

# Flicker-Free Constant Current LED Drivers

Switch-Dim & 1-10V Constant Current Version

# HYTRONIK®

HE8008-A / HE1008-A / HE8030-A / HE8050-A



## Applications

Smooth, flicker free dimming and low stand-by power consumption feature in a range which make them the ideal choice from low wattage downlights to LED Panel Lighting. The multiple current selectors make driver upgrades very simple and a few models can cover a wide variety of fixtures.

- Office / Commercial Lighting
- Hotels
- Retail & Display
- Domestic Lighting

Use for retrofit upgrades & new luminaire designs.

## Features

- <math><0.5W</math> Stand-by Power
  - Active PFC Design
  - 1-10V
  - Switch-Dim with Synchronization
  - Logarithmic Dimming
  - Analogue Flicker-free Dimming
  - Configurable Constant Current (CC) Output via Dip-Switch
  - Thermal Cut-out Protection
  - Short Circuit Protection
  - Over-load Protection
  - Permanent Settings Memory, Protected against Loss of Power
  - 5 Year, 50,000hr Warranty
- } All with Auto-restart

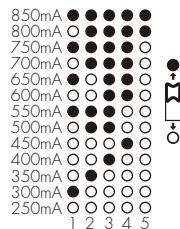


## Output Configuration

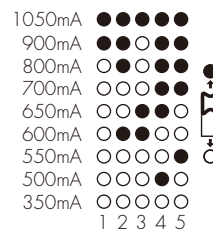
HE8008-A / HE1008-A, 1x8W



HE8030-A, 1x30W



HE8050-A, 1x50W

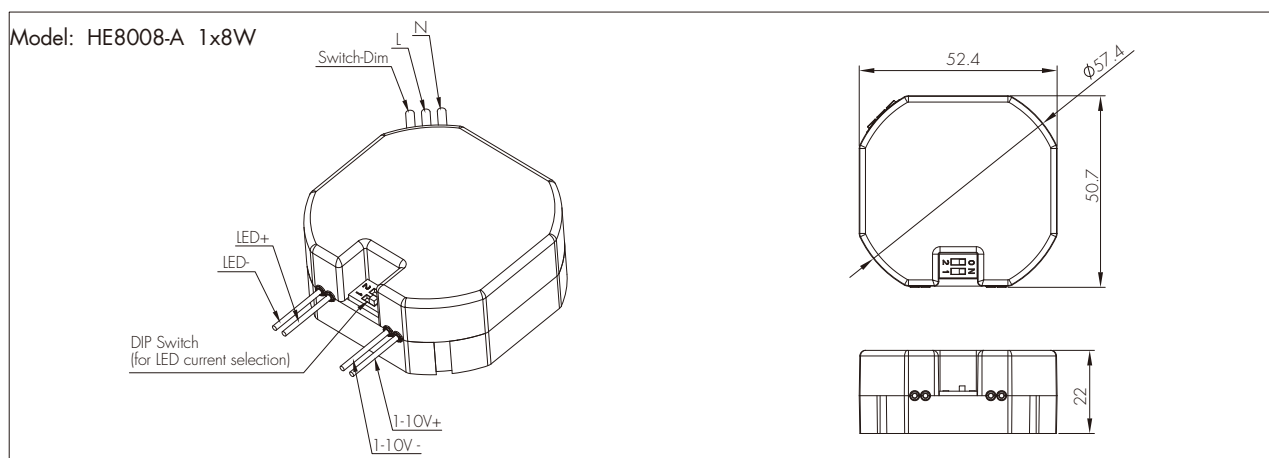


Warning: Please make sure the correct current is selected before starting the driver!

