TRIDONIC

LED Driver
DC-String

LMI G2 48V 700–1050mA 3–20V DIM Slim
Dimming

Product description
- DALI dimmable
- Up to 90 % efficiency
- Output voltage range 3 – 20 V
- Adjustable output current between 700 and 1,050 mA
- Pure AM dimming down to 5 %
- Max. tc point temperature 105 °C
- 5-year guarantee

Housing properties
- Pure PCB for built-in application

Interfaces
- DALI V2 - DT 6
- Terminal blocks: 0° push terminals

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

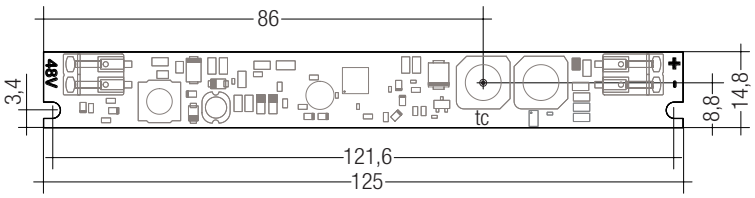
Benefits
- Application-oriented operating window
- Small dimensions for miniaturization of luminaires
- No additional wires needed; DALI signals via the powerline

→
Standards, page 3

LMI G2 48V 700–1050mA 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)[1]	64 – 476 mA
Max. input power	23.5 W
Typ. efficiency (full load)[1] [2]	90 %
Typ. input current in no-load operation	13.5 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[1]	± 3 %
Output current tolerance (at min. dimming level)	± 7.5 %
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	105 °C
Dimensions L x W x H	125 x 14.8 x 12.5 mm



Ordering data

Type	Article number	Packaging box	Packaging carton	Packaging pallet	Weight per pc.
LMI G2 48V 700-1050mA 3-20V DIM Slim	**28001583**	5 pc(s).	50 pc(s).	3,000 pc(s).	0.016 kg

We recommend using following LCU DC power supply together with this LMI LED Driver:

Type	Article number	Packaging carton	Packaging pallet	Weight per pc.
LCU 48V 75W DC-STR DIM lp	**28000815**	10 pc(s).	760 pc(s).	0.280 kg
LCU 48V 75W DC-STR DIM SR	**28001233**	10 pc(s).	300 pc(s).	0.349 kg
LCU 48V 150W DC-STR DIM lp	**28001235**	20 pc(s).	600 pc(s).	0.576 kg
LCU 48V 150W DC-STR DIM SR	**28001044**	10 pc(s).	300 pc(s).	0.369 kg

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 700-1050mA 3-20V DIM Slim	700 mA	3 V	20 V	14 W	15.6 W	316 mA
	750 mA	3 V	20 V	15 W	16.8 W	340 mA
	800 mA	3 V	20 V	16 W	17.9 W	364 mA
	850 mA	3 V	20 V	17 W	18.7 W	380 mA
	900 mA	3 V	20 V	18 W	19.9 W	404 mA
	950 mA	3 V	20 V	19 W	21.0 W	427 mA
	1,000 mA	3 V	20 V	20 W	22.2 W	452 mA
	1,050 mA	3 V	20 V	21 W	23.4 W	476 mA

[1] Valid at 100 % dimming level.

[2] 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

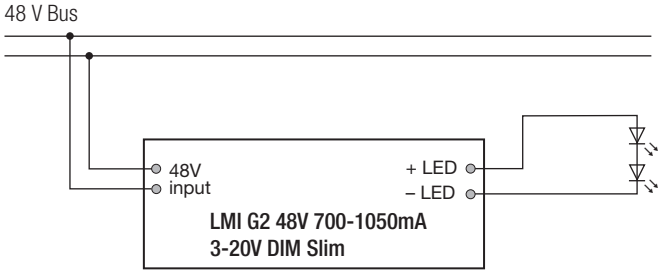
2. Thermal details and life-time

2.1 Expected life-time

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

3. Installation / wiring

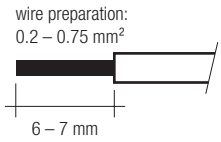
3.1 Circuit diagram



3.2 Wiring type and cross section

Solid or stranded wire with a cross section of 0.2 – 0.75 mm².
Strip 6 – 7 mm 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.

