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## SubstiTUBE Advanced

LED tubes for electromagnetic control gears

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### Areas of application

- General illumination within ambient temperatures from -25...+50 °C
- Illumination of production areas
- Traffic zones and corridors
- Supermarkets and department stores
- Industry

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### Product benefits

- Quick, simple and safe replacement without rewiring
- Energy savings of up to 60 % (compared to T8 fluorescent lamp on CCG)
- Instant-on light, therefore ideally suitable in combination with sensor technology
- Maximum resistance to switching loads
- Correct operation even at low temperatures
- Extremely break resistant thanks to aluminum heat sink and polycarbonate cover

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### Product features

- LED alternative to classic T8 fluorescent lamps in CCG luminaires
- Bright, robust and durable
- Uniform illumination
- Wide beam angle: 130°
- Mercury-free and RoHS compliant
- Type of protection: IP20
- Integrated ECG with high power factor



# Product family datasheet

## Technical data

Product description	Electrical data					Photometrical data			Light technical data	Dimensions & weight
	Rated luminous flux	Nominal wattage	Nominal voltage	Nominal current	Type of current	Light color (designation)	Color temperature	Nominal luminous flux	Beam angle	Overall length
ST8-HA2 11 W/830 600 mm	1080 lm	11.0 W	230 V	0.05 A	AC	Warm White	3000 K	1080 lm	160 °	603.2 mm
ST8-HA2 11 W/840 600 mm	1200 lm	11.0 W	230 V	0.05 A	AC	Cool White	4000 K	1200 lm	160 °	603.2 mm
ST8-HA2 10 W/865 600 mm	1200 lm	11.0 W	230 V	0.05 A	AC	Cool Daylight	6500 K	1200 lm	160 °	603.2 mm
ST8-HA4 22 W/840 1200 mm	2500 lm	22.0 W	230 V	0.094 A		Cool White	4000 K	2500 lm	150 °	1213 mm
ST8-HA4 22 W/865 1200 mm	2500 lm	22.0 W	230 V	0.094 A		Cool Daylight	6500 K	2500 lm	150 °	1213 mm
ST8-HA5 28 W/830 1500 mm	3060 lm	28.0 W	230 V	0.126 A		Warm White	3000 K	3060 lm	150 °	1513 mm
ST8-HA5 28 W/840 1500 mm	3400 lm	28.0 W	230 V	0.126 A		Cool White	4000 K	3400 lm	150 °	1513 mm
ST8-HA5 28 W/865 1500 mm	3400 lm	28.0 W	230 V	0.126 A		Cool Daylight	6500 K	3400 lm	150 °	1513 mm
ST8-RA4 22 W/840 1200 mm Rotatable	2500 lm	22.0 W	220...240 V	0.094 A			4000 K	2500 lm	150 °	1213 mm
ST8-RA4 22 W/865 1200 mm Rotatable	2500 lm	22.0 W	220...240 V	0.094 A			6500 K	2500 lm	150 °	1213 mm
ST8-RA5 28 W/840 1500 mm Rotatable	3400 lm	28.0 W	220...240 V	0.126 A			4000 K	3400 lm	150 °	1513 mm
ST8-RA5 28 W/865 1500 mm Rotatable	3400 lm	28.0 W	220...240 V	0.126 A			6500 K	3400 lm	150 °	1513 mm

# Product family datasheet

Product description	Tube diameter	Base diameter	Product weight	Temperatures		Lifespan		
				Ambient temperature range	Temperature range in operation	Nominal lamp life time	Lumen main. fact. at end of nom. life time	Number of switching cycles
ST8-HA2 11 W/830 600 mm	27.5 mm	27.5 mm	100.00 g	-20...+45 °C	-20...75 °C <sup>1)</sup>	50000 h	0.70	200000
ST8-HA2 11 W/840 600 mm	27.5 mm	27.5 mm	100.00 g	-20...+45 °C	-20...75 °C <sup>1)</sup>	50000 h	0.70	200000
ST8-HA2 10 W/865 600 mm	27.5 mm	27.5 mm	100.00 g	-20...+45 °C	-20...75 °C <sup>1)</sup>	50000 h	0.70	200000
ST8-HA4 22 W/840 1200 mm	27.5 mm	27.5 mm	260.00 g	-20...+45 °C	-20...75 °C	50000 h	0.70	200000
ST8-HA4 22 W/865 1200 mm	27.5 mm	27.5 mm	260.00 g	-20...+45 °C	-20...75 °C	50000 h	0.70	200000
ST8-HA5 28 W/830 1500 mm	27.5 mm	27.5 mm	400.00 g	-20...+45 °C	-20...75 °C	50000 h	0.70	200000
ST8-HA5 28 W/840 1500 mm	27.5 mm	27.5 mm	400.00 g	-20...+45 °C	-20...75 °C	50000 h	0.70	200000
ST8-HA5 28 W/865 1500 mm	27.5 mm	27.5 mm	400.00 g	-20...+45 °C	-20...75 °C	50000 h	0.70	200000
ST8-RA4 22 W/840 1200 mm Rotatable	27.5 mm		280.00 g	-20...+50 °C	-20...50 °C	50000 h	0.70	200000
ST8-RA4 22 W/865 1200 mm Rotatable	27.5 mm		280.00 g	-20...+50 °C	-20...50 °C	50000 h	0.70	200000
ST8-RA5 28 W/840 1500 mm Rotatable			370.00 g	-20...+50 °C		50000 h	0.70	200000
ST8-RA5 28 W/865 1500 mm Rotatable			370.00 g	-20...+50 °C		50000 h	0.70	200000