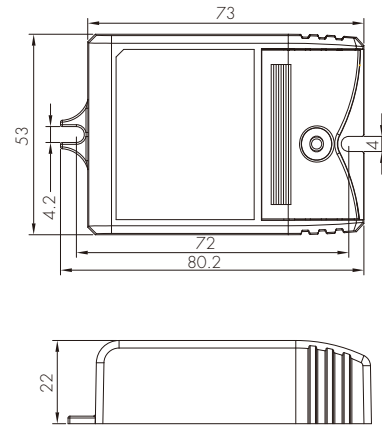
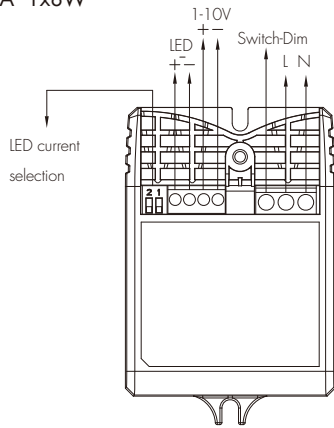
## Technical Data

Model No.	HE8008-A	HE1008-A	HE8030-A	HE8050-A		
Input	Mains Voltage	220~240VAC 50/60Hz				
	Mains Current	0.22~0.24A	0.22~0.24A	0.164~0.15A	0.29~0.27A	
	Power Factor	0.9	0.9	0.9	0.9	
	Max. Efficiency	88%				
	Dielectric Strength	Input→Output : 3000VAC				
	Leakage Current	< 0.25mA				
Output	Power/Current/ Voltage Range	2-8W /350mA /6~24V 3-8W /500mA /6~16V 3-8W /550mA /6~15V	2-8W /350mA /6~24V 3-8W /500mA /6~16V 3-8W /550mA /6~15V	2-13W /250mA /6-52V 2-16W /300mA /6~52V 2-18W /350mA /6~52V 3-21W /400mA /6~52V 3-23W /450mA /6~52V 3-26W /500mA /6~52V 3-29W /550mA /6~52V 4-30W /600mA /6~50V 4-30W /650mA /6-46V 4-30W /700mA /6-43V 4-30W /750mA /6-40V 5-30W /800mA /6-37V 5-30W /850mA /6-35V	25W /350mA /15~72V 36W /500mA /15~72V 40W /550mA /15~72V 43W /600mA /15~72V 47W /650mA /15~72V 50W /700mA /15~72V 50W /800mA /15~63V 50W /900mA /15~56V 50W /1050mA /15~48V	
	Ripple Current	<3%	<3%	<3%	<3%	
	Uout Max.	38V	38V	60V	100V	
	Turn-on Time	< 0.5s	< 0.5s	< 0.5s	< 0.5s	
	Dimming Interface	Switch-Dim, 1-10V				
	Environment	Operation Temp.	Ta: -20~+50°C	Ta: -20~+45°C	Ta: -20~+50°C	Ta: -20~+45°C
		Case Temp. (Max.)	80°C	80°C	85°C	80°C
		IP Rating	IP20	IP20	IP20	IP20
	Safety and EMC	EMC Standard	EN55015, EN61547, EN61000-3-2, EN61000-3-3			
		Safety Standard	EN61347-1, EN62493, EN61347-2-13			
Certifications		Semko, CB, RCM, CE, EMC				

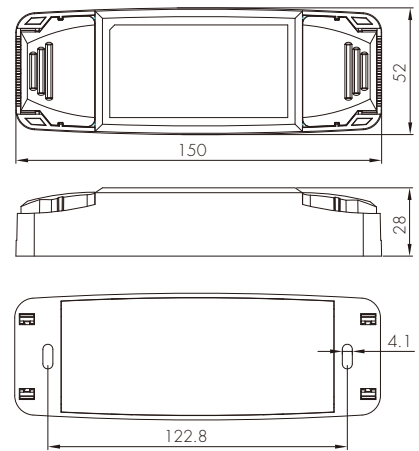
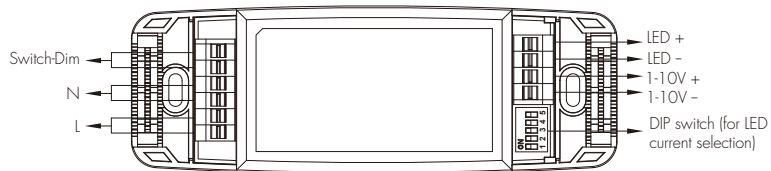
## Dimensions and Terminals



