LightLab Sweden

PureFize New Driver Platform

Advance information

LightLab Sweden's PureFize® New Driver Platform is a modular product platform, allowing for multiple different driver product versions to be implemented in terms of input voltage, output power levels and number of output channels. This driver platform is developed and intended for use with the PureFize UVC chip light sources and is expected to be available from Q3 2021. The modularity of the PureFize New Driver Platform allows you to optimize your UV disinfection solution for all possible applications.

PureFize
UV Disinfection Technology

General description

LightLab Sweden's PureFize Driver Platform is a small size and cost optimized platform specifically developed and intended to drive UVC chip light sources based on LightLab Sweden's PureFize UV disinfection technology.

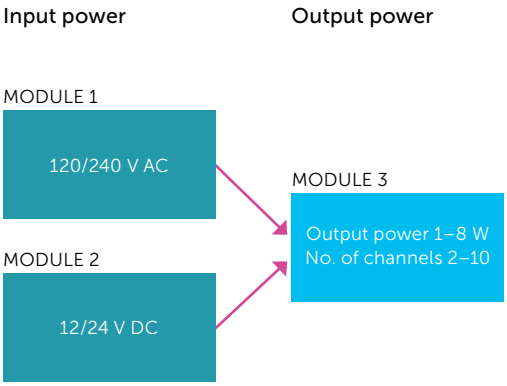
Since the UVC chips will deliver a UV output power directly proportional to the electrical input power, the driver platform is designed to deliver and maintain a constant power (i.e. not constant voltage or constant current). This is done independently for each channel to allow for minor differences between chips, thus allowing for precise UV dose control.

Figure 1. PureFize® Driver Platform

Functional description

The overall functionality is:

- Input power: 12/24 V DC or 120/240 V AC
- Total output power range: 1–8 W
- Output power per channel: 500–750 mW
- Number of output channels: 2–10 channels



- Delivers constant power, independently for each UVC chip. The power outputs are kept constant within ±10% independent of time, operating point and specific UVC chip. The output channels use a common positive HV connection and a separate negative connection for each UVC chip.
- Designed and optimized for a minimum 10,000 hours guaranteed operational lifetime, is RoHS compliant and designed to comply with CE regulations, specifically with EMC & EMI regulations.
- Failsafe mechanisms are implemented.
- Designed to support up to 3 meter cable connection between the UVC chips and the driver. It is recommended to integrate a 750 kOhm series resistor for each channel on the UVC chip side, in order to minimize disturbance on the precise power control feedback loop.

Specification

	Min	Nom	Max	Unit	Comments
Power input – AC versions					
Input voltage	90		265	VAC	50/60 Hz
Power input – DC versions					
Input voltage	10.8		26.4	VDC	
High voltage outputs					
Number of channels	2		10		
Total output power	1		8	W	
Output power variants	500		750	mW	
DC output voltage					
Min		5.0		kV	
Max		8.5		kV	
Target power efficiency @ 8W output power	75			%	
Target power efficiency @ 2W output power	60			%	
Start-up time			2	s	
Physical dimensions	130 x 60 x 30			mm	(L x W x H)
Temperature, ambient, storage	-20		70	C	
Temperature, ambient, operational	5		60	C	
Humidity (RH)			85	%	Storage, operational

Partner up with us

LightLab Sweden is a Swedish cleantech company with a strong belief in sustainable technological innovation. Being Swedish, our heritage reminds us to take care of each other and to live close to and in harmony with nature.

We are also raised in a culture of high-quality standards, where functionality is prioritized and where science continuously inspires us to evolve. We innovate with sustainability in mind to improve quality of life for ourselves and our loved ones, here and now, and for future generations to come.

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