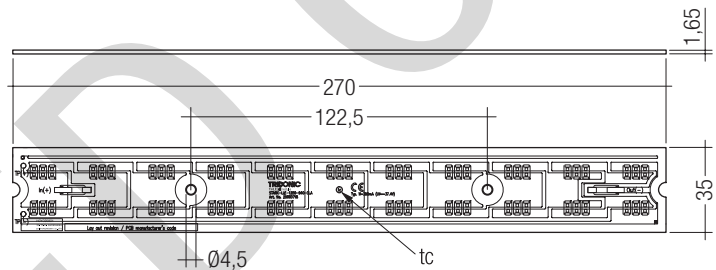




TALEXmodule STARK LLE CLASSIC
TALEXmodule STARK LLE

Product description

- Ideal for linear and panel lights
- LED system solution with outstanding system efficiency up to 98 lm/W, consisting of linear LED modules and dimmable converter LCAI 080/0350
- Efficiency of the module up to 106 lm/W
- High colour rendering index CRI > 80
- Small colour tolerance MacAdam 4
- Small luminous flux tolerances
- Colour temperatures 3,000 K, 4,000 K and 5,000 K
- Perfectly uniform light, even if several LED modules are used together in a line
- Push terminals for quick and simple wiring of LED module to LED module
- Simple installation (e.g. screws)
- Long lifetime: 50,000 hours
- 5-year system guarantee on the complete product



Technical data

Beam characteristic	120°
Ambient temperature ta	-30 ... +55 °C
Typ. tc point	65 °C
Risk group (EN 62471:2008)	0
Type of protection	IP00

Ordering data

Type	Article number	Colour temperature	Packaging carton	Weight per pcs.
TALEXmodule STARK LLE-1250-830-CLA	25000717	3,000 K	200 pieces	0.045 kg
TALEXmodule STARK LLE-1250-840-CLA	25000718	4,000 K	200 pieces	0.045 kg



Standards, page 3

Colour temperatures and tolerances, page 6

Specific technical data

Type	Photometric code	Typ. luminous flux ^①	Typ. forward current ^{② ③}	Typ. forward voltage	Typ. power consumption ^①	Efficacy of the module	Efficacy of the system	Colour rendering index CRI
TALEXmodule STARK LLE-1250-830-CLA	830/4x9	1,190 lm	350 mA	33.7 V	11.8 W	> 101 lm/W	~ 93 lm/W	> 80
TALEXmodule STARK LLE-1250-840-CLA	840/4x9	1,250 lm	350 mA	33.7 V	11.8 W	> 106 lm/W	~ 98 lm/W	> 80

All values at tc = 65 °C.

① Tolerance range for optical and electrical data: ±10 %.

② Ripple max. 15 % of rated current.

③ Max. permissible surge current: 1.5 A, duration max. 10 µs.

Converter matrix – TALEX(module STARK LLE CLASSIC

IN-BUILT LCI										
Type	LCAI 080/0350 I010		LCI 080/0350 I010		LCAI 070/0300 I010		LCI 055/1400 R010		LCI 050/1050 R010	
Ord. No.	86459392		86459366		86459201		86459217		86459216	
Circuit	series		series		series		parallel		parallel	
Voltage on the module (typ.)	135 V	202 V	135 V	202 V	134 V	201 V	33.7 V	33.7 V	33.7 V	33.7 V
SELV	No		No		No		Yes		Yes	

assignable converter										
Type	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
STARK LLE-1250	4	6	4	6	4	6	4	4	3	3

Converter matrix – TALEX(module STARK LLE CLASSIC

REMOTE LCI						
Type	LCI 050/1050 T020		LCI 055/1400 T020		LCCI 016/0350 Q010	
Ord. No.	86459218		86459219		86459213	
Circuit	parallel		parallel		-	
Voltage on the module (typ.)	33.7 V	33.7 V	33.7 V	33.7 V	33.7 V	33.7 V
SELV	Yes		Yes		Yes	

assignable converter						
Type	Min.	Max.	Min.	Max.	Min.	Max.
STARK LLE-1250	3	3	4	4	1	1

