

## LMI G2 48V 350-700mA 3-20V DIM Slim

Dimming

### Product description

- DALI dimmable
- Note: Due to PLC technology the LMI LED Driver only works with Tridonic 48 V DC string LED Drivers. Error-free operation with 48 V Drivers from other manufacturers is not guaranteed.
- Up to 89 % efficiency
- Output voltage range 3 – 20 V
- Adjustable output current between 350 and 700 mA
- Pure AM dimming down to 5 %
- Max. tc point temperature 230 °F
- 5-year guarantee

### Housing properties

- Pure PCB for built-in application
- Suitable for class III applications

### Interfaces

- DALI-2 – DT 6
- Terminal blocks: 0° push terminals

### Functions

- Adjustable output current
- Protective features (overtemperature, short-circuit, no-load)

### Benefits

- Application-oriented operating window
- Small dimensions for miniaturization of luminaires
- No additional wires needed; DALI signals via the powerline



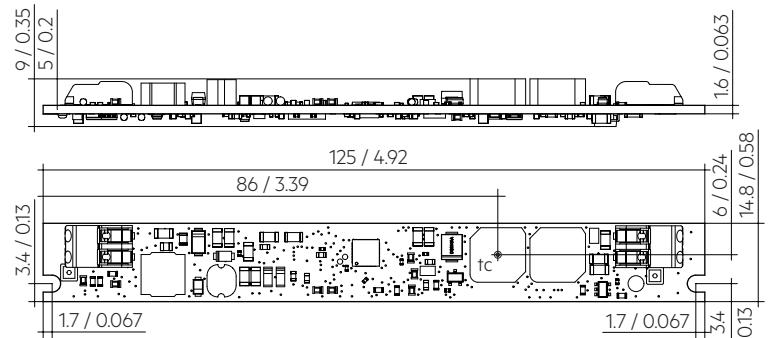
**Standards**, page 3

### LMI G2 48V 350-700mA 3-20V DIM Slim

Dimming

#### Technical data

DC voltage input	48 V
DC voltage range	46 – 50 V
Mains frequency	0 Hz
Typ. current (full load) <sup>①</sup>	37 – 328 mA
Max. input power	16 W
Typ. efficiency (full load) <sup>②</sup>	89 %
Typ. input current in no-load operation	8 mA
Typ. input power in no-load operation	< 0.4 W
Time to light (full load)	< 0.6 s
Hold on time at power failure	< 5 ms
Output current tolerance <sup>①</sup>	± 5 %
Output current tolerance (at min. dimming level)	± 10 %
Max. peak output current	≤ output current + 30 %
Output LF current ripple	same as LF ripple on 48 V bus
Max. output voltage (no-load voltage)	48 V
Dimming range	5 – 100 %
ESD classification	Severity level 2
Max. tc point temperature	230 °F
Dimensions L x W x H	4.92 x 0.58 x 0.49 inch



Dimensions in mm / inch

#### Ordering data

Type	Article number	Packaging box	Packaging carton	Packaging pallet	Weight per pc.
LMI G2 48V 350-700mA 3-20V DIM Slim	28000731	5 pc(s).	50 pc(s).	3,000 pc(s).	0.035 lbs

#### Mandatory LCU DC power supply for operating LMI LED Driver:

Type	Article number	Packaging carton	Packaging pallet	Weight per pc.
LC 48V 100W DC-STR UNV FO Ip	28001983	15 pc(s).	540 pc(s).	0.756 lbs

#### For dimming applications necessary

Type	Article number	Packaging carton	Weight per pc.
BRIDGE 0-10V PLC DC STR	28002074	10 pc(s).	0.037 kg / 0.082 lbs

#### Specific technical data

Type	Output current	Min. forward voltage	Max. forward voltage	Max. output power (at 48 V, full load)	Typ. power consumption (at 48 V, full load)	Typ. current consumption (at 48 V, full load)
LMI G2 48V 350-700mA 3-20V DIM Slim	350 mA	3 V	20 V	7 W	8.2 W	170 mA
	400 mA	3 V	20 V	8 W	9.2 W	192 mA
	450 mA	3 V	20 V	9 W	10.3 W	214 mA
	500 mA	3 V	20 V	10 W	11.4 W	243 mA
	550 mA	3 V	20 V	11 W	12.4 W	257 mA
	600 mA	3 V	20 V	12 W	13.4 W	279 mA
	650 mA	3 V	20 V	13 W	14.5 W	302 mA
	700 mA	3 V	20 V	14 W	15.7 W	328 mA

<sup>①</sup> Valid at 100 % dimming level.

