

## DALI Power Supply Unit for built-in use

Product code: 6031

Max. 1.2 W 220 – 240 V 50 – 60 Hz

- Very small dimensions for optimised use inside luminaires
- Offers power to the DALI bus, suits especially well intra-luminaire DALI solutions providing power for accessories such as nodes and sensors
- Mains input through-wiring to the LED driver
- AC or DC input supported
- Overcurrent, overvoltage and overload protection
- Suitable for Class I and Class II luminaires



DALI-PSU is a slim and convenient DALI bus power supply unit to be used built-in inside e.g. luminaires with DALI-powered accessories such as D4i-compatible wireless nodes and sensors. The small plastic mechanics ensures that DALI-PSU fits easily in either in linear or other forms of luminaires. Mains signal through-wiring makes the connections easy for luminaire manufacturers. With external casings complying to safety standards, DALI-PSU can be installed in independent use too.

### Input Characteristics

AC voltage range	220 VAC – 240 VAC	
DC voltage range	220 VDC – 240 VDC	
Mains current at full load	Max. 0.026 A	
Frequency	50 Hz – 60 Hz	
Standby power consumption	< 0.26 W*	*No DALI traffic in the bus
Tested surge protection	1 kV L-N, 2 kV L-GND (IEC 61000-4-5)	
Tested fast transient protection	1 kV (IEC 61000-4-4)	

### Insulation between circuits & device case

Input - Output	Non-isolated
Input and output - Casing	Double/reinforced insulation

### DALI Output

Output voltage	16.5...18.7 Vdc (For IEC 62386 DALI bus)
Output current, guaranteed	57 mA
Output current, maximum	74 mA
Output power	Max. 1.2 W
Load type	Devices compatible with DALI specifications set in IEC 62386

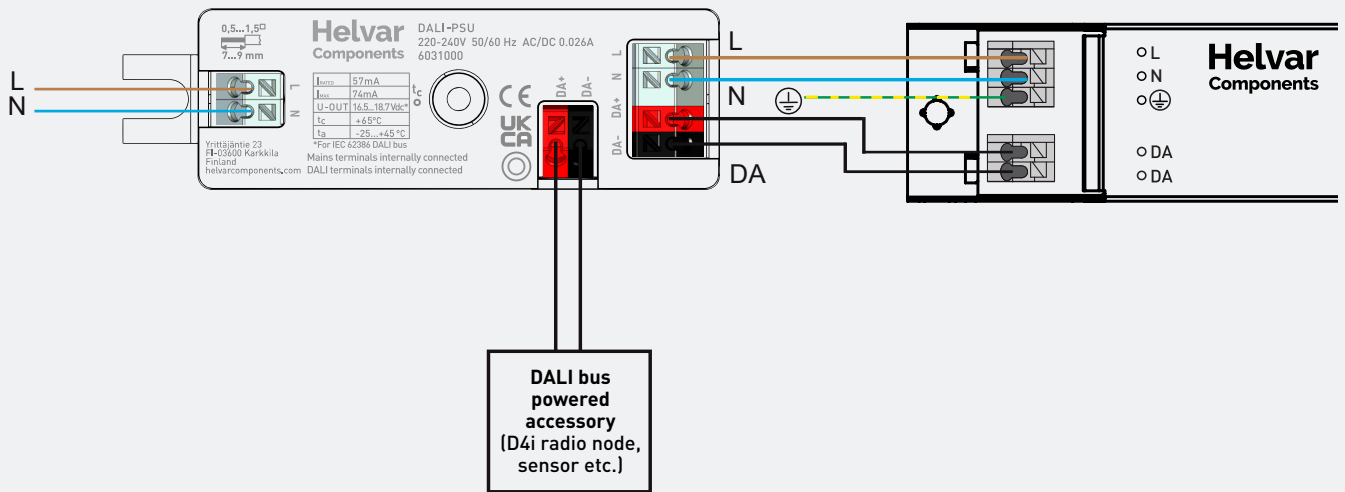
## Operating Conditions and Characteristics

