

Datasheet Mercury CoaXPress SWIFT

Mercury CoaXPress Small Form Factor, Ruggedized Event-based Camera

Innovative Approach

The **Mercury CoaXPress SWIFT** is a rugged, ultra-thin high speed, low-power event-based IR camera with a micro-BNC interface which supports 640x512 resolution event video at rates 1600 fps.

Intelligent Design

Our camera incorporates SCD SWIFT event-based sensor with a 10 μm pixel size with TEC cooler. With an extremely compact outline, the **Mercury** can be fit into **tight spaces**. Latest imaging technology provides smaller pixels with superior sensor performance provides great imaging performance, cost savings and SWaPc benefits.

Applications:

- Aerospace
- Global Security
- Target Tracking
- Object identification
- Image Fusion
- Surveillance

Key Features:

- 640 x 512 @1600fps
- Up to 4 W power at full rate
- Up to 12 Gbps CoaXPress interface
- C, CS-mounts available,
Custom mounts available upon Request
- Ruggedized / Industrial grade Camera
- Full built-in self-test (BIT)
- Full built-in voltage testing
- Customization as per user requirements

TECHNICAL DATA

General	
Pixel Size	10 µm x 10 µm
Resolution	640 (H) x 512 (V)
Sensor Size	8.1 mm diagonal
Sensor	SCD SWIFT event-based sensor
Output Interface	6.25/12.5 Gbps CoaXPress 2.0
Interface Connector	Micro-BNC
Output Resolution	2 bit per event, 12/11 bit for video
Max Event Rate	50 Keps, 800 fps @13 bit, 1600 fps @ 11 bit
Image Acquisition	Continuous / Triggered
Camera Control	Gen<i>Cam
Electronic Shutter	Event based / Global
Background rate	0.1 Hz @ 1Klux / 10Hz @ 5 lux
Dynamic Range	86 dB
On camera processing	<ul style="list-style-type: none">▪ Defect pixel correction▪ ROI▪ Frame counter▪ ITR and IWR▪ Event rate control▪ Image flip▪ Binning▪ Operational Time Counter
GPIO Connection	Two inputs, two outputs, external trigger & strobe controller

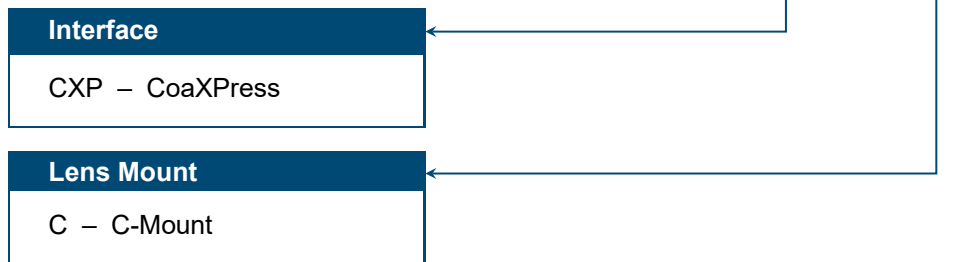
Mechanical	
Dimensions (including lens mount)	Commercial: 44 mm x 44 mm x 35 mm (Height x Width x Depth) Industrial: 44 mm x 44 mm x 35 mm (Height x Width x Depth)
Weight (without lens)	Commercial ~50 g Industrial: ~90 g
Operating Temperature	Commercial: 0 °C to 50 °C, 20-85% humidity (non-condensing) Industrial: -40 °C to 70 °C, 20-85% humidity (non-condensing)
Storage Temperature	Commercial: 0 °C to 55 °C, 20-85% humidity (non-condensing) Industrial: -40 °C to 75 °C, 20-85% humidity (non-condensing)
Operational Shock	According to customer's requirements
Operational Vibration	According to customer's requirements
Ingress Protection	Optional IP67 (with protective lens tube)
Lens Mount	C-mount, CS-mount, Custom mounts available upon Request
Power Input	PoCXP full support (11-28 V with external power option)
Power Consumption	<3 W @ 24V DC

ORDERING INFORMATION

MercurySWIFT - CXP - C

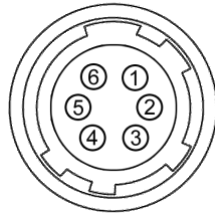
Interface
CXP – CoaXPress

Lens Mount
C – C-Mount



GENERAL PURPOSE INPUT OUTPUT

GPIO Pinout – 6 Pin Connector

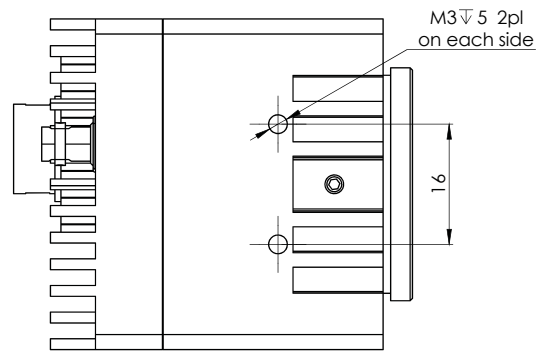
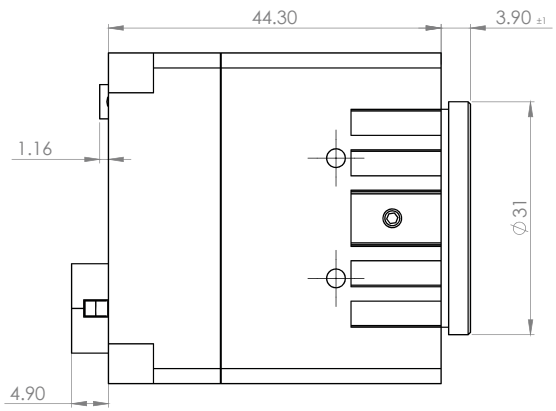
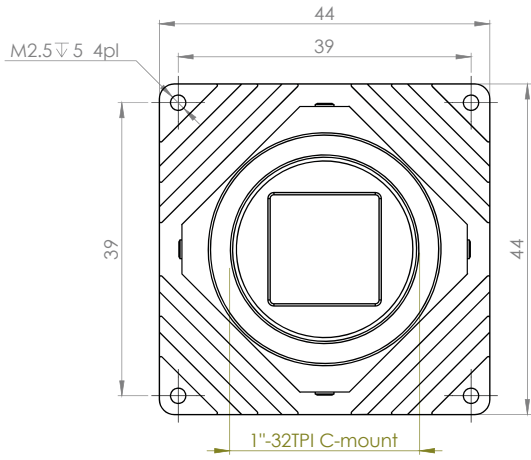


1. Ground
2. RS232 TX1
3. R232 RX1
4. R232 TX2
5. RS232 RX2
6. 12V (Output)

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



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

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KAYA Instruments

Please feel free to contact our sales team for pricing, availability, documentation or customization at our e-mails – we will be happy to provide assistance and consultation.



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