Converter matrix – TALEX(module STARK LLE CLASSIC

IN-BUILT LCI						
Type	TALEXcontrol C350 dim		TALEXcontrol C700 dim		TALEXcontrol C350-2 4 Kanal	
Ord. No.	86458944		86458945		86458693	
Circuit	-		parallel		-	
Voltage on the module (typ.)	33.7 V	33.7 V	33.7 V	33.7 V	33.7 V	33.7 V
SELV	Yes		Yes		Yes	

assignable converter						
Type	Min.	Max.	Min.	Max.	Min.	Max.
STARK LLE-1250	1	1	2	2	1	4

Standards

EN 62031
EN 62471
EN 61347-1
EN 61547
EN 55015

Photometric code

Key for photometric code, e. g. 830 / 339

1 st digit	2 nd + 3 rd digit	4 th digit	5 th digit	6 th digit		
Code	Colour temperature in Kelvin x 100	McAdams initial	McAdams after 25% of the lifetime (max.6000h)	Lumen maintenance after 25% of the lifetime (max.6000h)		
				Code	Remaining lumen	
7				67 – 76	7	≥ 70 %
8				77 – 86	8	≥ 80 %
9	87 – ≥90		9	≥ 90 %		

Thermal design and heat sink

The rated life of TALEX products depends to a large extent on the temperature. If the permissible temperature limits are exceeded, the life of the TALEXmodule STARK LLE will be greatly reduced or the TALEXmodule STARK LLE may be destroyed.

tc point, ambient temperature and lifetime

The temperature at tc reference point is crucial for the light output and life time of a TALEX product.

For TALEXmodule STARK LLE a tc temperature of 65 °C has to be complied in order to achieve an optimum between heat sink requirements, light output and life time.

Compliance with the maximum permissible reference temperature at the tc point must be checked under operating conditions in a thermally stable state. The maximum value must be determined under worst-case conditions for the relevant application.

Mounting instruction



None of the components of the TALEXmodule STARK LLE (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses.

Max. torque for fixing: 0.5 Nm.

The LED modules are mounted onto a heat sink with 2 screws per module. In order not to damage the modules only rounded head screws and an additional plastic flat washer should be used.



EOS/ESD safety guidelines

The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board not possible), just normal installation practice. Please note the requirements set out in the document EOS / ESD guidelines (Guideline_EOS_ESD.pdf) at:
<http://www.tridonic.com/com/en/technical-docs.asp>

Heat sink values

TALEXmodule STARK LLE CLASSIC

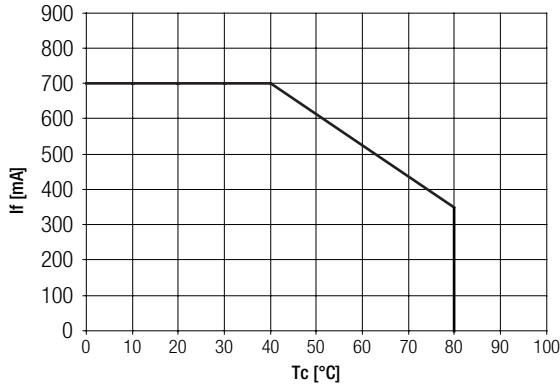
ta	tc	R _{th, hs-a}	Cooling area
25 °C	65 °C	3,4 K/W	100 cm ²
35 °C	65 °C	3,0 K/W	120 cm ²
45 °C	65 °C	2,3 K/W	250 cm ²
55 °C	65 °C	1,5 kW	680 cm ²

Notes

The actual cooling surface can differ because of the material, the structural shape, outside influences and the installation situation. Depending on the heat sink a heat conducting paste or heat conducting film might be necessary to keep the specified tc temperature.

Thermal behaviour

storage temperature	-40 ... +85 °C
operating temperature ta	-30 ... +55 °C
tc max. (at typ. current)	80 °C
max. humidity	0 ... 80 %



Lifetime

tc temperature in °C	luminous flux in %	lifetime in h
65	80	32.000
	70	50.000
	50	91.000

Selection of the control gear

TALEX(module STARK LLE can be operated either from 350mA SELV converters or from 350 mA converters with LV output voltage.

