

## LMI 48V 350–700mA 20–42V FO Regular

Fixed output

### Product description

- Dimmable via potentiometer
- Up to 93 % efficiency
- Output voltage range 20 – 42 V
- Adjustable output current between 350 and 700 mA via DIP switch
- Output current tolerance  $\pm 8 \%$
- Max. tc point temperature 120 °C
- 5 years guarantee (conditions at [www.tridonic.com](http://www.tridonic.com))

### Housing properties

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

### Interfaces

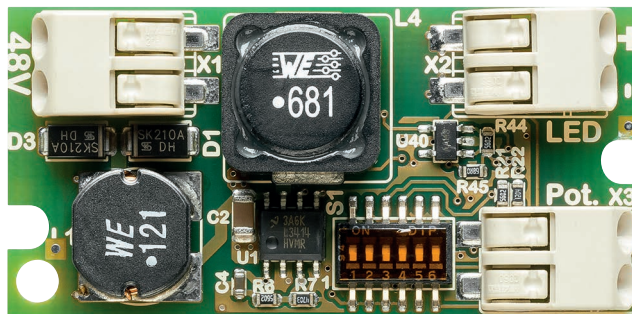
- Terminal blocks: 0° push terminals
- External potentiometer can be equipped via clamp

### Functions

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

### Benefits

- Application-oriented operating window
- Small dimensions for miniaturization of luminaires



Standards, page 4

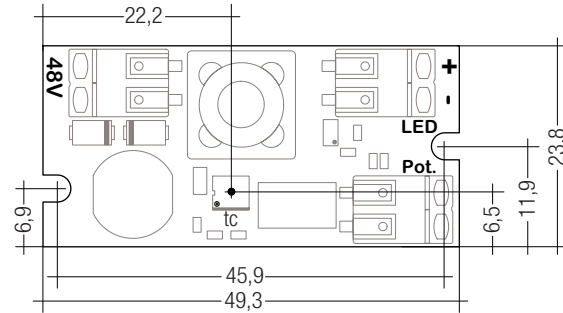


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Fixed output

### Technical data

DC voltage input	48 V
DC voltage range	46 – 50 V
Max. input power	32 W
Output power range ( $P_{rated}$ )	7 – 29.4 W
Typ. efficiency (full load) <sup>①</sup>	93 %
Typ. input current in no-load operation	2.8 mA
Typ. input power in no-load operation	0.135 W
Time to light (full load)	< 0.6 s
Hold on time at power failure	< 5 ms
Output current tolerance <sup>②</sup>	± 8 %
Max. peak output current	≤ output current + 20 %
Output LF current ripple	same as LF ripple on 48 V bus
Max. output voltage (no-load voltage)	50 V
Surge voltage at output side (against PE)	same as on 48 V bus
ESD classification	Severity level 2
Max. tc point temperature	120 °C
Guarantee (conditions at <a href="http://www.tridonic.com">www.tridonic.com</a> )	5 years
Dimensions L x W x H	49.3 x 23.8 x 12.5 mm



### Ordering data

Type	Article number	Packaging box	Packaging carton (contains 10 boxes)	Packaging pallet	Weight per pc.
<b>LMI 48V 350-700mA 20-42V FO Regular</b>	<b>28000728</b>	5 pc(s).	50 pc(s).	3,000 pc(s).	0.013 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.
<b>LCU 48V 75W DC-STR FO Ip</b>	<b>28000816</b>	10 pc(s).	760 pc(s).	0.274 kg
<b>LCU 48V 75W DC-STR FO SR</b>	<b>28001232</b>	10 pc(s).	300 pc(s).	0.346 kg
<b>LCU 48V 150W DC-STR FO Ip</b>	<b>28001234</b>	20 pc(s).	600 pc(s).	0.340 kg
<b>LCU 48V 150W DC-STR FO SR</b>	<b>28001045</b>	10 pc(s).	300 pc(s).	0.365 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)
<b>LMI 48V 350-700mA 20-42V FO Slim</b>	350 mA	20 V	42 V	14.7 W	15.6 W	325 mA
	400 mA	20 V	42 V	16.8 W	17.9 W	372 mA
	450 mA	20 V	42 V	18.9 W	20.1 W	420 mA
	500 mA	20 V	42 V	21.0 W	22.4 W	467 mA
	550 mA	20 V	42 V	23.1 W	24.7 W	515 mA
	600 mA	20 V	42 V	25.2 W	27.0 W	563 mA
	650 mA	20 V	42 V	27.3 W	29.4 W	612 mA
	700 mA	20 V	42 V	29.4 W	31.7 W	660 mA

