Specifications – Current models

	DVXplorer Lite Discover event based vision	DVXplorer High resolution	DAVIS346 Simultaneous events and frames
			
Event output			
Spatial resolution	320 x 240	640 x 480	346 x 260
Temporal resolution[1]	200 µs	200 µs	1 µs
Max throughput	100 MEPS	165 MEPS	12 MEPS
Typical latency [2]	<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. 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% of pixels respond to 80% contrast)
Contrast Sensitivity	13% (with 50% of pixels respond), 27.5% (with 99.9% of pixels respond)	13% (with 50% of pixels respond), 27.5% (with 99.9% of pixels respond)	14.3% (on), 22.5% (off) (with 50% of pixels respond)
Frame output			
Spatial resolution	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]		346 x 260
Frame rate			40 FPS
Dynamic range			55 dB
FPN			4.2 %
Dark signal			18000 e^-/s
Readout noise			55 e^-
IMU			
	6-axis (Gyro + Accelerometer), up to 8k Hz sampling rate		
Multi-camera sync			
	Supports multi-camera time synchronization via daisy chain connection and external event injection		

Other attributes			
Dimensions [mm]	H 40 x W 60 x D 25	H 40 x W 60 x D 25	H 40 x W 60 x D 25
Weight	75 g without lens	100 g without lens	100 g without lens
Lens mount	CS-mount		
Case material	Robust engineering plastic	Anodized aluminum	Anodized aluminum
Mounting options	4-side Whitworth 1/4”-20 female and M3 mounting points		
Connectors	USB 3.0 micro B port with locking screws, fully isolated sync input and output connectors		
Power consumption	<140 mA @ 5 VDC (USB)	<140 mA @ 5 VDC (USB)	<180 mA @ 5 VDC (USB)
Sensor technology	90 nm BSI CIS	90 nm BSI CIS	0.18 µm 1P6M MIM CIS
Pixel pitch [µm]	18µm	9µm	18.5µm
Sensor supply voltage	1.2V, 1.8 V and 2.8 V	1.2V, 1.8 V and 2.8 V	1.8 V and 3.3 V
Certifications	CE certified	CE certified	CE certified

[1] The temporal resolution is characterized by the timestamp unit. In fact, a timestamp unit of 1 µs offers minimum gain over a timestamp unit of 200 µs. For more explanation, please refer to our white paper.

[2] Nominal figure; can be improved with strong lighting/optimised 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.
- The event output can be destabilized if a strong light source impacts a sensitive spot outside the photosensitive pixel array.