

# PRODUCT DATASHEET

## SubstiTUBE T5 AC HE21 10 W/4000 K 849.00 mm

SUBSTITUBE T5 220-240V AC | LED tubes for operation on AC mains connection



### Areas of application

- Offices, public buildings
- Supermarkets and department stores
- Industry
- General illumination within ambient temperatures from -20...+45 °C

### Product benefits

- No bending thanks to glass technology
- Shatter protection thanks to special PET coating
- High luminous flux for sophisticated lighting tasks

### Product features

- LED replacement for T5 fluorescent lamps with G5 base on AC mains
- Lamp tube made of glass with splinter protection e.g. for food industry applications
- High color consistency:  $\leq 5$  SDCM
- Lifetime: up to 50,000 h



- Low flicker according to EU 2019/2020
- Type of protection: IP20

## TECHNICAL DATA

### Electrical data

|                                                                  |          |
|------------------------------------------------------------------|----------|
| Nominal wattage                                                  | 10 W     |
| Construction wattage                                             | 10.00 W  |
| Nominal voltage                                                  | 220 V    |
| Claimed equiv. conventional lamp power                           | 21 W     |
| Nominal current                                                  | 72 mA    |
| Type of current                                                  | AC       |
| Inrush current                                                   | 4.96 A   |
| Operating frequency                                              | 50/60 Hz |
| Mains frequency                                                  | 50/60 Hz |
| Max. lamp no. on circuit break. 10 A (B)                         | 97       |
| Max. lamp no. on circuit break. B10 A - CCG without compensation | 101      |
| Max. lamp no. on circuit break. 16 A (B)                         | 155      |
| Max. lamp no. on circuit break. B16 A - CCG without compensation | 162      |
| Total harmonic distortion                                        | < 20 %   |
| Power factor $\lambda$                                           | > 0.90   |

### Photometrical data

|                                         |               |
|-----------------------------------------|---------------|
| Luminous flux                           | 1500 lm       |
| Luminous efficacy                       | 150 lm/W      |
| Lumen main.fact.at end of nom.life time | 0.70          |
| Light color (designation)               | Cool White    |
| Color temperature                       | 4000 K        |
| Color rendering index Ra                | 80            |
| Light color                             | 840           |
| Standard deviation of color matching    | $\leq 5$ sdcn |
| Rated LLMF at 6,000 h                   | 0.80          |
| Flickering metric (Pst LM)              | 1             |
| Stroboscope effect metric (SVM)         | 0.4           |





### Light technical data

|                                    |          |
|------------------------------------|----------|
| Beam angle                         | 160 °    |
| Warm-up time (60 %)                | < 2.00 s |
| Starting time                      | < 0.5 s  |
| Rated beam angle (half peak value) | 160.00 ° |

### Dimensions & Weight

|                  |           |
|------------------|-----------|
| Overall length   | 849.00 mm |
| Diameter         | 19.00 mm  |
| Tube diameter    | 16 mm     |
| Maximum diameter | 19 mm     |
| Product weight   | 113.00 g  |

### Temperatures & operating conditions

|                                      |              |
|--------------------------------------|--------------|
| Ambient temperature range            | -20...+45 °C |
| Maximum temperature at tc test point | 65 °C        |

### Lifespan

|                                     |         |
|-------------------------------------|---------|
| Lifespan                            | 50000 h |
| Number of switching cycles          | 50000   |
| Lumen maintenance at end of serv    | 0.70    |
| Rated lamp survival factor at 6,000 | ≥ 0.90  |

### Additional product data

|                             |    |
|-----------------------------|----|
| Base (standard designation) | G5 |
|-----------------------------|----|

|                 |        |
|-----------------|--------|
| Mercury content | 0.0 mg |
|-----------------|--------|

### Capabilities

|          |    |
|----------|----|
| Dimmable | No |
|----------|----|

### Certificates & Standards

|                                              |                 |
|----------------------------------------------|-----------------|
| Energy efficiency class                      | D <sup>1)</sup> |
| Energy consumption                           | 10.00 kWh/1000h |
| Type of protection                           | IP20            |
| Standards                                    | CE              |
| Photobiological safety group acc. to EN62778 | RG0             |

<sup>1)</sup> Energy efficiency class (EEC) on a scale of A (highest efficiency) to G (lowest efficiency)

### Country-specific categorizations

|                 |                 |
|-----------------|-----------------|
| Order reference | LEDTUBE T5 AC H |
|-----------------|-----------------|

### LOGISTICAL DATA

|                              |              |
|------------------------------|--------------|
| Temperature range at storage | -20...+80 °C |
|------------------------------|--------------|

### Energy labelling regulation data acc EU 2019/2015

|                                                     |              |
|-----------------------------------------------------|--------------|
| Lighting technology used                            | LED          |
| Non-directional or directional                      | NDLS         |
| Mains or non-mains                                  | MLS          |
| Light source cap-type (or other electric interface) | G5           |
| Connected light source (CLS)                        | No           |
| Color-tuneable light source                         | No           |
| Envelope                                            | No           |
| High luminance light source                         | No           |
| Anti-glare shield                                   | No           |
| Correlated colour temperature type                  | SINGLE_VALUE |
| Claim of equivalent power                           | No           |
| Length                                              | 849.00 mm    |
| Height                                              | 19.00 mm     |
| Width                                               | 19.00 mm     |
| Chromaticity coordinate x                           | 0.382        |
| Chromaticity coordinate y                           | 0.380        |
| R9 Colour rendering index                           | 0.00         |

|                                                      |            |
|------------------------------------------------------|------------|
| Beam angle correspondence                            | SPHERE_360 |
| Survival factor                                      | 0.90       |
| Displacement factor                                  | 0.90       |
| LED light source replaces a fluorescent light source | yes        |
| EPREL ID                                             | 1168777    |
| Model number                                         | AC41523    |

### Safety advice

- Not suitable for operation with electronic control gear.
- Operation in outdoor applications in suitable damp-proof luminaires possible according to data sheet and installation instruction.
- The operating temperature range of LED tube is restricted. In case of doubt regarding suitability of the application please measure Tc max temperature on the product prior to installation.

### DOWNLOAD DATA

| DOWNLOAD DATA                                                                      |                      |
|------------------------------------------------------------------------------------|----------------------|
|    | User instruction     |
|  | Installation guide   |
|  | Installation guide   |
|  | IES file (IES)       |
|  | LDT file (Eulumdat)  |
|  | UGR file (UGR table) |

### LOGISTICAL DATA

| Product code  | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Gross weight | Volume                |
|---------------|------------------------------|--------------------------------------|--------------|-----------------------|
| 4058075771765 | Sleeve<br>1                  | 865 mm x 20 mm x 24 mm               | 128.00 g     | 0.42 dm <sup>3</sup>  |
| 4058075771772 | Shipping box<br>10           | 918 mm x 153 mm x 80 mm              | 1624.00 g    | 11.24 dm <sup>3</sup> |

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

**DISCLAIMER**

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.