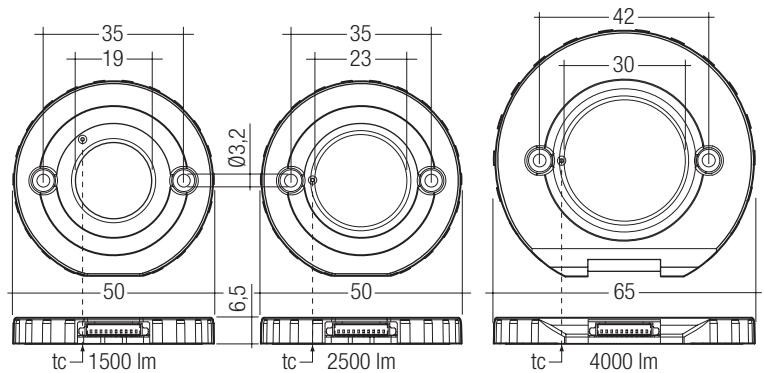




## TALEXmodule STARK SLE CLASSIC TALEXmodule STARK SLE

### Product description

- For spotlights and downlights
- High-flux LED module
- High colour rendering index CRI > 90
- Low tolerances for colour temperatures (MacAdams 4)
- Compact design
- Diameter: 50 / 65 mm
- Excellent thermal management<sup>®</sup>
- NTC for temperature control
- High-power LED module in chip-on-board technology (COB)
- Uniform distribution of light
- Plug connection
- Red-white technology
- Fixing holes for M3 screws
- Built-in LED module
- Cooling required
- Constant colour over the dimming range from 5 to 100 %



### Technical data

Beam characteristic	140°
Ambient temperature $t_a$	+25 ... +55 °C
Typ. tc point	65 °C
Weight	15 g / 18 g
Risk group <sup>®</sup>	0



Accessories connection cable, page 2

Standards, page 3

Colour temperatures and tolerances, page 6

### Ordering data

Colour temperature	Type	Article number
3.000 K	STARK SLE 1500 930 CLA	89601343
3.000 K	STARK SLE 2500 930 CLA	89601338
3.000 K	STARK SLE 4000 930 CLA	89601333
4.000 K	STARK SLE 1500 940 CLA	89601344
4.000 K	STARK SLE 2500 940 CLA	89601339
4.000 K	STARK SLE 4000 940 CLA	89601334

Packaging: 10 pieces/carton

### Specific technical data

Type	Typ, luminous flux <sup>®</sup>	Typ, forward current <sup>®</sup> @ <sup>®</sup>	Typ, forward voltage <sup>®</sup>	Power consumption module	Power consumption system	Efficacy of the module	Efficacy of the system	Colour rendering index CRI
STARK SLE 1500 930 CLA	1,500 lm	1,050 mA	17.4 V	18.3 W	20.7 W	82 lm/W	73 lm/W	90
STARK SLE 2500 930 CLA	2,500 lm	1,050 mA	29.4 V	30.9 W	34.9 W	81 lm/W	72 lm/W	90
STARK SLE 4000 930 CLA	4,000 lm	1,400 mA	34.8 V	48.7 W	55.1 W	82 lm/W	73 lm/W	90
STARK SLE 1500 940 CLA	1,500 lm	1,050 mA	17.4 V	18.3 W	20.7 W	82 lm/W	73 lm/W	90
STARK SLE 2500 940 CLA	2,500 lm	1,050 mA	29.4 V	30.9 W	34.9 W	81 lm/W	72 lm/W	90
STARK SLE 4000 940 CLA	4,000 lm	1,400 mA	34.8 V	48.7 W	55.1 W	82 lm/W	73 lm/W	90

<sup>®</sup> If the max. temperature limits are exceeded, the life of the system will be greatly reduced or the system may be damaged.  
The temperature of the TALEXmodule at the tc-point is to be measured in the thermally stable state with a temperature sensor or or temperature-sensitive sticker as per EN 60598-1. For the precise position of the tc point see the drawing above,

<sup>®</sup> Tolerance range for optical data: ±10 %,

<sup>®</sup> Exceeding the max. operating current leads to an overload on the TALEXmodule. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXmodule,

<sup>®</sup> Max. permissible surge current: 3 A, duration max, 10 µs,

<sup>®</sup> Tolerance range current: ±5 %,

<sup>®</sup> Tolerance range voltage: ±10 %,

<sup>®</sup> Please refer to EN 62471:2008.

