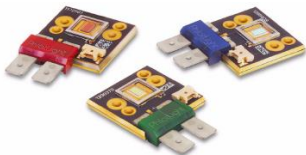
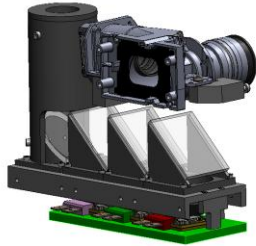
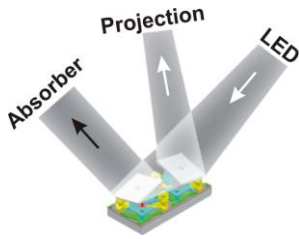


# LED-OM

## Optical Modules for DLP® Discovery™



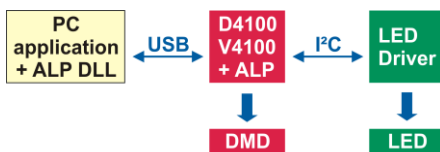
ViALUX provides a complete package of ready-to-use DLP® optics, high-power LED light source and LED driver. These LED-OM optical modules are frequently used with Discovery™ Starter Kits for research and development and they are also suited for new emerging DLP® based products.

DLP® optics realizes multiple functions: homogeneous illumination from the LED light source, directing the “ON” pattern through the projection lens, and absorbing the “OFF” pattern. The high-volume application of DLP® micro mirror arrays led to sophisticated solutions with high performance. The two leading concepts are the field-lens design for off-axis projection and on-axis design using TIR prisms.

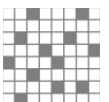
LED-OM units are available for all DMD formats of the DLP® Discovery™ platform: 0.7” XGA and 0.95” 1080p. The optical modules interface directly to the DMD mount, either on the D4100 Starter Kit boards or on the ViALUX V4100 production boards. A proven mechanical mounting concept guarantees precise and repeatable assembly.

Customers can choose from a variety of LED light sources with different wavelengths and light power levels. Most advanced solid state emitters are included in the LED-OM package. The light sources have up to 10W optical output, provide 60,000 hours lifetime and produce significantly less heat than conventional projection arc lamps.

ViALUX has developed a dedicated high-power, digital LED driver for LED-OM that offers 24A drive current at 4V forward voltage, i.e. 96 Watts of electrical power. The driver provides I<sup>2</sup>C for brightness control and high-speed triggering is implemented for stroboscopic use or color mixing. The small footprint of 5x5 cm<sup>2</sup> enables compact device design.



The HP LED-OM models take advantage of the consistent ALP-4 control system. The ViALUX LED driver software is included in the ALP-4 Controller Suite. The PC interface is USB2.0 and the LED driver communicates via I<sup>2</sup>C. The control functions allow to set LED output power and to read LED junction temperature.



## Available integrated optical modules

There are two groups of LED-OM available: *basic* and *high-power* LED-OM. The *basic* LED-OM optical module is available for customers with medium brightness demands and no need for LED control. It comes in one model, for use with the 0.7" XGA DMD. LED sources include red, green, blue, and white.



Basic LED-OM module for 0.7" XGA DMD

The *high-power* LED-OM is an advanced optical solution for DLP® Discovery™ based products combining high-performance components. HP-LED-OM configurations include red, green, and blue LED sources in the visible range, and also UV sources emitting at 388, 400, and 405 nm. Two- and three-color engines are also produced and customized on demand. Complete system solutions integrate the V4100 DLP® Series production board of ViALUX.



High-power LED-OM module with 388 nm UV LED for 0.7" XGA DMD

## Overview on LED-OM configurations and part numbers

DMD format	0.95" 1080p	0.7" XGA		
Image width	>435 mm	>500 mm	60 mm	10 mm
Working distance	>300 mm	>1000 mm	80 mm	25 mm
Projection offset	0 %	125 %	125 %	0 %
Throw ratio	0.7	1.8 – 2.1	1.3	–
Dimensions [mm]	170x190x200	75x115x44	105x115x44	135x115x44
Weight	1800 g	300 g	330 g	400 g
<b>Basic LED-OM models with fixed power setting</b>				
LED 245 lm@629 nm		07-R	07-R-S	
LED 230 lm@527 nm		07-G	07-G-S	
LED 55 lm@460 nm		07-B	07-B-S	
LED 225 lm white		07-W	07-W-S	
<b>High-power LED-OM models HLD digital LED controller</b>				
LED 10W@388 nm				HP-07-388-XS
LED 1010 lm@624 nm	HP-95-R	HP-07-R	HP-07-R-S	
LED 2450 lm@528 nm	HP-95-G	HP-07-G	HP-07-G-S	
LED 435 lm@464 nm	HP-95-B	HP-07-B	HP-07-B-S	
without light source	NoL-95	NoL-07	NoL-07-S	

