

RoHS

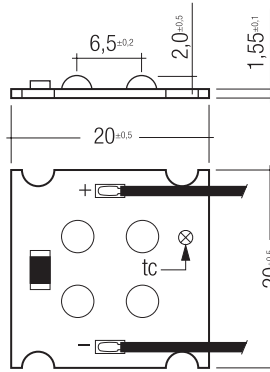
## TALEXmodule EOS P214-4 TALEXmodule EOS

### Product description

- General lighting
- Design and effect lighting
- Spotlights
- High-flux LED module
- Narrow colour temperature tolerance band
- Compact design
- Excellent thermal management
- Integrated polarity reversal protection
- Optional spot lens accessory TALEXaccessories LENS 0211-2
- High-power LED module in chip-on-board technology (COB)
- Low thermal resistance  $R_{th,j-hs} < 10$  K/W
- Attached with premounted thermally conductive adhesive tape
- Connection: Cable 200 mm
- Cooling required

### Technical data

Beam characteristic	140°
Ambient temperature $t_a$	-25 ... +55 °C
Typ. tc point	65 °C
Weight	5 g
Risk group (EN 62471:2008)	0



### Ordering data

Colour	Colour temperature	Type	Article number
Warm white	3,000 K	P214-4 WW	89601373
Neutral white	4,200 K	P214-4 NW	89601372
Daylight white	6,500 K	P214-4 DL	89601371

Packaging: 100 pieces/carton



Standards, page 3

Colour temperatures and tolerances, page 5

### Specific technical data

Type	Typ. luminous flux <sup>①</sup>		Current <sup>②</sup> & ③		Typ. forward voltage <sup>①</sup>		Power <sup>①</sup>		Colour rendering index CRI	Typ. efficacy	
	at 350 mA	at 700 mA	Typ.	Max.	at 350 mA	at 700 mA	at 350 mA	at 700 mA		at 350 mA	at 700 mA
P214-4 WW	310 lm	515 lm	350 mA	700 mA	13.6 V	14.0 V	4.8 W	9.8 W	> 80	65 lm/W	53 lm/W
P214-4 NW	340 lm	525 lm	350 mA	700 mA	13.6 V	14.0 V	4.8 W	9.8 W	> 80	71 lm/W	54 lm/W
P214-4 DL	410 lm	620 lm	350 mA	700 mA	13.6 V	14.0 V	4.8 W	9.8 W	> 70	85 lm/W	63 lm/W

All values for  $t_a = 25$  °C and  $t_c = 65$  °C.

① Tolerance range for optical and electrical data:  $\pm 15$  %.

②  $R_{th,j-hs}$  = Thermal Resistance (Junction – Heat Sink). Exceeding the max. temperature limits leads to a reduced life or the module can be damaged. Measuring of the temperature at the tc-point in the thermally stable state.

③ Exceeding the max. operating current leads to an overload on the TALEXmodule EOS. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXmodule EOS.

**Converter matrix – TALEX(module EOS P214-4**

**IN-BUILT LCI**

Type	0030 K500 one4all	LCAI 80 W 350mA one4all Ip <sup>Ⓢ</sup> <sup>Ⓢ</sup>	LCAI 80 W 700mA one4all Ip <sup>Ⓢ</sup> <sup>Ⓢ</sup>	0018 K350 DALI RGB
Article number	86458561	86458997 / 86458846	86459191	86458276

**Assignable converter**

Type	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
TALEX(module EOS P214-4	2	3	10	14	5	7	1	1

<sup>Ⓢ</sup> Not SELV.

<sup>Ⓢ</sup> Additional insulation required.

**Converter matrix – TALEX(module EOS P214-4**

**REMOTE LCI**

Type	LCAI 15 W 350 mA one4all	LCAI 30 W 700 mA one4all	LCI 5 W 350 mA	LCI 15 W 350 mA	LCI 15 W 700 mA	LCI 30 W 700 mA	LCCI 16 W 350 mA	LCCI 16 W 500 mA	LCCI 16 W 700 mA
Article number	86458899	86458900	24166311	24166312	24166313	24166314	86459210	86459211	86459212

**Assignable converter**

Type	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
TALEX(module EOS P214-4	1	2	1	2	1	1	2	2	1	1	2	2	1	3	1	2	1	1

**Controls-Matrix – TALEX(module EOS P214-4**

**IN-BUILT**

Type	C350-2 12-24 V DC 350 mA 8 VA	C700 12-24 V DC 700 mA 16 VA	C350 dim	C700 dim
Article number	86458453	86458513	86458944	86458945

**REMOTE**

C350-2 4-Channel
86458693

**Assignable controls**

Type	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
TALEX(module EOS P214-4	1	1	1	1	1	3	1	3

**Assignable controls**

Min.	Max.
2	12

**Standards**

EN 62031  
EN 62471

**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 EOS will be greatly reduced or the TALEXmodule EOS may be destroyed.