All values at  $t_a = 25$  °C,  $t_c = 65$  °C.

Converter matrix – TALEXmodule STARK SLE CLASSIC

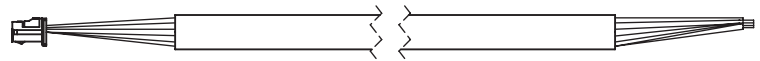
		REMOTE LCI							
Type		LCI 050/1050 N020		LCAI 050/1050		LCI 055/1400 T020		LCAI 055/1400 T020	
Art. no.		24166468		24166469		86459219		86459248	
		Assignable converter							
Type		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
STARK SLE 1500 930 CLA	89601343	1	1	1	1	–	–	–	–
STARK SLE 2500 930 CLA	89601338	1	1	1	1	–	–	–	–
STARK SLE 4000 930 CLA	89601333	–	–	–	–	1	1	1	1
STARK SLE 1500 940 CLA	89601344	1	1	1	1	–	–	–	–
STARK SLE 2500 940 CLA	89601339	1	1	1	1	–	–	–	–
STARK SLE 4000 940 CLA	89601334	–	–	–	–	1	1	1	1

ACCES-  
SORIES

TALEXaccessories CONNECT 10PIN PLUG / 4PIN CRIMP

Product description

- Open wire ends for flexible use of the module
- 10-pin plug to 4 open wires
- Halogen free



Ordering data

Length	Type	Article number
0.5 m	Connection cable 0.5m	24166483
1 m	Connection cable 1.0m	24166484
2 m	Connection cable 2.0m	24166485

Packaging: 10 pieces/carton

### Standards

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

### 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 SLE will be greatly reduced or the TALEXmodule STARK SLE may be destroyed.

Therefore the TALEXmodule STARK SLE needs to be mounted onto a heat sink.

Tridonic's excellent thermal design for the TALEXmodule STARK SLE products provides the lowest thermal resistance and therefore allowing new compact designs without sacrificing quality, safety and life time.

### 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 SLE 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



TALEXmodule STARK SLE from Tridonic which have to be installed on a heat sink have to be connected with heat-conducting paste or heat conducting adhesive film and fixed with M3 screws.

The fixing/cooling surface must be cleaned before installing the TALEX modules to remove all dirt, dust and grease.

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

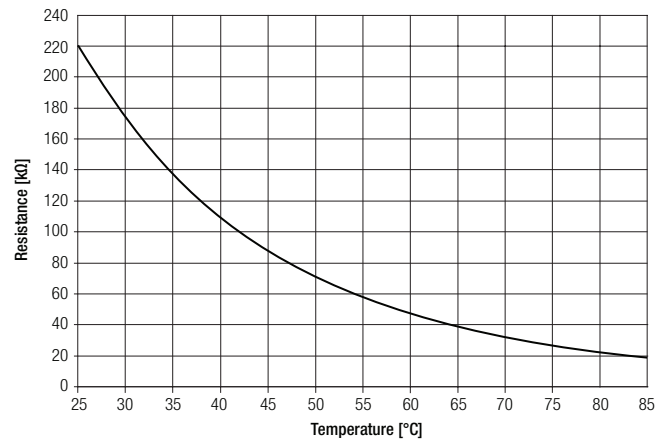
Max. torque for fixing: 0.5 Nm.

For further information please refer to the brochure entitled "Technical Design-In-Guide SLE".

### Temperature control

An NTC resistor is on the board of the TALEXmodule STARK SLE to control the temperature during the operation.

