



## JetCam 160

# JetCam 160

## High Speed, POV Camera

### Innovative Approach

**JetCam 160** is a high speed, low-cost, global shutter CMOS camera with a CLHS interface which supports 16 Megapixels (4704x3416) high quality video at rates up to 228fps.

### Intelligent Design

The Camera incorporates a 3.9µm global shutter sensor and a direct lens control (optional) without need of external devices. With a compact outline and low power design this camera can be fitted into tight spaces. The 3G SDI output enables connection of local monitor as viewfinder or an installation aid.

### Applications:

- High speed machine vision
- Motion analysis
- Sports broadcasting
- Traffic control
- Industrial inspection markets

### Key Features:

- 16 Megapixel up to 228 fps
  - 40 Gbps fiber optic interface
  - Up to 10 km cable length
  - 3G SDI output for local monitoring
  - Wide variety of supported lens mounts
  - B4 2/3" mount with integrated lens control\*
  - Compatible with KAYA Vision Point™ SDK
  - Compatible with KAYA Komodo™ Frame Grabbers
  - Customization as per user requirements
- \* Lens control is optional



## Technical Data

Feature	Description
Pixel Dize	3.9 $\mu\text{m}$ x 3.9 $\mu\text{m}$ 5T shutter pixel with CDS
Resolution	4704 (H) x 3416 (V)
Sensor Dize	4/3"
Sensor	LUX160
Video Output	CLHS up to 40 Gbps for QSFP+ CLHS up to 20 Gbps for Dual SFP+ 10GiGE up to 10Gbps (optional)
Complimentary video output	3G SDI
Output resolution	8 or 10 bit
Max Frame rate	228 fps @ 8 bit resolution 214 fps @ 10 bit resolution
Image Acquisition	Continuous / Triggered
Electronic Shutter	Global shutter
Monochrome/ Color	Monochrome / Color
Conversion Gain	0.11 LSB $_{10}$ /e $^{-}$
Temporal Noise	20.7 e $^{-}$
Full Well Charge	7000 e $^{-}$
Dynamic Range	50.3dB @ 520 nm
Signal-to-Noise Ratio (SNR max)	38.4dB @ 520 nm
Quantum Efficiency (QE) X FF	48% @ 520 nm
DSNU	< 29.4 e $^{-}$ (3.3 LSB $_{10}$ )
PRNU	< 1.6%
Shortest Exposure	1.5 $\mu\text{s}$
Programmable I/O	2x RS232 (RS485 optional)
On camera processing	<ul style="list-style-type: none"> <li>▪ Defect pixel correction</li> <li>▪ ROI</li> <li>▪ Frame counter</li> <li>▪ LUT</li> <li>▪ Auto black level</li> <li>▪ White balance</li> <li>▪ Image flip</li> <li>▪ Flat field correction</li> <li>▪ Gain (Analog/Digital)</li> <li>▪ Nonvolatile storage</li> </ul>
Lens control (Optional)	<ul style="list-style-type: none"> <li>▪ Fujinon lens control</li> <li>▪ Custom lens control through RS232/RS485</li> <li>▪ Birger lens control</li> </ul>

