

**ISOLED®**

CUSTOMISED LIGHT SOLUTIONS



# T8 HIGHLINE + TUBE



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## T8 HIGHLINE+ TUBE

### Symbol of sustainability!

The T8 ISOLED® Highline+ tubes with 3-pole connection cable are an example of our company's innovative strength and a symbol of the sustainability of LED technology. Compared to fluorescent tubes with ballasts (CCG, CVG or ECG) and retrofit LED tubes, these T8 ISOLED® Highline+ tubes offer both qualitative and economic added value for our customers.

In contrast to LED retrofit tubes, T8 ISOLED® Highline tubes do not need drivers. They are therefore reduced to a minimum of electronics and cause much less electromagnetic radiation!

The T8 ISOLED® Highline tubes, unlike fluorescent tubes, are not hazardous waste and can be properly disposed of as electronic waste.



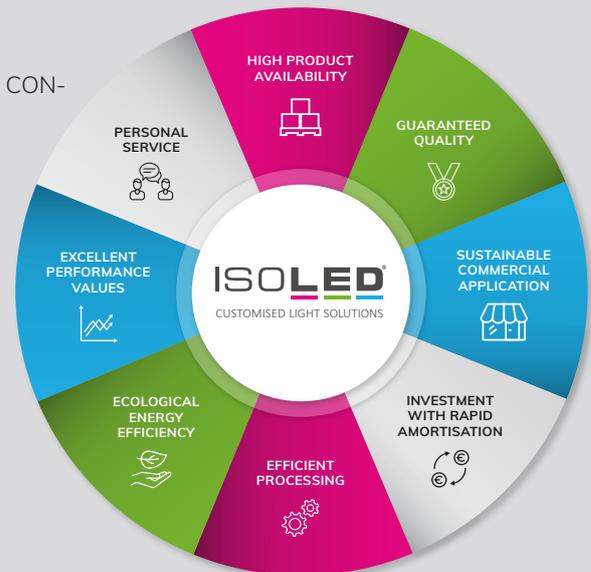
## CUSTOMISED LIGHT SOLUTIONS

SUSTAINABLE EFFICIENCY IMPROVED WITH SMART LED LIGHTING CONCEPTS

ISOLED® offers a standardized LED product range with over 2,200 branded items in

- » best and guaranteed quality,
- » with the greatest possible ecological energy efficiency,
- » with personal service and
- » efficient processing,
- » in a fair price-performance ratio,

with which future-oriented LED lighting solutions as well as intelligent LED lighting concepts with short amortisation times can be realised.



## 99% of our customers and partners recommend ISOLED® !



### Top service and advice

With excellent product quality, personal advice and first-class service, we create clear competitive advantages.



### High product availability

We offer a wide range of more than 2,200 high-quality branded products with immediate availability.



### Delivery 95% on the next working day

We are usually able to dispatch all orders received by 11am on working days on the same day.



## T8 HIGHLINE+ TUBE

### T8 ISOLED® Highline tube - Fully-fledged luminaire with own conformity

The T8 ISOLED® Highline tube replaces both a conventional fluorescent tube and an LED retrofit tube, but is still considered a fully-fledged and independent luminaire with the corresponding declaration of conformity.

**Justification:** The pins on the side (rotatable to align the light) are without contact and only serve to fix the light in the tube holder (important for retrofitting or even mounting in tubs). The power is supplied via the integrated 3-pin connection cable. The metallic heat sink is grounded via the protective conductor of the 3-pole connection cable.

This means that when converting or replacing fluorescent tubes or LED retrofit tubes with T8 ISOLED® Highline tubes, there is no interference with the existing luminaire body. The conformity of the components remains unaffected.



Fig.: Rotatable pins (without contact) for aligning the light

### Power supply via 3-pole connection cable

A very special unique selling point of the T8 ISOLED® Highline tube is the power supply via the integrated 3-pole connection cable - and that is the innovative and sustainable aspect of this LED lighting solution!



Fig.: Pins are without contact- no danger when replacing tubes!

### Ballasts passé

The T8 ISOLED® Highline tube eliminates the disadvantages of using a ballast, because due to the 3-pole connection cable the T8 ISOLED® Highline tube is connected directly to the mains and is therefore operated without a ballast.

- » No power loss due to a ballast - higher energy efficiency!
- » Elimination of the noise pollution caused by the hum of the ballasts!
- » No mains-related 50 Hz flicker!
- » Less wattage - more lumen!

### Different service life ballast/LED illuminant

There are two components with different lifetimes: the LED bulb (retrofit tube) and the ballast. When upgrading from fluorescent tubes to LED retrofit tubes, it is important to bear in mind that further work will be required at a later date to replace the ballast.

**When converting to the T8 ISOLED® Highline tube there is no need to subsequently replace the ballast. Because the ballast is no longer needed.**

**To summarize:** When the T8 ISOLED® Highline tube is installed, the customer has the desired light throughout the entire life of the tube and no more unnecessary additional expense.



