

**Optronis**

*Make time visible*

CAMPERFORM-CYCLONEFIBER SERIES

# CycloneFiber-2

## High-Speed Machine Vision Camera



Camera shown with CY-FM

**CoaXPress**  
over-Fiber

- ✓ OUTDOOR TEST AREA
- ✓ MEDICAL ENVIRONMENT
- ✓ PRODUCTION FLOOR INSPECTION

- 2 166 fps with 1 920 x 1 080 pixels
- Global shutter mode with low noise pixel
- CoaXPress-over-Fiber 40 Gbit/s
- EMC immune transmission up to 20 km
- Trigger via CoaXPress-over-Fiber

[www.optronis.com](http://www.optronis.com)

# CycloneFiber-2 High-Speed Machine Vision Camera

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## FEATURES

CycloneFiber-2 is a 2 MPixel camera with low noise pixel. Providing more than 2,000 fps at full resolution it is designed for demanding high-speed machine vision applications. The camera uses the CoaXPRESS-over-Fiber (CoF) de-facto standard protocol. Standard QSFP+ optical transceiver modules can be installed. The main advantage of this transmission is the long range and immunity to EM interference.

- 1920 x 1080 pixel resolution
- low noise pixel

Firmware features

- Analogue gain and offset adjustment
- Defect pixel correction (customer activatable)
- LUT factory set or customer definition

## PERFORMANCE (EXAMPLES, 8 BIT, SEE ALSO FRAME RATE CALCULATOR)

| Resolution (HxV) | Frame rate  | Resolution (HxV) | Frame rate  |
|------------------|-------------|------------------|-------------|
| 1920 x 1080      | 2 166 fps   | 1920 x 960       | 2 435 fps   |
| 1280 x 960       | 2 587 fps   | 1920 x 480       | 4 840 fps   |
| 640 x 480        | 5 148 fps   | 1920 x 120       | 18 667 fps  |
| 512 x 384        | 6 409 fps   | 1920 x 32        | 61 842 fps  |
| 256 x 4          | 248 756 fps | 1920 x 8         | 167 504 fps |

## MODELS

|                   |                            |
|-------------------|----------------------------|
| CycloneFiber-2-M  | monochrome Camera          |
| CycloneFiber-2-C  | color Camera, Grade 1      |
| Scope of delivery | Camera, brief introduction |

## ACCESSORIES

|          |                          |
|----------|--------------------------|
| CY-CM    | C-Mount lens adapter     |
| CY-FM    | F-Mount lens adapter     |
| CY-M42   | M42 Mount lens adapter   |
| CPH6-PTC | Pig tail cable for synch |
| CPH6-USB | Programming Cable        |
| CY-FAN2  | Cooling Fan              |
| CPH4-PSA | Power Supply             |

For camera operation, power supply and typically one lens mount are needed.

## SPECIFICATIONS

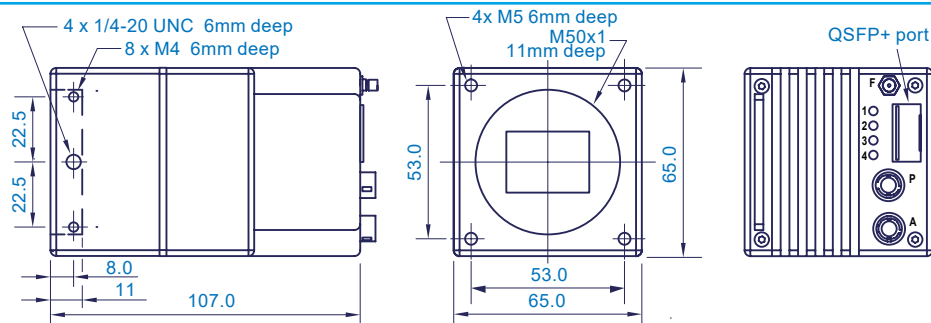
|                                  |                                                          |
|----------------------------------|----------------------------------------------------------|
| Sensor type                      | LUX19HS, Global Shutter                                  |
| Resolution                       | 1920 pixel x 1080 pixel                                  |
| Frame rate (full resolution)     | 20 .. 2 166 fps                                          |
| Exposure time                    | 4 µs .. 1 / frame rate                                   |
| Active area / Diagonal           | 19.20 mm x 10.80 mm / 22.03 mm                           |
| Pixel distance                   | 10.0 µm x 10.0 µm                                        |
| A/D conversion                   | 8/10 Bit                                                 |
| Quantum efficiency (sensor)      | 45 % @ 550 nm                                            |
| Synchronization                  | internal, external, CoF                                  |
| Synchronization signals          | Synch IN and Synch OUT, TTL level, electrically isolated |
| Interface                        | QSFP+ port                                               |
| Protocol                         | CoaXPRESS-over-Fiber (CoF)                               |
| Power (incl. 1.5 W QSFP+ module) | 11.5 W                                                   |
| Temperature Ranges               |                                                          |
| - operation, ambient             | 0 .. +35°C / 32 .. 95°F                                  |
| - operation, amb., with CY-FAN2  | 0 .. +50°C / 32 .. 122°F                                 |
| - operation, case temperature    | 0 .. +70°C / 32 .. 158°F                                 |
| Weight                           | 540 g w/o mount, w/o cooling                             |
| Dimensions                       | 65 mm x 65 mm x 107 mm<br>(3D model data available)      |

## EMVA1288 measurements (v3.1 typ.)

|                             |                       |
|-----------------------------|-----------------------|
| Dynamic range               | 53 dB                 |
| Saturation capacity         | 13 000 e <sup>-</sup> |
| Temporal dark noise         | 22 e <sup>-</sup>     |
| System gain                 | 60 e <sup>-</sup> /DN |
| Signal-to-Noise Ratio       | 41 dB                 |
| DSNU                        | 40 e <sup>-</sup>     |
| PRNU                        | 1.8 %                 |
| Non-linearity error (v 3.0) | 2 %                   |



## TECHNICAL DRAWINGS



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