

# PRODUCT FAMILY DATASHEET

## SubstiTUBE STAR PC

Economic LED tubes for electromagnetic control gears



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### AREAS OF APPLICATION

- Corridors, stairways, parking garages
- Cooling and storage rooms
- Warehouses
- Domestic applications
- General illumination within ambient temperatures from -20...+45 °C

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### PRODUCT BENEFITS

- Extremely break resistant thanks to cover made of polycarbonate
- High color homogeneity
- Energy savings of up to 68 % compared to conventional 1,500 mm T8 fluorescent lamp
- Instant flickerfree starting

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### PRODUCT FEATURES

- T8 LED tube with G13 base
- Mercury-free and RoHS compliant
- Luminous efficacy: up to 105 lm/W
- Type of protection: IP20



TECHNICAL DATA

Product description	Electrical data								
	Rated wattage	Nominal voltage	Operating frequency	Nominal wattage	Nominal current	Type of current	Max. lamp no. on circuit break. B16 A - CCG with compensation	Max. lamp no. on circuit break. B10 A - CCG with compensation	Max. lamp no. on circuit break. B16 A - CCG without compensation
ST8SP-EM 7.6 W/3000K 600 mm EM	7.60 W	220...240 V	50...60 Hz	7.60 W	0.035 A	AC	32	20	333
ST8SP-EM 7.6 W/4000K 600 mm EM	7.60 W	220...240 V	50...60 Hz	7.60 W	0.035 A	AC	32	20	333
ST8SP-EM 7.6 W/6500K 600 mm EM	7.60 W	220...240 V	50...60 Hz	7.60 W	0.035 A	AC	32	20	333
ST8SP-EM 16.2 W/3000K 1200 mm EM	16.20 W	220...240 V	50...60 Hz	16.20 W	0.075 A	AC	32	20	157
ST8SP-EM 16.2 W/4000K 1200 mm EM	16.20 W	220...240 V	50...60 Hz	16.20 W	0.075 A	AC	32	20	157
ST8SP-EM 16.2 W/6500K 1200 mm EM	16.20 W	220...240 V	50...60 Hz	16.20 W	0.075 A	AC	32	20	157
ST8SP-EM 19.1 W/3000K 1500 mm EM	19.10 W	220...240 V	50...60 Hz	19.10 W	0.09 A	AC	22	14	136
ST8SP-EM 19.1 W/4000K 1500 mm EM	19.10 W	220...240 V	50...60 Hz	19.10 W	0.088 A	AC	22	14	136
ST8SP-EM 19.1 W/6500K 1500 mm EM	19.10 W	220...240 V	50...60 Hz	19.10 W	0.09 A	AC	22	14	136
ST8SP-EM 24 W/4000K 1800 mm EM	24.00 W	220...240 V	50...60 Hz	24.00 W	0.15 A	AC			
ST8SP-EM 24 W/6500K 1800 mm EM	24.00 W	220...240 V	50...60 Hz	24.00 W	0.15 A	AC			

Product description						Photometrical data			
	Max. lamp no. on circuit break. B10 A - CCG without compensation	Max. lamp no. on circuit break. 10 A (B)	Max. lamp no. on circuit break. 16 A (B)	Total harmonic distortion	Color temperature	Nominal luminous flux	Rated luminous flux	Lumen main.fact.at end of nom.life time	
ST8SP-EM 7.6 W/3000K 600 mm EM	208	208	333	< 20 %	3000 K	720 lm	720 lm	0.70	
ST8SP-EM 7.6 W/4000K 600 mm EM	208	208	333	< 20 %	4000 K	800 lm	800 lm	0.70	
ST8SP-EM 7.6 W/6500K 600 mm EM	208	208	333	< 20 %	6500 K	800 lm	800 lm	0.70	
ST8SP-EM 16.2 W/3000K 1200 mm EM	98	98	157	< 20 %	3000 K	1530 lm	1530 lm	0.70	
ST8SP-EM 16.2 W/4000K 1200 mm EM	98	98	157	< 20 %	4000 K	1700 lm	1700 lm	0.70	
ST8SP-EM 16.2 W/6500K 1200 mm EM	98	98	157	< 20 %	6500 K	1700 lm	1700 lm	0.70	

Product description	Max. lamp no. on circuit break. B10 A - CCG without compensation	Max. lamp no. on circuit break. 10 A (B)	Max. lamp no. on circuit break. 16 A (B)	Total harmonic distortion	Photometrical data			
					Color temperature	Nominal luminous flux	Rated luminous flux	Lumen main.fact.at end of nom.life time
ST8SP-EM 19.1 W/3000K 1500 mm EM	85	85	136	< 20 %	3000 K	1800 lm	1800 lm	0.70
ST8SP-EM 19.1 W/4000K 1500 mm EM	85	85	136	< 20 %	4000 K	2000 lm	2000 lm	0.70
ST8SP-EM 19.1 W/6500K 1500 mm EM	85	85	136	< 20 %	6500 K	2000 lm	2000 lm	0.70
ST8SP-EM 24 W/4000K 1800 mm EM					4000 K	2600 lm	2600 lm	0.70
ST8SP-EM 24 W/6500K 1800 mm EM					6500 K	2600 lm	2600 lm	0.70

