

Embedded Development Kits & MIPI® CSI-2 / FPD-Link® III Camera Modules



The Imaging Source's preassembled embedded development kits for the NVIDIA® Jetson Nano™ and Raspberry Pi platforms deliver plug-and-play efficiency for the rapid development of embedded vision and AI projects for applications in logistics, automation and industrial internet of things (IIoT). The kits' Sony sensor camera modules offer exceptional image quality and color fidelity and ensure sustainable application design.

NVIDIA® Jetson™ is the leading embedded platform for image processing and deep learning applications. The Imaging Source is pleased to work with NVIDIA, enabling developers to quickly realize their embedded vision projects. The powerful NVIDIA Jetson Nano delivers dual-camera functionality and a dedicated GPU that is particularly interesting for machine vision, deep learning and AI applications. The platform is used by many software and hardware developers and is accordingly well supported. In addition to its powerful GPU, the platform's dedicated ISP processes and completes post-processing tasks such as denoising, sharpening, color correction and image scaling operations.



The Raspberry Pi 4 B offers a cost-optimized platform which runs seamlessly with The Imaging Source SDKs and offers developers broad community support.

For applications where longer cable lengths are required, The Imaging Source offers a bridge solution using the FPD-Link® III protocol. The FPD-Link III bridge allows for cable lengths up to 15 m and simultaneous data transmission, control channels and power over a single compact coaxial cable.

The Imaging Source supports these embedded platforms with proprietary MIPI/ FPD Link III drivers, deserializer boards and a Linux SDK. Using the MVTec Machine Vision Library HALCON, a wide range of image processing applications can be realized with little programming effort.

Development Kits for Embedded Vision

Model	Platform	Interface	Number of Cameras	Resolution (MP)	FPS (max.)	Sensor / Type	Shutter
JNA_CSI 335 B1	NVIDIA Jetson Nano	MIPI CSI-2	1	2592×1944 (5 MP)	60 fps	Sony IMX335 / STARVIS	rolling
JNA_CSI 335 B2	NVIDIA Jetson Nano	MIPI CSI-2	2	2592×1944 (5 MP)	60 fps	Sony IMX335 / STARVIS	rolling
JNA_FPD 335 B1	NVIDIA Jetson Nano	FPD Link III	1	2592×1944 (5 MP)	30 fps	Sony IMX335 / STARVIS	rolling
JNA_FPD 335 B2	NVIDIA Jetson Nano	FPD Link III	2	2592×1944 (5 MP)	30 fps	Sony IMX335 / STARVIS	rolling
RP4_FPD 335 B1	Raspberry Pi 4	FPD Link III	1	2592×1944 (5 MP)	30 fps	Sony IMX335 / STARVIS	rolling



Supported Platforms and Sensor Modules



NVIDIA® Jetson Nano™
shown with MIPI® CSI-2*



Raspberry Pi 4
shown with MIPI CSI-2*



NVIDIA Jetson AGX Xavier
shown with FPD-Link® III*



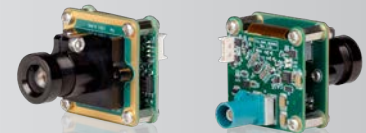
NVIDIA Jetson Nano
shown with FPD-Link III*

* Images for illustration purposes only.



MIPI CSI-2 Sensor Modules

Model	Resolution (MP)	FPS (max.)	Pixel Size	Sensor / Type	Sensor Format	Shutter	Chroma
DxM 37MX297-ML	720 x 540 (0.4 MP)	120 fps	6.9 µm	Sony IMX297 / Pregius	1/2.9" CMOS	global	mono / color
DxM 37MX296-ML	1440 x 1080 (1.6 MP)	60 fps	3.45 µm	Sony IMX296 / Pregius	1/2.9" CMOS	global	mono / color
DxM 37MX290-ML	1920x1080 (2.1 MP)	120 fps	2.9 µm	Sony IMX290 / STARVIS	1/2.8" CMOS	rolling	mono / color
DFM 37MX390-ML	1920x1200 (2.3 MP)	60 fps	3.0 µm	Sony IMX390	1/2.7" CMOS	rolling	color
DxM 37MX335-ML	2592x1944 (5 MP)	60 fps	2.0 µm	Sony IMX335 / STARVIS	1/2.8" CMOS	rolling	mono / color



FPD-Link III Sensor Modules

Model	Resolution (MP)	FPS (max.)	Pixel Size	Sensor / Type	Sensor Format	Shutter	Chroma
DxM 37CX297-ML	720 x 540 (0.4 MP)	120 fps	6.9 µm	Sony IMX297 / Pregius	1/2.9" CMOS	global	mono / color
DxM 37CX296-ML	1440 x 1080 (1.6 MP)	60 fps	3.45 µm	Sony IMX296 / Pregius	1/2.9" CMOS	global	mono / color
DxM 37CX290-ML	1920x1080 (2.1 MP)	60 fps	2.9 µm	Sony IMX290 / STARVIS	1/2.8" CMOS	rolling	mono / color
DFM 37CX390-ML	1920x1200 (2.3 MP)	60 fps	3.0 µm	Sony IMX390	1/2.7" CMOS	rolling	color
DxM 37CX335-ML	2592x1944 (5 MP)	30 fps	2.0 µm	Sony IMX335 / STARVIS	1/2.8" CMOS	rolling	mono / color