For a maximised system efficacy LED controlgear with LV output (e.g. LCAI 080/0350) are recommended.

These LED controlgear are designed for an efficiency > 90 % where LED control gear with SELV outputvoltage (e.g. LCI 050) can be delivered with an efficiency > 83 %.

! TALEX(module STARK LLE are basic isolated against ground and can be mounted directly on earthed metal parts of the luminaire also when used in conjunction with the converter LCAI 080/0350. In this case the light emitting side of the module has to be protected against direct touch (test finger). This is typically achieved by means of a non removable light distributor over the module.

Electrical supply/choice of converter

TALEX(module STARK LLE from Tridonic are not protected against overvoltages, overcurrents, overloads or short-circuit currents. Safe and reliable operation can only be guaranteed in conjunction with a converter which complies with the relevant standards. The use of TALEX converters from Tridonic in combination with TALEX(module STARK LLE guarantees the necessary protection for safe and reliable operation.

If a converter other than Tridonic TALEXconverter is used, it must provide the following protection:

- Short-circuit protection
- Overload protection
- Overtemperature protection



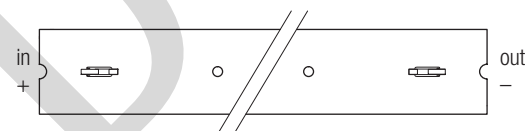
TALEX(module STARK LLE must be supplied by a constant current converter.

Operation with a constant voltage converter will lead to an irreversible damage of the module.

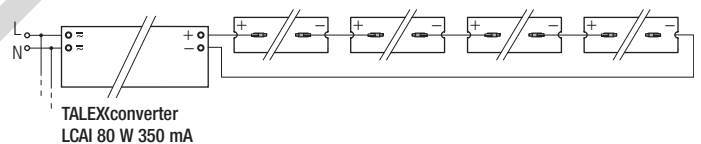
Wrong polarity can damage the TALEX(module STARK LLE.

If TALEX(modules LLE are wired in parallel and a wire breaks or a complete module fails then the current passing through the other module increases. This may reduce its life considerably. In addition there can be slight differences in light output caused by tolerances.

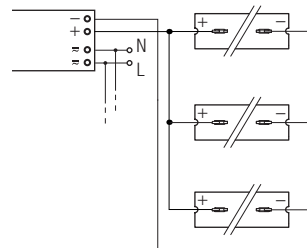
Wiring



Wiring examples

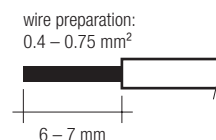


TALEXconverter
LCAI 50 W 1050 mA

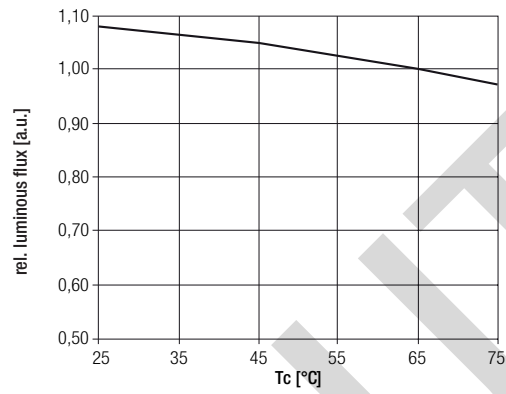
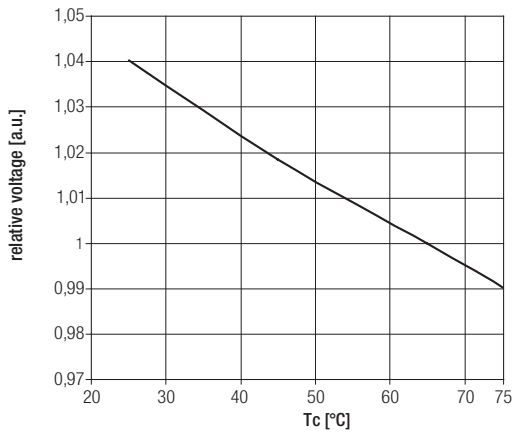


Wiring type and cross section

The wiring can be solid cable with a cross section of 0.4 to 0.75 mm². For the push-wire connection you have to strip the insulation (6–7 mm). Loosen wire through twisting and pulling.



