin No. |                               |
|---------|-------------------------------|
| 1       | GND                           |
| 2       | DC IN                         |
| 3       | GND                           |
| 4       | Multi-function output* (TTL)  |
| 5       | Multi-function output* (ISO-) |
| 6       | Multi-function output* (ISO+) |
| 7       | GPIO input (ISO+)             |
| 8       | GND                           |
| 9       | NC                            |
| 10      | NC                            |
| 11      | Trigger input                 |
| 12      | GPIO input (ISO-)             |



\*Multi-function output Exposure output/Strobe control signal/  
GPIO output

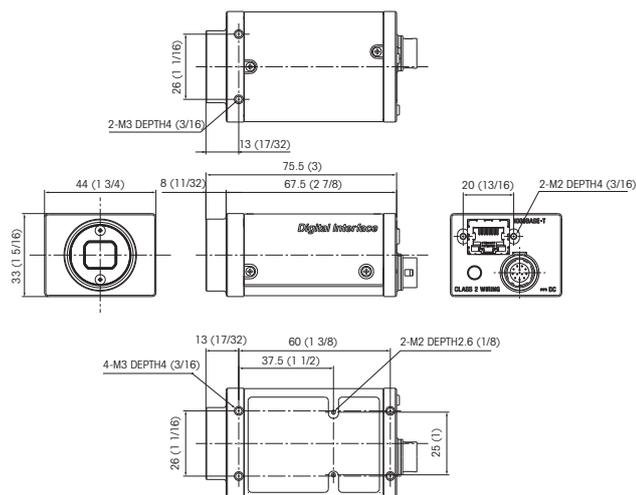
## Optional accessories

|                 |             |
|-----------------|-------------|
| Tripod Adaptor  | VCT-ST70I   |
| Camera Adaptors | DC-700      |
|                 | DC-700CE    |
| Cables          | CCXC-12P02N |
|                 | CCXC-12P05N |
|                 | CCXC-12P10N |
|                 | CCXC-12P25N |

Distributed by

## Dimensions Unit: mm (Inches)

### XCG-U100CR & XCG-5005CR Models



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PC\_07/04/2011

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