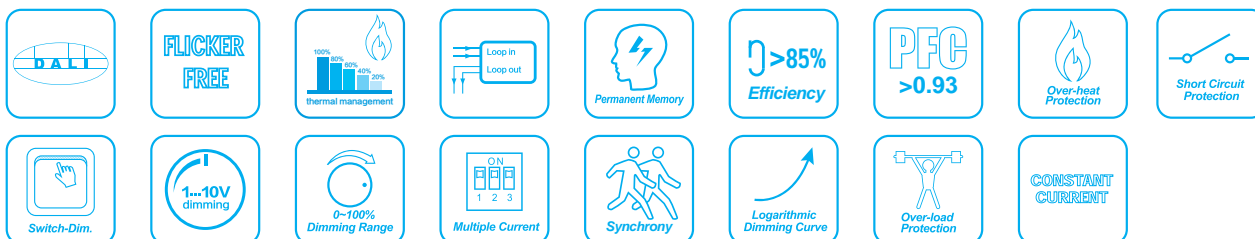


CONSTANT CURRENT

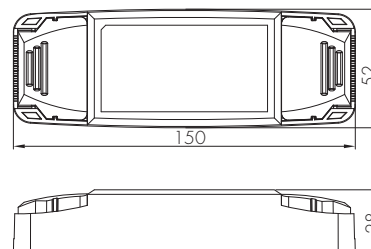
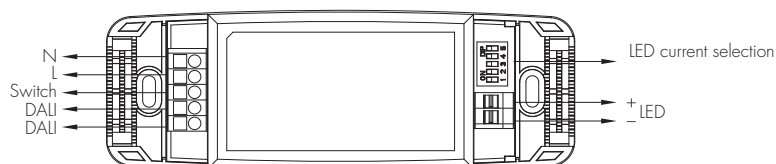
# DALI LED Driver Advanced Series

Model: HED2020-A, HED2040-A,  
HED2050-A, HED2060-A

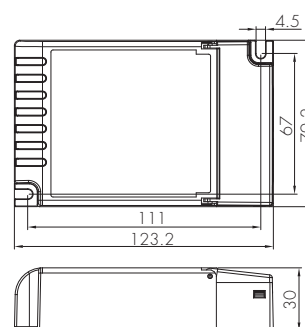
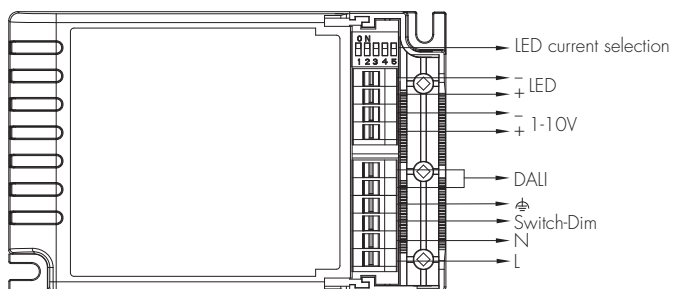


## Mechanical Structure

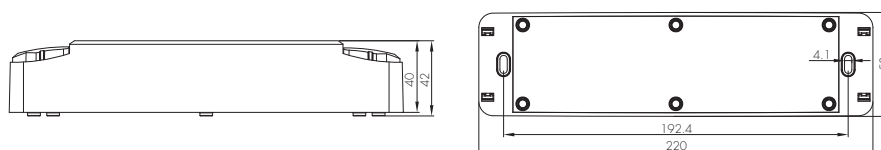
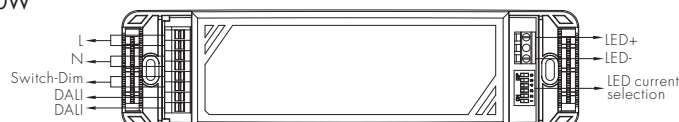
Model: HED2020-A 1x20W



Model: HED2040-A 1x40W / HED2050-A 1x50W



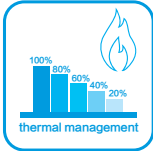
Model: HED2060-A 1x60W



## Highlights

- Automatic output reduction 80%-60%-40%-20% against overheat
- Failure DALI feedback
- Flicker-free dimming from 100%~30%
- In compliance with DALI 2 standard
- DALI and switch-Dim can be used at the same time

## Intelligent Thermal Management



In the case of overload, overheat, or poor electrical contact, drivers can get overheated. Instead of shutting down, this smart driver automatically reduces power output by 20% to reduce the thermal load, and further 20% more... until the thermal condition is at a safe level for the driver to work in a stable condition.

