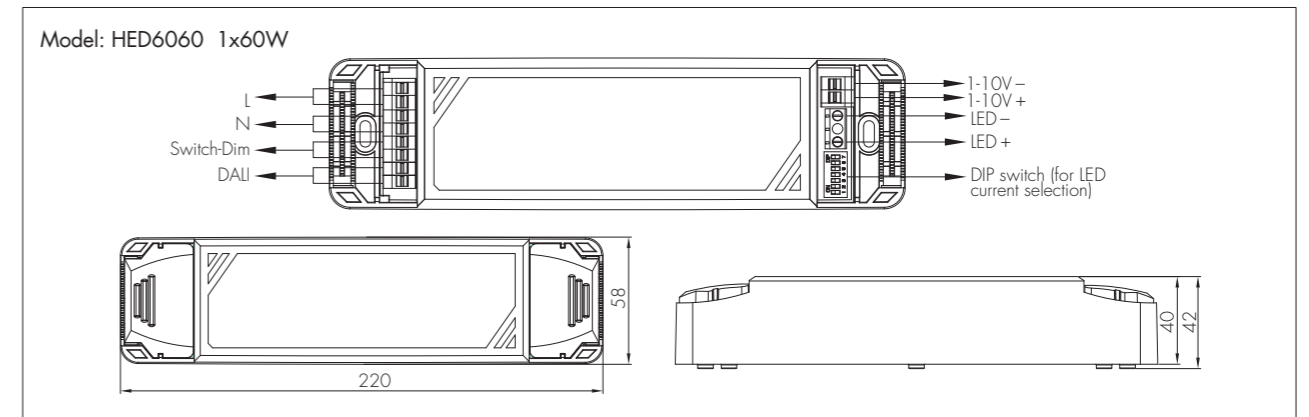
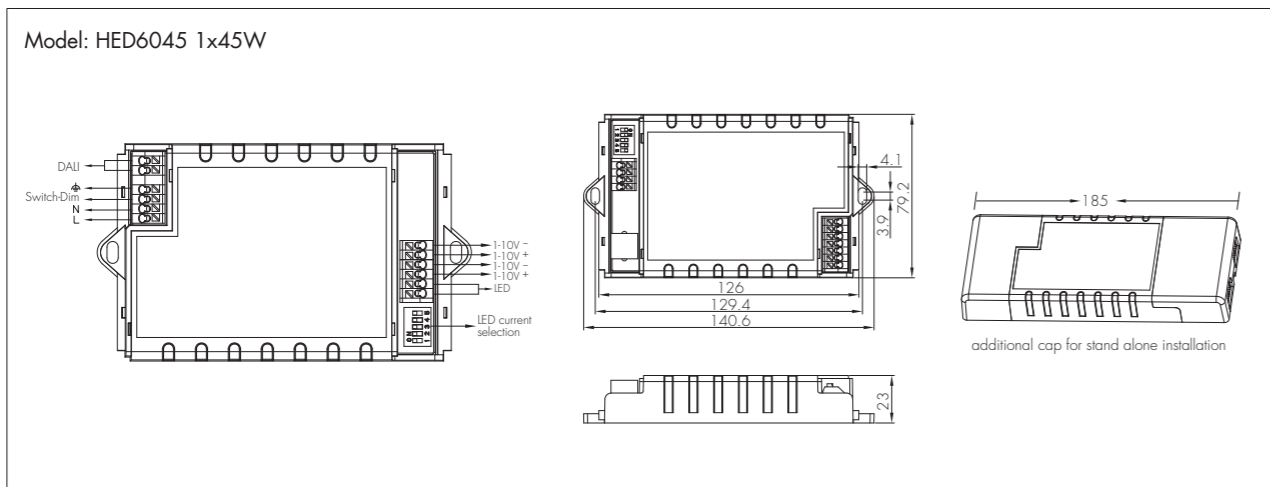
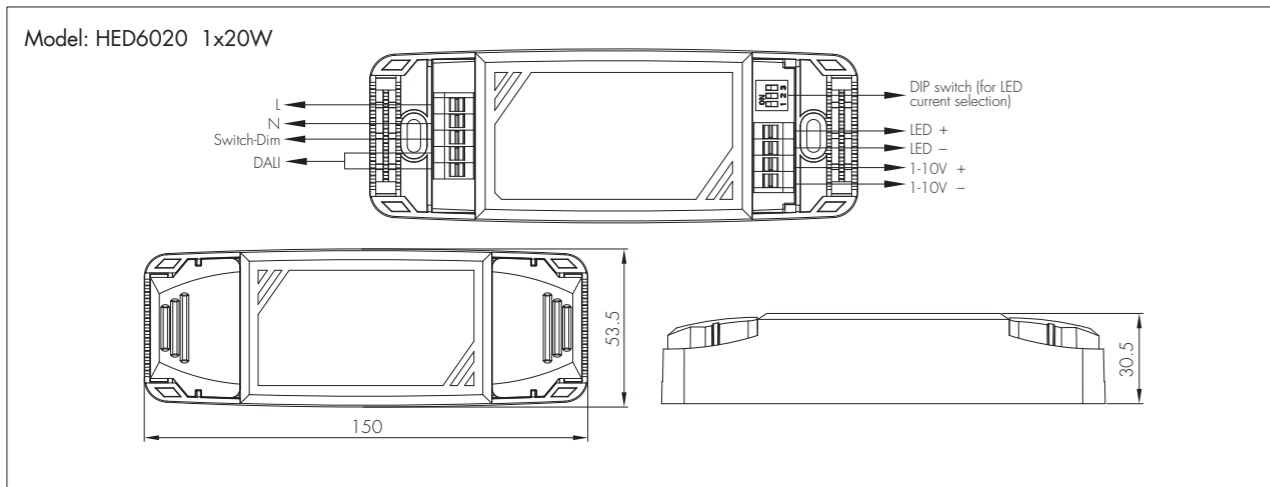


