



# Stingray

## F-504

- Versatile 5 MP camera
- Advanced feature set
- Many variants
- Excellent image quality

### Smart modularity

## Stingray – Versatile FireWire camera

Stingray F-504 with Sony ICX655 runs 9.0 frames per second at 5.0 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                         | 2452 (H) × 2056 (V)                         |
| Sensor                             | Sony ICX655                                 |
| Sensor type                        | CCD Progressive                             |
| Sensor size                        | Type 2/3                                    |
| Pixel size                         | 3.45 μm × 3.45 μm                           |
| Lens mount (default)               | C-Mount                                     |
| Max. frame rate at full resolution | 9 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   | 53 %                |
| Temporal dark noise            | 9.4 e <sup>-</sup>  |
| Saturation capacity            | 5600 e <sup>-</sup> |
| Dynamic range                  | 55.1 dB             |
| Absolute sensitivity threshold | 9.9 e <sup>-</sup>  |

### Output

|                          |                       |
|--------------------------|-----------------------|
| Bit depth                | 8-14 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

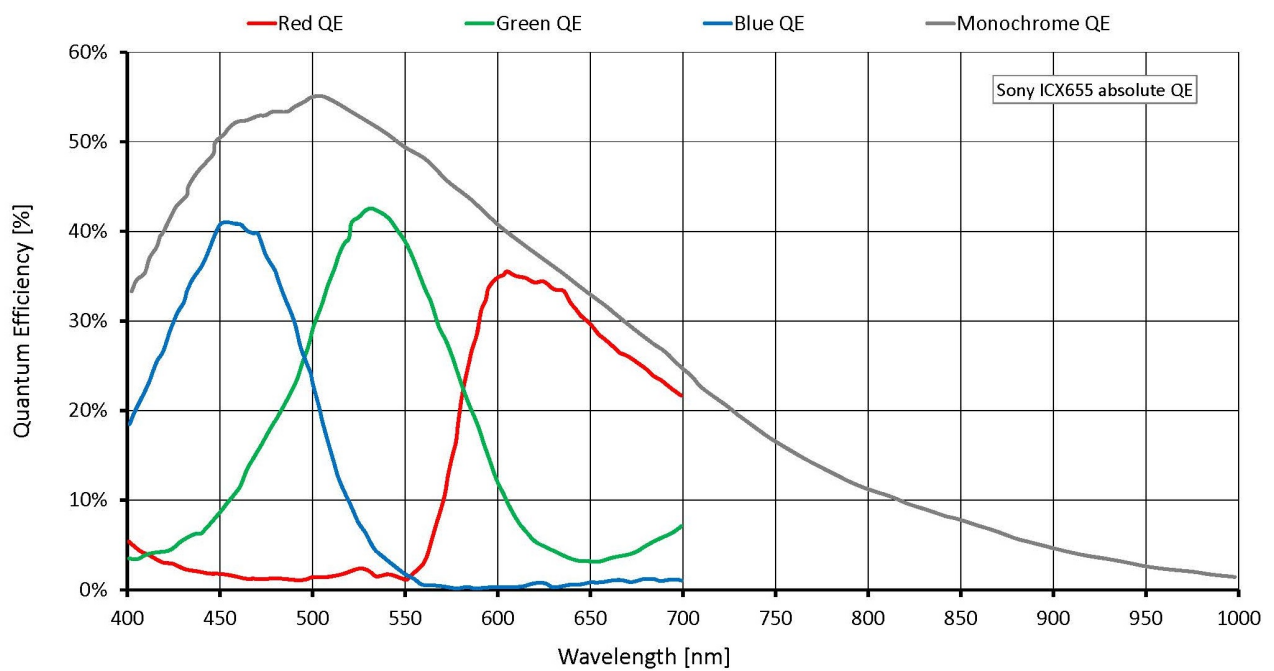
Power consumption <4 W (@ 12 VDC)

Mass 92 g

Body dimensions (L × W × H in mm) 72.9 × 44 × 29 (including connectors)

Regulations CE: 2014/30/EU (EMC), 2011/65/EU, including amendment 2015/863/EU (RoHS); FCC Class B

