

# REWIRING INSTRUCTION



**For 2-lamp luminaires to AC mains direct wiring for operation with LEDVANCE LED TUBE T8 EM, UNIVERSAL, T5 AC or DULUX LED lamps**

# Rewiring of 2-lamp Luminaires

The conversion of a luminaire to operation of LED tubes on AC mains directly can be of advantage in the following cases:

- The existing driver is broken or has reached the end of its nominal lifetime. Driver maintenance will then not be necessary anymore.
- The existing electronic driver is not compatible with the selected LEDVANCE LED Tube.
- Power losses on the driver should be avoided completely and thus the highest possible energy efficiency should be achieved.

All LEDVANCE LED TUBE T8 EM, UNIVERSAL, T5 AC, T9 EM and DULUX LED are suitable for operation on 230V AC mains.

It is required to check if the existing luminaire is suitable for conversion from a technical and photometrical point of view. Conversion is only allowed to be conducted by a qualified electrician. After conversion a risk assessment has to be conducted.

If no significant changes have been made to the performance, application or construction of the luminaire, its existing CE mark will remain valid and no new declaration of conformity is needed.

This checklist can be used as assistance for the risk assessment:



## Luminaire to be rewired (ECG mounting already removed)



**Tools needed:** wire cutter, wire stripper, different screwdrivers

New wires must comply with latest version of EN 50525 and EN 60598-1, have a minimum cross section of 0,4 mm<sup>2</sup> and the isolation have a nominal thickness of 0,5 mm.

## Material included in conversion kit

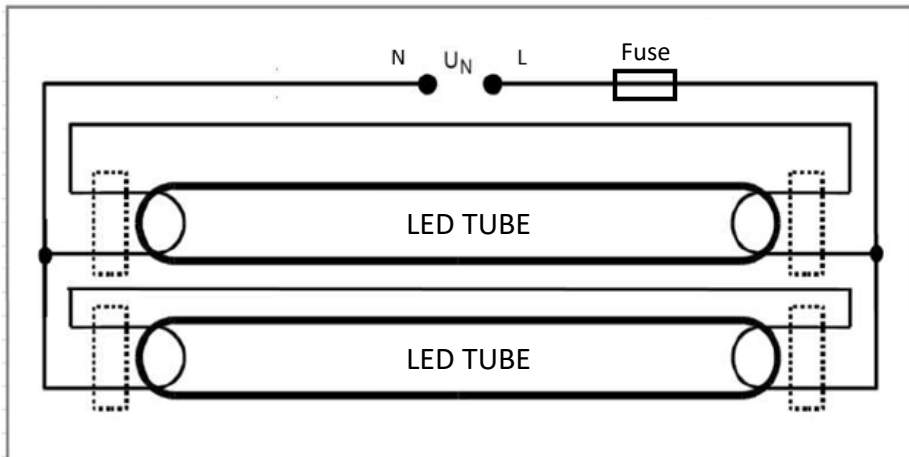


### Content conversion kit:

- 6 WAGO connectors
- 4 adhesive sockets for cable ties
- 4 cable ties
- New blank name plate for luminaire (only needed if significant changes are made to the luminaire, check step 7)
- Pre-wired microfuse (T2A 250V)

# 1. General Work Steps

## Direct wiring circuit diagram of a 2-lamp luminaire on AC mains



Remove wiring from ECG step by step and re-connect as prescribed below

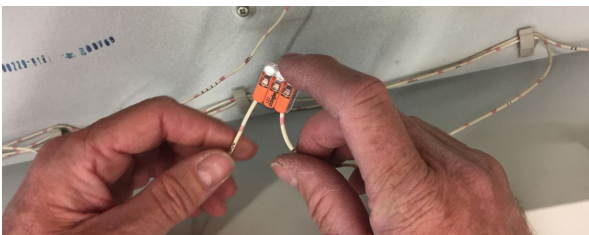


Step 1: Connect mains line "L" to fuse with one wire using a WAGO connector

Step 2: Connect second fuse line to both right lamp holders. Pay attention to correct connection of all ECG clamps within the following steps.

