Specifications – Current models

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	DVXplorer S Duo Smart camera	DVXplorer Mini Lightweight and compact	DVXplorer High resolution	DVXplorer Lite Discover event-based vision	DAVIS346 Simultaneous events and frames	DAVIS346 AER Direct interface to FPGA and custom neuromorphic hardware
Event output						
Spatial resolution	640 x 480	640 x 480	640 x 480	320 x 240	346 x 260	346 x 260
Temporal resolution [1]	65 - 200 µs (effective accuracy, full event frame)				1 µs (output precision, single event)	
Max. throughput	450 MEPS	450 MEPS	165 MEPS	100 MEPS	12 MEPS	12 MEPS
Typical latency [2]	<1 ms	<1 ms	<1 ms	<1 ms	<1 ms	<1 ms
Dynamic range	Approx. 90 dB (3-100k lux with 99.9% of pixels respond to 27.5% contrast) Approx. 110 dB (0.3-100k lux with 50% of pixels respond to 80% contrast)				Approx. 120 dB (0.1-100k lux with 50% pixel response to 80% contrast)	
Contrast Sensitivity	13% (with 50% of pixels respond), 27.5% (with 99.9% of pixels respond)				14.3% (on), 22.5% (off) (with 50% pixel response)	
Pixel pitch	9 µm	9 µm	9 µm	18 µm	18.5 µm	18.5 µm

Specifications not guaranteed. All specifications subject to change without notice

Specifications – Current models

	DVXplorer S Duo	DVXplorer Mini	DVXplorer	DVXplorer Lite	DAVIS346	DAVIS346 AER
Frame output						
Spatial resolution	Up to Full HD 1920 x 1080				346 x 260	346 x 260
Frame rate	Up to 120 fps				Up to 40 fps	Up to 40 fps
Dynamic range	71.4 dB	The camera does not output frames of intensity images. However, similar intensity images can be reconstructed from the event output by our DV software. [3]			55 dB	55 dB
FPN	-				4.2 %	4.2 %
Dark signal	-				18000 e$^-$/s	18000 e$^-$/s
Readout noise	-				55 e$^-$	55 e$^-$
Pixel pitch	-				18.5 µm	18.5 µm
Other features						
IMU	6-axis (Gyro + Accelerometer), up to 8 kHz sampling rate					
Mult-cam sync	Yes	-	Supports multi-camera time synchronization via daisy chain connection and external event injection			-
On-board processing	Nvidia Jetson Nano	-				

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	DVXplorer S Duo	DVXplorer Mini	DVXplorer	DVXplorer Lite	DAVIS346	DAVIS346 AER
Other attributes						
Dimensions [mm]	H 32 x W 80 x D 92	H 29 x W 29 x D 32	H 40 x W 60 x D 25			H 40 x W 78.8 x D 25
Lens mount	S-mount (M12) with locking ring		CS-mount			
Mounting options	2- side Whitworth 1/4″-20 female and M3 mounting points		4-side Whitworth 1/4″-20 female and M3 mounting points			
Connectors	USB 3.0 C port with locking screws, Gigabit Ethernet with PoE, Mini-HDMI	USB 3.0 C port with locking screws		USB 3.0 micro B port with locking screws, fully isolated sync input and output connectors		USB 3.0 micro B port with locking screws
Case material	Anodized aluminum	Engineering plastic (POM) **or** anodized aluminum	Anodized aluminum	Engineering plastic (POM)	Anodized aluminum	Anodized aluminum
Weight (without lens)	220 g	43 g (aluminum) 21 g (POM)	100 g	75 g	100g	120 g
Power consumption	Maximum 12W, typical 7W	<140 mA @ 5 VDC (USB)			<180 mA @ 5 VDC (USB)	
Sensor technology	90 nm BSI CIS				0.18 μm 1P6M MIM CIS	
Sensor supply voltage	1.2 V, 1.8 V and 2.8 V				1.8 V and 3.3 V	
Certifications	In progress	CE certified				In progress

Specifications – Current models

[1] The temporal resolution is characterized by the timestamp unit, which is the minimum time between timestamps. In practice, a timestamp unit of 1 μs offers a minimal real-world gain over timestamp units of 63-200 μs. For further explanation, please refer to our white paper.

[2] Nominal figure; can be improved with strong lighting/optimized biases.

[3] Please view our FAQ for further details.

DVS: https://ieeexplore.ieee.org/document/4444573 P. Lichtsteiner, C. Posch and T. Delbruck, "A 128×128 120dB 15us Latency Asynchronous Temporal Contrast Vision Sensor", IEEE Journal of Solid State Circuits, 43(2) 566-576, 2008

DAVIS: https://ieeexplore.ieee.org/document/6889103 C. Brandli, R. Berner, M. Yang, S.-C. Liu, and T. Delbruck, "A 240x180 130dB 3us Latency

Global Shutter Spatiotemporal Vision Sensor", IEEE Journal of Solid State Circuits, 49(10) 2333-2341, 2014.

DAVIS346 Limitations

- In APS GlobalShutter mode, bursts of DSV events can be caused by the capture of an APS frame.
- Due to bandwidth limitations, the DVS event output tends to follow a scanning pattern when under high load.
- The frame output has below average performance in terms of image quality compared to conventional image sensors.
- Color frames are not calibrated, and thus do not faithfully reproduce the real observed color.
- Event output can be destabilized if very strong light impacts a sensitive spot outside the photosensitive pixel array.

DAVIS346 AER Limitations

- The AER connector can only transmit events, not frames or IMU data.
- No Multi-camera timestamp synchronization is present, nor triggers.