

# Stingray

## F-033



- Versatile VGA camera
- Advanced feature set
- Many variants
- Excellent image quality

### Smart modularity

## Stingray – Versatile FireWire camera

Stingray F-033 with Sony ICX414 runs 84.0 frames per second at 0.3 MP resolution.

The Stingray offers a particularly wide range of functions and image optimization options – for example, shading correction and low-noise binning mode. Thanks to its modular and flexible design, it is a particularly versatile high-performance camera for a wide range of applications. It is also available in board level and compact versions. Extreme distances can be bridged with the optional optical fiber interface.

Easy software integration with [Allied Vision's Vimba Suite](#) and compatibility to the most popular third party image-processing libraries.

See the [Customization and OEM Solutions webpage](#) for hardware options.

## Specifications

Interface	IEEE 1394b - 800 Mb/s, 2 ports, daisy chain
Resolution	656 (H) × 492 (V)
Sensor	Sony ICX414
Sensor type	CCD Progressive
Sensor size	Type 1/2
Pixel size	9.9 μm × 9.9 μm
Lens mount (default)	C-Mount
Max. frame rate at full resolution	84 fps
ADC	14 Bit
Image buffer (RAM)	Up to 128 MByte

### Imaging performance

Imaging performance data is based on the evaluation methods in the EMVA 1288 Release 3.1 standard for characterization of image sensors and cameras. Measurements are typical values for monochrome models measured at full resolution without optical filter. Contact Sales or AE for more information.

Quantum efficiency at 529 nm	38 %
Temporal dark noise	22.0 e <sup>-</sup>
Saturation capacity	25300 e <sup>-</sup>
Dynamic range	61.0 dB
Absolute sensitivity threshold	22.5 e <sup>-</sup>

### Output

Bit depth	8-bit to 14-bit
Monochrome pixel formats	Mono8, Mono12, Mono16
RGB color pixel formats	RGB8
Raw pixel formats	Raw8, Raw12, Raw16

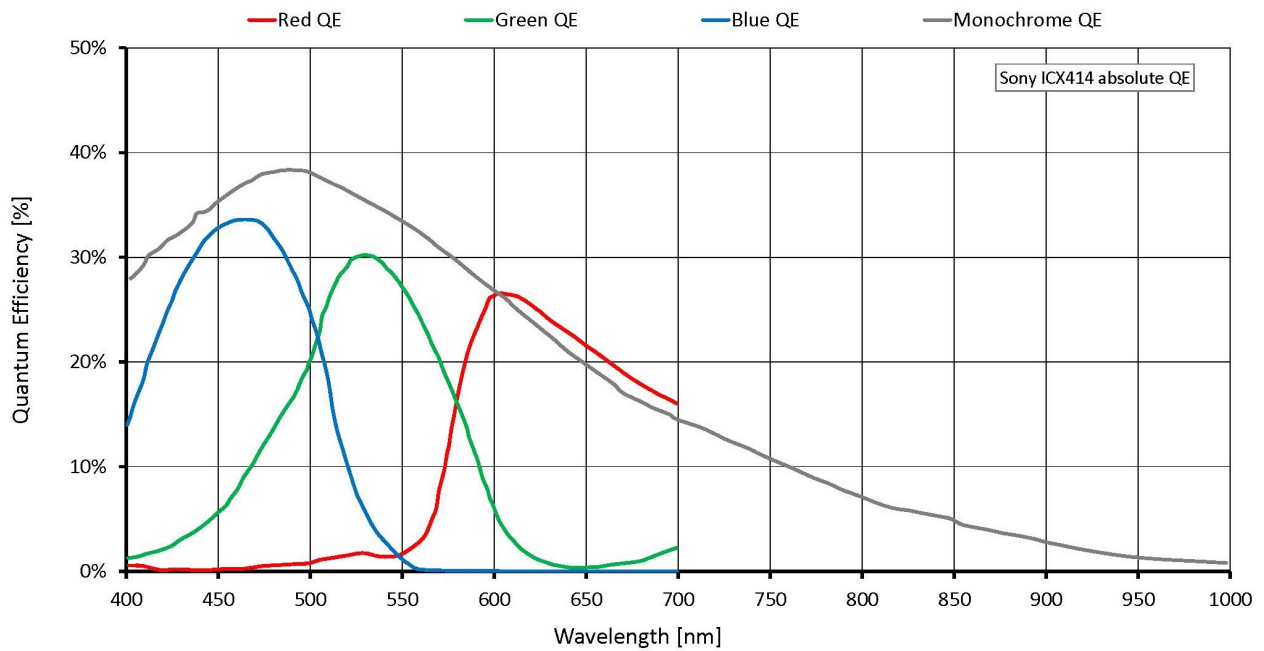
### General purpose inputs/outputs (GPIOs)