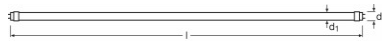
Product description	Additional product data		Capabilities	Certificates & standards	Country specific categorizations	Logistical data
	Base (standard designation)	Mercury-free	Dimmable	Energy efficiency class	ILCOS	Temperature range at storage
ST8-HA2 11 W/830 600 mm	G13	Yes	No	A+	DR-11/830-G13-27.5/590	-20...80 °C
ST8-HA2 11 W/840 600 mm	G13	Yes	No	A+	DR-11/840-G13-27.5/590	-20...80 °C
ST8-HA2 10 W/865 600 mm	G13	Yes	No	A+	DR-11/865-G13-27.5/590	-20...80 °C
ST8-HA4 22 W/840 1200 mm	G13	Yes	No	A+	DR-22/840-G13-27.5/1200	-20...80 °C

## Product family datasheet

Product description	Additional product data		Capabilities	Certificates & standards	Country specific categorizations	Logistical data
	Base (standard designation)	Mercury-free	Dimmable	Energy efficiency class	ILCOS	Temperature range at storage
ST8-HA4 22 W/865 1200 mm	G13	Yes	No	A+	DR-22/865-G13-27.5/1200	-20...80 °C
ST8-HA5 28 W/830 1500 mm	G13	Yes	No	A+	DR-28/830-G13-27.5/1500	-20...80 °C
ST8-HA5 28 W/840 1500 mm	G13	Yes	No	A+	DR-28/840-G13-27.5/1500	-20...80 °C
ST8-HA5 28 W/865 1500 mm	G13	Yes	No	A+	DR-28/865-G13-27.5/1500	-20...80 °C
ST8-RA4 22 W/840 1200 mm Rotatable	G13			A+	DR-22/840-G13-27.5/1500	
ST8-RA4 22 W/865 1200 mm Rotatable	G13			A+	DR-22/865-G13-27.5/1500	
ST8-RA5 28 W/840 1500 mm Rotatable	G13			A+	DR-28/840-G13-27.5/1500	
ST8-RA5 28 W/865 1500 mm Rotatable	G13			A+	DR-28/865-G13-27.5/1500	

<sup>1)</sup> At the T<sub>c</sub> point

## Product family datasheet



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— ST8-HA2 11 W/830 600 mm, ST8-HA2  
11 W/840 600 mm, ST8-HA2 10  
W/865 600 mm, ST8-HA4 22 W/840  
1200 mm, ST8-HA4 22 W/865 1200  
mm, ST8-HA5 28 W/830 1500 mm,  
ST8-HA5 28 W/840 1500 mm, ST8-  
HA5 28 W/865 1500 mm

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### Equipment / Accessories

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

## Product family datasheet

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### Safety advice

Not suitable for operation with electronic control gear.

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### Application advice

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

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### Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899922105	ST8-HA2 11 W/830 600 mm	Shipping carton box 25	726 mm x 191 mm x 207 mm	28.70 dm <sup>3</sup>	4612.00 g
4052899922112	ST8-HA2 11 W/840 600 mm	Shipping carton box 25	726 mm x 191 mm x 207 mm	28.70 dm <sup>3</sup>	4605.00 g
4052899922129	ST8-HA2 10 W/865 600 mm	Shipping carton box 25	726 mm x 191 mm x 207 mm	28.70 dm <sup>3</sup>	4697.00 g
4052899922143	ST8-HA4 22 W/840 1200 mm	Shipping carton box 25	1335 mm x 191 mm x 207 mm	52.78 dm <sup>3</sup>	9990.00 g
4052899922150	ST8-HA4 22 W/865 1200 mm	Shipping carton box 25	1335 mm x 191 mm x 207 mm	52.78 dm <sup>3</sup>	9623.00 g
4052899922167	ST8-HA5 28 W/830 1500 mm	Shipping carton box 25	1637 mm x 191 mm x 207 mm	64.72 dm <sup>3</sup>	13941.00 g
4052899922174	ST8-HA5 28 W/840 1500 mm	Shipping carton box 25	1637 mm x 191 mm x 207 mm	64.72 dm <sup>3</sup>	13941.00 g
4052899922181	ST8-HA5 28 W/865 1500 mm	Shipping carton box 25	1637 mm x 191 mm x 207 mm	64.72 dm <sup>3</sup>	13100.00 g

## Product family datasheet

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899934450	ST8-RA4 22 W/840 1200 mm Rotatable	Shipping carton box 25	1335 mm x 191 mm x 207 mm	52.78 dm <sup>3</sup>	10520.00 g
4052899934467	ST8-RA4 22 W/865 1200 mm Rotatable	Shipping carton box 25	1335 mm x 191 mm x 207 mm	52.78 dm <sup>3</sup>	10110.00 g
4052899934474	ST8-RA5 28 W/840 1500 mm Rotatable	Shipping carton box 25	1637 mm x 191 mm x 207 mm	64.72 dm <sup>3</sup>	12570.00 g
4052899934481	ST8-RA5 28 W/865 1500 mm Rotatable	Shipping carton box 25	1637 mm x 191 mm x 207 mm	64.72 dm <sup>3</sup>	12570.00 g

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.osram.com/substitute](http://www.osram.com/substitute)

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### Disclaimer

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