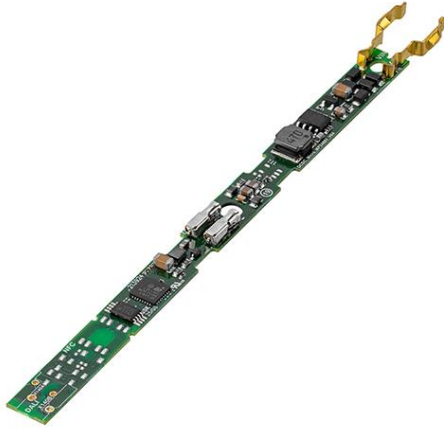


**DC 48V MICRO 14W 50–700mA flexC NF T**

Dimming

**Product description**

- \_ Constant current LED driver
- \_ Up to 93.1 % efficiency
- \_ Output voltage range 2 – 42 V
- \_ Output current adjustable between 50 – 700 mA
- \_ Max. output power 14.7 W
- \_ Temperature range up to +35 °C
- \_ 5 years guarantee (conditions at <https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions>)

**Housing properties**

- \_ Pure PCB for built-in application
- \_ Compatible with STUCCHI 48V MICRO/CORE11 system, see data sheet chapter 6.8
- \_ Suitable for class III applications

**Interfaces**

- \_ Terminal blocks: 0° push terminals
- \_ Near field communication (NFC)

**Functions**

- \_ Adjustable output current in 1-mA-steps (NFC)
- \_ Protective features (overtemperature, short-circuit, no-load)
- \_ 48V and DALI input polarity free
- \_ Temperature declared thermally protected LED driver with integrated electronic protection means against overheating

**Benefits**

- \_ Application-oriented operating window
- \_ Small dimensions for miniaturization of luminaires
- \_ Flexible configuration via companionSUITE (NFC)
- \_ Support NFC multiple programming (1 carton with 10 pcs)

**Typical applications**

- \_ For spot light in art and culture, retail and hospitality, office and education

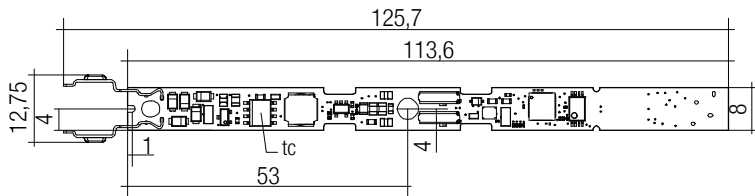
**Website**

<http://www.tridonic.com/28005578>



## DC 48V MICRO 14W 50–700mA flexC NF T

Dimming



## Ordering data

| Type                                 | Article number | Packaging, carton | Packaging, pallet | Weight per pc. |
|--------------------------------------|----------------|-------------------|-------------------|----------------|
| DC 48V MICRO 14/50-700/42 flexC NF T | 28005578       | 90 pc(s).         | 2,700 pc(s).      | 0.005 kg       |

## Technical data

|   |                               |
|---|-------------------------------|
| DC voltage input  | 48 V                          |
| DC voltage range  | 46 – 51 V                     |
| Mains frequency   | 0 Hz                          |
| Typ. current (full load)  | 347 mA                        |
| Max. input power  | 16.6 W                        |
| Output power range (P <sub>rated</sub> )  | 0.1 – 14.7 W                  |
| Typ. efficiency (full load) <sup>①</sup>  | 93.1 %                        |
| Starting time (full load)   | < 0.7 s                       |
| Hold on time at power failure   | < 50 ms                       |
| Output current tolerance <sup>②</sup>   | ± 5 %                         |
| Output current tolerance (at min. dimming level)                                  | ± 10 %                        |
| Output LF current ripple  | Same as LF ripple on 48 V bus |
| Max. output voltage (U-OUT)   | 60 V                          |
| Surge voltage at output side (against PE)   | Same as on 48 V bus           |
| Max. casing temperature t <sub>c</sub>  | 105 °C                        |
| Guarantee (conditions at <a href="http://www.tridonic.com">www.tridonic.com</a> ) | 5 Year(s)                     |
| Dimensions L x W x H  | 125.7 x 12.8 x 4.8 mm         |

