

## PRODUCT DATASHEET

# SubstiTUBE T8 UN Pro Ultra Output 23 W/4000 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

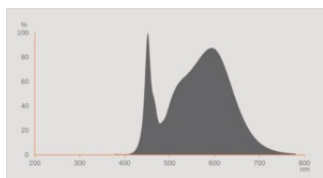
## TECHNICAL DATA

### 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 no. on circuit break. 10 A (B)	65
Max. lamp no. on circuit break. B10 A - CCG without compensation	65
Max. lamp no. on circuit break. B10 A - CCG with compensation	25
Max. lamp no. on circuit break. 16 A (B)	100
Max. lamp no. on circuit break. B16 A - CCG without compensation	100
Max. lamp no. on circuit break. 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 White
Color temperature	4000 K
Color rendering index Ra	83
Light color	840
Standard deviation of color matching	$\leq 5$ sdc <sub>m</sub>
Flickering metric (Pst LM)	1.0
Stroboscope effect metric (SVM)	0.4



### 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
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**Certificates & Standards**

Energy efficiency class	C 1)
Energy consumption	23.00 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 UN P
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**LOGISTICAL DATA**

Temperature range at storage	-20...+80 °C
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**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	0.381
Chromaticity coordinate y	0.379
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	519437
Model number	AC33874

### 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 max temperature on the product prior to installation.
- For operation of LEDTUBE T8 UN with a conventional control gear, the existing starter must be exchanged with the including LED starter in the LED tube packaging.

### DOWNLOAD DATA

Documents and certificates	
	User instruction
	Installation guide
	Declarations Of Conformity CE
	Declarations Of Conformity UKCA
Photometric and lighting design files	
	IES file (IES)
	LDT file (Eulumdat)
	LDC typ polar
	Spectral power distribution

**LOGISTICAL DATA**

Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
4058075546851	Sleeve 1	1,605 mm x 29 mm x 29 mm	306.00 g	1.35 dm <sup>3</sup>
4058075546868	Shipping box 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.