Mechanical Structure



Highlights

- Standby power < 0.5W
- Automatic output reduction 80%-60%-40% 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.

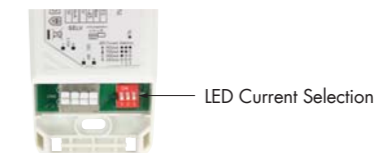
Hytronik is committed to phase out the old LED driver dimming technology responsible for such flickering and deliver flicker-free drivers for the comfort and well being of humans and wildlife alike.

Stand-by Power Consumption

Stand-by power consumption (zero-load consumption) is an important factor for the total energy saving, calculated as 'parasitic power' in large installations with lighting controls, such as a DALI system. Using Hytronik can improve your LEMI!

LED Current Selection

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



Model: HED6020, 1x20W

mA	1	2	3	Symbol
900mA	●	●	●	I
700mA	●	●	○	II
500mA	●	○	○	III
350mA	○	○	○	IV

Model: HED6045, 1x45W

mA	1	2	3	4	5	Symbol
1400mA	●	●	●	●	●	I
1200mA	●	●	●	●	○	II
1050mA	●	●	●	○	○	III
900mA	●	○	○	○	○	IV
700mA	●	○	○	○	○	V
500mA	○	○	○	○	○	VI

Model: HED6060, 1x60W

A	1	2	3	4	5	6	7	Symbol
2.1A	●	●	●	●	●	●	●	I
2.0A	○	●	●	●	●	●	●	II
1.75A	○	○	●	●	●	●	●	III
1.6A	○	○	○	●	●	●	●	IV
1.4A	○	○	○	○	●	●	●	V
1.2A	○	○	○	○	○	●	●	VI
1.05A	○	○	○	○	○	○	●	VII

Switch - Dim



- On/off control: short push (<math><0.4\text{s}</math>) 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 1.5s, then the system is synchronized and all lights in the group dim down to 50%.