## T8 HIGHLINE+ TUBE

### T8 ISOLED® Highline tubes - pins and clips

With the conventional fluorescent tube, the current is supplied via the pins on the side. I. e. the tube holder thus also serves to supply power to the illuminant.

The T8 ISOLED® Highline tubes, on the other hand, can be used as a stand-alone luminaire due to the 3-pole connection cable

- » be hooked into the tube holders (due to the contactless and rotatable pins),
- » with clips simply and quickly on the building structure be fixed or
- » be installed by means of rope suspensions.



Fig.: Functionality combined with aesthetics

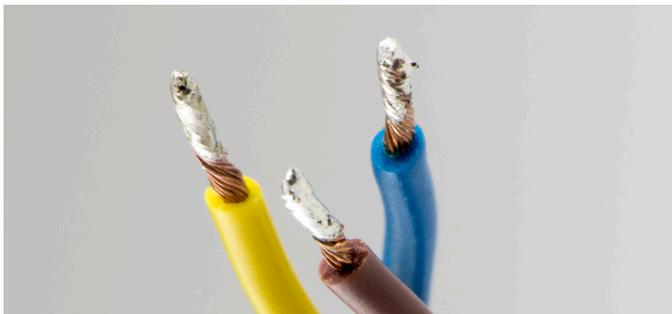


Fig.: With the T8 ISOLED® Highline tube, the risk of accidents due to electric shock is eliminated because of the 3-pole connection cable.

### Critical examination of the safety aspects of commercially available LED retrofit tubes

The T8 ISOLED® Highline tube is connected to the mains with the 3-pin connection cable. The commercially available LED retrofit tubes, on the other hand, are supplied with power via the pins on one or both sides. I.e. to prevent accidents, it is incredibly important when inserting a LED retrofit tube,

- » on the insertion direction,
- » the markings and
- » pay attention to the safety instructions at the ends of the tube.

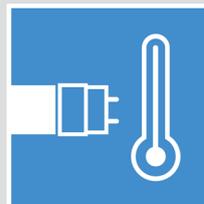
### Otherwise danger by electric shock!

### T8 ISOLED® Highline tubes are robust and shatterproof

The tube cover of the T8 ISOLED® Highline tube is made of polycarbonate and thus has a much higher strength than those made of acrylic or PVC.

The cover withstands an impact resistance of at least 30 joules. This corresponds approximately to the force that would occur if an object weighing 6 kg were to fall onto the cover from a height of 0.5 m.

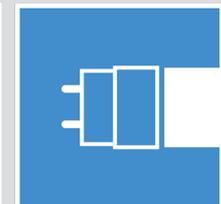
The melting temperature of polycarbonate is 850 °.



PC  
850°C



PC 30J  
IK 10

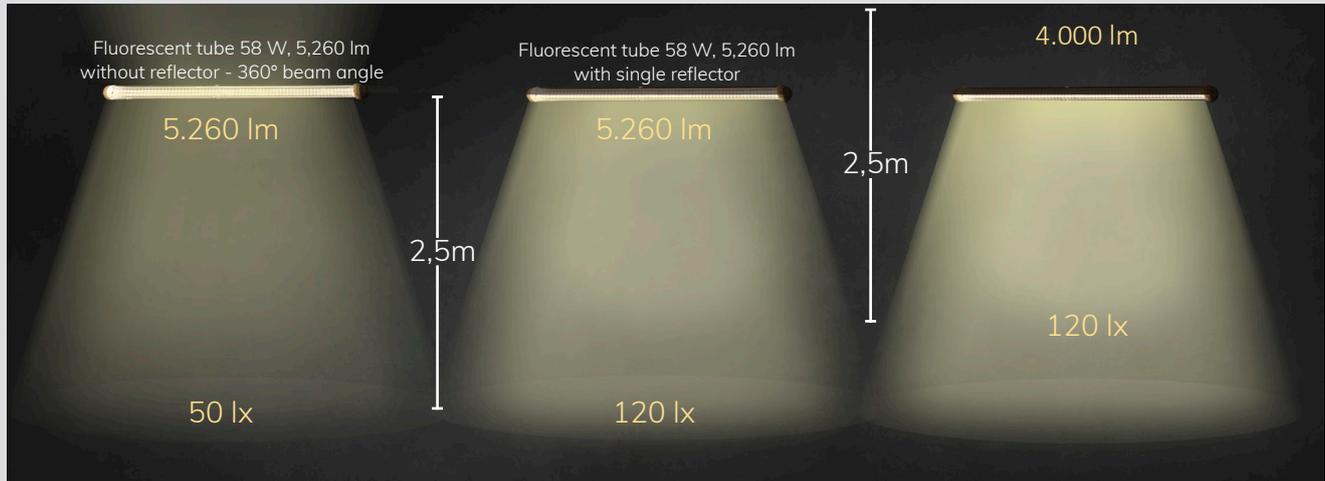


G13  
Ø 26 mm



## T8 HIGHLINE+ TUBE

### Röcomparision of tubes - 2.5 m height, darkened hall



- Left** Fluorescent tube 58 W, 5,260 lm, 360° beam angle
- Middle:** Fluorescent tube 58 W, 5,260 lm with single reflector
- Right:** T8 ISOLED® Highline tube 35 W, 4,000 lm, 120° beam angle

