

## PRODUCT DATASHEET

### ST8MS-EM 20.6 W/4000 K 1500 mm EM

SubstiTUBE T8 EM MOTION SENSOR | LED tubes with integrated microwave sensor for electromagnetic control gears (CCG), shatterproof



#### Areas of application

- General illumination within ambient temperatures from -20...+50 °C
- Corridors, stairways, parking garages
- Warehouses
- Walkways and corridors
- Storage rooms
- Logistics areas, transport facilities and corridors
- Car parks

#### Product benefits

- Suitable for closed luminaires thanks to microwave technology
- No bending thanks to glass tube
- Shatter protection thanks to special PET coating
- Support the implementation of the HACCP concepts from production through to presentation
- Very high resistance to switching loads
- Energy savings of up to 90 % compared to conventional fluorescent lamp
- Quick, simple and safe replacement of fluorescent lamps without rewiring the CCG
- Also suitable for operation at low temperatures

#### Product features

- LED replacement for classic T8 fluorescent lamps with G13 socket for use in CCG luminaires or on AC mains
- Integrated microwave sensor with motion detection
- Automatic dimming to 20 % light output after 5 minutes without motion detection
- Automatic light switch off 7 minutes after the last motion detection



- Microwave sensor with 5,8 GHz
- Motion detection up to 5 m
- Low flicker according to EU 2019-2020 ( $SVM \leq 0.4$  /  $PstLM \leq 1$ )

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**TECHNICAL DATA****Electrical data**

Nominal wattage	20.6 W
Construction wattage	20.60 W
Nominal voltage	220...240 V
Operating mode	Conventional control gear (CCG), Line voltage
Nominal current	95 mA
Type of current	AC
Inrush current	6.72 A
Operating frequency	50...60 Hz
Mains frequency	50...60 Hz
Max. lamp number on MCB B10 A	47
Max. lamp number on MCB B10 A - CCG without compensation	47
Max. lamp number on MCB B10 A - CCG with compensation	8
Max. lamp number on MCB B16 A	76
Max. lamp number on MCB B16 A - CCG without compensation	76
Max. lamp number on MCB B16 A - CCG with compensation	14
Total harmonic distortion	< 20 %
Power factor $\lambda$	> 0.90

**Photometrical data**

Luminous flux	3100 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	83
Light color	840
Standard deviation of color matching	≤5 sdcn
Flickering metric (Pst LM)	1
Stroboscope effect metric (SVM)	0,9

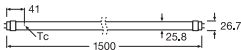


EPREL data spectral diagram PROF  
LEDr 4000K

Light technical data

Beam angle	190 °
Warm-up time (60 %)	< 0.50 s
Starting time	< 0.5 s

Dimensions & Weight



Overall length	1513.00 mm
Length with base excl. base pins/connection	1500 mm
Diameter	26.70 mm
Tube diameter	25.8 mm
Base diameter	26,7 mm
Maximum diameter	27 mm
Product weight	275.00 g

Temperatures & operating conditions

Ambient temperature range	-20...+50 °C
Maximum temperature at tc test point	70 °C

Lifespan

Lifespan L70/B50 at 25 °C	50000 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 &amp; Standards

Energy efficiency class	D <sup>1)</sup>
Energy consumption	21.00 kWh/1000h
Type of protection	IP20
Standards	CE; VDE
Photobiological safety group acc. to EN62778	RG0

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

## Country-specific categorizations

Order reference	ST8MS-1.5M 20,6
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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
Standby power	0 W
Networked standby power for CLS	0 W
Claim of equivalent power	No
Length	1513.00 mm

Height	26.70 mm
Width	26.70 mm
Chromaticity coordinate x	0,3818
Chromaticity coordinate y	0,3797
R9 Colour rendering index	0.00
Beam angle correspondence	SPHERE_360
Survival factor	0,90
Displacement factor	0,9
LED light source replaces a fluorescent light source	Yes
EPREL ID	1403005
Model number	AC17921






## EQUIPMENT / ACCESSORIES

- Suitable for operation with low-loss and conventional control gears

## 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.
- Recommended maximum mounting height: 5 m
- Disconnect mains before installation.
- Not suitable for emergency lighting.

## DOWNLOAD DATA

Documents and certificates		Document name
	User instruction / safety instructions	SubstiTUBE MOTION SENSOR
	Extended installation guide	SubstiTUBE® T8 T5
	Declarations of conformity	LED SubstiTUBE T8 EM Food & MS
	Declarations of conformity	CE Declaration ST8MS 1,5M
Photometric and lighting design files		Document name
	Spectral power distribution	EPREL data spectral diagram PROF LEDr 4000K

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## LOGISTICAL DATA

Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
4058075292451	Sleeve 1	1,612 mm x 36 mm x 29 mm	377.00 g	1.68 dm <sup>3</sup>
4058075292468	Shipping box 8	1,660 mm x 182 mm x 125 mm	4892.00 g	37.77 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.

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## References / Links

– For current information see [www.ledvance.com/substitute](http://www.ledvance.com/substitute)

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## Legal advice

– When used to replace a T8 fluorescent lamp the total energy efficiency and light distribution depends on the design of the lighting system.

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## DISCLAIMER

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