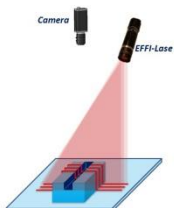




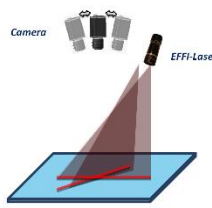
Very intense and uniform LED pattern projector
Full range of colors: Red, Converted-Green (White), Blue
Long lifetime and minimal maintenance
Compatible with most lenses (E-Mount)
Wide depth of field of Lines and Cloud of Dots version
No speckle

Electronics	Connector	M12 Power – 4 pins (Standard version) or Flying Leads
	Power supply	24V DC (+/- 10%)
	Illumination mode	Strobe mode and continuous mode
	Driving mode	AutoStrobe
	Max power consumption	180W during strobe mode – 30W during continuous mode
Optics	Wavelengths available	Red, Converted-Green (White), Blue
	Projected pattern	Various designs for body scanning, 3D profiling and stereovision
Mechanics	Weight	350g (without the lens)
	Dimensions (projector)	59mm x 95.2mm (without the lens)
	Dimensions (driver)	105mm x 84mm x 38.5mm (L x W x H)
	Objective adjustment	“E-Mount” adaptor on the projector
	Fastener	3x M4 bothe sides
	Material	Device body: Aluminum alloy / Delrin®
Environment	Working temperature	0°C to 50°C
	IP code	IP5X

Applications



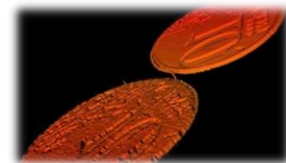
Stereo Vision and 3D profiling



Alignment









Body scanning



EFFI-Lase (top right) vs. Laser (bottom left):
No speckle = high precision and contrast

Part Number



<p><i>Reference:</i> EFFI-LASE-V3-ZZZ-MMM-CCC</p>		
<p>ZZZ: Wavelength (nm) / Color (<i>other wavelengths available upon request</i>)</p>		
<p>• Blue 465</p>	<p>• Converted-Green (White) 520</p>	<p>• Red 625</p>
<p>MMM: Type of Mask</p>		
<p>3D Profilometry (line length: 25mm)</p>		<p>Stereovision (diameter 25mm)</p>
<p>L01 1 line: 100µm</p> 	<p>C02 Cloud of dots density 50%: Pixel size (smallest dot) 22.5µm</p> 	
<p>L02 1 line: 20µm</p> 	<p>C10 Grid of dots density 50%: Pixel size (smallest dot) 20µm <i>(Special Bodyscanning)</i></p> 	
<p>L07 100 lines (19.5mm x 16.5mm) 67.5µm / pitch 100µm</p> 		
<p>L08 22 lines (17.4mm x 16.5mm) 75µm / pitch 500µm</p> 		
<p><i>Please note that we can also integrate custom masks upon request</i></p>		
<p>CCC: Connector Type</p>		
<p>M12P Standard Version: M12 Power – 4 pins</p>		<p>FL Flying leads</p>

Electronical considerations



Wiring configuration

EFFI-LASE-V3 has an external driver. The driver has to be powered by a constant voltage of 24V.

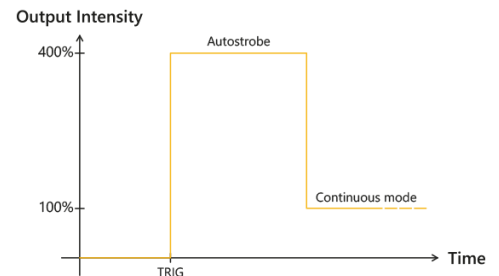
M12 Power connector			Flying leads Version		
Contact arrangement	Number	Cable Color	Cable Color	Designation	
<p>M12P Male connector</p>	1	Brown	Brown	+24V	
	2	White		N/A	
	3	Blue	Grey	GND	
	4	Black	Black	PNP TRIGGER (trigger for rising edge) for Autostrobe mode Light OFF if $V_{PNP} < 3VDC$ / Light ON @100% if $V_{PNP} > 3.3VDC$ Max 24V DC – Analog Voltage	

AutoStrobe mode

The integrated driver is set to pulse the LED automatically, with a pulse duration of 150ms (Max T_{strobe}) and a Duty Cycle max of 5.8%.