<sup>①</sup> Depending on the selected output current.

<sup>②</sup> Valid at 100 % dimming level.

## 1. Standards

EN 61347-1  
EN 61347-2-13  
EN 62384

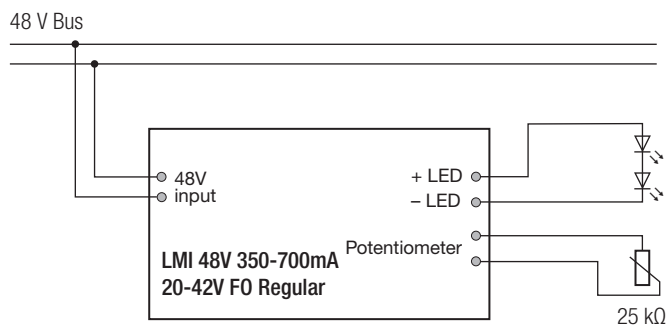
## 2. Thermal details and lifetime

### 2.1 Expected lifetime

Lifetime is limited by DC power supply.  
Max. tp point temperature must not be exceeded.

## 3. Installation / wiring

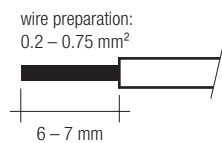
### 3.1 Circuit diagram



### 3.2 Wiring type and cross section

For wiring use stranded wire with ferrules or solid wire from 0.2 – 0.75 mm<sup>2</sup>. Strip 6 – 7 mm of insulation from the cables to ensure perfect operation of terminals.

LED module/LED driver/supply



### 3.3 Wiring guidelines

- Run the 48 V cables separately from the mains connections and mains cables to ensure good EMC conditions.
- Keep the 48 V DC output wiring 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 gets worse.
- The max. cable length, including track light, is limited only by voltage drop: Supply the last LMI 48V in the track light with minimum 46 V. More details in the voltage drop application note!
- Secondary switching is not permitted.
- To avoid the damage of the Driver protect the wiring against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).
- Additional systems or lines can compromise or disrupt the PLC communication in the DC string system. Therefore do not install any other systems or cables parallel to the DC string system cables.

### 3.4 Hot plug-in of LED module

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.

### 3.5 EOS/ESD safety guidelines

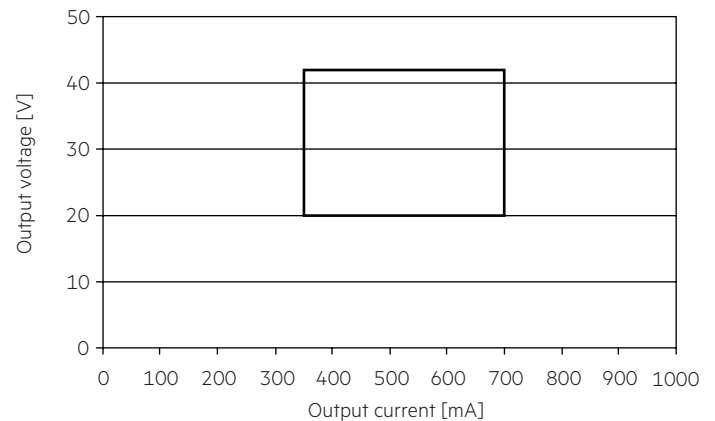


The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board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