Therefore the TALEXmodule EOS P214-4 needs to be mounted onto a heat sink.

Tridonic's excellent thermal design for the TALEXmodule EOS 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 TALEXmodule EOS P214-4 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**



TALEXmodule EOS from Tridonic 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 and guidelines".

**Recommended heat sink surface**

**TALEXmodule EOS P214-4, 350 mA**

ta	tc	Rth, hs-a
25 °C	65 °C	7.7 K/W
35 °C	65 °C	5.6 K/W
45 °C	65 °C	3.5 K/W
55 °C	65 °C	1.4 K/W

**TALEXmodule EOS P214-4, 700 mA**

ta	tc	Rth, hs-a
25 °C	65 °C	3.4 K/W
35 °C	65 °C	2.3 K/W
45 °C	65 °C	1.3 K/W
55 °C	65 °C	0.2 K/W

**Notes**

Rth, hs-a = required thermal resistance of heat sink

The actual required heat sink surface need to be corrected according to the actually measured temperature at tc.

**Matrix temperature**

**f(soldering time) for the modules**

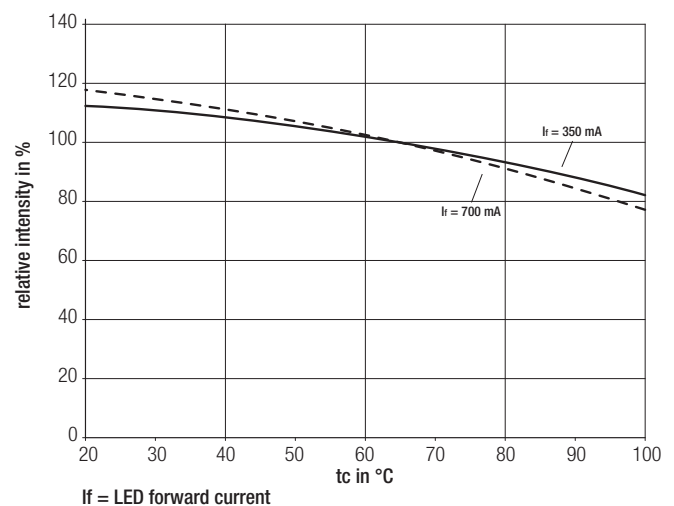
Temperature	Max. time without heat sink	Max. time with optimized heat sink
330 °C	15 s	–
340 °C	12 s	–
350 °C	10 s	–
360 °C	5 s	15 s
370 °C	3 s	12 s
380 °C	2 s	10 s
390 °C	1 s	5 s

The values apply for soldering without heat sink. To reduce the duration of soldering it is recommended to pre-heat the module at ta max., e.g. on a plate.

**Thermal behaviour**

Storage temperature	-25–80 °C
Operating temperature	-25–55 °C
tc max.	75 °C

**relative luminous flux vs. tc point**



### Electrical supply/choice of converter

TALEXmodule EOS 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 EOS guarantees the necessary protection for safe and reliable operation.

The TALEXmodule EOS are only for the operation with SELV < 60 V. The operation at converters with outputvoltage > 60 V is with an additional preparations possible. Further information on request.

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

- Short-circuit protection
- Overload protection

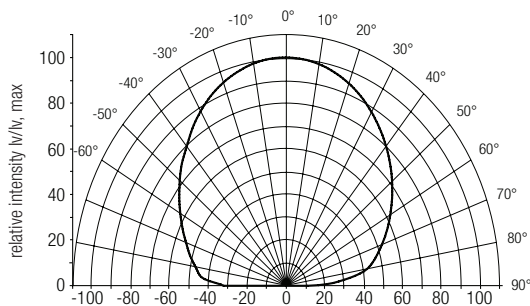


TALEXmodule EOS P214-4 must be supplied by a constant current converter. Operation with a constant voltage converter will lead to an irreversible damage of the module. The TALEXmodule EOS P214-4 are protected against reversed polarity.