<sup>②</sup> Depending on the selected output current.

## 1. Standards

EN 61347-1  
EN 61347-2-13  
EN 62384  
EN 62386-101 (according to DALI standard V2)  
EN 62386-102  
EN 62386-207

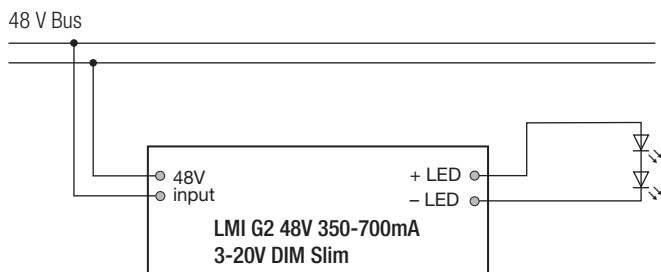
## 2. Thermal details and life-time

### 2.1 Expected life-time

Life-time is limited by DC power supply.  
Max. tp point temperature must not be exceeded.

## 3. Installation / wiring

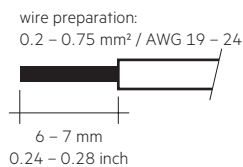
### 3.1 Circuit diagram



### 3.2 Wiring type and cross section

Solid or stranded wire with a cross section of 0.2 – 0.75 mm<sup>2</sup> / AWG 19 – 24.  
Strip 6 – 7 mm / 0.24 – 0.28 inch of insulation from the cables to ensure perfect operation of terminals.

LED module/LED Driver/supply



### 3.3 Wiring guidelines

- The 48 V cables should be run separately from the mains connections and mains cables to ensure good EMC conditions.
- The 48 V DC output wiring should be kept as short as possible to ensure good EMC. Tridonic did successfully EMC test with more than 30 m on grounded metal housings.
- For plastic housing reduce the cable length if the EMC get worse.
- The max. cable length, including track light, is limited only by voltage drop: The last LMI 48V in the track light must still supplied with minimum 46 V. More details in the voltage drop application note!
- Secondary switching is not permitted.
- To avoid the damage of the Driver, the wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).

### 3.4 LED module hot plug-in

Hot plug-in is not supported due to residual output voltage of > 0 V.  
The LED Driver could be damaged and there is a risk of destroying the LED module.  
Saving the DALI parameters is not guaranteed.

### 3.5 EOS/ESD safety guidelines

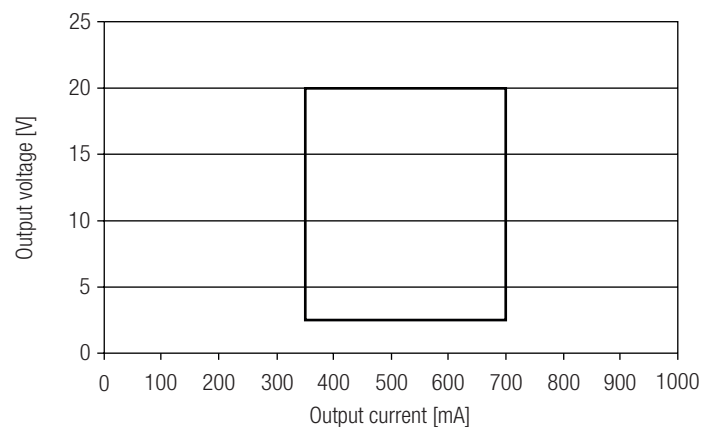


The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board not possible), just normal installation practice.