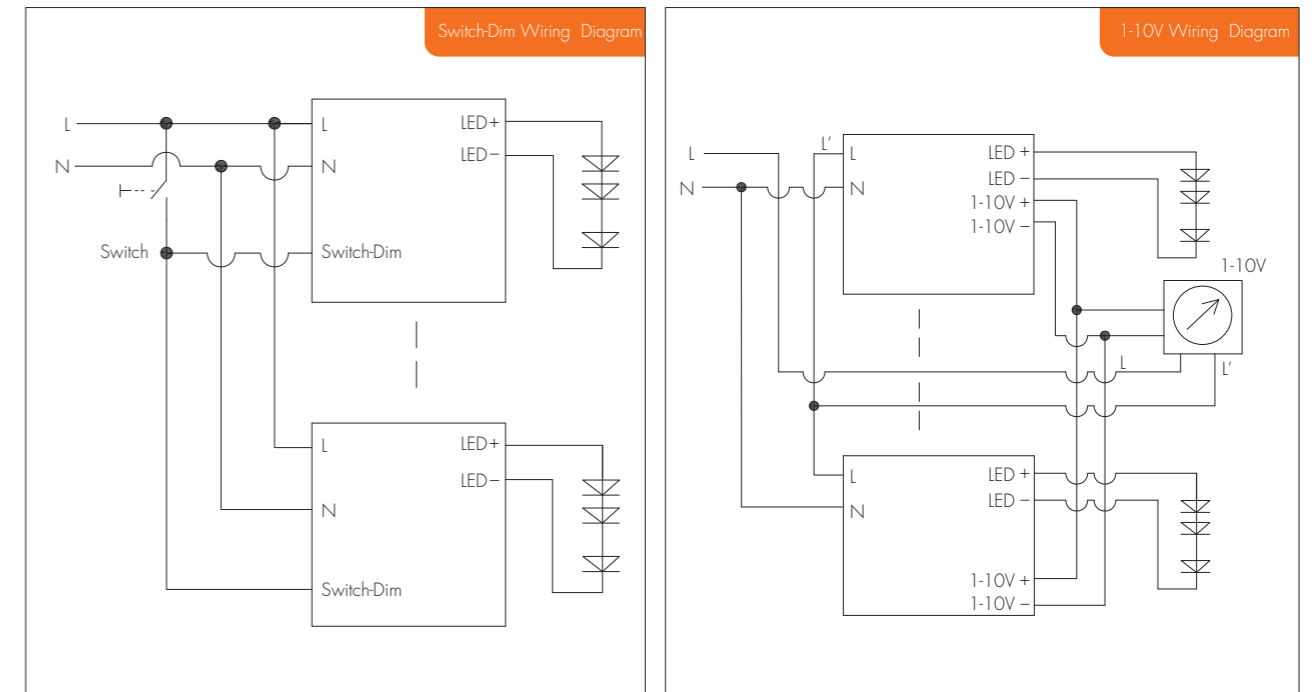
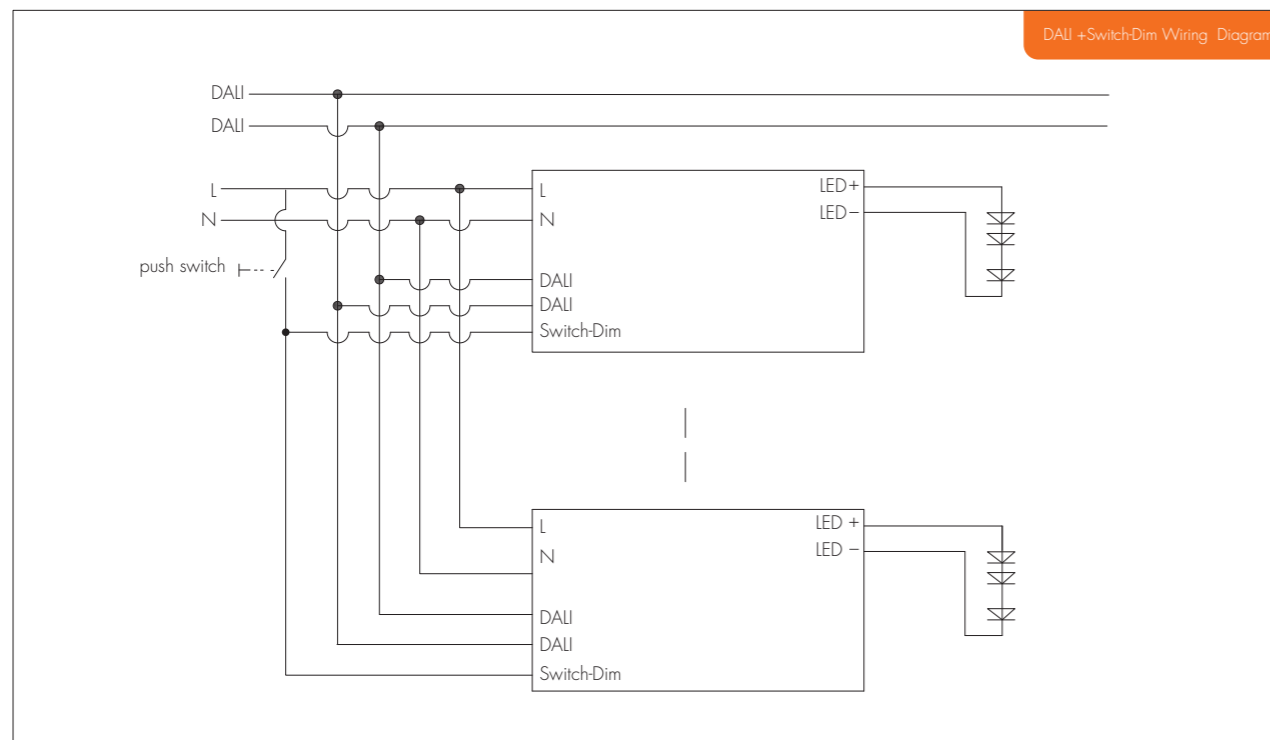
Permanent Memory

