



# MOOV CAM : HIGH DEFINITION & ULTRA FAST CAMERA



**IDEAL FOR FAST MOVING OBJECT**

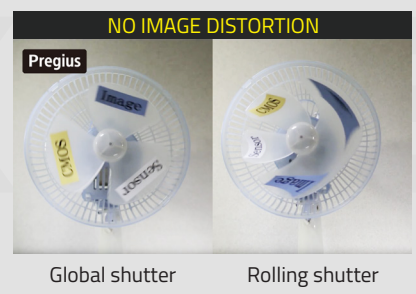
**4K**  
ULTRA HD

**Pregius**  
Global Shutter Technology

**B&W or COLOR**

## FEATURES

- High performance video camera (12Mpx - 4K 60fps - 4096 x 3000px)
- **Fiber Optic:** long reach ( up to 100m at full 16Gb/s speed ), EMI immune, low cost OM3 MTP fiber optic cable
- Thanks to USB-C & PCIe, MOOV CAM uses the full performance of the **SONY IMX253** sensor
- No image distortion thanks to global shutter (even when observing fast moving objects)
- Optimized vision chain : combined with our NV\_PCIe\_Switch board, the vision chain is much simpler (fewer interfaces, lower latency)
- Open IP
- Reduced housing



## APPLICATIONS

- Machine vision
- Traffic monitoring
- Broadcast / Cinema
- Surveillance
- Life science / Medical
- Microscopy

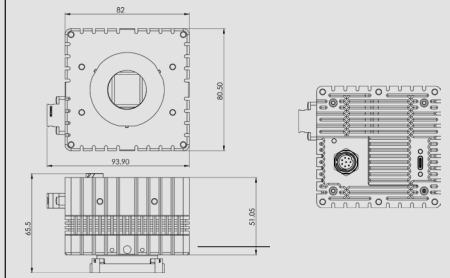
## ABOUT SONY-IMX253 SENSOR

- Global shutter
- Max **12.37Mp** 4/3 (4096 x 3000px)
- 68fps (8 bit) / 64fps (10 bit) / 46fps (12 bit)
- 17.6mm diagonal (Type 1.1")
- 3.45µm square pixels

## KEY PARTNERS



## SIZE / WEIGHT



Weight : 380g w/o lens



# MOOV CAM : THE ONLY CAM USING THE FULL CAPACITY OF THE SONY-IMX253 SENSOR

## CHARACTERISTICS

### SENSOR

- SONY IMX253 (CMOS)
- Max 12.37Mp 4/3 (4096 x 3000px)
- Global shutter
- 68fps (8 bit) / 64fps (10 bit) / 46fps (12 bit)
- 17.6mm diagonal (Type 1.1")
- 3.45µm square pixels

### POWER

- 15W max (5 to 20V, 3A max)
- From external source to camera's I/O connector
- or
- From USB type-C «Power Delivery»
- Can behave as power source to USB Type-C connector when powered from I/O connector

### PHYSICAL

- Dimensions : 82 x 80,5 x 65,5mm
- Weight : 380g w/o lens
- Standard C mount, optionally Nikon F / «positive lock» Canon EF-S with lens control
- Multiple threaded inserts

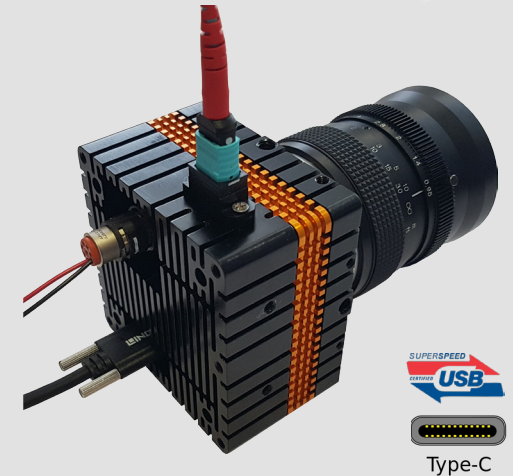
### I/O (USB3.0 / Fiber Optic version)