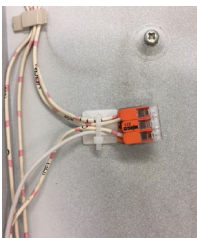
Step 3: Connect lines of left and right lamp holders for lamp 1 and 2.

Step 4: Connect both left lamp holders to neutral line „N“. Use WAGO connectors if needed.



Step 5: Remove ECG.

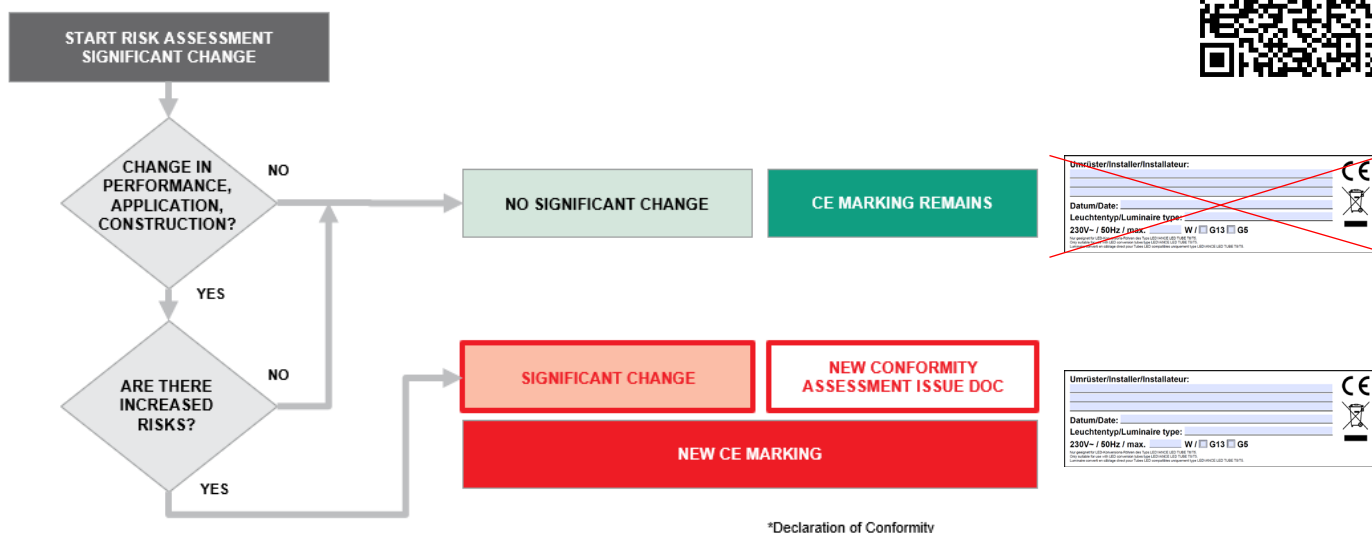
Step 6: Fix all wires with adhesive sockets and cable ties.



# 1. General Work Steps

Schritt 7: Risk assessment according to evaluate whether significant changed have been made to the performance, application or construction of the luminaire.

This checklist can be used as assistance for the risk assessment:



Step 8: Fix the provided warning sticker clearly visible inside of the luminaire. The converted luminaire should not be used anymore with fluorescent lamps.

**WARNING: THIS LUMINAIRE HAS BEEN MODIFIED TO OPERATE ONLY AC 220-240V LED TUBE. NOT FOR USE WITH ANY FLUORESCENT LAMP**

Step 9: Conduct final visual inspection of all components and check if all wires have been fixed tightly inside of the WAGO connectors. Cables should not be pinched during the mounting of the luminaire. Defect parts must be repaired or replaced.



