

SubstiTUBE® Trio 2 Datasheet



Innovative LED-lamp, easy and safe to use in CCG installations as direct retrofit. Energy saving potential of up to 60% by replacing T8 fluorescent tubes.

Instant 100% light without flickering. No mercury. Applicable in supermarket, warehouses, cold storage, supply rooms, corridors, industry, stairways, garages, indirect illumination etc; for applications with long operating hours.

Technical Data

Product	Color	Color Temp.	Lum. Flux [lm]	Voltage [V] / Frequency [Hz]	Power [W]	Full width half maximum beam angle [°]
ST8-HT2-075-865	Cool Daylight	6500 K	750	200 - 240 V 50 / 60 Hz *(Rated 230V)	8W	140°
ST8-HT2-075-840	Cool White	4000 K	750			
ST8-HT2-065-830	Warm White	3000 K	650			
ST8-HT4-140-865	Cool Daylight	6500 K	1400		15W	
ST8-HT4-140-840	Cool White	4000 K	1400			
ST8-HT4-125-830	Warm White	3000 K	1250			
ST8-HT4-170-865	Cool Daylight	6500 K	1700		20W	
ST8-HT4-170-840	Cool White	4000 K	1700			
ST8-HT4-150-830	Warm White	3000 K	1500			
ST8-HT4-220-865	Cool Daylight	6500 K	2200		23W	
ST8-HT4-220-840	Cool White	4000 K	2200			
ST8-HT4-200-830	Warm White	3000 K	2000			

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

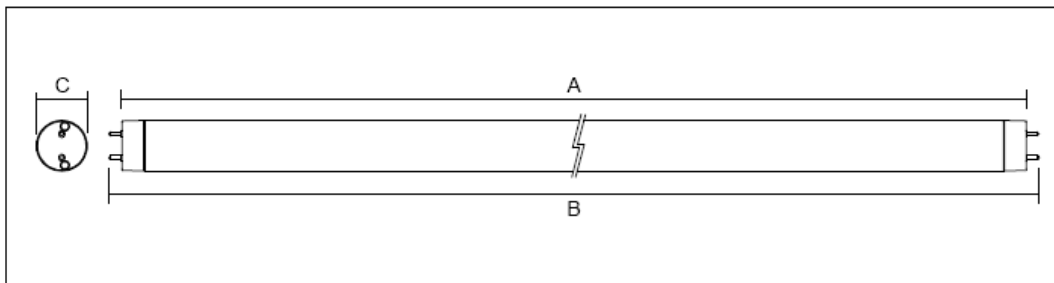
Technical Features

- Linear LED lamp in T8 shape with G13 socket
- Suitable for operation with magnetic ballast
- Direct retrofit for CCG luminaires; replacement of lamp and including starter and no rewiring is necessary
- Polycarbonate cover
- Full integrated electronic driver complies to relevant standards
- CRI 80-85
- Complies with draft of relevant safety standards
- Power factor > 0.9
- More than 30,000 hours lifetime
- Overpower, overheat, short and open circuit protected
- High color and light homogeneity
- RoHS-conformity, no mercury
- Not for operation with ECG, not suitable for dimming

Minimum / Maximum ratings

	Ambient temperature Ta	Storage temperature Ts	Operating temperature Tc
2ft 4ft	-10° ... 45°C	-20° ... 65 °C	-20° ... 75 °C

Mechanical & Electrical Specifications



Models	A	B	C	Net weight
ST8-HT2	588 mm	602 mm	28mm	118g
ST8-HT4	1198 mm	1212 mm	28mm	205g

(According to IEC 60081)

Optics: Diffused PC Cover
 Mounting: G13
 Protection Class: IP20
 Tensile Strength (N/mm²),
 Compressive strength (N/mm²)
 & Impact strength (kJ/m² esp. kN/m): IEC 61195 and IEC 60061

ESD Protection: IEC 61547
 Dimming Function: N.A.
 Rated Voltage: 220-240V~, 50/60Hz
 Power Factor: >0.9 @ direct mains, >0.9 @ CCG non compensated
 Safety Protection: Short circuit protection / open loop protection

Standards

Photo-biological Safety: IEC 62471

Flammability:
Insulation class:
Safety Requirements

Environment:
EMC / radio disturbance characteristics:
EMC / immunity:

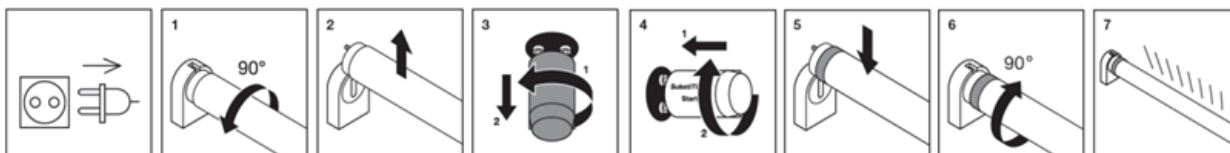
Glow wire test (650°C)
IEC 61347-2-13
IEC 60598-1 + IEC 61347-2-13 + IEC 61195 +
IEC 60061 + IEC 62776 proposal
RoHS
EN 55015 (CISPR 15)
IEC 61547 (IEC 61000-3-2 and -3-3)

Installation Instructions

- Please ensure that the voltage supply is disconnected.
- Carefully remove the fluorescent tube and conventional starter according to the lamp holder type.
- Insert SubstiTUBE[®] Trio and SubstiTUBE[®] Starter 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[®] Trio into socket and locate into position by turning 90°. Check light emission direction



Safety and Application notes

- The SubstiTUBE[®] Trio must be handled with care, and do not operate the product that in a damaged condition.
- When operating with CCG (magnetic ballast), SubstiTUBE[®] Starter has to be inserted to replace the conventional fluorescent lamp starter as well. If the conventional starter is not replaced, the SubstiTUBE[®] Trio will start blinking and be damaged!
- Do not use SubstiTUBE[®] Trio in luminaires which do not have any conventional starter or whereby the conventional starter cannot be replaced.
- Not suitable for luminaires with serial lamp connection i.e. more than one tube at one magnetic ballast.
- The SubstiTUBE[®] Trio Trio lamp emits light at limited angle, unlike conventional fluorescent tube in 360° omni direction.
- Due to the light distribution characteristic of the SubstiTUBE[®] Trio, the resulting luminaires light characteristic is likely to change. It is not guaranteed that e.g. standards for lighting at working places will be complied with after replacement. A photometric check of the installation is highly recommended.
- The effective energy savings depend on the efficiency of the luminaires setup to be replaced and should be considered individually case by case basis. Particularly magnetic ballast losses are reduced to ohmic losses and are typically only about 1 W.
- The SubstiTUBE[®] Trio is protected according to IP20. Applications with external risk of moisture and dust can be served with an adequately protected luminaires.
- SubstiTUBE[®] Trio 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



- The LED tube isn't suitable to be used in emergency luminaires designed for double-capped fluorescent lamp(s).



- LED tube Non-dimmable



- LED tube suitable for 50Hz or 60Hz operation



- LED tube should be used in dry conditions or in a luminaires that provides protection.

- The product includes two parts: a LED tube and a LED starter.

- Increased weight may reduce the mechanical stability of certain luminaires and lamp holders and may impair contact making and lamp retention.

- Suitable to be used in combination with magnetic ballast only.



- Only to be used with provided SubstiTUBE® LED starter.

- This lamp is designed for general lighting service (excluding e.g. explosive atmospheres).

Ordering guide

Product name	Light color	IC	EAN 10 (Single Unit)	S-Unit
ST8-HT2-075-865	Cool Daylight/ 6500K	AA707200055	4052899137318	25 x 1
ST8-HT2-075-840	Cool White/ 4000K	AA707210055	4052899137295	
ST8-HT2-065-830	Warm White/ 3000K	AA707220055	4052899137271	
ST8-HT4-140-865	Cool Daylight/ 6500K	AA685700055	4052899137370	
ST8-HT4-140-840	Cool White/ 4000K	AA685710055	4052899137356	
ST8-HT4-150-830	Warm White/ 3000K	AA685720055	4052899137332	
ST8-HT4-170-865	Cool Daylight/ 6500K	AA707260055	4052899137431	
ST8-HT4-170-840	Cool White/ 4000K	AA707270055	4052899137417	
ST8-HT4-150-830	Warm White/ 3000K	AA707280055	4052899137394	
ST8-HT4-220-865	Cool Daylight/ 6500K	AA707290055	4052899172425	
ST8-HT4-220-840	Cool White/ 4000K	AA707300055	4052899172401	
ST8-HT4-200-830	Warm White/ 3000K	AA707310055	4052899172388	

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