3.4 LED module hot plug-in

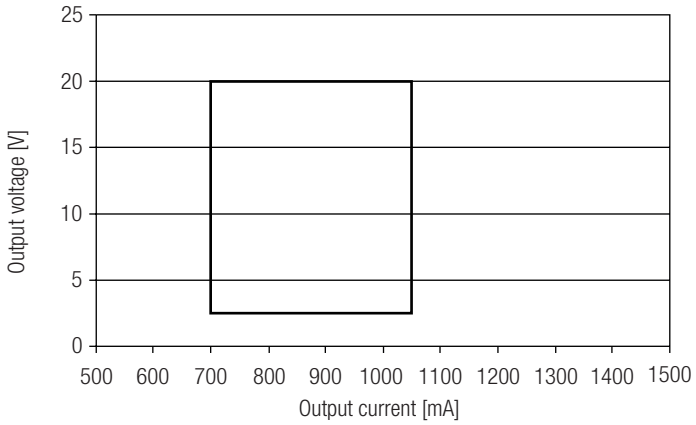
Hot plug-in is not supported due to residual output voltage of > 0 V.
The LED Driver will not be damaged but there is a risk of destroying the LED module.
Saving the DALI parameters is not guaranteed.

3.5 EOS/ESD safety guidelines

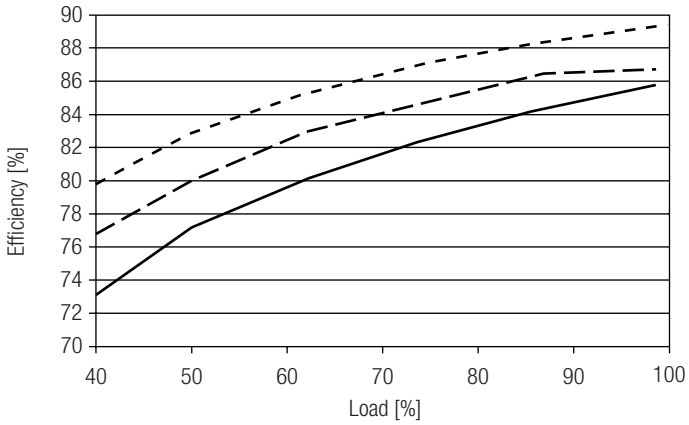
The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board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



700 mA
900 mA
1050 mA

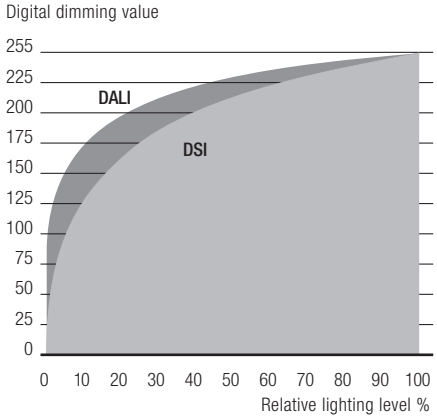
100 % load corresponds to the max. output power (full load) according to the table on page 2.

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



Dimming characteristics as seen by the human eye

5. Interfaces / communication

5.1 Control input

The device is controlled via DC power supply.

5.2 switchDIM

The device is controlled via 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. +5 °C above tc max (see page 2).

6. Functions

6.1 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).

The programming is only saved after a restart of the device.
For immediate storage, a manual DALI save command must be send.

7. Miscellaneous

7.1 Conditions of use and storage

Enviromental conditions:	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 (ta range of DC power supply) before they can be operated.

7.2 Additional information

Additional technical information at www.tridonic.com → Technical Data

Guarantee conditions at www.tridonic.com → Services

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