KAYA INSTRUMENTS

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 (4704×3416) 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
- 25 Gbps CoaXPress
- 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

Preliminary



Technical Data

Feature	Description
Pixel Dize	3.9 µm x 3.9 µm 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+ CoaXPress up to 25Gbps (optional) 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 LSB10/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 LSB10)
PRNU	< 1.6%
Shortest Exposure	1.5 µs
Programmable I/O	2x RS232 (RS485 optional)
On camera processing	▪ Defect pixel correction ▪ ROI ▪ Frame counter ▪ LUT ▪ Auto black level ▪ White balance ▪ Image flip ▪ Flat field correction ▪ Gain (Analog/Digital) ▪ Nonvolatile storage
Lens control (Optional)	▪ Fujinon lens control ▪ Custom lens control through RS232/RS485 ▪ Birger lens control

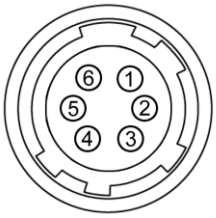
Mechanical & Electrical

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.

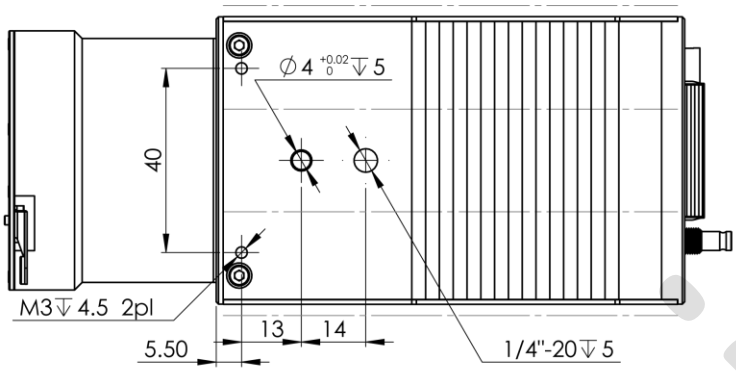
General Purpose Input Output

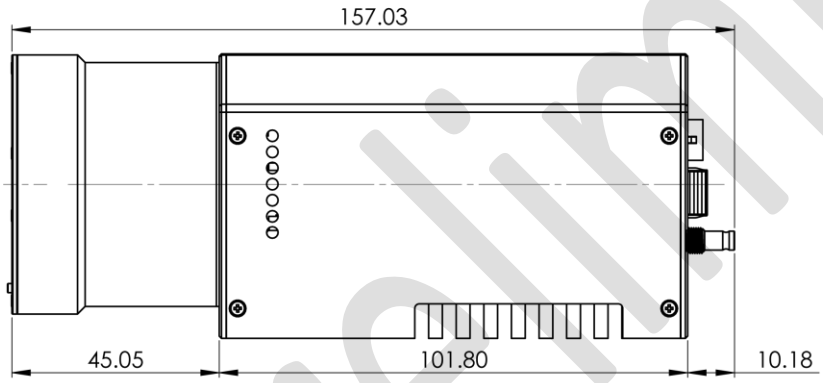
GPIO Pinout – 6 Pin Connector

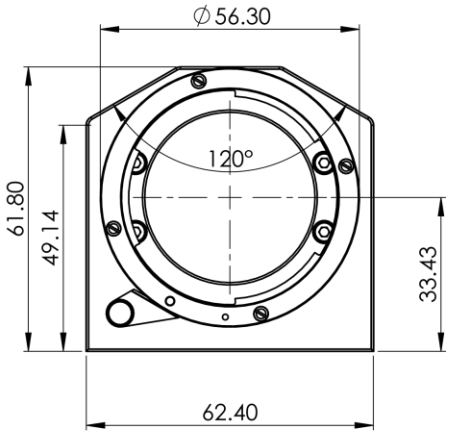


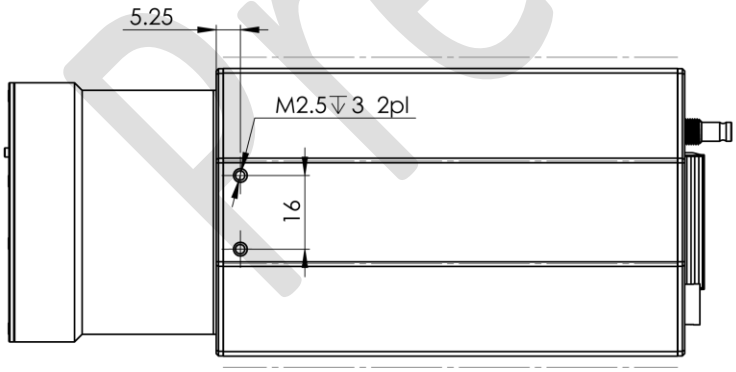
1. Ground
2. RS232 TXI
3. R232 RXI
4. R232 TX2
5. RS232 RX2
6. 12V (Output)

Mechanical Drawings



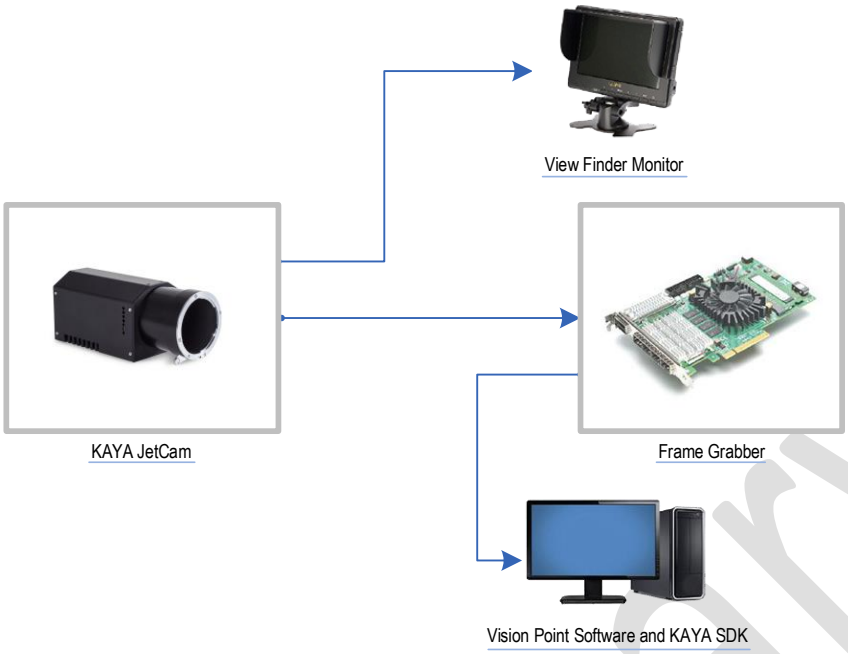






Preliminary

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:

CoaXPress® GEN<i>CAM TRANSPORT LAYER 10GiGE VISION GENTL

- Supported vision libraries:

HALCON a product of MVTec OpenCV NATIONAL INSTRUMENTS LabVIEW COGNEX

- Supported operating systems:

Windows Linux

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

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