Relative forward voltage and relative luminous flux

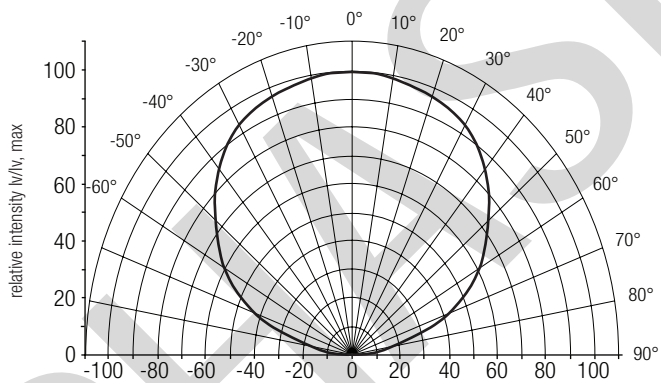


The diagrams are based on statistic values.
The real values can be different.

Optical characteristics TALEX(module STARK LLE

The optical design of the TALEX(module STARK LLE product line ensures optimum homogeneity for the light distribution.

Light distribution



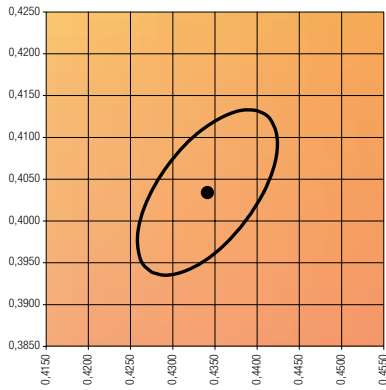
3D-Data, photometric data and Design-in guide available on request or go to www.tridonic.com

Coordinates and tolerances according to CIE 1931

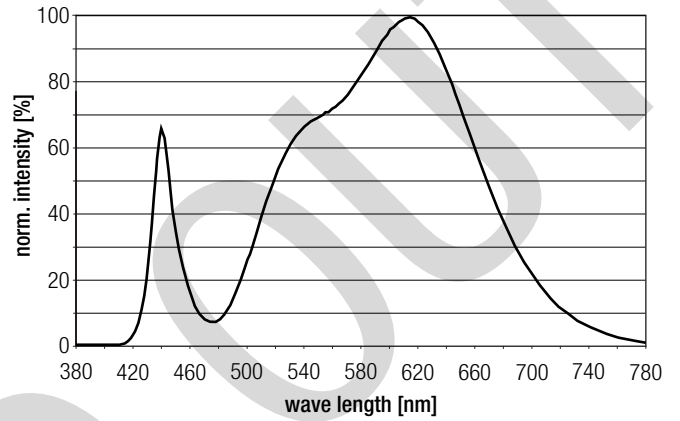
The specified colour coordinates are measured by a current impulse with typical values of module and a duration of 100 ms.
The ambient temperature of the measurement is $t_a = 25\text{ }^\circ\text{C}$.
The measurement tolerance of the colour coordinates are ± 0.01 .

3,000 K

	x0	y0
Centre	0,4344	0,4032

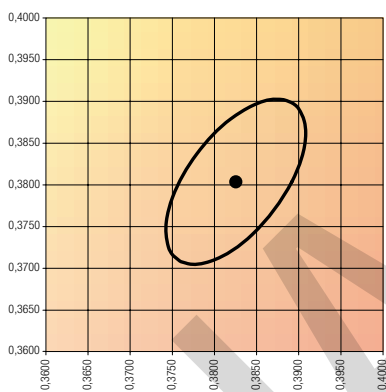


— MacAdam Ellipse: 4SDCM



4,000 K

	x0	y0
Mittelpunkt	0,3828	0,3803



— MacAdam Ellipse: 4SDCM

