



## Pike F-421

- Versatile IEEE 1394b camera
- Advanced feature set
- Many variants
- High frame rates

### Description

4 Megapixel camera with ON Semiconductor KAI-04022 type 1.2 sensor – high resolution, low noise

The Pike F-421B/F-421C is equipped with an ON Semiconductor type 1.2 CCD sensor. The reason for this large sensor format is the goal to achieve high resolution images with low noise. The sensor has a wide pixel pitch of 7.4  $\mu$ m. At full resolution, the camera runs up to 16 frames per second. Higher frame rates can be reached by using a smaller area of interest (AOI), binning (b/w), or sub-sampling.

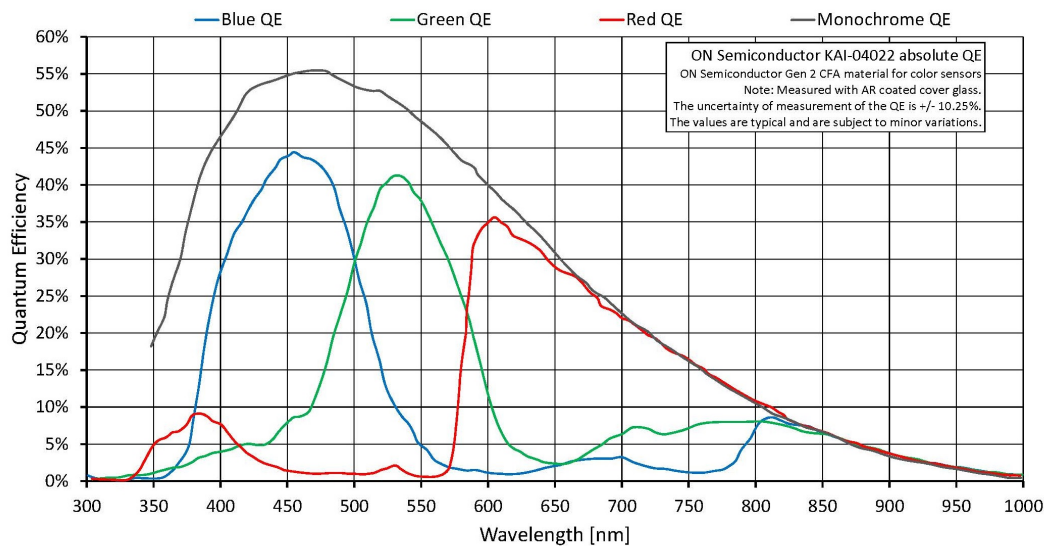
Options:

- IEEE 1394b connectors: 2 x copper (daisy chain) or 1 x GOF, 1 x copper, Hirose power: out
- Various IR cut/pass filters, various lens mounts
- Angled head, white medical housing

### Specifications

| Pike                               | F-421   |
|------------------------------------|---|
| Interface                          | IEEE 1394b - 800 Mb/s, 2 ports, daisy chain, fiber optic (GOF) optional |
| Resolution                         | 2048 (H) $\times$ 2048 (V)  |
| Sensor                             | ON Semi KAI-04022   |
| Sensor type                        | CCD Progressive   |
| Sensor size                        | Type 1.2  |
| Pixel size                         | 7.4 $\mu$ m $\times$ 7.4 $\mu$ m  |
| Lens mount (default)               | C-Mount   |
| Max. frame rate at full resolution | 16 fps  |
| ADC                                | 14 bit  |

|   |  |
|---|--|
| <b>Pike</b>                                   | <b>F-421</b>   |
| Image buffer (RAM)                            | 64 MByte   |
| <b>Output</b>                                 |  |
| Bit depth                                     | 8-14 bit   |
| Monochrome pixel formats                      | Mono8, Mono12, Mono16                                |
| RGB color pixel formats                       | RGB8   |
| Raw pixel formats                             | Raw8, Raw12, Raw16                                   |
| <b>General purpose inputs/outputs (GPIOs)</b> |  |
| Opto-isolated I/Os                            | 2 inputs, 4 outputs                                  |
| RS232   | 1  |
| <b>Operating conditions/dimensions</b>        |  |
| Operating temperature                         | +5 °C to +50 °C                                      |
| Power requirements (DC)                       | 8 V to 36 V  |
| Power consumption                             | 4 W (@ 12 VDC)                                       |
| Mass  | 250 g  |
| Body dimensions (L × W × H in mm)             | 96.8 × 44 × 44 (including connectors)                |
| Regulations                                   | CE: 2014/30/EU (EMC), 2011/65/EU (RoHS); FCC Class B |