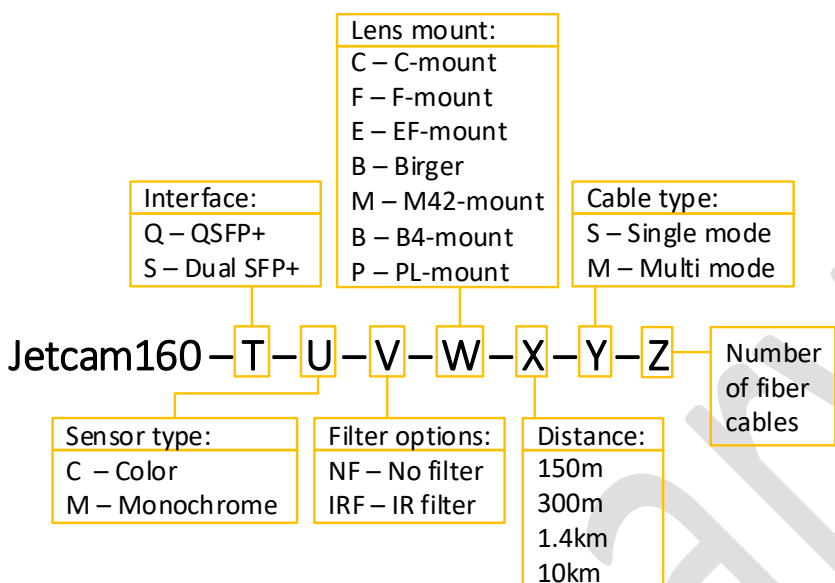
## Mechanical & Electrical

Feature	Description
Dimensions (including lens mount)	61.8 mm x 62.4 mm x 157 mm (Height x Width x Depth)
Lens Mount	F-Mount, B4, C-mount, Canon EF-mount, Birger EF-mount, PL mount
Weight (without lens)	1260g
Power input	12 VDC (optional 24 VDC)
Power consumption	< 16W
Operating Temperature	-10 °C to 50 °C, 10-90% humidity (non-condensing)
Storage Temperature	-10 °C to 55 °C, 10-90% humidity (non-condensing)

\* KAYA Instruments reserves the right to update the data sheet from time to time without prior notice.

## Ordering Information

KAYA's Part Numbers are intuitive and derived directly from the product's properties. Each index represents a different property of the camera, according to the following diagram:

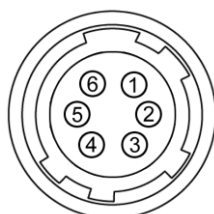


Product Name	Product Part Number
Power supply	KY-PWR12
2m SDI cable	KY-CCA-001-002.0
Switchcraft Inc PWR connector (M)	TB3M
Switchcraft Inc. Opposite PWR (F)	TA3FX
QSFP+ Multi Mode 150m	KY-QSFP-40G85-1M
QSFP+ Single mode 1.4km	KY-QSFP-40G31-1.4
SFP+ Single Mode 10km	KY-SFP-10GLR-31
SFP+ Multi mode 300m	KY-SFP-10G85-3M
Single Mode Patch cable Duplex with LC termination	KY-FCA-D-SM-LC-LC-2.0
Single Mode 8 cores cable with MTP/MPO termination	KY-FCA-Q-SM-5.0
Multi Mode Patch cable Duplex with LC termination	KY-FCA-D-MM-LC-LC-50.0
Multi Mode 8 cores cable with MTP/MPO termination	KY-FCA-Q-MM-4.0

Please contact a sales representative over at [info@skyblue.de](mailto:info@skyblue.de) for a full list of peripherals including cables and frame grabbers.