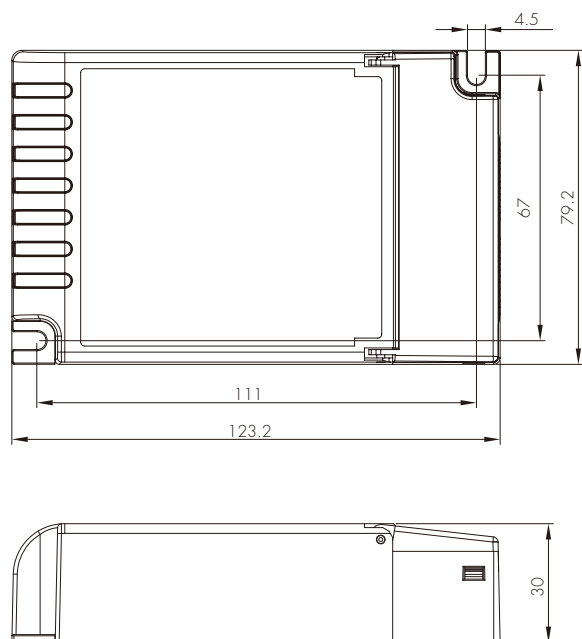
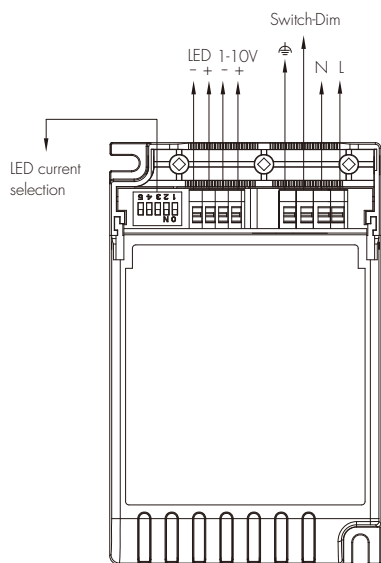
Model: HE1008-A 1x8W