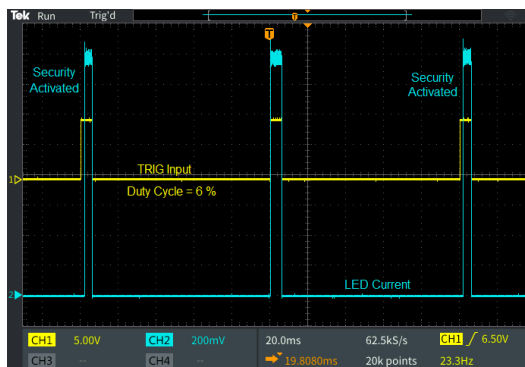
After this pulse, the product automatically goes to continuous mode. (No time limitation with continuous mode)

Power supply current during strobe : 8A (192W @24V)
Power supply current during continuous : 1A (24W @24V)

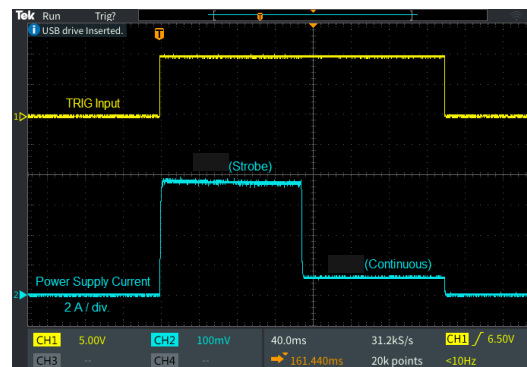


Please note : The controller delays between 10 and 20µs.

Duty cycle protection



Power supply current



Electronical Flexibility

The electronic mode of the EFFI-LASE-V3 can be easily customized by Effilux. The standard parameters of the AutoStrobe mode (strobe duration, duty cycle max, intensity values, ...) can be adapted to your application.

Please contact Effilux for more information.

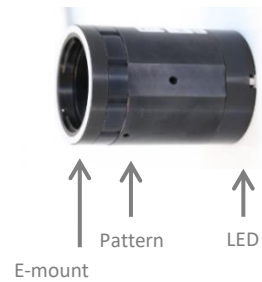
Optical considerations



Any E-Mount lens (accessory) can be mounted on the EFFI-Lase-V3. The product is delivered without any lens, it has to be purchased separately.

To guarantee the best quality of the projector, the pattern is directly mounted in the projector body. However, the pattern can be observed through the aperture of the projector.

Avoid any contact with the mask : the mask is sensitive and can easily be damaged.

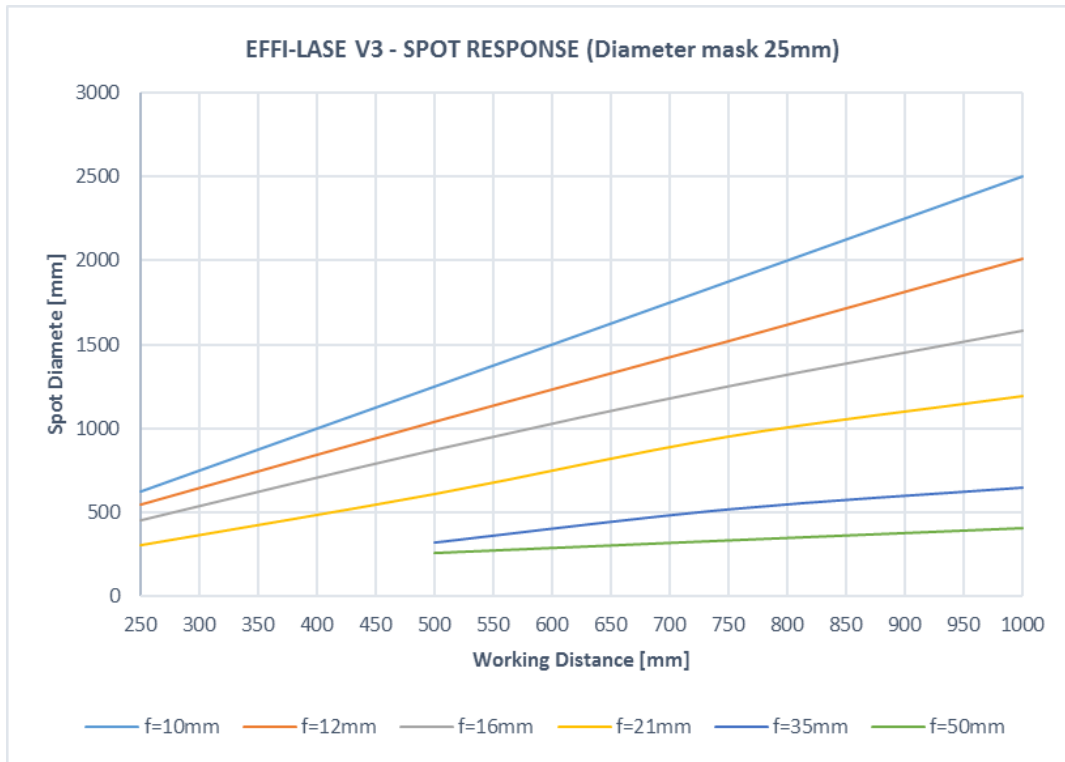


Lens selection

EFFILUX recommends using one of the following lenses with the EFFI-LASE-V3:

Lenses	Effilux References	EFFO-SG-10-F2.8-ASP-C-HR-EM	EFFO-SG-12-F2.0-ASP-C-HR-EM	EFFO-SG-16-F2.0-ASP-C-HR-EM	EFFO-SG-21-F1.4-ASP-C-HR-EM	EFFO-SG-35-F1.2-ASP-C-HR-EM	EFFO-SG-50-F1.2-ASP-C-HR-EM
			014601	006694	014602	007828	009112
		10mm F2.8 ED AS NCS CS	12mm F2.0 NCS CS	16mm F2.0 ED AS UMC CS	21mm F1.4 ED AS UMC CS	35mm F1.2 ED AS UMC CS	50mm F1.2 AS UMC CS
Focal length (mm)		10	12	16	21	35	50
Aperture Range		F2.8~22	F2.0~22	F2.0~22	F1.4~22	F1.2~22	F1.2~22
Angle of View APS-C (°)		109.5	98.9	83.1	69.3	44.6	31.7
Mount		E-Mount					
M filter size		-	M67 x 0.75	M77 x 0.75	M58 x 0.75	M62 x 0.75	M62 x 0.75
L x Ø (mm)		76.7 x 86	59.1 x 72.5	115.4 x 83	64.3 x 67.5	74.2 x 67.5	74.2 x 67.5
Weight (g)		580	245	615	275	420	375

Depending on the working distance (WD) and the E-mount lens selected, different spot sizes can be obtained:



Illuminations obtained using each lens on different working distances are:





Depending on the E-Mount lens selected, different minimum focus distances can be obtained. These values were measured using an EFFI-Lase-V3 in Blue color during the AutoStrobe.

Lens			Illumination at the center (mW/cm^2) - 25cm Mask diameter			
Reference	Focal	Min focus distance	WD = 25cm	WD = 50cm	WD = 75cm	WD = 100cm
EFFO-SG-10-F2.8-ASP-C-HR-EM	$f = 10mm$	240mm	-	-	-	-
EFFO-SG-12-F2.0-ASP-C-HR-EM	$f = 12mm$	200mm	9.2	1.8	1.1	0.9
EFFO-SG-16-F2.0-ASP-C-HR-EM	$f = 16mm$	200mm	8.4	2.8	1.5	1.2
EFFO-SG-21-F1.4-ASP-C-HR-EM	$f = 21mm$	280mm	N/A	5.8	2.8	1.9
EFFO-SG-35-F1.2-ASP-C-HR-EM	$f = 35mm$	380mm	N/A	19.9	7.5	5.1
EFFO-SG-50-F1.2-ASP-C-HR-EM	$f = 50mm$	450mm	N/A	29.8	16.3	8.2

Adaptative extension rings are available: 1mm, 2mm, 3mm, 5mm, 7.5mm, 10mm, 12.5mm, 15mm.

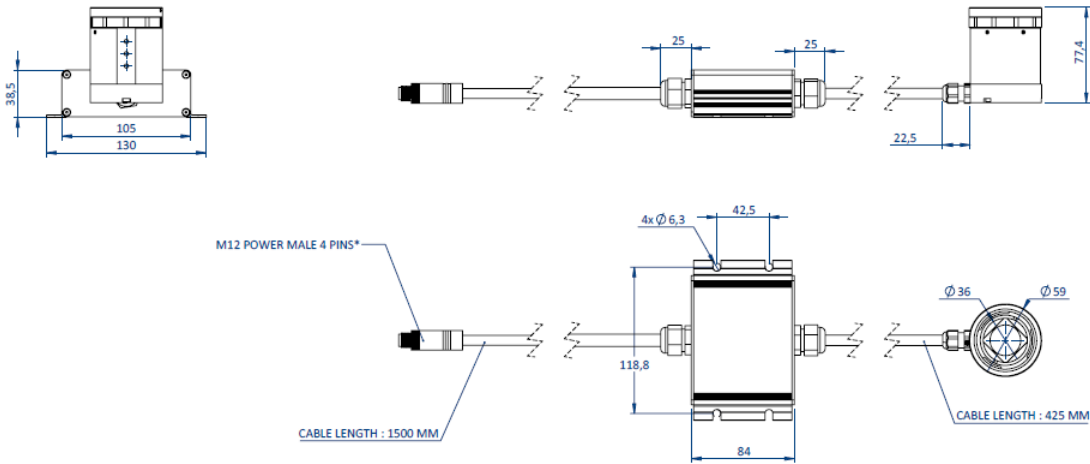
EFFILUX Structured LED Lighting Range

For a similar spot diameter (60cm), the illumination at maximum power of each projector is obtained:

Product	effiLase	effiLase-PWR	effiLaseV2 MX2 Version	effiLase V3
				
Objective	C-Mount 25mm	C-Mount 25mm	C-Mount 25mm	E-Mount 35mm
Wavelength	465nm	465nm	465nm	460-465nm
Optical Power factor (for the same area illuminated)	1	X2	X6	X30

It means that for a similar spot diameter, the LASE-V3 is 5 times more powerful than the LASE-V2 (in MX2 version).

Mechanical considerations (Dimensions in mm)



LENS MOUNT : E-MOUNT WITH LOCKING SET SCREW

* OR FLYING LEADS IF -FL OPTION