## Approval marks



## Specific technical data

| Type                                 | Output current | Min. output voltage | Max. output voltage | Max. output power (at 48 V, full load) | Typ. current consumption (at 48 V, full load) | Ambient temperature t <sub>a</sub> |
|--------------------------------------|----------------|---------------------|---------------------|--|---|------------------------------------|
| DC 48V MICRO 14/50-700/42 flexC NF T | 50 mA          | 2 V                 | 42.0 V              | 2.1 W                                  | 54.2 mA                                       | 0 ... +35 °C                       |
| DC 48V MICRO 14/50-700/42 flexC NF T | 150 mA         | 2 V                 | 42.0 V              | 6.3 W                                  | 144.7 mA                                      | 0 ... +35 °C                       |
| DC 48V MICRO 14/50-700/42 flexC NF T | 250 mA         | 2 V                 | 42.0 V              | 10.5 W                                 | 239.1 mA                                      | 0 ... +35 °C                       |
| DC 48V MICRO 14/50-700/42 flexC NF T | 350 mA         | 2 V                 | 42.0 V              | 14.7 W                                 | 332.6 mA                                      | 0 ... +35 °C                       |
| DC 48V MICRO 14/50-700/42 flexC NF T | 500 mA         | 2 V                 | 29.0 V              | 14.5 W                                 | 341.9 mA                                      | 0 ... +35 °C                       |
| DC 48V MICRO 14/50-700/42 flexC NF T | 600 mA         | 2 V                 | 24.5 V              | 14.7 W                                 | 343.9 mA                                      | 0 ... +35 °C                       |
| DC 48V MICRO 14/50-700/42 flexC NF T | 700 mA         | 2 V                 | 21.0 V              | 14.7 W                                 | 347.1 mA                                      | 0 ... +35 °C                       |

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

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

## 1. Standards

EN 55015  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 61347-1  
 EN 61347-2-13  
 EN 61547  
 EN 62384

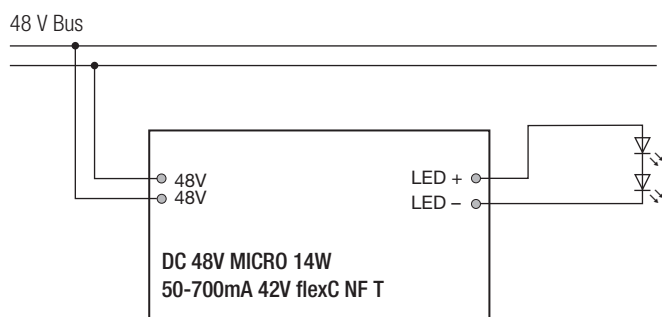
## 2. Thermal details and lifetime

### 2.1 Expected lifetime

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

## 3. Installation / wiring

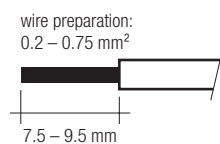
### 3.1 Circuit diagram



### 3.2 Wiring type and cross section

For wiring use stranded wire or solid wire from 0.2 – 0.75 mm<sup>2</sup>.  
 Strip 7.5 – 9.5 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 DC MICRO in the track light with minimum 46 V. More details in the voltage drop application note!
- To avoid damage of the Driver protect the wiring against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).
- The max. secondary cable (LED module) length is 2 m (4 m circuit).
- To comply with the EMC regulations run the secondary wires (LED module) in parallel.

### 3.4 DC Micro Track Hot Plug

Hotplug of fixtures is allowed. All data will be saved and configuration is stored.

### 3.5 EOS/ESD safety guidelines

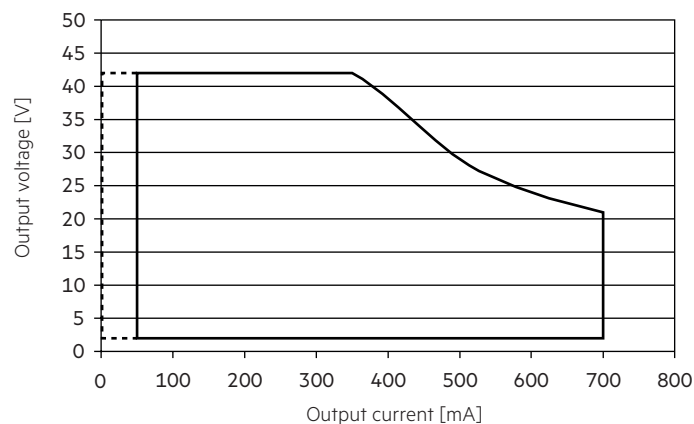


The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board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

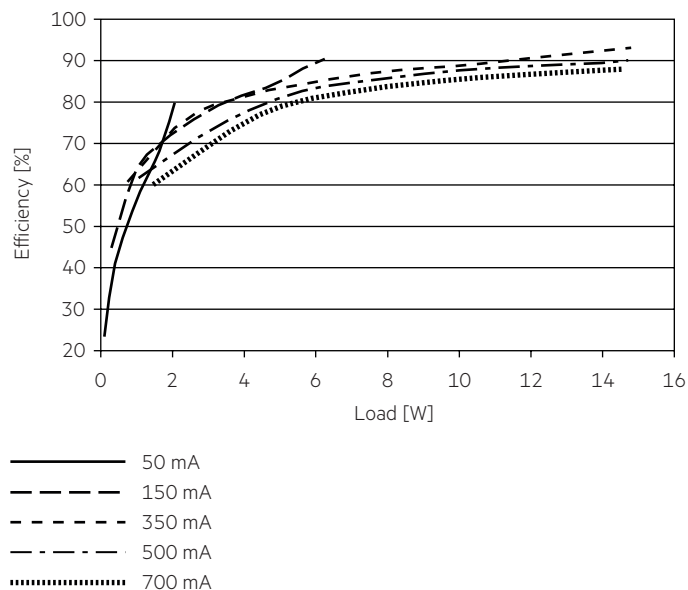
For further information for EOS/ESD safety guidelines and the ESD classification please refer to the brochure entitled <http://www.tridonic.com/esd-protection>.

