

AVT PIKE F-421B / F-421C

AVT PIKE F-421B / F-421C fiber



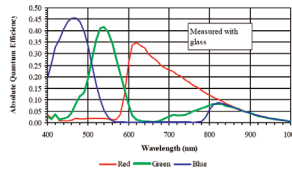
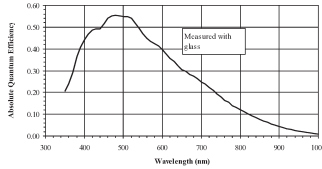
Fast – smart – perfect: 1394b goes PIKE.

The AVT PIKE camera family is equipped with an IEEE 1394b (S800) interface, as well as high-quality CCD sensors and comes in a surprising variety of different versions for the most demanding applications. The PIKE offers a selection of five different high-quality sensors (b/w and color) with high sensitivity and true-to-life color reproduction. To meet the highest requirements in the industry, the PIKE comes optionally in a version with a copper daisy chain connection or 1 x copper combined with 1 x GOF connector (2 x optical fiber on LCLC). This not only saves costs in multi-camera operations but also makes it possible to use up to 500 meters of cable. The direct fiber technology of the PIKE in the GOF version also provides for equalization of potential and EMC independence. The high data rates of the PIKE (max. 62.5 MByte/s) and a huge number of smart features ensure an extraordinary performance in PC-based image processing. The integrated image pre-processing of the PIKE not only reduces demands on PC computer power, but also cuts system costs by eliminating the now unnecessary frame grabbers.

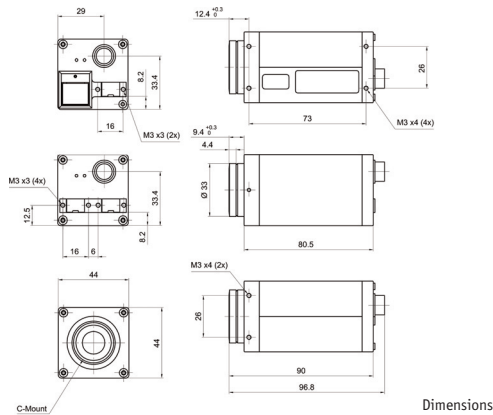
Highlights

- IEEE 1394b
- 4 megapixel (2048 x 2048)
- Up to 15 fps (full resolution)
- Progressive scan CCD, monochrome and color
- True partial scan (higher frame rates by smaller AOI)
- Flexible AOI, flexible speed (full Format_7 support)
- Optocoupled asynchronous image trigger
- Image pre-processing features:
 - Auto controlled gain, exposure, white balance (separate reference AOI)
 - Color correction, hue, saturation (only color)
 - Real-time shading correction
 - Programmable LUT
 - And lots more ...
- Smart frame grabber features:
 - Image FIFO memory (6 full frames)
 - High SNR
 - Single-shot, multi-shot, free-run
- - 2 prog. inputs, 4 prog. outputs
- - On-board RS-232 port
- - And lots more ...
- Industry proven and robust housing
- C-Mount / M39-Mount
- Angled head and customized housings

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Sensor specifications b/w; color
(extracted from the data sheet of the sensor - excluding lens and filter)



Copper / Daisy Chain
Copper / GOF connections



| AOI height / pixel | Frame rate / fps |
|--------------------|------------------|
| 2048 | 15 |
| 1200 | 25 |
| 1024 | 28 |
| 960 | 30 |
| 600 | 43 |
| 480 | 49 |
| 240 | 73 |
| 120 | 95 |
| 60 | 113 |
| 30 | 124 |
| 14 | 132 |

| Pin | Signal |
|-----|--------------------------------|
| 1 | External GND |
| 2 | External Power (8...36V DC) |
| 3 | GP Output 4 |
| 4 | GP Input 1 (Default: Trigger) |
| 5 | GP Output 3 (Default: Busy) |
| 6 | GP Output 1 (Default: IntEna) |
| 7 | GP Input GND |
| 8 | RxD (RS-232) |
| 9 | TxD (RS-232) |
| 10 | GP Output Power (max. 35 V DC) |
| 11 | GP Input 2 (CMOS/TTL) |
| 12 | GP Output 2 |

Camera Specifications

| | PIKE F-421 B/C | PIKE F-421 B/C fiber |
|----------------------------|---|---|
| Image device | Type 1.2 (diag. 21.4 mm) progressive scan, KODAK CCD | |
| Effective picture elements | 2056 (H) x 2062 (V) | |
| Picture size | 2048 (H) x 2048 (V) (all modes and color formats) | |
| Cell size | 7.4 µm x 7.4 µm | |
| Resolution depth | 8 bit / 10 bit / 12 bit / 14 bit / 16 bit (High SNR mode) | |
| Lens mount | C-Mount / M39-Mount | |
| Digital interface | IEEE1394b, 2 x bilingual (daisy chain) | IEEE1394b, 1 x bilingual, 1 x GOF connector (2 x optical fiber on LCLC) |
| Transfer rate | 100 Mbit/s, 200 Mbit/s, 400 Mbit/s, 800 Mbit/s | |
| Frame rates | Up to 15 fps; 15 fps (b/w and raw), 10 fps (YUV 4:1:1), 7 fps (YUV 4:2:2), 5 fps (RGB) | |
| Gain control | mono: Manual 0-22 dB, auto gain; color: Manual 0-20 dB, auto gain | |
| Shutter speed | 93 µs ... ~ 67 s, auto shutter (select. AOI) | |
| External trigger shutter | Programmable, trigger level control, single trigger, bulk trigger, programmable trigger delay | |
| Smart features | AGC/AEC/AWB with autofunction AOI; only color: AWB/color correction/hue/saturation; real-time shading correction, LUT, 64 MB image memory, mirror, binning (only b/w), sub-sampling, High SNR, storable user sets, 2 progr. inputs, 4 progr. outputs, RS-232 port, etc. | |
| Power requirements | DC 8 – 36 V via IEEE1394 cable or 12-pin HIROSE | |
| Power consumption | Typ. 5.5 watt (@ 12 V DC) | fiber: Typ. 6.25 watt (@ 12 V DC) |
| Dimensions | 96.8 mm x 44 mm x 44 mm (incl. connectors, without lens) | |
| Mass | 250 g (without lens) | |
| Operating temperature | +5 ... +50 °Celsius housing temperature (without condensation) | |
| Storage temperature | -10 ... +60 ° Celsius ambient temperature (without condensation) | |
| Regulations | EN 55022, EN 61000, EN 55024, FCC Class B, DIN ISO 9022, RoHS (2002/95/EC) | |
| Options | IR cut/pass filter (mono), protection glass (color), host adapter card, angled head, power out (HIROSE), AVT FirePackage/Direct FirePackage/Fire4Linux | |