As the driver cools, the light goes up by 20%, and further 20% ... until the thermal condition reaches the maximum limits of the driver.

## Flicker-Free

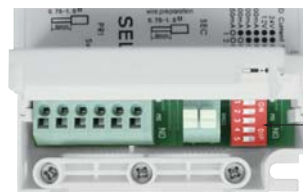


Flickering lights causes fatigue to the eyes, leading to tiredness and headaches. It has also been researched that wildlife behaviour can be adversely affected by high frequency flickering of artificial light sources.

Hytronik is committed to phase out the old LED driver dimming technology responsible for such flickering and deliver flicker-free drivers for the comfort and well being of humans and wildlife alike.

## LED Current Selection

The current can be easily configured by choosing the correct combination of the DIP switches (see table in the below).



LED Current Selection

HED2020-A, 1X20W

mA/V	1	2	3	4	5	
900mA	○	○	●	●	●	I
700mA	○	○	●	○	○	II
500mA	○	○	○	○	○	III
350mA	○	○	○	○	○	IV

HED2040-A, 1X40W

mA	1	2	3	4	5	
350mA	○	○	○	○	○	
400mA	●	○	○	○	○	
450mA	○	○	○	○	○	
500mA	●	●	○	○	○	
550mA	○	○	○	○	○	
600mA	○	○	○	○	○	
650mA	○	○	○	○	○	
700mA	●	○	○	○	○	
750mA	○	○	○	○	○	
800mA	●	○	○	○	○	
850mA	○	○	○	○	○	
900mA	●	○	○	○	○	
950mA	○	○	○	○	○	
1000mA	●	○	○	○	○	
1050mA	○	○	○	○	○	
1100mA	●	○	○	○	○	

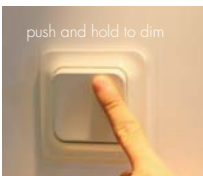
HED2050-A, 1X50W

mA	1	2	3	4	5	
700mA	○	○	○	○	○	
750mA	○	○	○	○	○	
800mA	○	○	○	○	○	
850mA	○	○	○	○	○	
900mA	○	○	○	○	○	
950mA	○	○	○	○	○	
1000mA	○	○	○	○	○	
1050mA	○	○	○	○	○	
1100mA	○	○	○	○	○	
1150mA	○	○	○	○	○	
1200mA	○	○	○	○	○	
1250mA	○	○	○	○	○	
1300mA	○	○	○	○	○	
1350mA	○	○	○	○	○	
1400mA	○	○	○	○	○	

HED2060-A, 1X60W

A	1	2	3	4	5	6	
2.10A	●	●	●	●	●	○	I
2.00A	●	●	●	●	○	○	II
1.75A	●	●	●	○	○	○	III
1.60A	●	●	○	○	○	○	IV
1.40A	●	○	○	○	○	○	V
1.20A	○	○	○	○	○	○	VI
1.05A	○	○	○	○	○	○	VII

## Switch - Dim



- On/off control: short push (<0.4s) on the switch.  
Note: Short push should be at least 0.12s, and the time interval between two pushes should be longer than 0.12s also.
- Stepless dimming: long push (>0.9s) on the switch.
- For fine tuning of light level: with every other long push, the light level goes to the opposite direction.
- Built-in with permanent memory: light returns to the previous dimming level when switched off and on again, even at power failure.

## Synchronization

Up to 64pcs drivers can be connected to the same switch, thanks to the programme. This means there is no need for any additional synchrony wire in large installation, where many drivers should be controlled by one switch.

Please follow the step below to achieve synchronization function if more than one driver are connected to the same push button:

- Do a long push for more than 15s, then the system is synchronized and all lights in the group dim down to 50%.