## 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. Interfaces / communication**

### **5.1 Adjustable current**

The output current of the LED driver can be adjusted in a certain range. Physical minimal current is 1 % of max. current of the driver.

### **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**

In case of a no-load operation LED output is switched off. After restart of the LED Driver the output will be activated again. The restart can be done via mains reset.

### **5.4 Overload protection**

If the output power/voltage range is exceeded the LED Driver turns off the LED output. After restart of the LED Driver the output will be activated again. The restart can either be done via mains reset.

### **5.5 Overtemperature protection**

If the internal temperature exceeds a defined threshold, the driver switches off to prevent thermal damage. Reactivation requires manual reset.

### **5.6 NFC - configuration**














The NFC Interface allows wireless communication with the LED Driver. This interface offers the option to write configuration and to read configuration, errors and events with the companionSUITE.

## 6. Functions

☉ companionSUITE:

NFC

The companionSUITE with deviceGENERATOR, deviceCONFIGURATOR and deviceANALYSER is available via our WEB page:  
<https://www.tridonic.com/com/en/products/companionsuite.asp>

| Icon  | Function                            | NFC |
|---|-------------------------------------|-----|
|    | OEM Identification                  | ☉   |
|    | OEM GTIN                            | ☉   |
|    | Luminaire data                      | ☉   |
|    | LED current                         | ☉   |
|    | Constant light output (eCLO)        | ☉   |
|    | Enhanced power on level (ePOL)      | ☉   |
|    | DALI default parameters             | ☉   |
|   | Scenes and groups                   | ☉   |
|  | fade2zero                           | ☉   |
|  | Power-up fading                     | ☉   |
|  | Dimming curve                       | ☉   |
|  | deviceKEY                           | ☉   |
|  | Intelligent temperature guard (ITG) | ☉   |

### 6.1 LED current



The LED output current must be adapted to the connected LED module. The value is limited by the current range of the respective device.

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

Option: NFC

Adjustment is done by companionSUITE via NFC.

### 6.2 Enhanced Constant Light Output (eCLO)



With this function the light output of the LED module can be kept equal over the lifetime.

The light output of an LED module reduces over the course of its lifetime.

The Constant Light Output (eCLO) function compensates for this natural decline by constantly increasing the output current of the LED driver throughout its lifetime.

Enhanced eCLO shall be achieved by limitation of the LED current at the commissioning of the LED driver and providing a linear interpolation of the current over the time, depending on the data points given by the user.

The user has to insert up to eight pairs of data (time, level).

The output curve is the result of connecting the user data points linear.

Detailed description for eCLO see product manual.

The minimal CLO starting point is limited by the smallest output current of the LED driver.

### 6.3 Enhanced power on level (ePOL)



The Enhanced Power On Level parameter defines the power level that is set automatically when power is restored after a power failure.

The Enhanced Power On Level can be set to a fixed value (0 – 100 %) or can recall the memory value.

The memory value is the last value the LED driver was set to before the power failure.

This value applies not only in DALI device operating mode, but also in the device operating mode switchDIM.

### 6.4 fade2zero



When the Driver is switched off, fade2zero allows a smooth dimming down to almost zero.

Activate the fade2zero function when programming with companionSUITE and set a DALI fade time. fade2zero only works if the minimum dimming level of the Driver is the default value.

The device then dims to far below the limit of its working window (dimming range).

This function is deactivated by default.

### 6.5 deviceKEY



This function enables a password protection for device settings to prevent unauthorized access or changes.

### 6.6 Intelligent Temperature Guard (ITG)



The intelligent temperature guard protects the LED driver from thermal overheating by reducing the output power or switching off in case of operation above the thermal limits of the luminaire or ballast.

Depending on the luminaire design, the ITG operates at about 5 to 10 °C above  $t_c$  temperature.

If temperature threshold values are exceeded, the LED output current is limited.

These limits can be adjusted using the programming software.

Even the current ITG temperature in the device can be read out. With this function, the sensitivity of the temperature control can be adjusted.

### 6.7 Adjustable current

The output current of the LED driver can be adjusted in a certain range. Physical minimal current is 1 % of max. current of the driver.

### 6.8 Compatible track adapter

| Adapter Type          | Compatible tracks |
|-----------------------|-------------------|
| MICRO Adapter 9619-M  | 9600-../...-ST1   |
| MICRO Adapter 9619-M1 | 9600-../...-ST5   |
| MICRO Adapter 9620    | 9600-../...-ST16  |
|                       | 9600-../...-ST15  |

## 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 (ta 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 Disposal of equipment



Return old devices in accordance with the WEEE directive to suitable recycling facilities.

### 7.3 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.