Max. temperature at tc point	65 °C
Ambient temperature range	-25...+45 °C
Storage temperature range	-40...+80 °C
Maximum relative humidity	no condensation
Lifetime (90 % survival rate)	100 000 h, at $t_c = 60$ °C

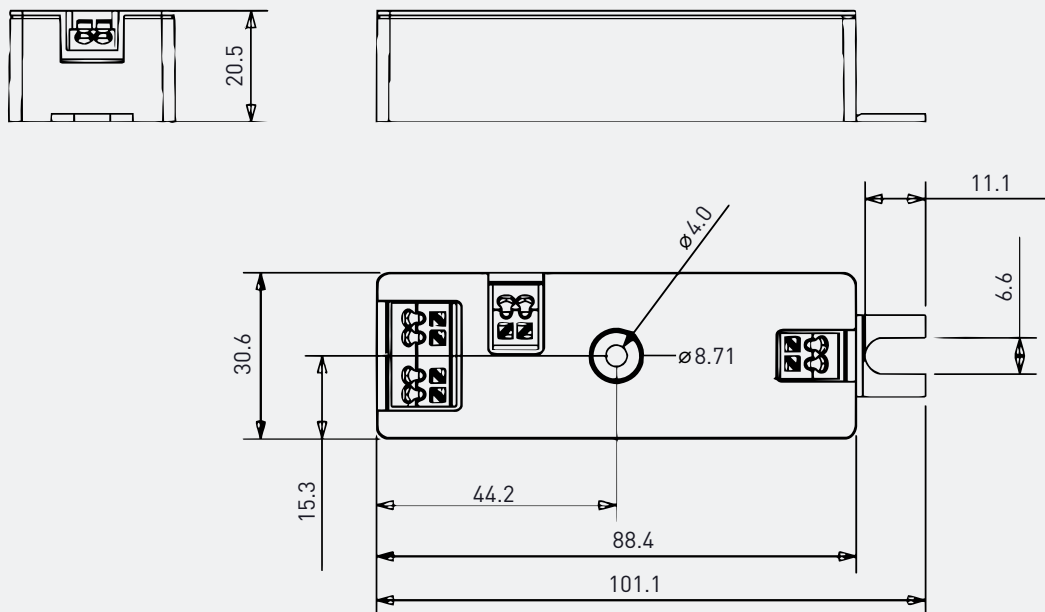
## Connections and Mechanical Data

Wire size	0.5 - 1.5 mm <sup>2</sup>
Wire type	Solid core and fine-stranded
Wire insulation	According to EN 60598
Weight	40 g
IP class	IP20