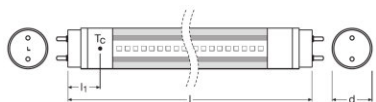
Product description	Light color (designation)	Color temperature	Luminous flux	Color rendering index Ra	Light technical data			Dimensions & weight			Temperatures & operating conditions
					Starting time	Rated beam angle (half peak value)	Warm-up time (60 %)	Tube diameter	Product weight	Overall length	Ambient temperature range
ST8SP-EM 7.6 W/3000K 600 mm EM	Warm White	3000 K	720 lm	≥80	< 0.5 s	190.00 °	< 0.50 s	27.2 mm	63.00 g	603.0 mm	-20...+45 °C
ST8SP-EM 7.6 W/4000K 600 mm EM	Cool White	4000 K	800 lm	≥80	< 0.5 s	190.00 °	< 0.50 s	27.2 mm	66.00 g	603.0 mm	-20...+45 °C
ST8SP-EM 7.6 W/6500K 600 mm EM	Cool Daylight	6500 K	800 lm	>80	< 0.5 s	160.00 °	< 0.50 s	27.2 mm	63.00 g	603.0 mm	-20...+45 °C
ST8SP-EM 16.2 W/3000K 1200 mm EM	Warm White	3000 K	1530 lm	≥80	< 0.5 s	190.00 °	< 0.50 s	27.2 mm	115.00 g	1212 mm	-20...+45 °C
ST8SP-EM 16.2 W/4000K 1200 mm EM	Cool White	4000 K	1700 lm	>80	< 0.5 s	160.00 °	< 0.50 s	27.2 mm	120.00 g	1212 mm	-20...+45 °C
ST8SP-EM 16.2 W/6500K 1200 mm EM	Cool Daylight	6500 K	1700 lm	>80	< 0.5 s	160.00 °	< 0.50 s	27.2 mm	115.00 g	1212 mm	-20...+45 °C
ST8SP-EM 19.1 W/3000K 1500 mm EM	Warm White	3000 K	1800 lm	≥80	< 0.5 s	190.00 °	< 0.50 s	27.2 mm	139.00 g	1513 mm	-20...+45 °C
ST8SP-EM 19.1 W/4000K 1500 mm EM	Cool White	4000 K	2000 lm	≥80	< 0.5 s	190.00 °	< 0.50 s	27.2 mm	148.00 g	1513 mm	-20...+45 °C
ST8SP-EM 19.1 W/6500K 1500 mm EM	Cool Daylight	6500 K	2000 lm	>80	< 0.5 s	160.00 °	< 0.50 s	27.2 mm	139.00 g	1513 mm	-20...+45 °C
ST8SP-EM 24 W/4000K 1800 mm EM	Cool White	4000 K	2600 lm	>80	< 1.0 s	130.00 °	< 1.00 s	27.5 mm	320.00 g	1777 mm	-20...+45 °C

Product description	Light color (designation)	Color temperature	Luminous flux	Color rendering index Ra	Light technical data			Dimensions & weight			Temperatures & operating conditions
					Starting time	Rated beam angle (half peak value)	Warm-up time (60 %)	Tube diameter	Product weight	Overall length	Ambient temperature range
ST8SP-EM 24 W/6500K 1800 mm EM	Cool Daylight	6500 K	2600 lm	>80	< 1.0 s	130.00 °	< 1.00 s	27.5 mm	320.00 g	1777 mm	-20...+45 °C

Product description	Maximum temperature at tc test point	Lifespan		Additional product data		Capabilities	Certificates & standards	Country-specific categorizations
		Nominal lamp life time	Number of switching cycles	Base (standard designation)	Mercury-free	Dimmable	Type of protection	ILCOS
ST8SP-EM 7.6 W/3000K 600 mm EM	65 °C	30000 h	200000	G13	Yes	No	IP20	DR-7.6/830-G13-27.5/600
ST8SP-EM 7.6 W/4000K 600 mm EM	65 °C	30000 h	200000	G13	Yes	No	IP20	DR-7.6/840-G13-27.5/600
ST8SP-EM 7.6 W/6500K 600 mm EM	65 °C	30000 h	200000	G13	Yes	No	IP20	DR-7.6/865-G13-27.5/600
ST8SP-EM 16.2 W/3000K 1200 mm EM	75 °C	30000 h	200000	G13	Yes	No	IP20	DR-16.2/830-G13-27.2/1200
ST8SP-EM 16.2 W/4000K 1200 mm EM	75 °C	30000 h	200000	G13	Yes	No	IP20	DR-16.2/840-G13-27.2/1200
ST8SP-EM 16.2 W/6500K 1200 mm EM	75 °C	30000 h	200000	G13	Yes	No	IP20	DR-16.2/865-G13-27.2/1200
ST8SP-EM 19.1 W/3000K 1500 mm EM	75 °C	30000 h	200000	G13	Yes	No	IP20	DR-19.1/830-G13-27.2/1500
ST8SP-EM 19.1 W/4000K 1500 mm EM	75 °C	30000 h	200000	G13	Yes	No	IP20	DR-19.1/840-G13-25.5/1500

