

## PRODUCT DATASHEET

# SubstiTUBE T8 UN Pro Ultra Output 23 W/6500 K 1500 mm

SubstiTUBE T8 UNIVERSAL PRO ULTRA OUTPUT | LED tubes for electronic control gears (ECG), electromagnetic control gears (CCG) and mains, shatterproof



### Areas of application

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

### Product benefits

- No bending thanks to glass technology
- Shatter protection thanks to special PET coating
- Also suitable for operation at low temperatures
- High luminous flux for sophisticated lighting tasks
- Easy installation

### Product features

- T8 LED tube made of glass with G13 base
- Compatible with conventional and many common electronic control gears (see also compatibility list) and line voltage
- Low flicker according to EU 2019/2020
- Lamp tube made of glass with splinter protection e.g. for food industry applications
- Mercury-free and RoHS compliant



- Type of protection: IP20
- Lifetime up to 60,000 h

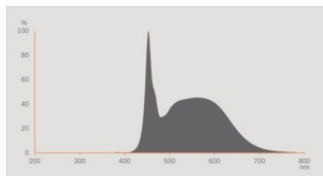
## TECHNICAL DATA

### Electrical data

|  |                    |
|--|--------------------|
| Nominal wattage  | 23 W               |
| Construction wattage                                     | 23.00 W            |
| Nominal voltage  | 220...240 V        |
| Operating mode   | ECG, CCG, AC Mains |
| Nominal current  | 125 mA             |
| Type of current  | AC                 |
| Inrush current   | 15 A               |
| Operating frequency                                      | 50/60 Hz           |
| Mains frequency  | 50/60 Hz           |
| Max. lamp number on MCB B10 A                            | 65                 |
| Max. lamp number on MCB B10 A - CCG without compensation | 65                 |
| Max. lamp number on MCB B10 A - CCG with compensation    | 25                 |
| Max. lamp number on MCB B16 A                            | 100                |
| Max. lamp number on MCB B16 A - CCG without compensation | 100                |
| Max. lamp number on MCB B16 A - CCG with compensation    | 35                 |
| Total harmonic distortion                                | < 20 %             |
| Power factor $\lambda$                                   | > 0.90             |

### Photometrical data

|   |                     |
|---|---------------------|
| Luminous flux                           | 3700 lm             |
| Luminous efficacy                       | 160 lm/W            |
| Lumen main.fact.at end of nom.life time | 0.70                |
| Light color (designation)               | Cool Daylight       |
| Color temperature                       | 6500 K              |
| Color rendering index Ra                | 83                  |
| Light color                             | 865                 |
| Standard deviation of color matching    | ≤5 sdc <sub>m</sub> |
| Flickering metric (Pst LM)              | 1.0                 |
| Stroboscope effect metric (SVM)         | 0.4                 |

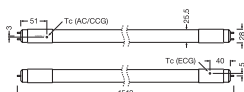


EPREL data spectral diagram PROF LEDr 6500K

Light technical data

|                     |          |
|---------------------|----------|
| Beam angle          | 190 °    |
| Warm-up time (60 %) | < 2.00 s |
| Starting time       | < 0.5 s  |

Dimensions & Weight



|   |            |
|---|------------|
| Overall length                              | 1513.10 mm |
| Length with base excl. base pins/connection | 1500.00 mm |
| Diameter                                    | 27.80 mm   |
| Tube diameter                               | 25,5 mm    |
| Maximum diameter                            | 28 mm      |
| Product weight                              | 272.00 g   |

Temperatures & operating conditions

|                                      |                     |
|--------------------------------------|---------------------|
| Ambient temperature range            | -20...+45 °C        |
| Maximum temperature at tc test point | 74 °C <sup>1)</sup> |

<sup>1)</sup> at CCG+Mains operation, ECG operation: 73°C

Lifespan

|  |         |
|--|---------|
| Lifespan L70/B50 at 25 °C                    | 60000 h |
| Number of switching cycles                   | 200000  |
| Lumen maintenance at end of service lifetime | 0.70    |

|                                       |        |
|---------------------------------------|--------|
| Rated lamp survival factor at 6,000 h | ≥ 0.90 |
|---------------------------------------|--------|

### Additional product data

|                             |        |
|-----------------------------|--------|
| Base (standard designation) | G13    |
| Mercury content             | 0.0 mg |
| Mercury-free                | Yes    |

### Capabilities

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

### Certificates & Standards

|  |                 |
|--|-----------------|
| Energy efficiency class                      | C <sup>1)</sup> |
| Energy consumption                           | 23.00 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 T8 UN P |
|-----------------|-----------------|

### 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) | G13          |
| 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  | 1513.10 mm   |



|  |            |
|--|------------|
| Height   | 27.80 mm   |
| Width  | 27.80 mm   |
| Chromaticity coordinate x                            | 0.312      |
| Chromaticity coordinate y                            | 0.328      |
| 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 | No         |
| EPREL ID   | 519438     |
| Model number   | AC33875    |

### Safety advice

- 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 temperature on the product prior to installation.
- For operation of LED TUBE T8 UN with a conventional control gear, the existing starter must be exchanged with the including LED starter in the LED tube packaging.
- All electrical connections must be made by a qualified person.
- Not suitable for emergency lighting.

### DOWNLOAD DATA

| Documents and certificates   |  | Document name                    |
|--|--|----------------------------------|
|  | User instruction / safety instructions | SubstiTUBE T8 Universal LED tube |
|  | Extended installation guide            | SubstiTUBE® T8 T5                |
|  | Declarations of conformity             | T8 UN tube series                |
|  | Declarations of conformity UKCA        | LEDTUBE T8 and T5                |
| Photometric and lighting design files  |  | Document name                    |
|  | IES file (IES)                         | ST8PROU 1.5M 23W 865 UN OSRAM    |
|  | LDT file (Eulumdat)                    | ST8PROU 1.5M 23W 865 UN OSRAM    |
|  | Light distribution curve type polar    | ST8PROU 1.5M 23W 865 UN OSRAM    |

| Photometric and lighting design files  | Document name                               |
|--|---|
|  Light distribution curve type polar | ST8PROU 1.5M 23W 865 UN OSRAM               |
|  Spectral power distribution        | EPREL data spectral diagram PROF LEDr 6500K |

**LOGISTICAL DATA**

| Product code  | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Gross weight | Volume                |
|---------------|------------------------------|--------------------------------------|--------------|-----------------------|
| 4058075546875 | Sleeve<br>1                  | 1,605 mm x 29 mm x 29 mm             | 306.00 g     | 1.35 dm <sup>3</sup>  |
| 4058075546882 | Shipping box<br>10           | 1,652 mm x 210 mm x 115 mm           | 3900.00 g    | 39.90 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.