### Optical characteristics TALEXmodule EOS P214-4

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

### Light distribution $I_v/I_{v,max}$ .

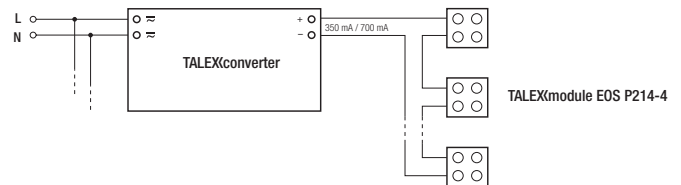


### Wiring

Cable: AWG24; length 200 mm

Colour	red	black
Function	+	-

### Wiring example < 60 V

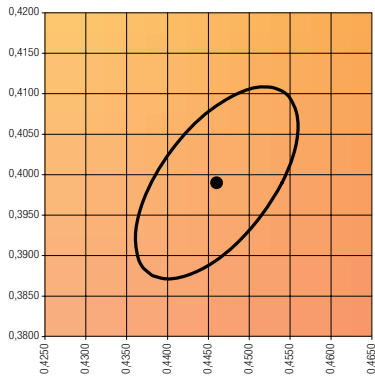


Colour	$I_{v,max}$ 350 mA	$I_{v,max}$ 700 mA
Warm white (WW)	55.6 cd	91.2 cd
Neutral white (NW)	64.0 cd	104.4 cd
Daylight white (DL)	79.2 cd	130.4 cd

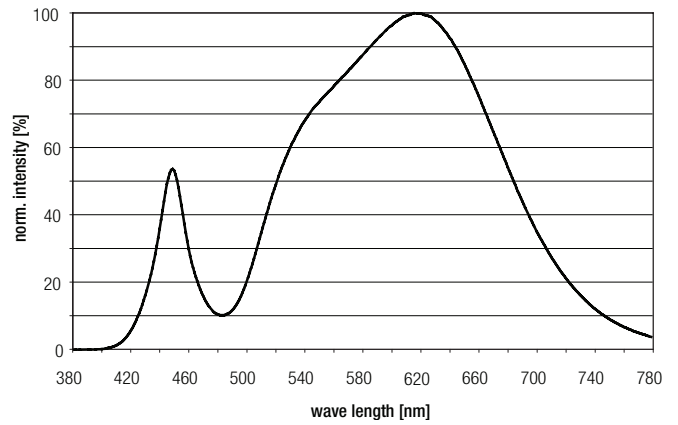
Coordinates and tolerances according to CIE 1964

3,000 K

	x0	y0
Centre	0.4460	0.3990

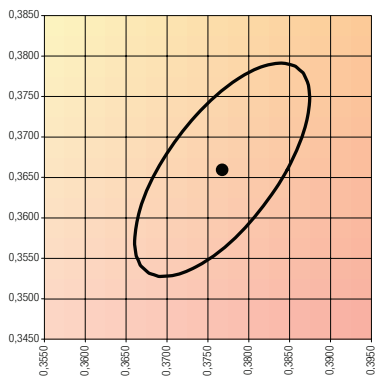


MacAdam ellipse: 5SDCM

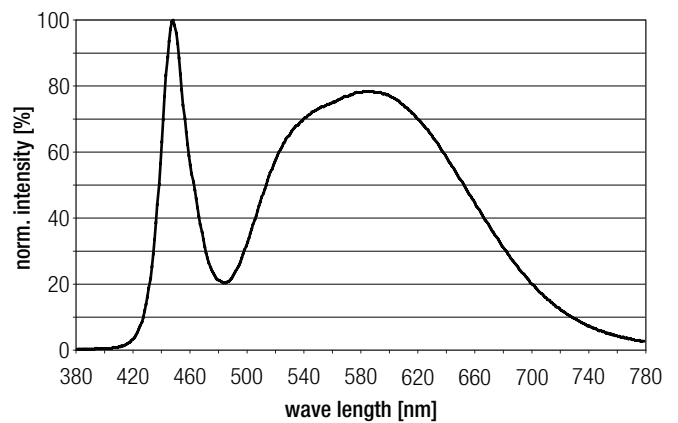


4,200 K

	x0	y0
Centre	0.3770	0.3660

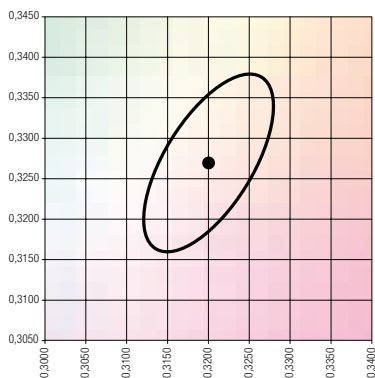


MacAdam ellipse: 5SDCM



6,500 K

	x0	y0
Centre	0.3200	0.3270



MacAdam ellipse: 5SDCM

