



# Pike F-421

## Description

### **4 Megapixel camera with Truesense KAI-4022 type 1.2 sensor - high resolution, low noise**

The Pike F-421B/C is equipped with a Truesense HAD CCD sensor type 1.2.

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  $\mu\text{m}$ .

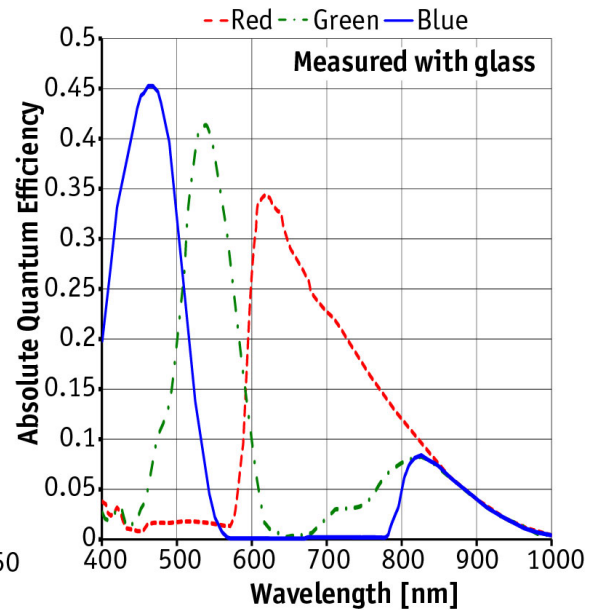
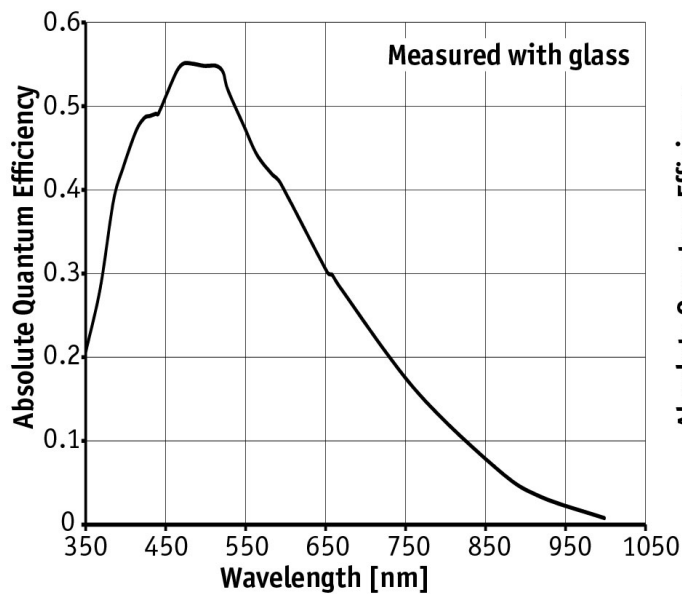
At full resolution, the camera runs up to 16 fps. Higher frame rates can be reached by a smaller AOI, binning (b/w), or sub-sampling.

- Truesense KAI-4022
- Trigger
  - Programmable, trigger level control, single trigger, bulk trigger, programmable trigger delay
- Options
  - 1394b connectors: daisy chain copper or copper and GOF
  - Various IR cut/pass filters
  - F/M39-Mount
  - Hirose power: out
  - Angled head
  - White medical housing

## Specifications

| Pike  | F-421   |
|---|---|
| <b>Interface</b>                              | IEEE 1394b - 800 Mb/s, 2 ports, daisy chain, fiber optic (GOF) optional |
| <b>Resolution</b>                             | 2048 x 2048   |
| <b>Sensor</b>                                 | Truesense KAI-4022  |
| <b>Sensor type</b>                            | CCD Progressive   |
| <b>Sensor size</b>                            | Type 1.2  |
| <b>Cell size</b>                              | 7.4 $\mu$ m   |
| <b>Lens mount</b>                             | C   |
| <b>Max frame rate at full resolution</b>      | 16 fps  |
| <b>A/D</b>                                    | 14 bit  |
| <b>On-board FIFO</b>                          | 64 MB   |
| <b>Output</b>                                 |   |
| <b>Bit depth</b>                              | 8-14 bit  |
| <b>Mono modes</b>                             | Mono8, Mono12, Mono16   |
| <b>Color modes YUV</b>                        | YUV411, YUV422  |
| <b>Color modes RGB</b>                        | RGB8  |
| <b>Raw modes</b>                              | Raw8, Raw12, Raw16  |
| <b>General purpose inputs/outputs (GPIOs)</b> |   |
| <b>Opto-coupled I/Os</b>                      | 2 inputs, 4 outputs   |
| <b>RS-232</b>                                 | 1   |
| <b>Operating conditions/Dimensions</b>        |   |
| <b>Power requirements (DC)</b>                | 8 V - 36 V  |
| <b>Power consumption (12 V)</b>               | 4 W   |
| <b>Mass</b>                                   | 250 g   |
| <b>Body Dimensions (L x W x H in mm)</b>      | 96.8 x 44 x 44 mm including connectors, w/o tripod and lens             |
| <b>Regulations</b>                            | CE, FCC Class B, RoHS   |

[Pike technical drawing \(C-Mount\)](#)



## Smart features

- Programmable LUT, white balance, hue, saturation
- Debayering
- Gain
  - Auto/manual
  - Manual gain control: 0 - 22 dB
- Exposure
  - Auto/manual
  - Exposure time: 70  $\mu$ s - 67 s
- Color correction
- Shading correction
- High SNR mode (up to 24 dB better signal-to-noise ratio)
- Smear reduction
- Sub-sampling, 2x - 8x binning (b/w)
- Separate AOI for auto features
- Sequence mode (changes the image settings on the fly)
- Image mirror
- Deferred image transport
- SIS (secure image signature, time stamp for trigger, frame count etc.)
- Storable user settings

## Applications

Equipped with a large sensor format (type 1.2), the Pike F-421B/C 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
- ITS (Intelligent traffic solutions)
- Long cable lengths, 400 meters and more (fiber version)