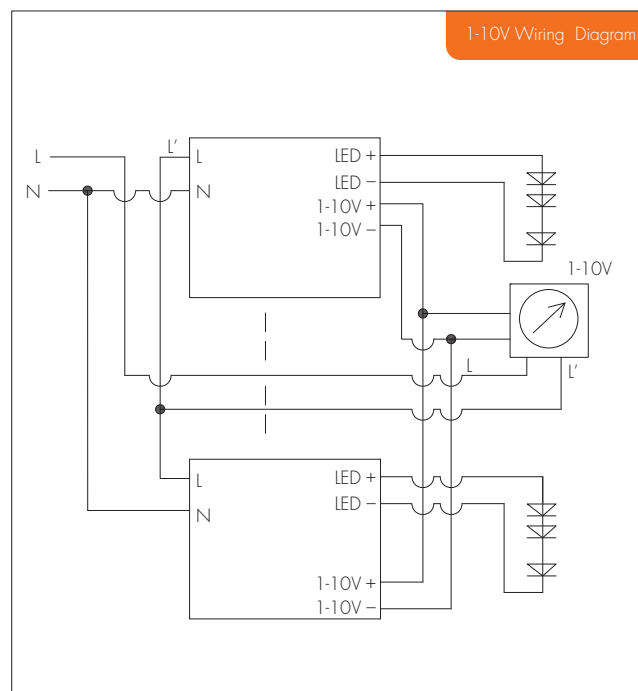
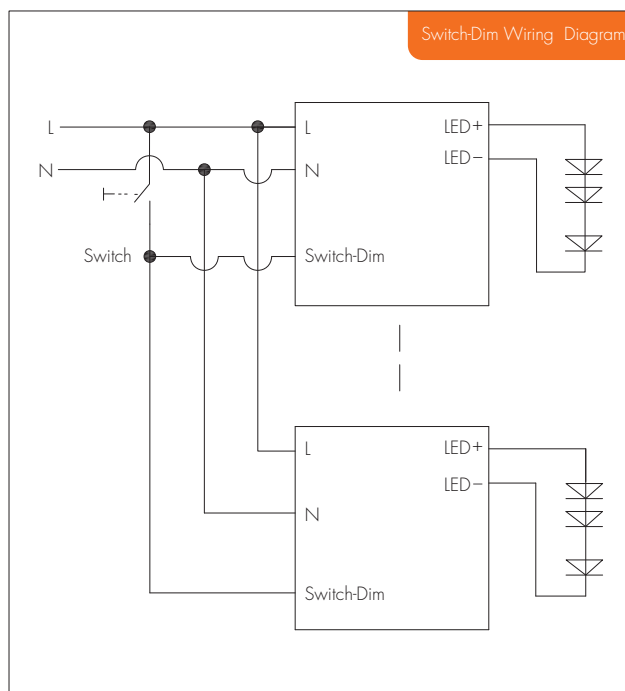
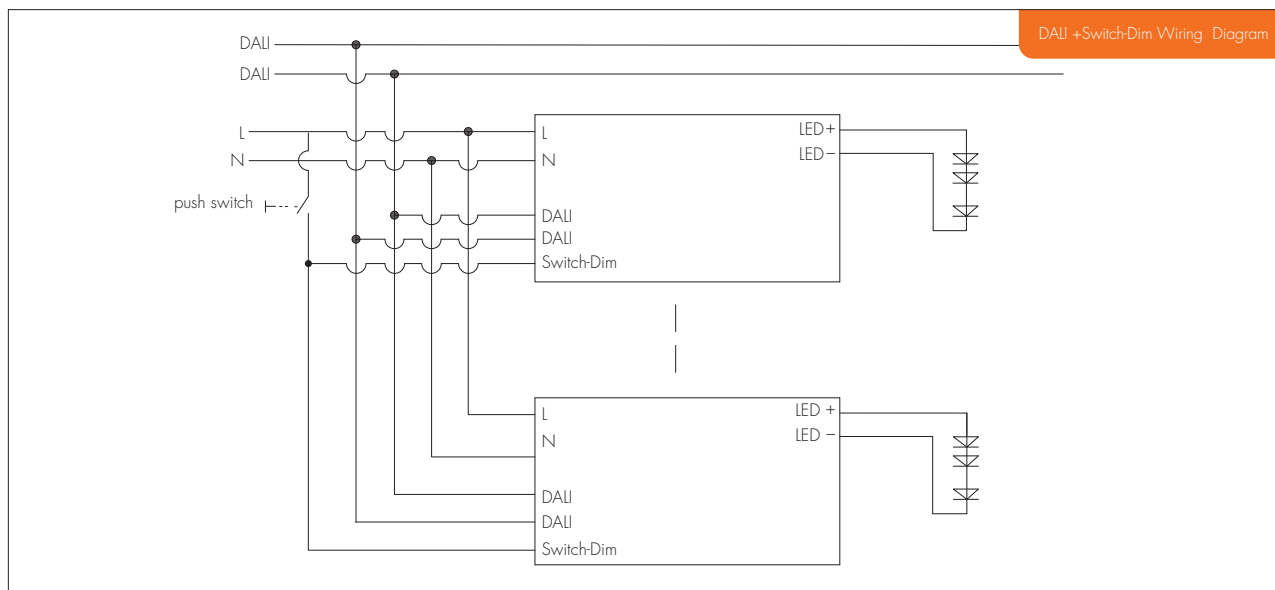
## Permanent Memory