## Connections



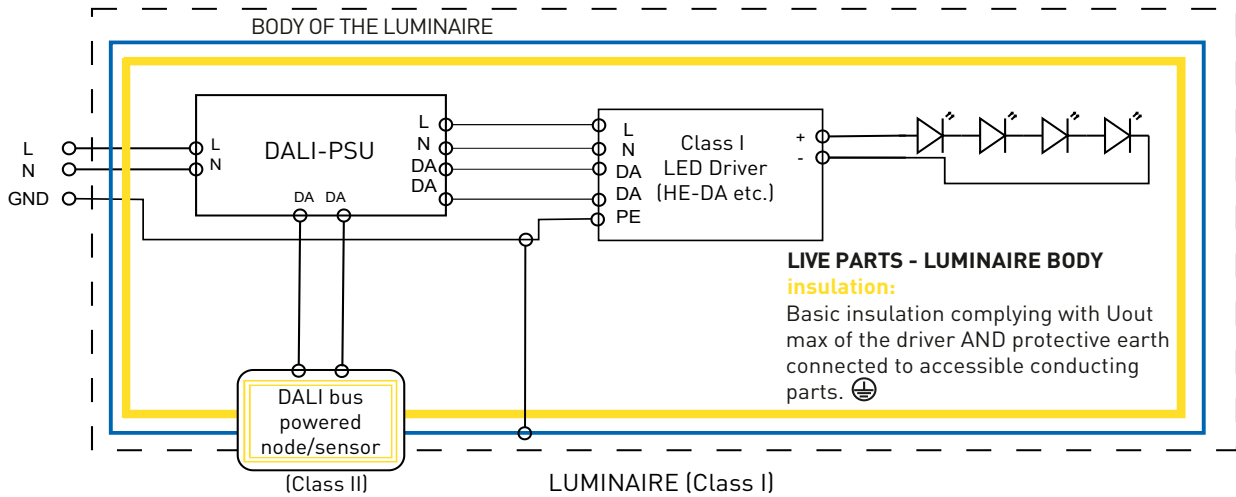
## Dimensions



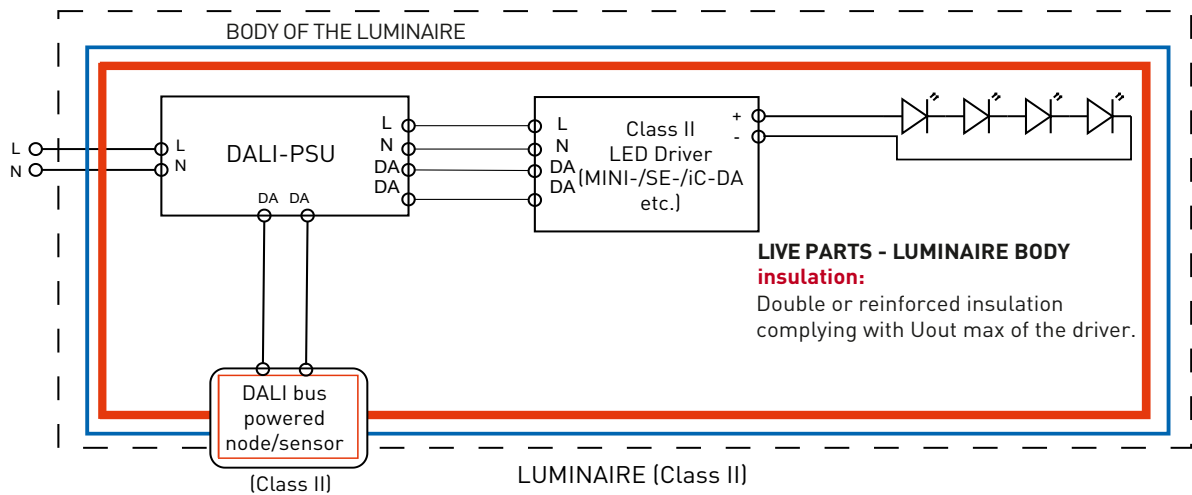
DALI-PSU has double/reinforced insulation to protect live parts from accidental touch and it can be installed inside Class I or Class II luminaires or enclosures. Please always take specific requirements into account before installing. The accessible parts of both the cabling and the luminaire part must be properly insulated according to Uout max of the circuit. DALI-PSU output from the DALI terminals is classified as FELV.

Connection examples and relevant insulations illustrated in the figure below. It is always the integrator's responsibility to ensure that the combination of the LED driver, DALI-PSU, DALI bus powered accessories and the luminaire part complies with the relevant safety standards (e.g. IEC / EN 60598-1).