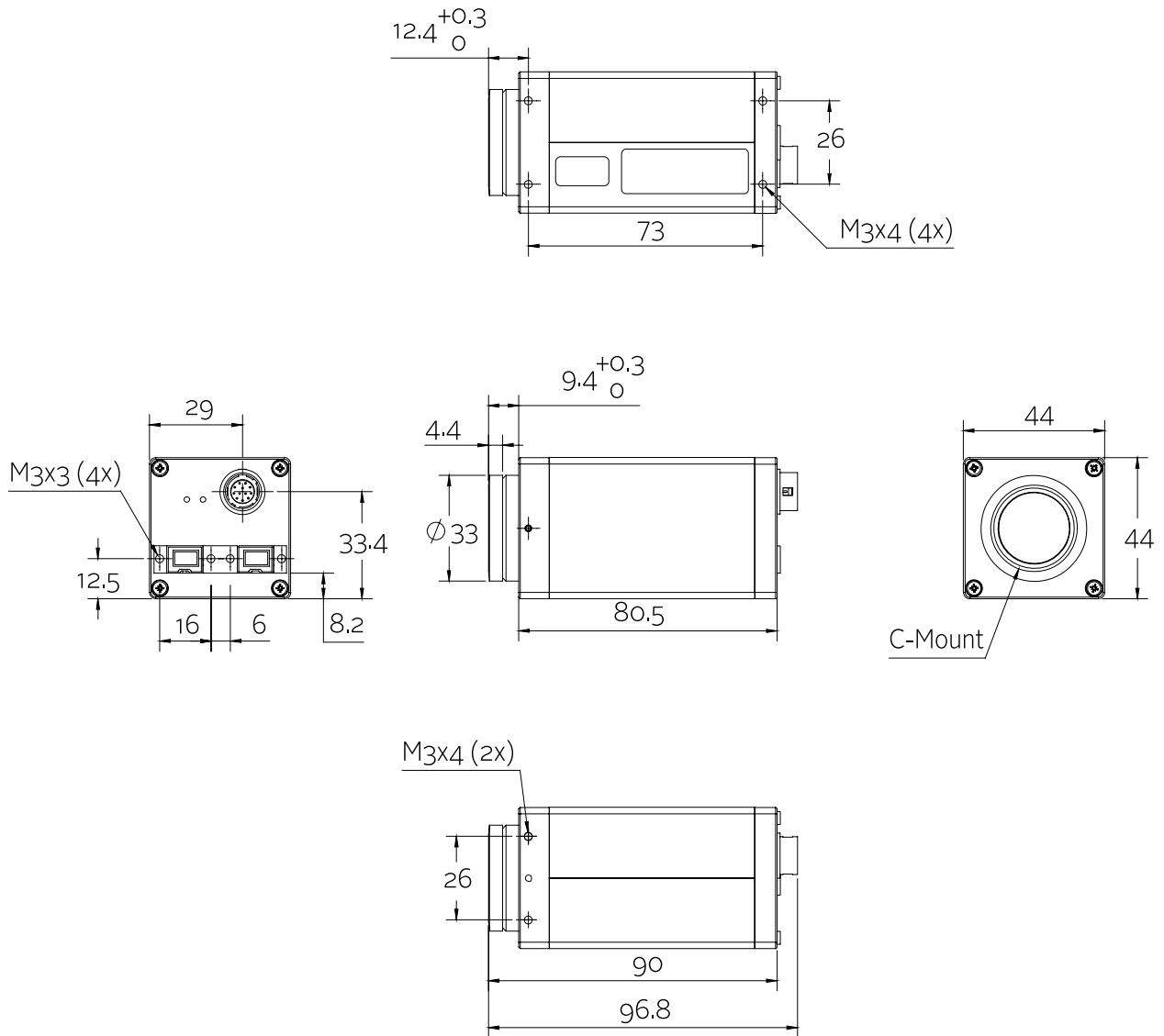
## Features

- High SNR mode (up to 24 dB better signal-to-noise ratio)
- Low-noise binning mode
- Smear reduction



- Shading correction
- Area of interest (AOI), separate AOI for auto features
- Binning
- Decimation
- Auto gain (manual gain control: 0 to 22 dB)
- Auto exposure (70  $\mu$ s to 67 s)
- Auto white balance
- Look-up table (LUT)
- Hue, saturation, color correction
- Reverse X
- 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)
- Storable user sets

## Technical drawing





## Applications

Equipped with a large sensor format (type 1.2), the Pike F-421B/F-421C is the perfect fit for low-light applications. It is distinguished by high-resolution images and an extraordinary image quality with very low noise. The smart pre-processing features of the Pike even enhance the image quality.

This Pike camera is especially suited for:

- Applications which require the highest image quality even with low light
- OEM applications (modular concept)
- Microscopy
- Science and research
- Intelligent traffic solutions (ITS)
- Long cable lengths, 400 meters and more (fiber version)