

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

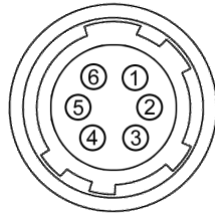
| |
|------------------|
| Interface |
| CXP – CoaXPress |

| |
|-------------------|
| Lens Mount |
| C – C-Mount |

The diagram shows two arrows originating from the product name 'MercurySWIFT - CXP - C'. One arrow points from 'CXP' to the 'Interface' section of the table, and another arrow points from 'C' to the 'Lens Mount' section of the table.

GENERAL PURPOSE INPUT OUTPUT

GPIO Pinout – 6 Pin Connector

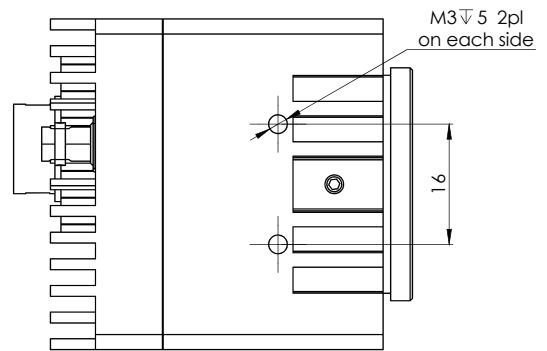
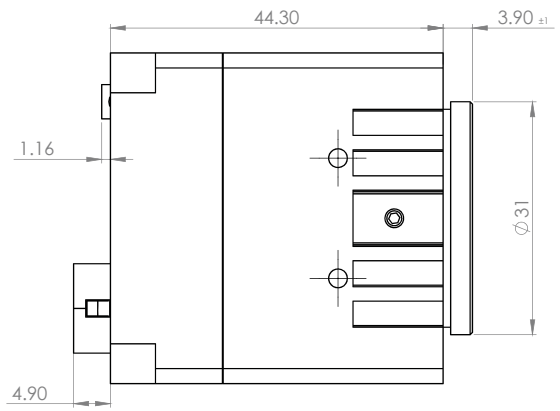
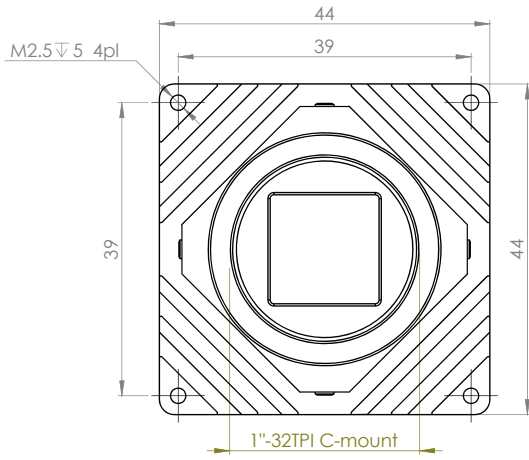


1. Ground
2. RS232 TX1
3. R232 RX1
4. R232 TX2
5. RS232 RX2
6. 12V (Output)

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

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