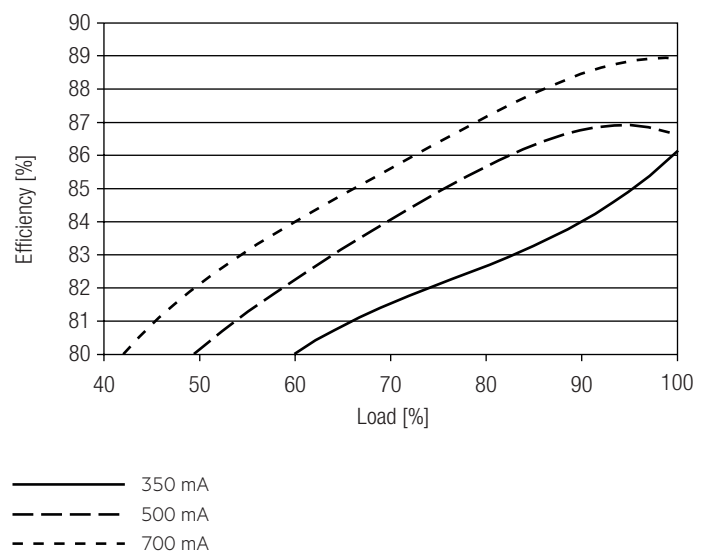
For further information for EOS/ESD safety guidelines and the ESD classification please refer to the brochure entitled <http://www.tridonic.com/esd-protection>.

## 4. Electrical values

### 4.1 Operating window



### 4.2 Efficiency vs load



100 % load corresponds to the max. output power (full load) according to the table on page 2.

### 4.3 Dimming

Dimming range 5 to 100 % of nominal current

Digital control with:

Programmable parameter:

Minimum dimming level

Maximum dimming level

Default minimum = depending on nominal current level

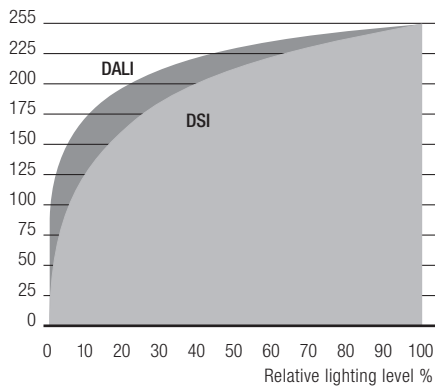
Default maximum = 100 %

Dimming curve is adapted to the eye sensitiveness.

Dimming is realized by amplitude dimming.

### 4.4 Dimming characteristics

Digital dimming value



Dimming characteristics as seen by the human eye

## 5. Interfaces / communication

### 5.1 Control input

The device is controlled via LCU DC power supply.

### 5.2 switchDIM

The device is controlled via LCU DC power supply.

### 5.3 Short-circuit behaviour

The LED Driver will not be damaged. In case of a short-circuit at the LED output the LED output is switched off. As soon as the short circuit removed the device has to be restarted via mains on / off DC power supply or DALI on / off command.

### 5.4 No-load operation

The LED Driver will not be damaged in no-load operation. The output will be deactivated and is therefore free of voltage (after a short period of time). As soon as the LED is connected the device has to be restarted via mains on / off DC power supply or DALI on / off command.

### 5.5 Overload protection

If the output voltage range is exceeded the LED Driver turns off the LED output. After restart of the DC power supply or DALI on / off the LED Driver output will be activated again.

### 5.6 Overtemperature protection

The LED Driver is protected against temporary thermal overheating. If the temperature limit is exceeded the LED Driver will turn off and after cool down phase automatically restart. The temperature protection is activated approx. +41 °F above  $t_c$  max (see page 2).

## 6. Functions

### 6.1 Storage of programmed parameters

The programming is only saved after a restart of the device.

For immediate storage, a manual DALI save command must be send.

### 6.2 Adjustable current

The output current of the LED Driver can be adjusted in a certain range.

DALI:

Adjustment is done by masterCONFIGURATOR at DC power supply (see masterCONFIGURATOR documentation).

## 7. Miscellaneous

### 7.1 Conditions of use and storage

Humidity: 5 % up to max. 85 %, not condensed (max. 56 days/year at 85 %)

Storage temperature: -40 °C up to max. +80 °C

The LED Drivers have to be acclimatised to the specified temperature range ( $t_a$  range of DC power supply) before they can be operated.

The LED Driver is declared as inbuilt LED controlgear, meaning it is intended to be used within a luminaire enclosure.

If the product is used outside a luminaire, the installation must provide suitable protection for people and environment (e.g. in illuminated ceilings).

### 7.2 Additional information

Additional technical information at [www.tridonic.com](http://www.tridonic.com) → Technical Data

Guarantee conditions at [www.tridonic.com](http://www.tridonic.com) → Services

Life-time declarations are informative and represent no warranty claim. No warranty if device was opened.