This driver has built-in permanent memory against power failure, which means the light always starts up at the previous level when it was switched off last time.

## Manual Override

DALI and switch-Dim. can be connected at the same time, to enable manual override function for end-users to switch on/off or adjust the dimming level by the push-switch. This feature makes the product more user-friendly, and could provide more options for some extra-ordinary demands.

- \* Short push (<0.4s): on/off control;
- \* Long push (>0.9s): dim up/down the dimming level.
- \* If customers do not want to have this manual override function, just leave the "switch" terminal alone, and not connected to any wire.
- \* This manual override is only valid before the next DALI command, meaning the latest action, either from DALI, switch-Dim, stays in control.



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

Driver Specification				
Model No.	HED2020-A	HED2040-A	HED2050-A	HED2060-A
Mains voltage	220~240VAC 50/60Hz	220~240VAC 50/60Hz	220~240VAC 50/60Hz	220~240VAC 50/60Hz
Mains current	0.125~0.115A	0.23~0.21A	0.3~0.25A	0.35~0.27A
Max. output power/current/voltage	15W/350mA/9~45V 20W/500mA/9~53V 20W/700mA/9~30V 20W/900mA/9~23V	20W /350mA /12~58V 23W /400mA /12~58V 26W /450mA /12~58V 29W /500mA /12~58V 32W /550mA /12~58V 35W /600mA /12~58V 38W /650mA /12~58V 40W /700mA /12~58V 42W /750mA /12~56V 45W /800mA /12~56V 45W /850mA /12~53V 45W /900mA /12~50V 45W /950mA /12~47V 45W /1000mA/12~45V 45W /1050mA/12~43V 45W /1100mA/12~41V	41W /700mA /12~58V 44W /750mA /12~58V 47W /800mA /12~58V 49W /850mA /12~58V 50W /900mA /12~56V 50W /950mA /12~53V 50W /1000mA/12~50V 50W /1050mA/12~48V 50W /1100mA/12~45V 50W /1150mA/12~43V 50W /1200mA/12~42V 50W /1250mA/12~40V 50W /1300mA/12~38V 50W /1350mA/12~37V 50W /1400mA/12~36	55W /1.05A /16~53V 60W /1.2A /16~50V 60W /1.4A /16~43V 60W /1.6A /16~38V 60W /1.75A /16~35V 60W /2.0A /16~30V 60W /2.1A /16~28V
Power factor	≥0.93	≥0.95	≥0.95	≥0.95
Max. Efficiency	85%	87%	87%	85%
Operation temp.	Ta: -20~+45℃ Tc: +75℃	Ta: -20~+45℃ Tc: +80℃	Ta: -20~+45℃ Tc: +80℃	Ta: -20~+45℃ Tc: +80℃
Dimming interface	DALI, Switch-Dim.	DALI, Switch-Dim., 1-10V	DALI, Switch-Dim., 1-10V	DALI, Switch-Dim.
Dimming range	1~30% PWM dimming; 30~100% analogue dimming.			
Abnormal protection	Output short-circuit protection with auto-reset			
Over-heat protection	Over-heat protection with auto-reset			
EMC standard	EN55015, EN61547, EN61000-3-2/3			
Safety standard	EN61347-1, EN61347-2-13, EN60598-1			
DALI standard	IEC62386-101:2009 ; IEC62386-102:2009 ; IEC62386-207:2009			
Dielectric strength	Input→output : 3750VAC			
Certification	Semko, CB, CE , EMC, SAA			
IP grade	IP20			