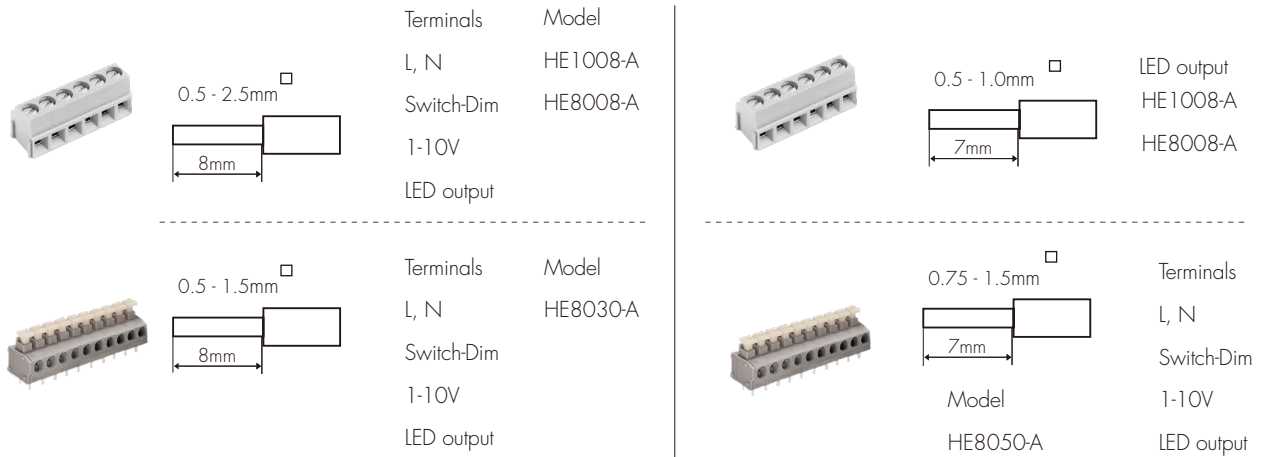
Model: HE8030-A 1x30W



Model: HE8050-A 1x50W



## Wire Preparation



## Loading and In-rush Current

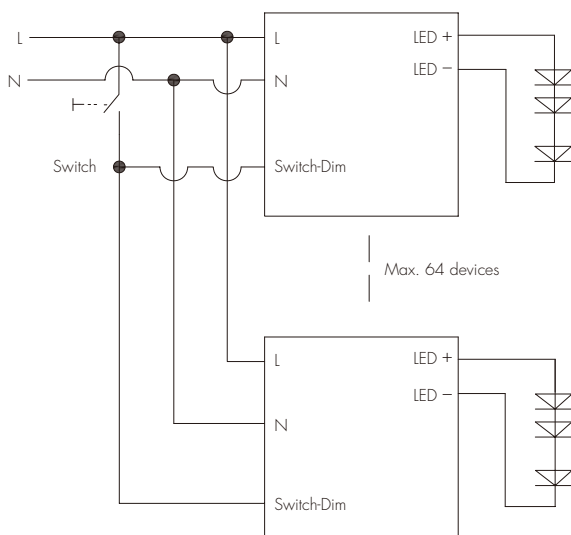
Model	HE8008-A / HE1008-A	HE8030-A	HE8050-A
In-rush Current (I <sub>max.</sub> )	1.2A	2.8A	5.6A
Pulse Time	60µs	60µs	60µs

## Number of Drivers Based upon 16A Circuit Breaker

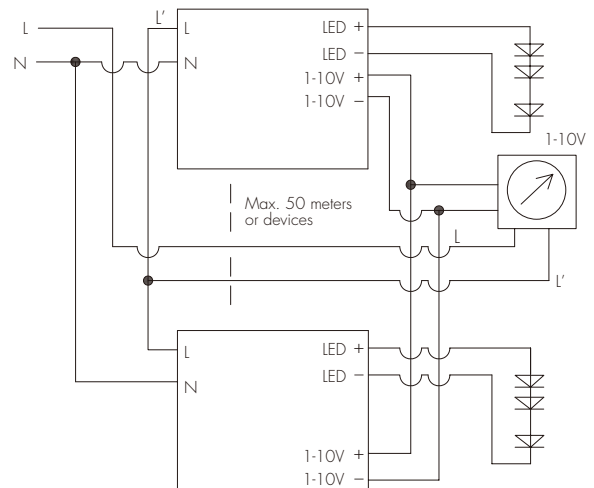
Cct Breaker Type	HE8008-A / HE1008-A	HE8030-A	HE8050-A
Type B	105	60	30
Type C	210	100	50

## Wiring Diagrams

Switch-Dim Connection



1-10V Connection

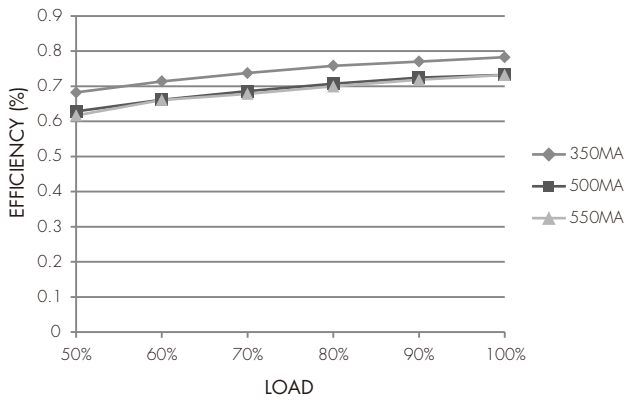


\* Unused terminals have been omitted for clarity.

