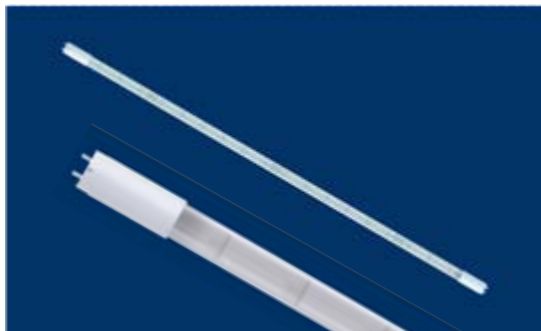


SubstiTUBE® Advanced – ST8-HA4

Datasheet



Innovative LED-lamp, easy and safe to use in CCG installations as direct retrofit. Energy saving potential of up to 60% by replacing 36 W T8 fluorescent tubes. Instant 100% light without flickering. No mercury.

Applicable in warehouses, cold storage, supply rooms, corridors, industry, stairways, garages, indirect illumination etc; for applications with high operating hours.

Technical operating data

Product	Color	Colortemp. [K]	Lum. Flux [lm]	Voltage [V] / Frequency [Hz] Input current [A]	Power [W]	Radiance-Angle [°]
ST8-HA4-165-750	Daylight	5000 K	1650	230 V* 200 - 240 V 50 / 60 Hz 0.09 A	21 W	120°
ST8-HA4-135-840	Cool White	4000 K	1350			
ST8-HA4-135-830	Warm White	3000 K	1350			

All Data are related to the entire lamp. Due to the special conditions of the manufacturing processes of LED the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.

* Rated voltage

Technical Features

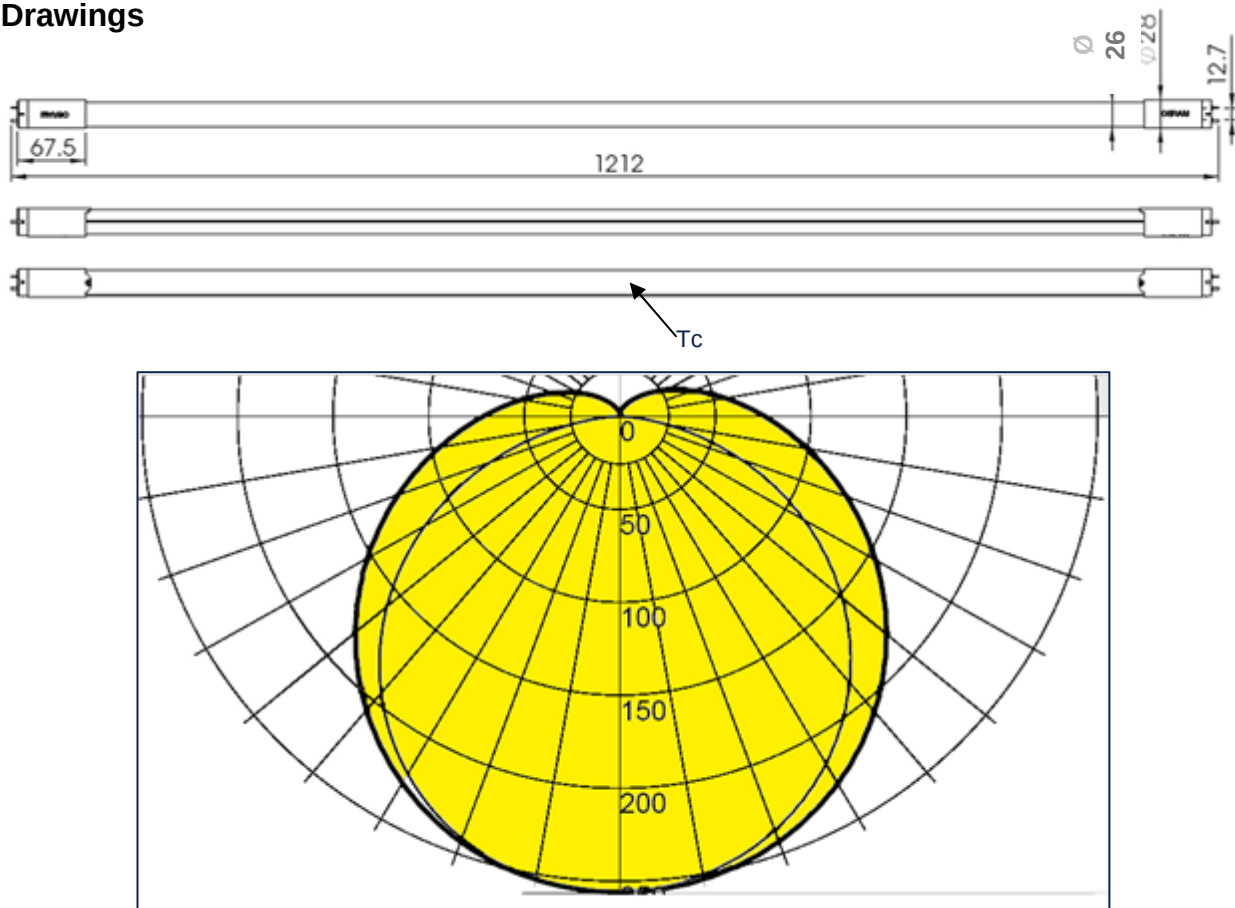
- LED lamp in T8 shape with G13 socket
- Length: 1.212 m; Weight: 360g
- For operation at magnetic ballast
- Direct Retrofit for CCG luminaires; replacement of lamp and included starter
- No rewiring necessary
- Extremely robust with aluminum heat sink and polycarbonate cover
- Full integrated ECG complies to relevant standards
- Complies with draft of relevant safety standards; VDE certification submitted
- Powerfactor > 0.9
- Up to 40,000 h lifetime
- Overpower, overheat, short and open circuit protected
- High color homogeneity
- RoHS-conformity, no mercury
- Not for operation with ECG, not dimmable