Opto-isolated I/Os	2 inputs, 4 outputs
RS232	1

### Operating conditions/dimensions

Operating temperature	+5 °C to +45 °C
Power requirements (DC)	8 V to 36 V
Power consumption	<4 W (@ 12 VDC)
Mass	92 g
Body dimensions (L × W × H in mm)	72.9 × 44 × 29 (including connectors)

### Quantum efficiency



## Features

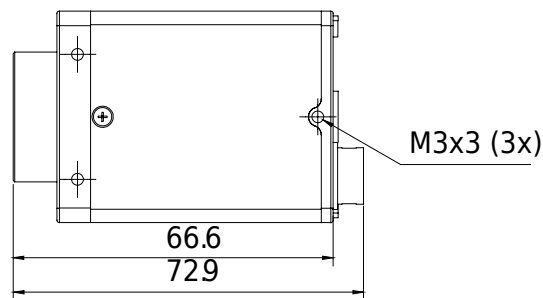
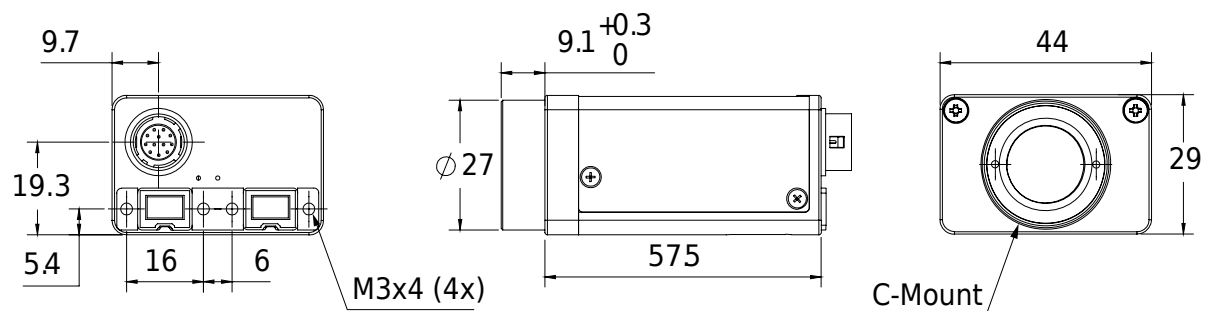
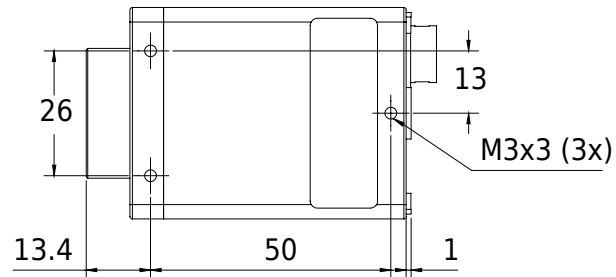
- High SNR mode (up to 24 dB better signal-to-noise ratio)
- Low-noise binning mode
- Shading correction
- Defect pixel correction
- Area of interest (AOI), separate AOI for auto features
- Binning
- Decimation
- Auto gain (manual gain control: 0 to 24.4 dB)
- Auto exposure (31  $\mu$ s to 67 s)
- Auto white balance
- Look-up table (LUT)
- Hue, saturation
- Color correction
- Local color anti-aliasing
- Reverse X/Y
- Deferred image transport
- Trigger programmable, level, single, bulk, programmable delay
- Sequence mode (changes the camera settings on the fly)
- SIS (secure image signature, time stamp for trigger, frame count etc.)
- Storable user sets

## Scope of delivery

- Camera and IEEE 1394b cable (other configurations on request)

## Technical drawing

### 2 x 1394b copper



## Applications

The Stingray F-033B/F-033C is a high-quality industrial VGA camera with many image pre-processing functions. It offers several opportunities for customization. This mid-priced camera fits for all sorts of applications with high demands, for example:

- Industrial inspection and automation
- Semiconductor inspection

- Logistics
- Science and research
- Healthcare and medical (white housing available)
- Ophthalmology
- Multimedia, entertainment and sports
- Intelligent traffic solutions (ITS)

Additionally, it is ideally suited for:

- Demanding OEM camera applications (board level versions with separate sensor board available on request)
- Daisy chaining (two copper connectors)