## General Purpose Input Output

GPIO Pinout – 6 Pin Connector

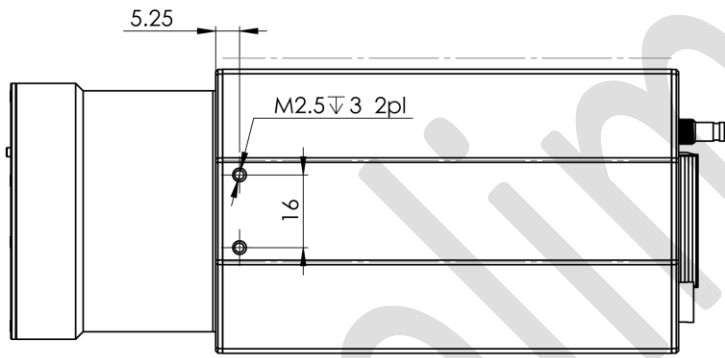
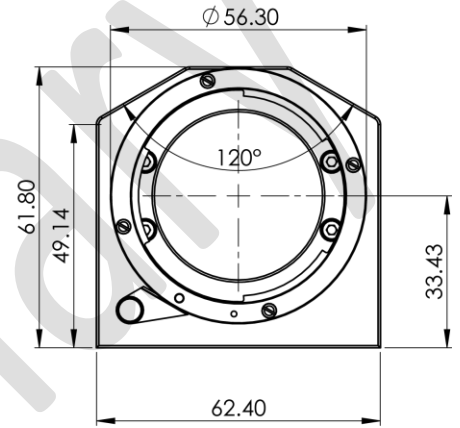
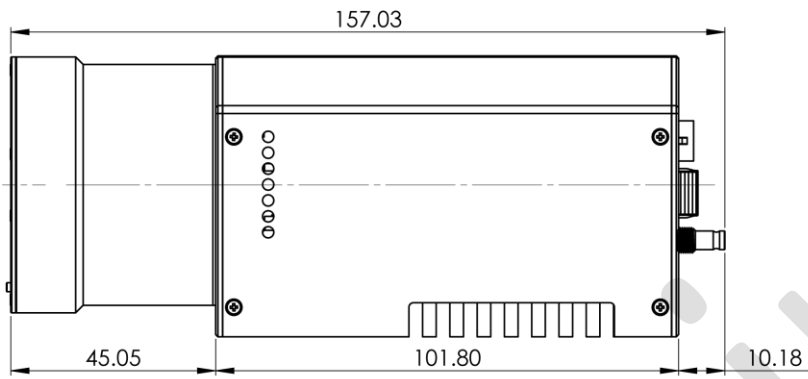
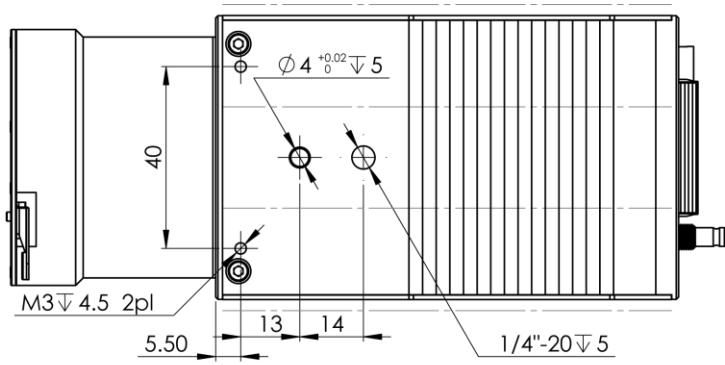


1. Ground
2. RS232 TX1
3. R232 RX1
4. R232 TX2
5. RS232 RX2
6. 12V (Output)

The GPIO connector used on the camera is a 6 pin female Hirose connector. It is recommended to use a cable with a matching Hirose 6 pin male connector. Hirose's manufacturer's part number is listed below:

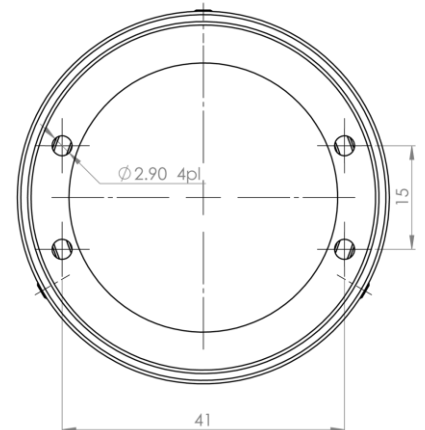
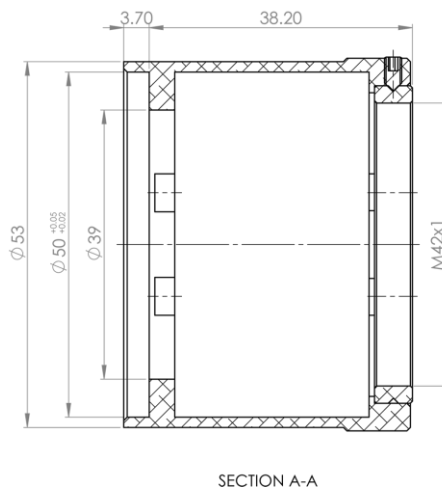
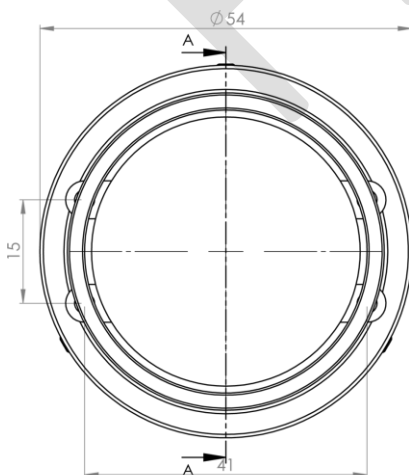
Product Name	Product Part Number
Hirose 6P connector, female	HR10-7R-6S(73)
Hirose 6P connector, male	HR10-7P-6P(73)