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 (<math><0.4\text{s}</math>): 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!

Specification	HED6020	HED6045	HED6060
Model No.	HED6020	HED6045	HED6060
Mains voltage	220~240VAC 50/60Hz	220~240VAC 50/60Hz	220~240VAC 50/60Hz
Mains current	0.125~0.115A	0.22~0.2A	0.35~0.27A
Max. output power/current/voltage	15W/350mA/12~45V 20W/500mA/12~43V 20W/700mA/12~30V 20W/900mA/12~23V	28W/500mA/12~56V 40W/700mA/12~56V 45W/900mA/12~50V 45W/1050mA/12~42V 40W/1200mA/12~34V 40W/1400mA/12~28V	55W/1.05A/12~53V 60W/1.2A/12~50V 60W/1.4A/12~43V 60W/1.6A/12~38V 60W/1.75A/12~35V 60W/2.0A/12~30V 60W/2.1A/12~28V
Power factor	≥ 0.93	≥ 0.95	≥ 0.95
Operation temperature	Ta: -20~+45°C Tc: +75°C	Ta: -20~+45°C Tc: +75°C	Ta: -20~+45°C Tc: +80°C
Max. Efficiency	85%	87%	89%
Dimming interface	DALI, Switch-Dim., 1-10V		
Dimming range	1~30% PWM dimming; 30~100% analogue dimming.		
Stand-by power consumption	<math><0.5\text{W}</math>		
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	IEC62386-01, 102, 207		
Dielectric strength	Input→output : 3750VAC		
Certification	Semko, CB, CE, EMC, SAA		
IP grade	IP20		