The details of the 220 kΩ NTC (order number B57431V2223J062) you can find in the data sheet of the manufacturer AVX (Nr. NB12Q00224).



### Heat sink values

#### TALEXmodule STARK SLE CLASSIC 1,500 lm

ta	tc	R <sub>th, hs-a</sub>
25 °C	65 °C	1.7 K/W
35 °C	65 °C	1.1 K/W
45 °C	65 °C	0.6 K/W

#### TALEXmodule STARK SLE CLASSIC 2,500 lm

ta	tc	R <sub>th, hs-a</sub>
25 °C	65 °C	0.8 K/W
35 °C	65 °C	0.5 K/W
45 °C	65 °C	0.1 K/W

#### TALEXmodule STARK SLE CLASSIC 4,000 lm

ta	tc	R <sub>th, hs-a</sub>
25 °C	65 °C	0.3 K/W
35 °C	65 °C	0.1 K/W
45 °C	65 °C	–

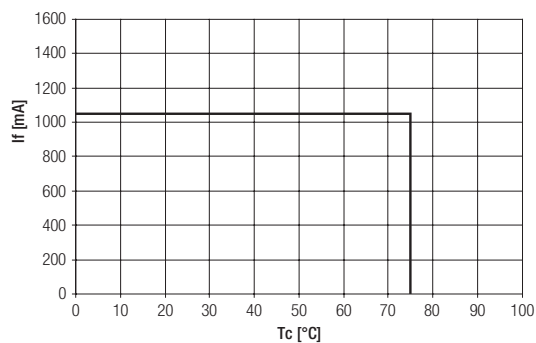
### Notes

The actual cooling surface can differ because of the material, the structural shape, outside influences and the installation situation. A thermal connection between TALEXmodule STARK SLE and heat sink with heat-conducting paste or heat conducting adhesive film is absolutely necessary.

Additionally the TALEXmodule STARK SLE has to be fixed on the heat sink with M3 screws to optimise the thermal connection.

### Thermal behaviour

storage temperature	-30 ... +80 °C
operating temperature	+25 ... +55 °C
tc max. (at typ. current)	75 °C
max. humidity	0 ... 80 %



### Lifetime

tc temperature in °C	luminous flux in %	lifetime in h
25	80	60,000
	70	81,000
	50	132,000
45	80	44,000
	70	64,000
	50	110,000
65	80	32,000
	70	50,000
	50	91,000
75	80	25,000
	70	41,000
	50	81,000

### Electrical supply/choice of converter

TALEXmodule STARK SLE 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 TALEXmodule STARK SLE 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



TALEXmodule STARK SLE must be supplied by a constant current converter.

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

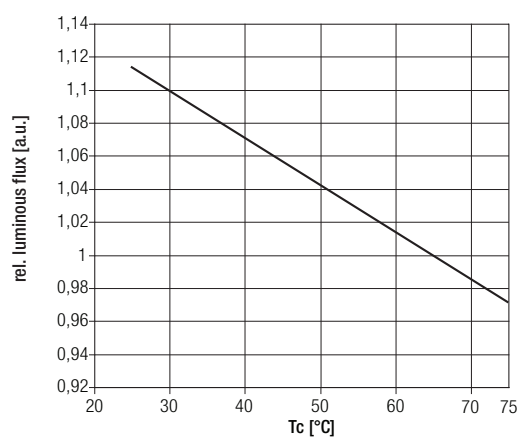
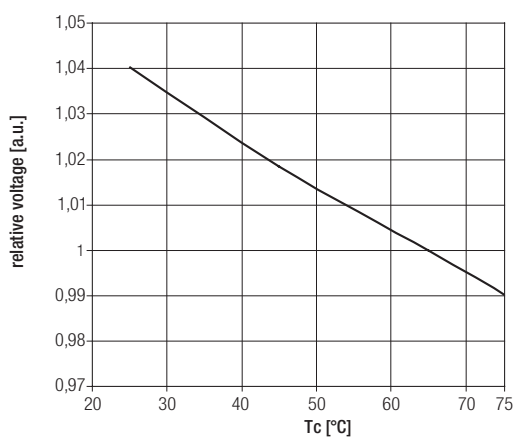
Wrong polarity can damage the TALEXmodule STARK SLE.