## Mechanical Drawings

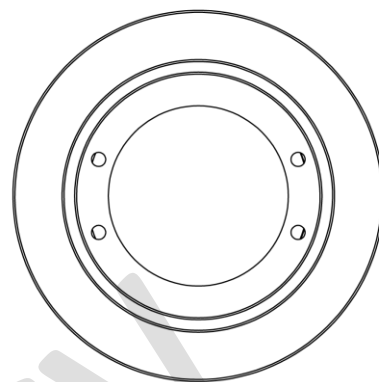
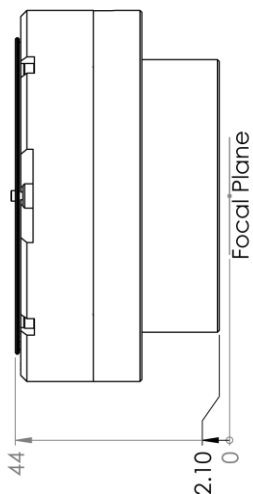
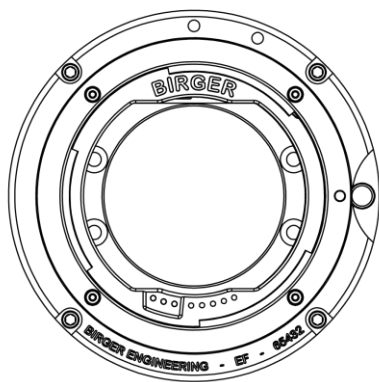


## Lens Mounts Mechanical Drawings

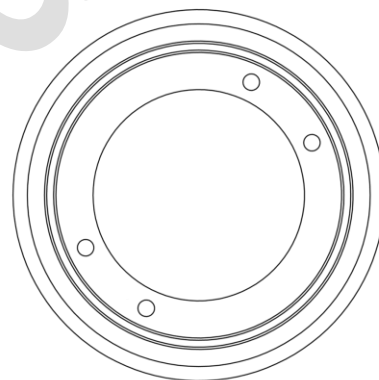
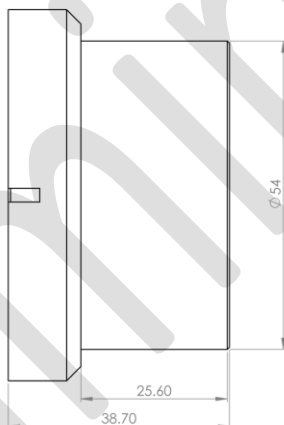
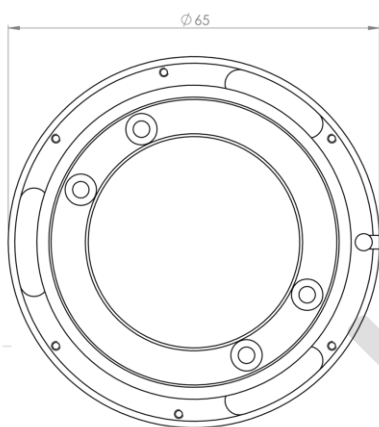
Nikon F mount:



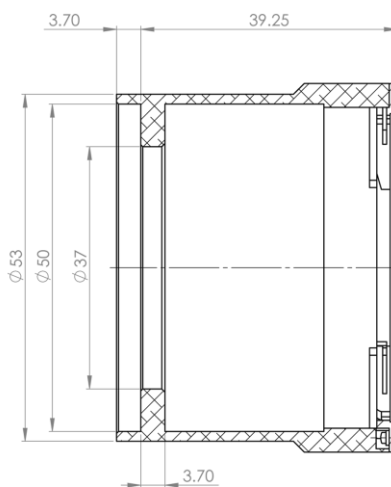
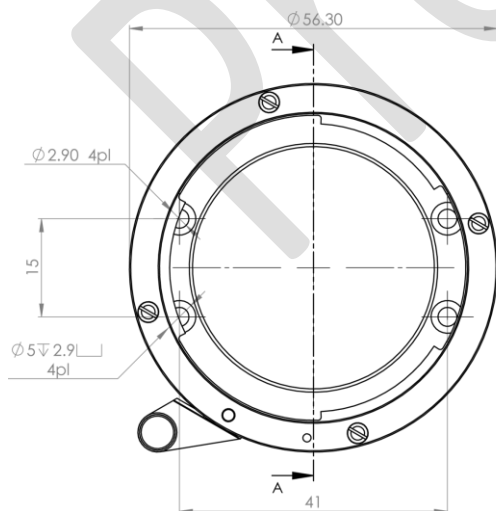
### Birger EF mount:



### Canon EF mount:

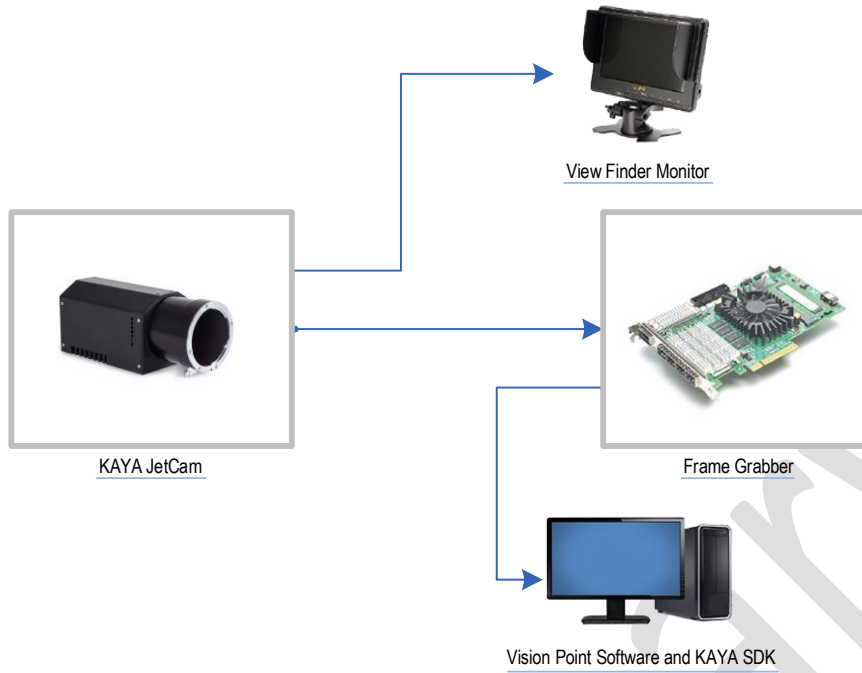


### M42 mount:



SECTION A-A

# KAYA High Speed Camera Workflow



## Compatibility

**KAYA Instruments** creates and maintains compatibility and interfaces for the most common and advanced vision image processing libraries and applications. Major support is available for **MVTec Halcon**, **National Instruments' LabVIEW** and **MathWorks' MATLAB**.

❖ Supported vision standards:



❖ Supported vision libraries:



❖ Supported operating systems:



*Please check our website for an up-to-date list of other supported libraries and software package*

## Contact Us

International Distributors



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