Minimum / Maximum ratings

	Operating temperature T_c^*	Storage temperature T_s	Ambient temperature T_a
ST8-HA4-xx	-25° ... 65°C	-25° ... 80°C	-25° ... 50°C

* Lifetime rated at $T_c < 50^\circ\text{C}$

Drawings



Height [m]	Diameter $\varnothing$ [m]	Illumination 4000 K / 3000 K		Illumination 5000 K	
		E_{max} [lx]	E_{med} [lx]	E_{max} [lx]	E_{med} [lx]
1	3.46	327	279	390	333
2	6.93	81	69	97	83
3	10.39	36	31	43	37
4	13.86	20	17	24	21
5	17.32	13	11	16	13

VDE registration submitted

CE IP20 230V 50-60 Hz G13

Safety and Application notes

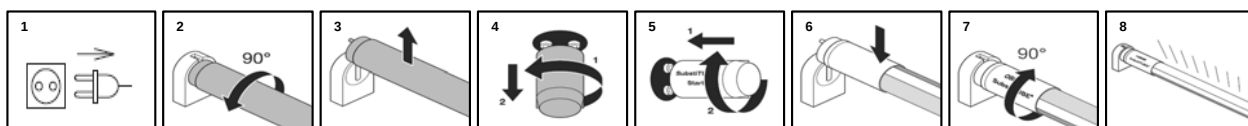
- The SubstiTUBE® Advanced must not be damaged or operated in a damaged condition.
- When operating with CCG, the included „SubstiTUBE® Start“ has to be inserted as well. If the conventional starter is not replaced the SubstiTUBE® Advanced will start blinking. Switch off immediately, the SubstiTUBE® Advanced can be damaged!
- Do not use SubstiTUBE® Advanced in luminaires which do not have any starter or when the starter cannot be replaced.
- Not usable in luminaires with serial lamp connection i.e. more than one tube at one magnetic ballast
- The SubstiTUBE® Advanced emits light only with a limited angle, not like a fluorescent tube with 360° output.
- Due to the characteristic light distribution of the SubstiTUBE® Advanced, the resulting luminaire light characteristic is likely to change. It is not guaranteed that e.g. standards for lighting at working places will be complied to after replacement. A photometric check of the installation is recommended.
- The effective energy savings depend on the efficiency of the luminaire setup to be replaced and should be considered individually in each case. Particularly magnetic ballast losses are reduced to ohmic losses and are normally only about 1 W.
- The SubstiTUBE® Advanced is protected according to IP20. Applications with external risk of moisture and dust can be served with an adequately protected luminaire.
- SubstiTUBE® Advanced may also be driven directly on line voltage. In order to grant a safe operation mode please refer to the application note for installation information.
- Photobiological Safety of Lamps and Lamp Systems according to IEC 62471
Risk Group: Exempt

Installation Instructions

- Make sure that the supply voltage is disconnected.
- Carefully remove the fluorescent tube and starter according to the lamp holder type.
- Insert SubstiTUBE® Advanced and SubstiTUBE® Start properly.

Below an example for typical lamp holder types is described

- Turn the conventional lamp 90° degrees and take it out of the socket.
- Remove the conventional starter by turning it.
- Insert and latch the SubstiTUBE® Start into starter socket.
- Insert SubstiTUBE® Advanced into socket and locate into position by turning 90°. Check light emission direction



For further installation options please see the Application Guide

Ordering guide

Productname	Light color	EAN*	S-Unit**
ST8-HA4-165-750	Daylight / 5000 K	4008321980878	
ST8-HA4-135-840	Cool White / 4000 K	4008321980885	10 x 1
ST8-HA4-135-830	Warm White / 3000 K	4008321980892	

* EAN: Ordering number per single module

** S-Unit: Lamps per shipping unit

Sales and Technical Support

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Sales and technical support is given by the local OSRAM subsidiaries.
On our world wide homepage all OSRAM subsidiaries are listed with complete address and phone numbers.

Further Information

- Brochure „A new approach to light“

www.osram.com/led-systems-downloads
1EZW002GB

- Flyer „OSRAM SubstiTUBE® Advanced“

www.osram.com/led-systems-downloads
1EBW004GB

- Downloads: Application Guide, Eulumdat files

www.osram.com/SubstiTUBE