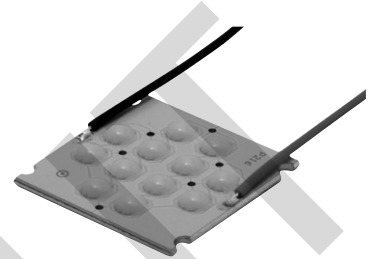
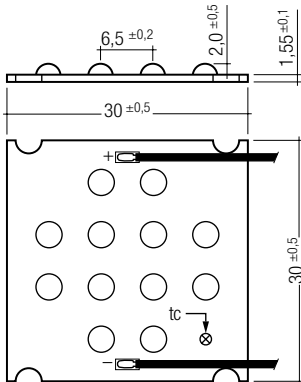


TALEXeos P216-3 white
High luminous flux TALEX module – 3rd generation

RoHS



Applications:

- general lighting
- effect and design lighting
- emergency lighting
- spotlights

Highlights:

- high flux TALEX module with 12 high-power LED
- small CCT tolerance band
- compact design
- excellent thermal management ③

Properties:

- high-power LED in COB technology
- colour white: ⑤ ⑥
 warm white (WW): 3,000 K, CRI 80
 neutral white (NW): 4,200 K, CRI 80
 daylight white (DL): 6,500 K, CRI > 70
- low thermal resistance $R_{th, j-hs} < 1 \text{ K/W}$ ③
- 140° light distribution pattern, uniform illumination ④
- fixing: pre-mounted thermal conductive adhesive tape
- connection method: cable 200 mm
- identification of polarity: + red / – black

Notes:

- cooling required. For details please refer to page 2 ③
- none of the components of the TALEXeos module (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to the brochure entitled "TALEX installation instructions"

TALEX

type	article number	colour ⑤	colour temp. K ⑥	light points per module	typ. luminous flux lm ①	luminous intensity cd ④	supply current mA ②	power W ①	t_a °C ③	t_c °C ③	packing unit
all data for $t_a = 25^\circ\text{C}$, $t_c = 45^\circ\text{C}$, $I = 350 \text{ mA}$ (except t_c max.)											
P216-3 WW 700 mA 140°	89600673	warm white	3,000	12	617	169.0	350	14.4	-25 → +55	75	25
P216-3 NW 700 mA 140°	89600672	neutral white	4,200	12	705	193.1	350	14.4	-25 → +55	75	25
P216-3 DL 700 mA 140°	89600687	daylight white	6,500	12	881	241.3	350	14.4	-25 → +55	75	25
all data for $t_a = 25^\circ\text{C}$, $t_c = 45^\circ\text{C}$, $I = 700 \text{ mA}$ (except t_c max.)											
P216-3 WW 700 mA 140°	89600673	warm white	3,000	12	1012	277.2	700	28.8	-25 → +55	75	25
P216-3 NW 700 mA 140°	89600672	neutral white	4,200	12	1157	316.9	700	28.8	-25 → +55	75	25
P216-3 DL 700 mA 140°	89600687	daylight white	6,500	12	1446	396.1	700	28.8	-25 → +55	75	25

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating current leads to an overload on the TALEXeos module. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXeos module.

③ $R_{th, j-hs}$ = Thermal Resistance (Junction – Heat Sink)
 If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.
 The temperature of the TALEXeos module at the t_c point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from www.conrad.com, www.rs-components.com) as per EN60598-1.
 For the precise position of the t_c point see the above diagram. For details please refer to page 2.

④ Typical luminous intensity for 0° central view. For details please refer to page 3.

⑤ Colour coordinates and tolerances according to CIE 1964. For details please refer to page 4.

⑥ Colour temperature and CRI according to CIE 1931

TALEXeos P216-3

Thermal design and heat sink

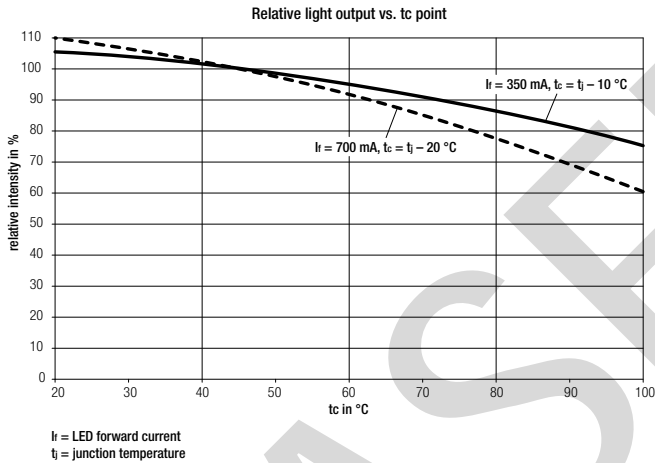
The rated life of TALEX products depends to a large extent on the temperature. If the permissible temperature limits are exceeded, the life of the TALEXeos module will be greatly reduced or the TALEXeos module may be destroyed.

Therefore the TALEXeos P216-3 needs to be mounted onto a heat sink. However, it is allowed to operate the TALEXeos P216-3 without heat sink for a short period of time (30 seconds).

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

tc point, ambient temperature ta, temperature and service life

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



For TALEXeos P216-3 a max. tc temperature of 75 °C is recommended 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



TALEXeos modules from TridonicAtco which have to be installed on a heat sink are equipped as standard with thermally conductive adhesive tape on the back of the pc board.

