

## PRODUCT DATASHEET

### SubstiTUBE T8 HF Pro 20 W/3000 K 1500 mm

SubstiTUBE T8 HF PRO | LED tubes for electronic high frequency control gears (ECG), shatterproof



#### Areas of application

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

#### Product benefits

- Quick, simple and safe replacement without rewiring
- Shatter protection thanks to special PET coating
- Also suitable for operation at low temperatures
- High luminous flux for sophisticated lighting tasks
- No bending thanks to glass technology

#### Product features

- T8 LED tube made of glass with G13 base
- 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



- Compatible with many common electronic control gears (see also compatibility list)

TECHNICAL DATA

Electrical data

|                           |             |
|---------------------------|-------------|
| Nominal wattage           | 20 W        |
| Construction wattage      | 20.00 W     |
| Nominal voltage           | 40...70 V   |
| Operating mode            | ECG         |
| Nominal current           | 110 mA      |
| Type of current           | AC          |
| Inrush current            | 22 A        |
| Operating frequency       | 20...75 kHz |
| Mains frequency           | 20...75 kHz |
| Total harmonic distortion | < 20 %      |
| Power factor $\lambda$    | > 0.90      |

Photometrical data

|                                         |                     |
|-----------------------------------------|---------------------|
| Luminous flux                           | 2800 lm             |
| Luminous efficacy                       | 140 lm/W            |
| Lumen main.fact.at end of nom.life time | 0.70                |
| Light color (designation)               | Warm White          |
| Color temperature                       | 3000 K              |
| Color rendering index Ra                | 83                  |
| Light color                             | 830                 |
| Standard deviation of color matching    | ≤5 sdc <sub>m</sub> |
| Flickering metric (Pst LM)              | ≤1                  |
| Stroboscope effect metric (SVM)         | ≤0,4                |



EPREL data spectral diagram PROF  
LEDr 3000K

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   |
| Product weight                              | 248.00 g   |

Temperatures & operating conditions

|                                      |              |
|--------------------------------------|--------------|
| Ambient temperature range            | -20...+45 °C |
| Maximum temperature at tc test point | 78 °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 | E 1)            |
| Energy consumption      | 22.00 kWh/1000h |
| Type of protection      | IP20            |
| Standards               | CE              |

|                                              |     |
|----------------------------------------------|-----|
| Photobiological safety group acc. to EN62778 | RG0 |
|----------------------------------------------|-----|

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

### Country-specific categorizations

|                 |                 |
|-----------------|-----------------|
| Order reference | LEDTUBE T8 HF 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                                   | NMLS         |
| 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                            | 0.433        |
| Chromaticity coordinate y                            | 0.403        |
| 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                                             | 519423       |
| Model number                                         | AC33860      |

### Safety advice

– Not suitable for operation with low-loss and conventional control gears and main voltage.

- 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.
- 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 | LEDTUBE T8 HF LED tube                      |
|    | Extended installation guide            | SubstiTUBE® T8 T5                           |
|    | Declarations of conformity             | T8 HF tube series                           |
|    | Declarations of conformity UKCA        | LEDTUBE T8 and T5                           |
| Photometric and lighting design files                                              |                                        | Document name                               |
|   | IES file (IES)                         | ST8PRO 1.5M 20W 830 40-70VHF OSRAM          |
|  | LDT file (Eulumdat)                    | ST8PRO 1.5M 20W 830 40-70VHF OSRAM          |
|  | Light distribution curve type polar    | ST8PRO 1.5M 20W 830 40-70VHF OSRAM          |
|  | Spectral power distribution            | EPREL data spectral diagram PROF LEDr 3000K |

## LOGISTICAL DATA

| Product code  | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Gross weight | Volume                |
|---------------|------------------------------|--------------------------------------|--------------|-----------------------|
| 4058075545229 | Sleeve<br>1                  | 1,520 mm x 31 mm x 31 mm             | 277.00 g     | 1.46 dm <sup>3</sup>  |
| 4058075545236 | Shipping box<br>10           | 1,572 mm x 210 mm x 115 mm           | 3542.00 g    | 37.96 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

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