## Example 1: Inside Class I luminaires

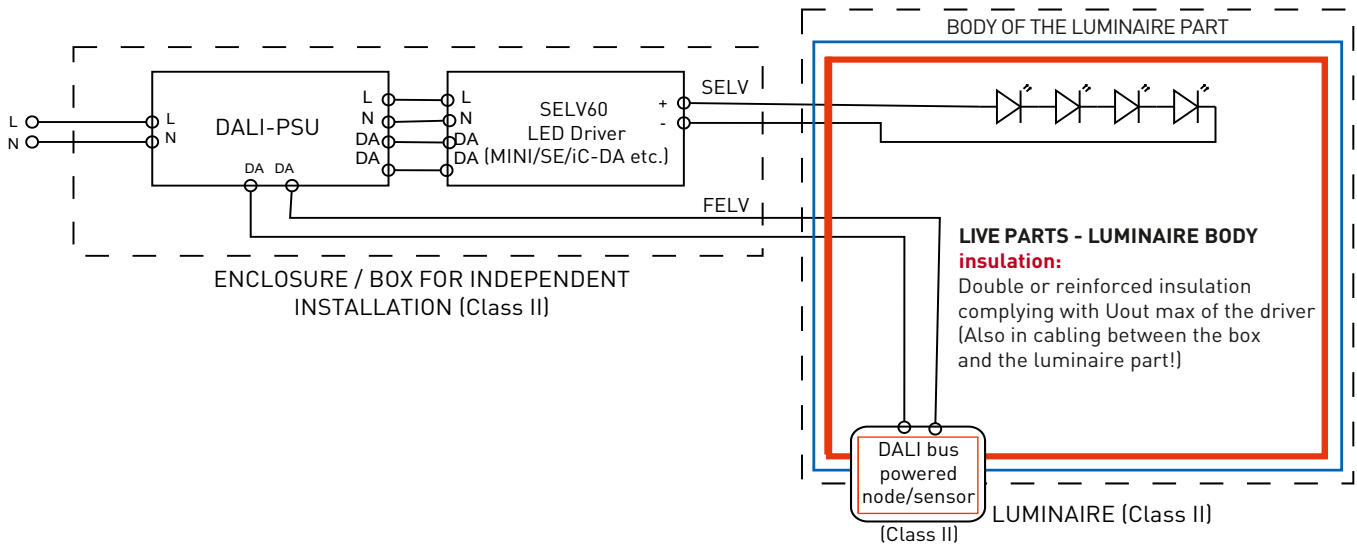


## Example 2: Inside Class II luminaires



**LIMITATION OF LIABILITY. ALWAYS CHECK AND FOLLOW EXACT REGULATIONS FROM LATEST RELEVANT IEC/EN STANDARDS.**

## Example 3: Outside of the luminaire part



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DALI-PSU is suited for built-in / box usage. In order to have safe and reliable operation, the installation destination (e.g LED luminaire, joint box) will need to comply with the relevant standards and regulations (e.g. IEC/EN 60598-1). The installation destination shall be designed to adequately protect the DALI-PSU from dust, moisture and pollution. Operating conditions of the DALI-PSU may never exceed the specifications as per the product datasheet.

## Installation & operation

### Maximum ambient and $t_c$ temperature:

- The  $t_a$  ambient temperature range is a guideline given for the optimum operating environment. However, integrator must always ensure proper thermal management (i.e. mounting base of the driver extension, air flow etc.) so that the  $t_c$  point temperature does not exceed the  $t_c$  maximum limit in any circumstance.
- Reliable operation and lifetime is only guaranteed if the maximum  $t_c$  point temperature is not exceeded under the conditions of use.

### Installation considerations

- The DALI-PSU must be used in built-in use, installed inside either luminaire casing or in a enclosure / box for independent use complying with the applicable safety standards.
- If more than one DALI-PSU units (up to three) are installed in the same DALI bus, the polarity of DALI cables (DALI+ and DALI-) must be respected in the wiring.

## Functionality in abnormal conditions

### Overcurrent

In case of overcurrent at certain point above the guaranteed capability, DALI-PSU will shut down the output and restore operation once the load has been corrected.

### Overvoltage

In case of overvoltage at certain point above the rated range, DALI-PSU will shut down the output and restore operation once the load has been corrected.

### Overload

In case of overload at certain point above the rated range, DALI-PSU will shut down the output and restore operation once the load has been corrected.

## Conformity & standards

Particular requirements for miscellaneous electronic circuits used with luminaires	EN 61347-2-11
General and safety requirements	EN 61347-1
Mains current harmonics	EN 61000-3-2
Limits for voltage fluctuations and flicker	EN 61000-3-3
Radio frequency interference	EN 55015
<b>Digital addressing lighting interface:</b>	
General requirements for DALI system	EN 62386-101 (DALI-2)
Compliant with relevant EU directives	
RoHS/REACH compliant	
CE / UKCA marked	

## Label symbols



Safety isolating control gear with short circuit protection (SELV control gear).