These TALEX products must be installed with this adhesive tape. To ensure permanent adhesion the fixing/cooling surface must be cleaned before installing the TALEX modules to remove all dirt, dust and grease.

For further information please refer to the brochure entitled "TALEX installation instructions".

Recommended heat sink surface

TALEXeos P216-3, 350 mA

ta	tc	Rth, hs-a	heat sink surface
25 °C	75 °C	3.3 K/W	204 cm ²
35 °C	75 °C	2.6 K/W	259 cm ²
45 °C	75 °C	1.9 K/W	357 cm ²
55 °C	75 °C	1.2 K/W	574 cm ²

TALEXeos P216-3, 700 mA

ta	tc	Rth, hs-a	heat sink surface
25 °C	75 °C	1.5 K/W	453 cm ²
35 °C	75 °C	1.1 K/W	592 cm ²
45 °C	75 °C	–	active cooling necessary
55 °C	75 °C	–	active cooling necessary

Notes

Values valid for: natural convection, heat sink material: aluminium ≥ 1 mm thick, Rth, hs-a = required thermal resistance of heat sink

Absolute maximum ratings P216-3*

Parameter	Value
storage temperature, ts	-25 → +90 °C
ambient temperature, ta	-25 → +80 °C
max. reference point temperature, tc	+90 °C
max. junction temperature tj	+145 °C
max. forward current Ir	1000 mA
forward voltage Ur (700 mA)	48.0V

* it is allowed to operate TALEXeos P216-3 without heat sink only for a short period of time (30 seconds).

Electrical supply/choice of converter

TALEXeos modules from TridonicAtco 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 TridonicAtco in combination with TALEXeos modules guarantees the necessary protection for safe and reliable operation.

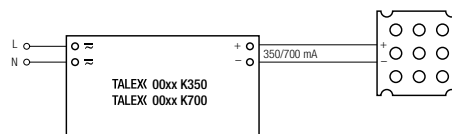
If a converter other than TridonicAtco TALEXconverter is used, it must provide the following protection:

- Short-circuit protection
- Overload protection
- Overtemperature protection



TALEXeos P216-3 must be supplied by a constant current converter. Operation with a constant voltage converter will lead to an irreversible damage of the module. The TALEXeos modules P216-3 are protected against reversed polarity.

Wiring example



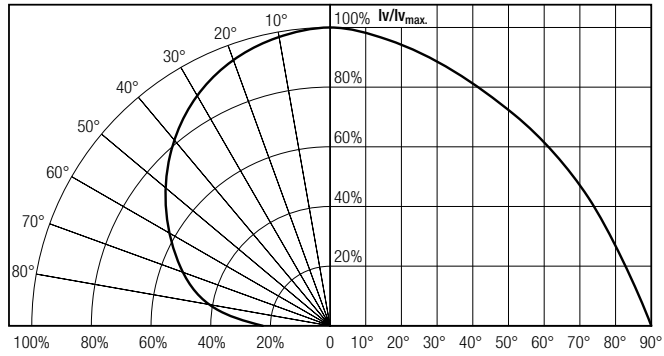
TALEXeos P216-3 must be wired in series connection to the constant current converter TALEXconverter 00xx K350/TALEXconverter 00xx K700.

TALEXeos P216-3

Optical characteristics TALEXeos P216-3

The optical design of the TALEXeos lens system ensures an optimum of homogeneity for the light distribution.

TALEXeos P216-3 140°: Light distribution I_v/I_{vmax} .



Colour	I_{vmax} . (cd) 350 mA	I_{vmax} . (cd) 700 mA
warm white (WW)	169.0	277.2
neutral white (NW)	193.1	316.9
daylight white (DL)	241.3	396.1

TALEXeos P216-3

Coordinates and tolerances according to CIE 1964

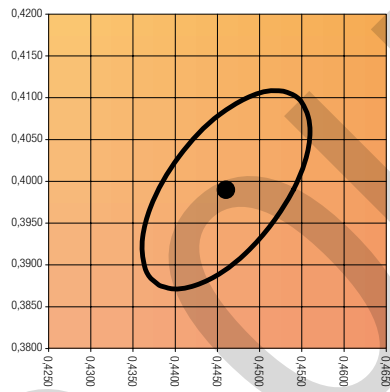
CIE coordinates:

warm white

	x0	y0
centre	0.4460	0.3990

MacAdam ellipse: 5SDCM

warm white



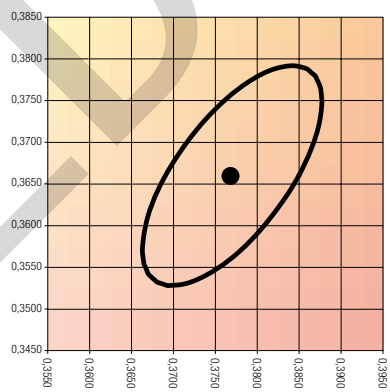
CIE coordinates:

neutral white

	x0	y0
centre	0.3770	0.3660

MacAdam ellipse: 5SDCM

neutral white



CIE coordinates:

daylight white

	x0	y0
centre	0.3200	0.3270

MacAdam ellipse: 5SDCM

daylight white