### Wiring

Cable: see page 2 (Accessories)

colour	red	black	grey	grey
function	+ LED	- LED	NTC	NTC

### Relative forward voltage and relative luminous flux

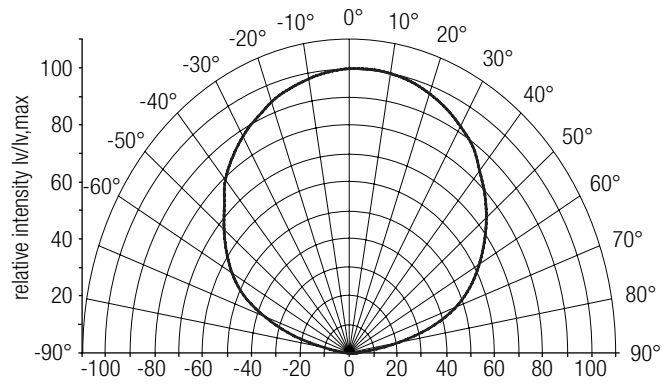


The diagrams based on statistic values.  
The real values can be different.

### Optical characteristics TALEXmodule STARK SLE

The optical design of the TALEXmodule STARK SLE product line ensures optimum homogeneity for the light distribution.

#### Light distribution

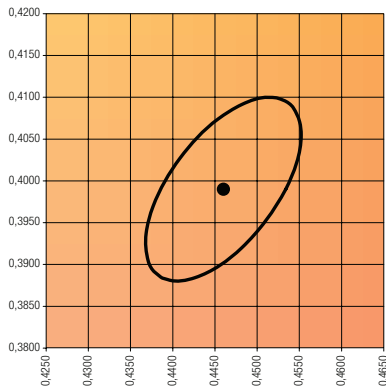


**Coordinates and tolerances according to CIE 1964**

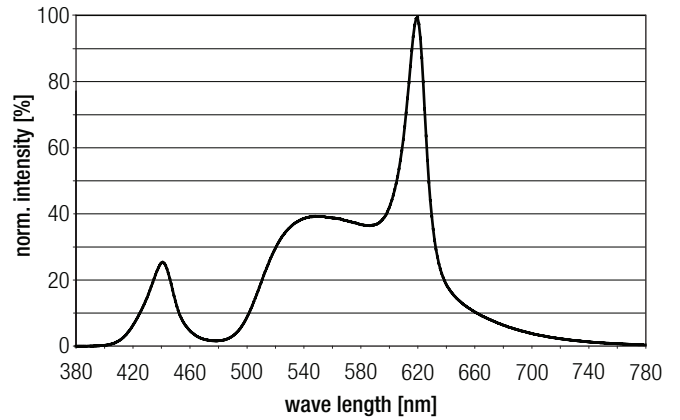
The specified colour coordinates are measured by a current impulse with typical values of module and a duration of 100 ms.  
 The ambient temperature of the measurement is  $t_a = 25\text{ }^\circ\text{C}$ .  
 The measurement tolerance of the colour coordinates are  $\pm 0.01$ .

**3,000 K**

	x0	y0
Centre	0,4460	0,3990

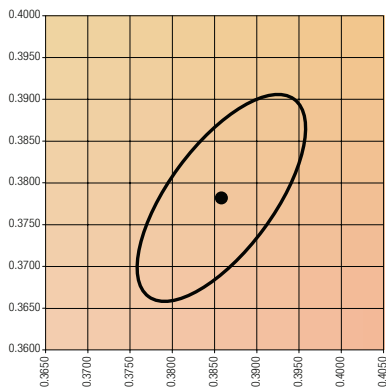


MacAdam ellipse: 4SDCM



**4,000 K**

	x0	y0
Centre	0,3860	0,3780



MacAdam ellipse: 4SDCM