The T8 ISOLED® Highline tube with 35 W achieves the same luminous intensity of 120 lux directly below the luminaire as the 58 W fluorescent tube with 5,260 lm and the use of a reflector.

**Remark:** The human eye perceives the light of the LED tube as brighter, because here, in contrast to the fluorescent tube, the 50 Hz mains flicker is omitted.

**When converting to the T8 ISOLED® Highline tube, there is NO interference with the existing luminaire. Their conformity remains unaffected and thus unchanged valid.**

		Converting from traditional T8 fluorescent tubes to	
		Standard T8 LED tube retrofit	T8 LED tube with 3-pole connection cable by ISOLED®
<b>Convert</b>	with KVG or VVG	starter bridge Workload: approx. 3 minutes Optional Remove or disconnect KVG/VVG and bridge it Workload: approx. 10 minutes	Disconnect the luminaire body incl. ballast unit from the mains and connect the T8 ISOLED® Highline tube directly. Workload: max. 10 minutes
	with removed ECG	Remove or disconnect the electronic ballast and bridge it Workload: approx. 10 minutes	

Note: for some time now, LED retrofit tubes have been put on the market that are supposed to work smoothly with the remaining ECG. We have found in our own endurance tests that the life of the ECGs can be impaired. For this reason, we recommend waiting for further test reports and empirical values.



		Advantages and disadvantages of retrofitting	
		Standard T8 LED tube retrofit	T8 ISOLED® Highline tube with 3-pin connectorabel
Disadvantages	with KVG or VVG	<ul style="list-style-type: none"> <li>» Power loss when the KVG/VVG has neither been removed nor bridged.</li> <li>» Voltage peaks (especially when switching off) of the ballast damage the LED electronics and reduce the lifetime.</li> <li>» High reactive power in the grid due to the VG not being removed or bridged.</li> <li>» The service life of VGs is generally shorter than that of LEDs. This means that VGs must be replaced prematurely.</li> <li>» G13 base (made of plastic) in the luminaire body is not approved for 230 V continuous voltage (conventional fluorescent tubes are always supplied with 110 V in continuous operation).</li> <li>» The body of the luminaire is changed or modified and therefore conformity is no longer given. New approval/acceptance is mandatory!</li> <li>» <b>RISK:</b> if a conventional fluorescent tube is used instead of an LED tube, an electric shock may occur!</li> </ul>	» Slightly higher workload
	with removed ECG	<ul style="list-style-type: none"> <li>» G13 base (made of plastic) in the luminaire body is not approved for 230 V continuous voltage (conventional fluorescent tubes are only supplied with 110 V in continuous operation).</li> <li>» The body of the luminaire is changed or modified and therefore conformity is no longer given. New approval/acceptance is mandatory!</li> <li>» <b>RISK:</b> if a conventional fluorescent tube is used again instead of an LED tube, an electric shock or explosion may occur!</li> </ul>	
Advantages	with KVG or VVG	<ul style="list-style-type: none"> <li>» Quick replacement (if only the starter is bypassed)</li> <li>» Remaining KVG/VVG serves as overvoltage protection during operation</li> <li>» Less wattage - more lumen</li> <li>» Significant cost savings</li> </ul>	<ul style="list-style-type: none"> <li>» No additional, unnecessary power consumption due to ballasts</li> <li>» No power loss of the ballast</li> <li>» No 50 Hz flicker (ballast is no longer connected to the mains)</li> <li>» No noise pollution due to the hum of the ballast.</li> <li>» T8 ISOLED® Highline tube is considered a fully-fledged LED luminaire</li> <li>» No interference with the luminaire body</li> <li>» Conformity is maintained</li> <li>» No additional acceptance or approval required</li> <li>» The 3-pole connection cable also grounds the metallic heat sink via the protective earth conductor.</li> <li>» Retrofitting to fluorescent tube possible without risk.</li> <li>» Fixation with pins in tube holder unchanged possible</li> <li>» Can be attached directly to the T8 ISOLED® Highline tubes using clips.</li> <li>» Less wattage - more lumen</li> <li>» Significant cost savings!</li> </ul>
	with removed ECG	<ul style="list-style-type: none"> <li>» No power loss of the ballast</li> <li>» Less wattage - more lumen</li> </ul>	



# YOUR PARTNER

ISOLED® SINCE 2008



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