If needed, re-connect earth conductor (PE)



## 2. Wiring examples with typical ECG

Remove wiring from ECG step by step and re-connect as prescribed below

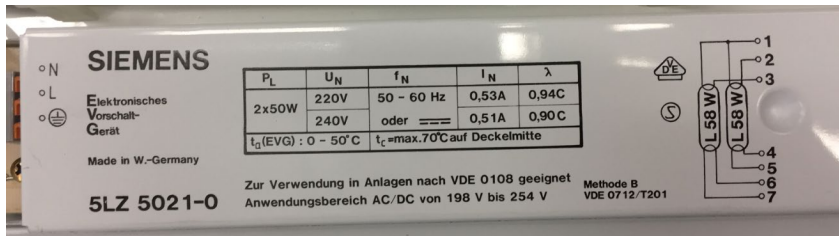


Step 1: Connect mains line "L" to fuse with one wire



### 1. ECG with 7 connectors (e.g. Siemens, OSRAM, BAG)

#### 1.1 Siemens ECG



Step 2 Connect second fuse line to line „7“ and „5“

Step 3: Connect line „6“ to line „3“

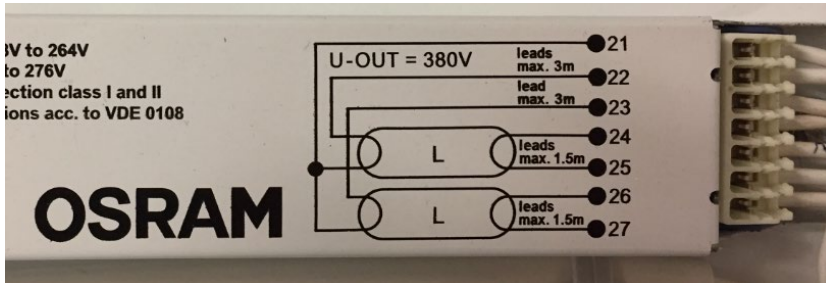
Step 4: Connect line „4“ to line „2“

Step 5: Connect line „1“ to line „N“

Further steps according to general work steps.

## 2. Wiring examples with typical ECG

### 1.2 OSRAM ECG



Step 2: Connect second fuse line to line „24“ and „26“

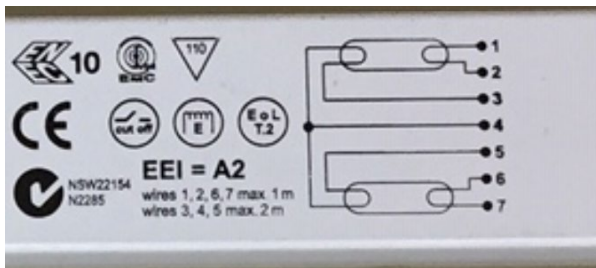
Step 3: Connect line „25“ to line „22“

Step 4: Connect line „27“ to line „23“

Step 5: Connect line „21“ to line „N“

Further steps according to general work steps.

### 1.3 BAG ECG



Step 2: Connect second fuse line to line „1“ and „7“

Step 3: Connect line „6“ to line „5“

Step 4: Connect line „3“ to line „2“

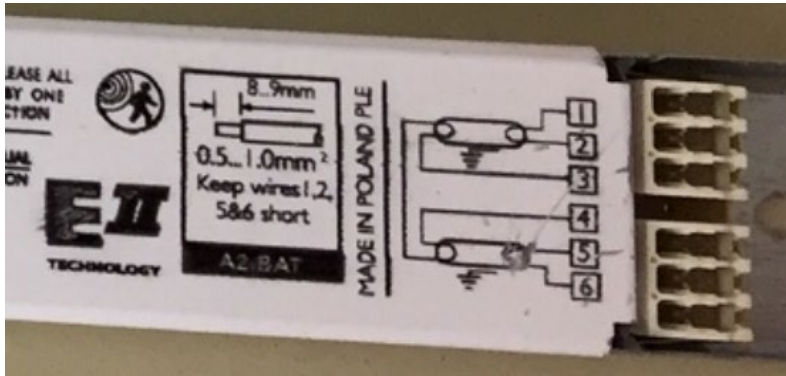
Step 5: Connect line „4“ to line „N“

Further steps according to general work steps.

## 2. Wiring examples with typical ECG

### 2. ECG with 6 connectors (e.g. Philips, Tridonic)

#### 2.1 Philips ECG



Step 2: Connect second fuse line to line „1“ and „6“

Step 3: Connect line „2“ to line „3“

Step 4: Connect line „4“ to line „5“

Step 5: Connect both connection lines of left lamp holders to „N“

Further steps according to general work steps.