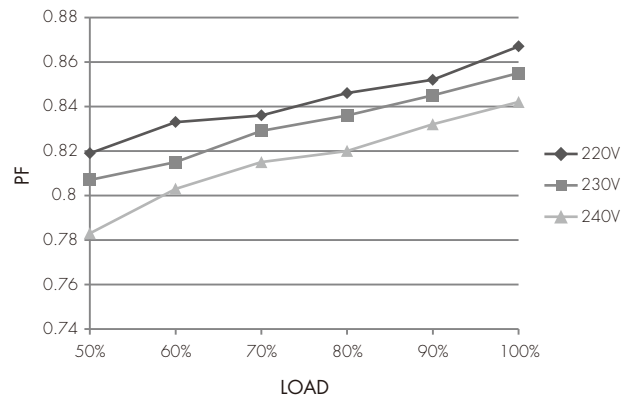
For further details of the dimming interfaces, please refer to the last section of this datasheet

## Performance Characteristics

HE8008-A / HE1008-A

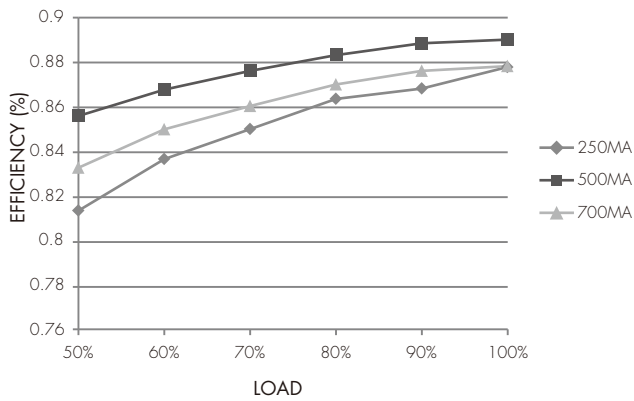


\* Typical Efficiency vs Load

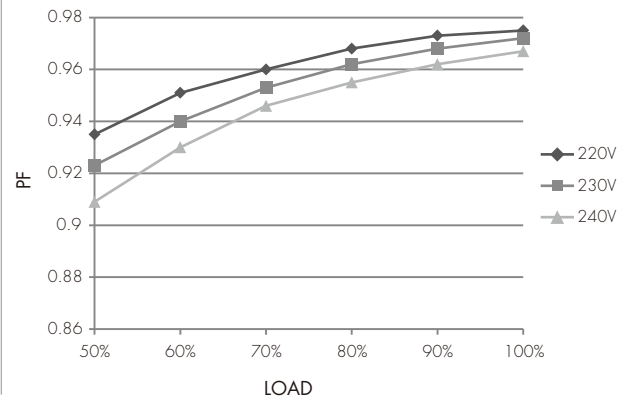


\* Typical Power Factor vs Load

HE8030-A

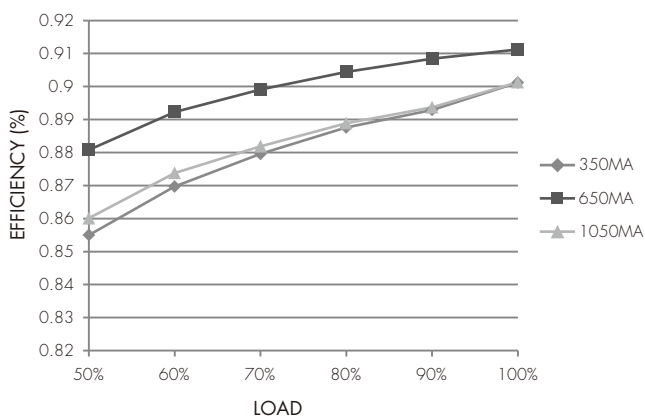


\* Typical Efficiency vs Load

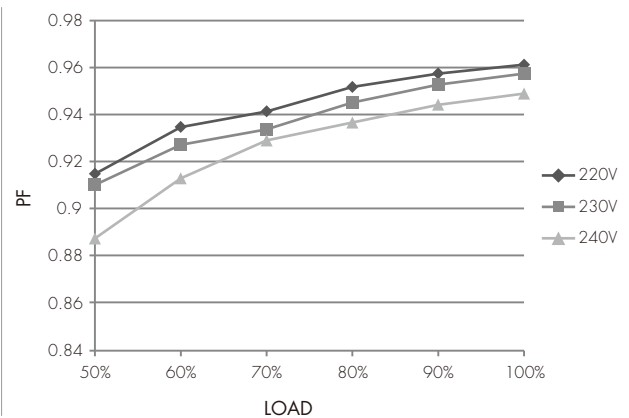


\* Typical Power Factor vs Load

HE8050-A



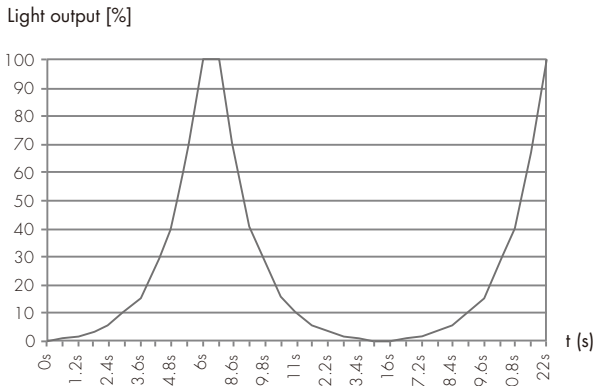
\* Typical Efficiency vs Load



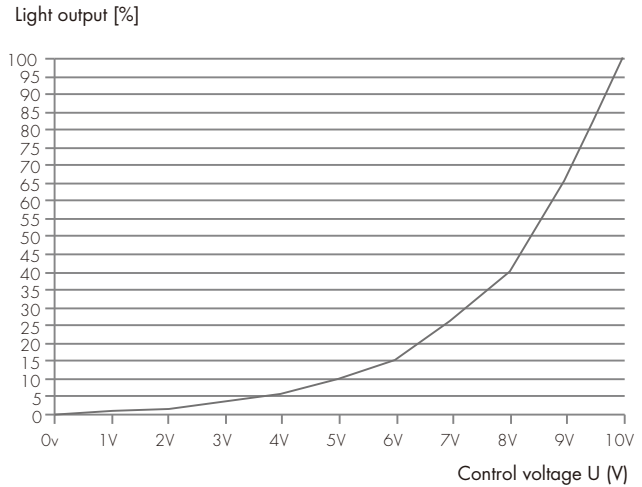
\* Typical Power Factor vs Load

## Dimming Characteristics

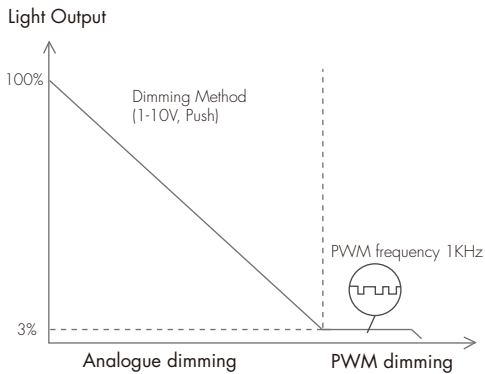
Switch-Dim Dimming Curve



1-10V Dimming Curve



## Dimming Profile



Dimming range	Dimming technique
3%-100%	Analogue
1-3%	PWM

## Dimming Interface Operation Notes

### Switch-Dim

The provided Switch-Dim interface allows a simple dimming method using commercially available non-latching (momentary) wall switches. Up to 50 LED drivers may be connected to one switch.

Switch Action	Response
Short press (<0.4 second)	Toggle light on / off
Note: short press has to be longer than 0.1s, or it will be invalid.	
Long press (>0.4 second)	Toggle dim light / increase brightness

### Synchronization

Switch Action	Response
Long press (>1.5 seconds)	All lights will dim down to minimum then return to 50% brightness

\* We recommend the number of drivers connected to a switch does not exceed 25 pieces. The maximum length of the wires from push to driver should be no more than 20 meters.

### 1-10V

The 1-10V input is operable via commercially available simple rotary wall switches designed for 1-10V dimming equipment or from dedicated system central dimming controllers. The 1-10V output is fully isolated and is SELV compliant.

Note: In the unlikely event that the LED driver be used with the Switch-Dim interface prior to using the 1-10V interface, the 1-10V interface may need to be re-set. This is achieved by placing a short circuit across the 1-10V terminals until the light returns to full brightness (approx. 3-5 seconds).