Product description	Maximum temperature at tc test point	Lifespan		Additional product data		Capabilities	Certificates & standards	Country-specific categorizations
		Nominal lamp life time	Number of switching cycles	Base (standard designation)	Mercury-free	Dimmable	Type of protection	ILCOS
ST8SP-EM 19.1 W/6500K 1500 mm EM	75 °C	30000 h	200000	G13	Yes	No	IP20	DR-19.1/865-G13-27.2/1500
ST8SP-EM 24 W/4000K 1800 mm EM		30000 h	200000	G13	Yes	No	IP20	DR-24/840-G13-27.5/1700
ST8SP-EM 24 W/6500K 1800 mm EM		30000 h	200000	G13	Yes	No	IP20	DR-24/865-G13-27.5/1700

Product description	Logistical data
	Temperature range at storage
ST8SP-EM 7.6 W/3000K 600 mm EM	-20...+80 °C
ST8SP-EM 7.6 W/4000K 600 mm EM	-20...+80 °C
ST8SP-EM 7.6 W/6500K 600 mm EM	-20...+80 °C
ST8SP-EM 16.2 W/3000K 1200 mm EM	-20...+80 °C
ST8SP-EM 16.2 W/4000K 1200 mm EM	-20...+80 °C
ST8SP-EM 16.2 W/6500K 1200 mm EM	-20...+80 °C
ST8SP-EM 19.1 W/3000K 1500 mm EM	-20...+80 °C
ST8SP-EM 19.1 W/4000K 1500 mm EM	-20...+80 °C
ST8SP-EM 19.1 W/6500K 1500 mm EM	-20...+80 °C
ST8SP-EM 24 W/4000K 1800 mm EM	-20...+80 °C
ST8SP-EM 24 W/6500K 1800 mm EM	-20...+80 °C



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ST8SP-EM 19.1 W/3000K 1500 mm EM,  
ST8SP-EM 19.1 W/4000K 1500 mm EM,  
ST8SP-EM 19.1 W/6500K 1500 mm EM,  
ST8SP-EM 24 W/4000K 1800 mm EM,  
ST8SP-EM 24 W/6500K 1800 mm EM

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#### EQUIPMENT / ACCESSORIES

- Suitable for operation on magnetic control gear

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#### SAFETY ADVICE

Operation in outdoor applications in suitable damp-proof luminaires possible according to data sheet and installation instruction.

## APPLICATION ADVICE

For more detailed application information and graphics please see product datasheet.

## LOGISTICAL DATA

Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
4058075820203	Shipping carton box 8	724 mm x 148 mm x 88 mm	1095.00 g	9.43 dm <sup>3</sup>
4058075820241	Shipping carton box 8	724 mm x 148 mm x 88 mm	1188.00 g	9.43 dm <sup>3</sup>
4058075820227	Shipping carton box 8	724 mm x 148 mm x 88 mm	1095.00 g	9.43 dm <sup>3</sup>
4058075820265	Shipping carton box 8	1335 mm x 148 mm x 88 mm	1907.00 g	17.39 dm <sup>3</sup>
4058075820364	Shipping carton box 8	1335 mm x 148 mm x 88 mm	1907.00 g	17.39 dm <sup>3</sup>
4058075820289	Shipping carton box 8	1335 mm x 148 mm x 88 mm	1907.00 g	17.39 dm <sup>3</sup>
4058075820302	Shipping carton box 8	1629 mm x 148 mm x 88 mm	2510.00 g	21.22 dm <sup>3</sup>
4058075820326	Shipping carton box 8	1629 mm x 148 mm x 88 mm	2409.00 g	21.22 dm <sup>3</sup>
4058075820340	Shipping carton box 8	1629 mm x 148 mm x 88 mm	2409.00 g	21.22 dm <sup>3</sup>
4058075069183	Shipping carton box 25	1918 mm x 163 mm x 175 mm	10234.00 g	54.71 dm <sup>3</sup>
4058075069206	Shipping carton box 25	1918 mm x 163 mm x 175 mm	10200.00 g	54.71 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.

#### 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.