- Connector #1 :
  - > **USB3.0** (max 3Gb/s) on USB Type-C connector (dual M2 screw locking threads on casing)
- Connector #2 :
  - > **PCI express Gen2.0 x 4 over fiber optic** (up to 16Gb/s). Enables maximum image sensor raw output : full frame, 10-bit, 60fps (7.4 Gb/s). MTP optical connector (requires simple adapter card in host computer)

or

- > **Dedicated fiber optic link** for highest performance (up to 20Gb/s throughput). MTP optical connector (requires frame grabber & image processing adapter card in host computer)
- Can be used with pure fiber optic USB3.0 cable (without power nor USB2.0 over cable) for far reach, EMI immune link
- Frame grabbing synchronization with opto-isolated input
- 8-pin Amphenol PCD Luminus twist-and-lock : power input, 2 opto-isolated digital inputs + 2 opto-isolated digital outputs

FIBER OPTIC

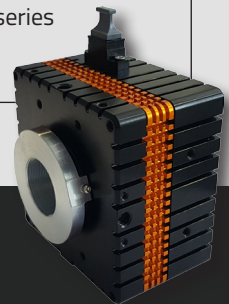


## OPTIONS

Video link : CameraLink, SDI, CXP6

Sensors : SONY Pregius gen 2&3 serie + IMX226, CMOSIS CMV & CSG, ONSEMI Cypress PYTHON, ONSEMI-Aptina AR, SOFRADIR SWIR SNAKE & LWIR ATTO, ...

Lens : Panasonic Micro 4/3 with electronic lens control, Canon EF-S series



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Purchase order code :  
NV-MC-VIS12M253

Several bottlenecks



1. Interface

Camera Link : bulky, short, expensive, limited flow cable (8Gb/s)  
 GigE Vision : cable longer, - expensive, very limited speed (1Gb/s)  
 USB3 Vision : short cable, cheap, limited speed (5Gb/s)  
 CoaXPress : longer cable, inexpensive, higher speed with 4 links

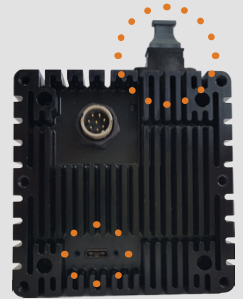
2. Frame Grabber interface (Camera Link, GigE, USB3, CxP) -> to PCIe (frame grabber based on FPGA -> high cost)

3. Software on processor (CPU) : Heavy CPU load

4. Genicam controller (video camera controller)

Example I/Os. Custom combinations of these can be made :

USB3.0 / Fiber Optic version



Camera Link + SDI / CXP version



An optimized vision chain with high throughputs and long distance

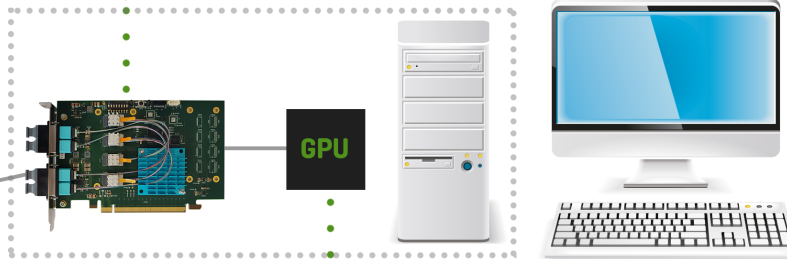
1. Interface

Native PCIe in the camera (low latency)  
 Fiber optic :  
 > Long distance (up to 100m)  
 > Very high speed (16Gb/s (Gen2.0 x4) to 64Gb/s (Gen3.0 x8))  
 > EMI immune  
 Future proof (PCIe Gen4.0)  
 Standard OM3 MTP optical cable (low cost)



2. Nexvision's PCIe Switch board

(1 to 8 inputs based on PCIe switch component (no FPGA) -> lower cost than a frame grabber)



3. DMA (Direct Access Memory) -> Image stream sent directly to the GPU memory via PCIe switch with minimal CPU intervention -> low cost PC



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