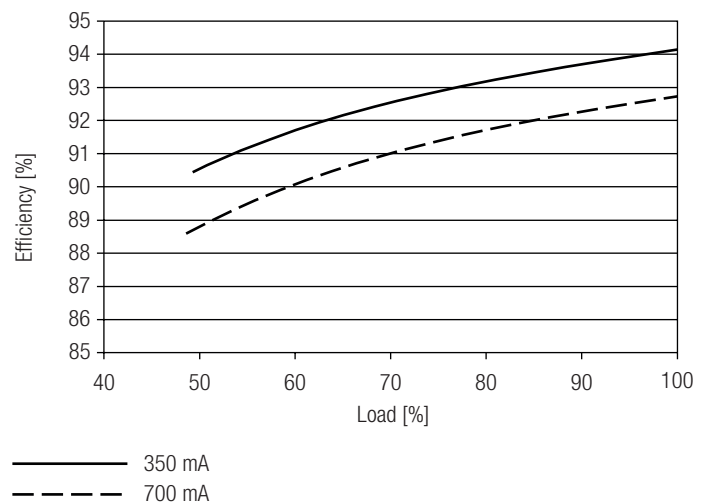
For further information for EOS/ESD safety guidelines and the ESD classification please refer to the brochure entitled <http://www.tridonic.com/esd-protection>.

## 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.

## 5. Functions

### 5.1 Adjustable current

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

1. step: set current with on board dip switch S1-1 to S1-4
2. step: choose function fixed current or potentiometer with on board dip switch S1-5 and S1-6

Step 1 and 2 have to be done to configure LED driver properly.

The factory default setting (no dip switch are set) is 325 mA  $\pm 20$  %.  
This is no normal operation.

		S1-1	S1-2	S1-3	S1-4	S1-5	S1-6
Output current	350 mA	OFF	OFF	OFF	ON	–	–
	375 mA	OFF	OFF	ON	OFF	–	–
	400 mA	OFF	OFF	ON	ON	–	–
	425 mA	OFF	ON	OFF	OFF	–	–
	450 mA	OFF	ON	OFF	ON	–	–
	475 mA	OFF	ON	ON	OFF	–	–
	500 mA	OFF	ON	ON	ON	–	–
	525 mA	ON	OFF	OFF	OFF	–	–
	550 mA	ON	OFF	OFF	ON	–	–
	575 mA	ON	OFF	ON	OFF	–	–
	600 mA	ON	OFF	ON	ON	–	–
	625 mA	ON	ON	OFF	OFF	–	–
	650 mA	ON	ON	OFF	ON	–	–
	675 mA	ON	ON	ON	OFF	–	–
	700 mA	ON	ON	ON	ON	–	–
Function	Potentiometer	–	–	–	–	ON	OFF
	Fixed current	–	–	–	–	OFF	ON

If potentiometer function is used 100 % output current level can be set by on board dip switch.

With potentiometer current can be dimmed down to 70 mA (amplitude modulation only). Max. torque for potentiometer is 5 Ncm.

The tolerance of the potentiometer added will additionally influence the tolerance of the output current.

We recommend using a potentiometer with a tolerance of  $\pm 5$  %. For example also a tolerance of  $\pm 10$  % of the potentiometer can be used but output current tolerance will increase. Same angular position does not mean the same current.

Potentiometer	Min. power	Resistor value
Linear	100 mW	25 k $\Omega$

### 5.2 Short-circuit behaviour

In case of a short-circuit at the LED output the LED driver will not be damaged. As soon as short-circuit is removed the LED driver turns on. No restart is needed.

### 5.3 No-load operation

The LED driver will not be damaged in no-load operation. The output will not be deactivated. Before a LED load is connected again turn off DC power supply.

## 6. Miscellaneous

### 6.1 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 (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).

### 6.2 Additional information

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

Lifetime declarations are informative and represent no warranty claim. No warranty if device was opened.