#### 2.2 Zumtobel/ Tridonic ECG



Step 2: Connect second fuse line to line „11“ and „16“

Step 3: Connect line „12“ to line „13“

Step 4: Connect line „14“ to line „15“

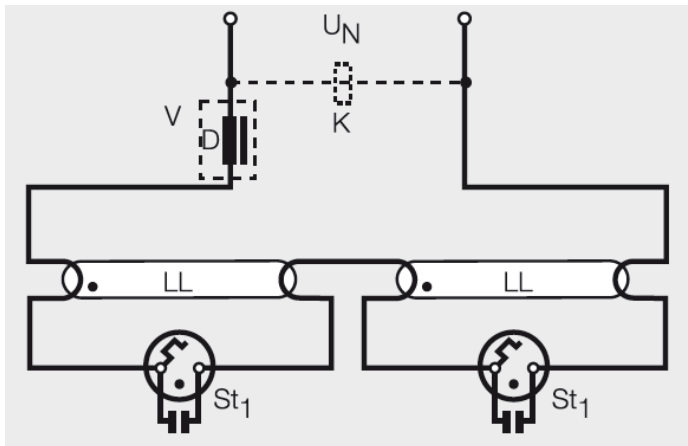
Step 5: Connect both connection lines of left lamp holders to „N“

Further steps according to general work steps.



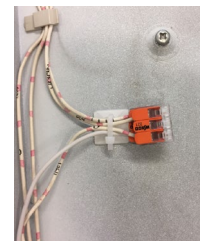
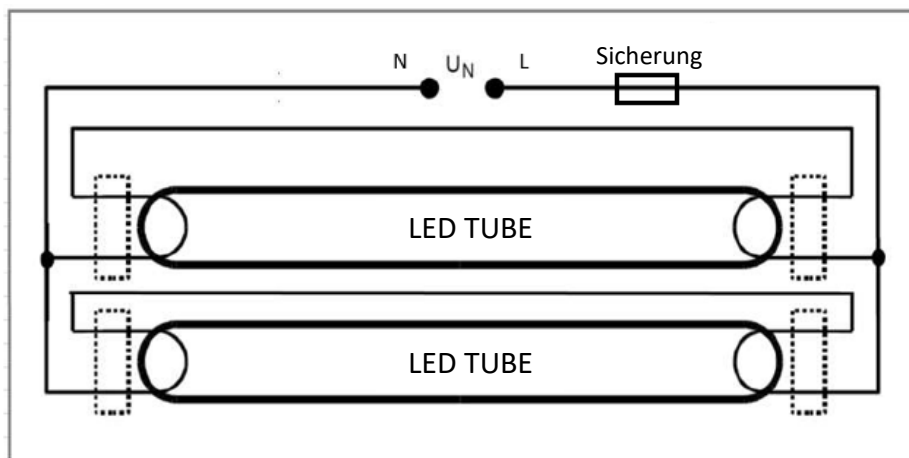
### 3. General Work Steps CCG Luminaire

*Circuit diagram of a double-flame luminaire with traditional CCG, fluorescent lamp and starter*



**Remove wiring from CCG step by step and connect as described, if applicable remove compensation capacitor as well**

*Circuit diagram of a rewired, double-flame luminaire with LED tubes on AC mains*



Step 1: Connect mains line "L" to fuse with one wire using a WAGO connector.

Step 2: Connect second line of fuse in parallel with a lamp holder of one lamp (see circuit diagram above). It is recommended to use the side that had been previously connected to the CCG.

Step 3: Remove starter holder to establish a connection between the right and left lamp holder

Step 4: Connect cables leading to starter holder using a WAGO connector.

Step 5: Remove CCGs.

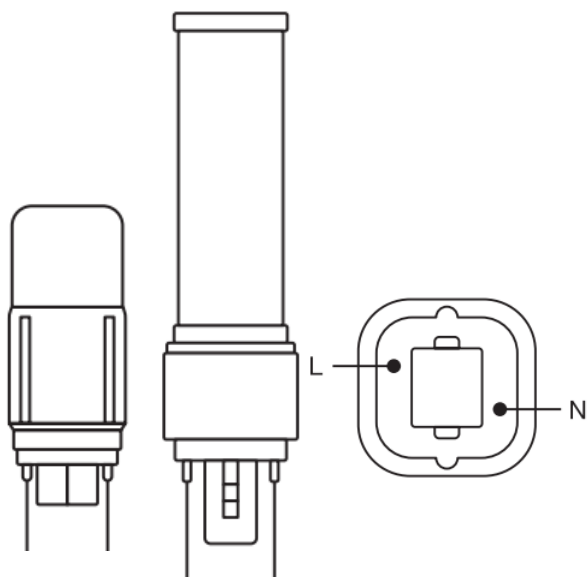
Step 6: Fix cables using existing cable brackets and mount additional cable ties and adhesive sockets.