### Quantum efficiency



## Features

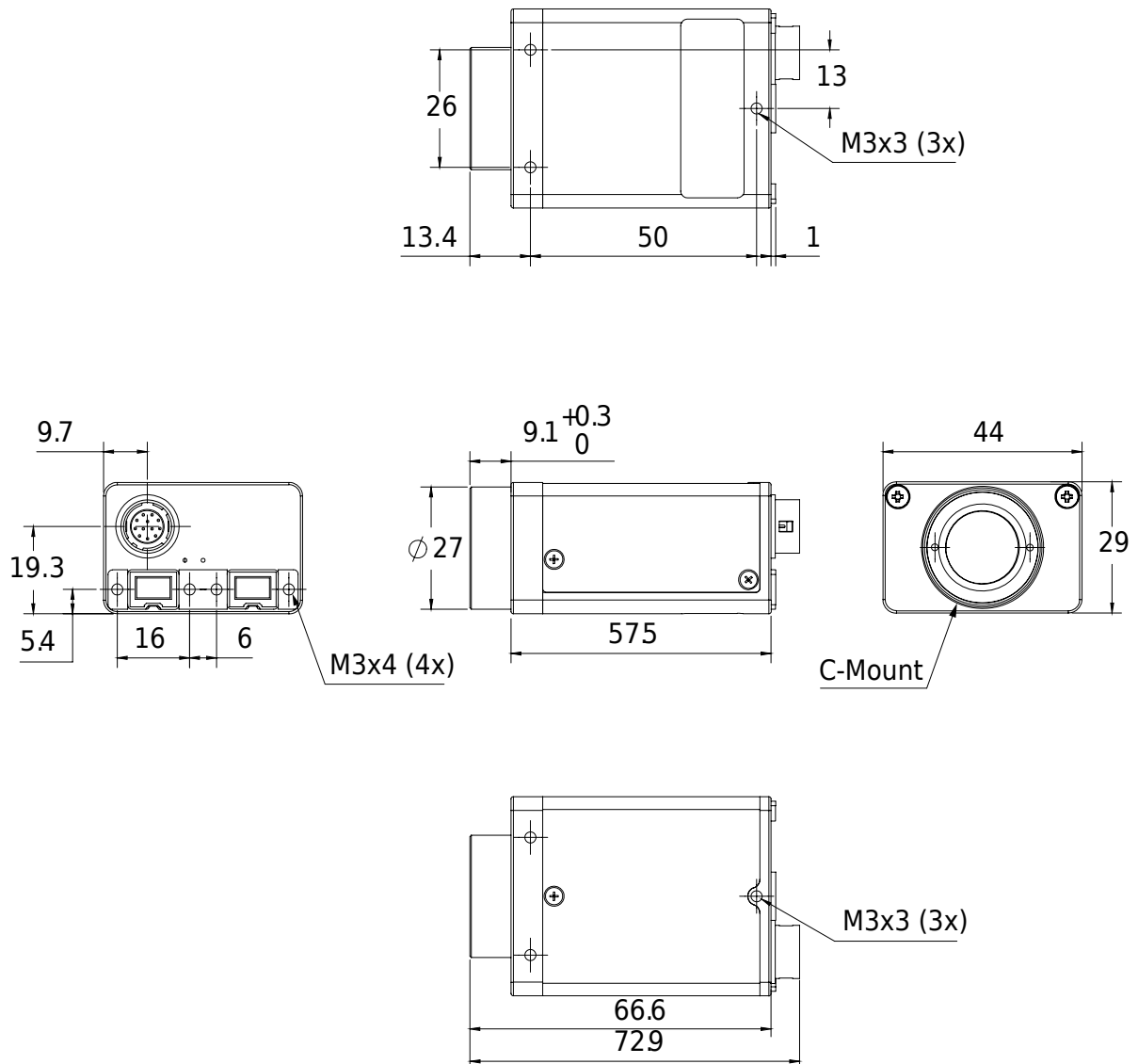
- High SNR mode (up to 24 dB better signal-to-noise ratio)
- Low-noise binning mode
- Shading correction
- Defect pixel correction
- Area of interest (AOI), separate AOI for auto features
- Binning
- Decimation
- Auto gain (manual gain control: 0 to 24.4 dB)
- Auto exposure (42  $\mu$ s to 67 s)
- Auto 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-504B/F-504C meets high demands. Its brilliant image quality can be enhanced by several image pre-processing functions. Due to the modular design, customization is easy and cost-effective. This 5 Megapixel camera fits for:

- Intelligent traffic systems (ITS)
- Industrial inspection and automation

- Logistics
- Science and research
- Microscopy
- Healthcare and medical (white housing available)
- Multimedia and entertainment

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)