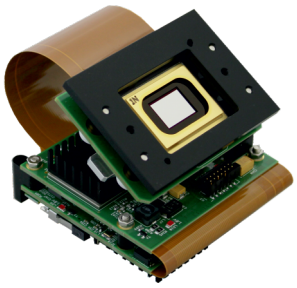
Hi-Speed V-Module

Options: UV VIS

High-Performance subsystem for Texas Instruments DLP® technology

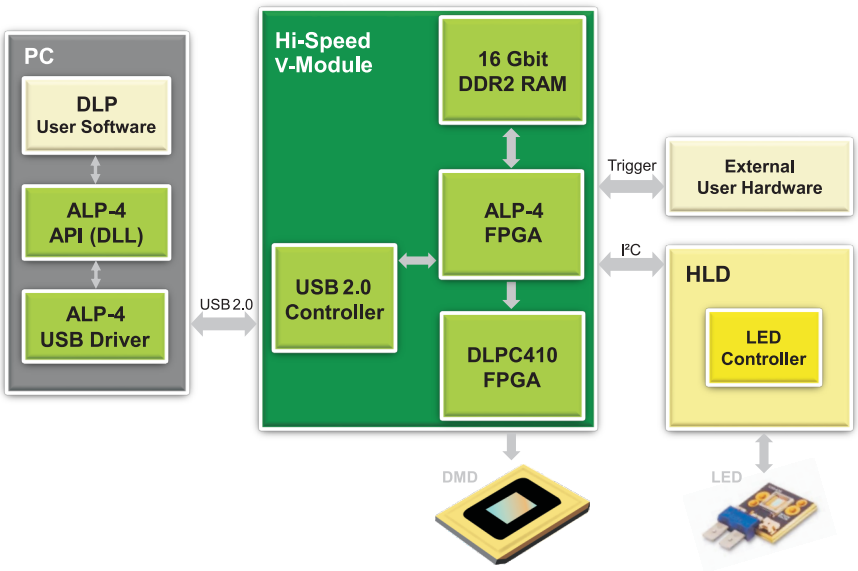
The V-Module product line of ViALUX includes USB 3.0 SuperSpeed models as well as this USB 2.0 Hi-Speed model.

All V-Modules are based on the DLP Discovery™ 4 100 platform and represent the highest performance class of the DLP product family available from catalog. The ViALUX V-Modules offer unique flexibility in mirror control enabling a wide variety of new emerging applications. Outstanding pattern frequencies of 22 727 global array updates per second are achieved taking advantage of the 50 Gbit/s bandwidth of the DLP Discovery chipset. The usable spectral range covers all wavelengths from 363 nm UV to 2 500 nm NIR.* The Type A DMD package has efficient cooling options enabling up to 60 W sustained optical power transfer per DMD.



The V-7000 Hi-Speed V-Module is a compact, cost-effective package for using high-performance DLP technology and to shorten time to market for new emerging products. Hi-Speed V-Modules are well suited for education, academic research, proof of concept, and also as OEM components for series production. The Hi-Speed V-Module comes with completely configured high-speed FPGA logic and USB controller firmware so that customers save time and costs required for a dedicated hardware and firmware development.

The ViALUX Controller Suite ALP-4.2 drives the high-performance Discovery 4100 chipset of the Hi-Speed V-Modules. The ViALUX proprietary FPGA design is the core of the well proven ALP-4 firmware and software. The industrial grade USB 2.0 device driver for all current Microsoft® Windows® operating systems guarantees smooth integration with any type of PC. Multiple Hi-Speed V-Modules can be controlled from one computer simultaneously. The USB 2.0 transfer is speeded up by lossless compression achieving effective PC transfer rates of up to 1.2 Gbit/s. The Hi-Speed V-Module software API, a DLL library, fits seamlessly into standard programming platforms like C++, C#, Visual Basic (.NET), Python, MATLAB, LabVIEW, and other development platforms and is fully compatible to all former ALP-4 versions.**



* All models can be used up to 2 500 nm with reduced efficacy.

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Outstanding features of Hi-Speed V-Modules are: Small form factor, robust, connector-free design and reliable USB 2.0 interface. It supports the 0.7" XGA DMD (DLP7000/DLP7000UV) and is available for use with visible or ultra-violet light.

Specifications

V-7000	
DLP chip	Discovery 4 100
Type A DMD	0.7" XGA
Window Options	VIS, UV
Micromirror Array	1 024 x 768
Micromirror Pitch	13.7 µm
Active Mirror Array Area	14.0 x 10.5 mm²
Control Board Dimensions	71 x 68 mm²
DMD Board Dimensions	67 x 50 mm²
Flexible Cable Length	90 mm
RAM Capacity on Board	16 Gbit
Binary Patterns on Board	21 845
On-board RAM bandwidth*	3 200 MB/s
RAM bandwidth needed by DMD**	2 235 MB/s
Hardware Trigger	master / slave
Controller Suite	ALP-4.2
Array Switching Rate 1bit B/W	22 727 Hz
Array Switching Rate 6bit Gray	1 091 Hz
Array Switching Rate 8bit Gray	290 Hz
PC Interface	USB 2.0
PC Transfer Rate	800 fps***

* Ideal value, will be reduced by overhead for refresh and access time.
** With maximal switching rate
***Typical value, can vary depending upon data compression ratio and PC.