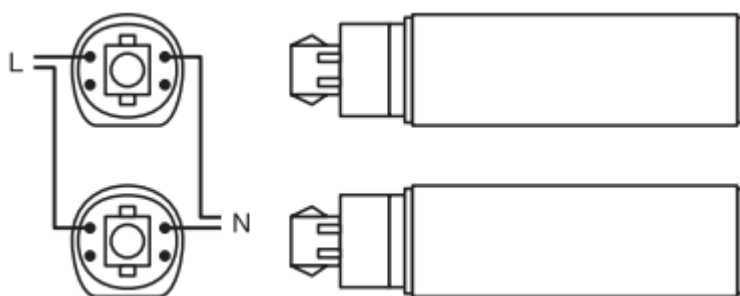
## 4. Connection diagrams DULUX LED

The same work steps for conversion can be followed for LEDVANCE DULUX LED lamps. For AC mains connection please note the following layouts:

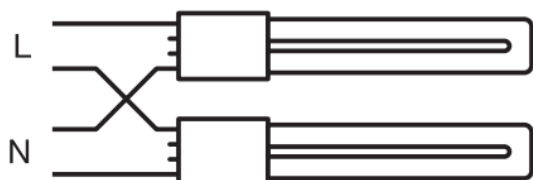
### DULUX LED D & T



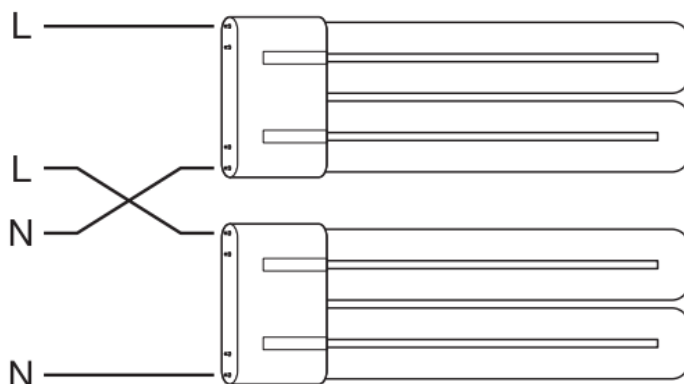
### DULUX LED D/E & T/E



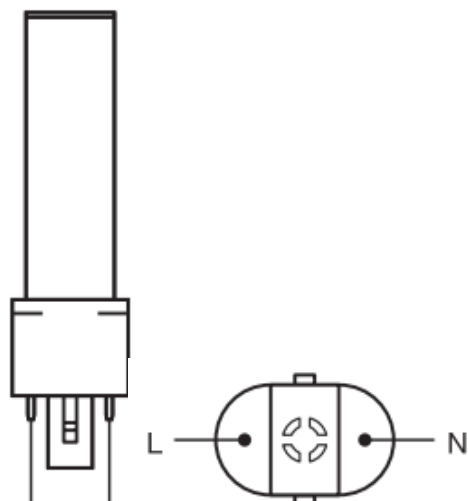
### DULUX LED L



### DULUX LED F



### DULUX LED S



## ABOUT LEDVANCE

With offices in more than 50 countries and business activities in more than 140 countries, LEDVANCE is one of the world's leading general lighting providers for professional users and end consumers. Having emerged from the general lighting business of OSRAM GmbH, LEDVANCE offers a wide-ranging assortment of LED luminaires for a broad spectrum of application areas, intelligent lighting products for Smart Homes and Buildings, one of the largest LED lamps portfolios in the industry as well as traditional light sources



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Subject to change without notice. Errors and omission excepted.

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