

IP68 

## TALEXchain CRYSTAL SELECT TALEXchain CRYSTAL

### Product description

- LED module chain for highlighting lines and edges and for backlighting complex contours, letters and symbols in signage applications
- Optimised for use in signage (lettering, surface backlighting)
- Beam characteristic: 155°
- LED module with plastic casing and strain relief with IP68 protection
- High-power LED in chip-on-board technology (COB)
- Integrated current source to stabilise luminous flux
- Flexible chain, can be split between any module
- Attached with M3 screw or premounted double-sided adhesive tape
- Connection: Cable 180 mm, both sides

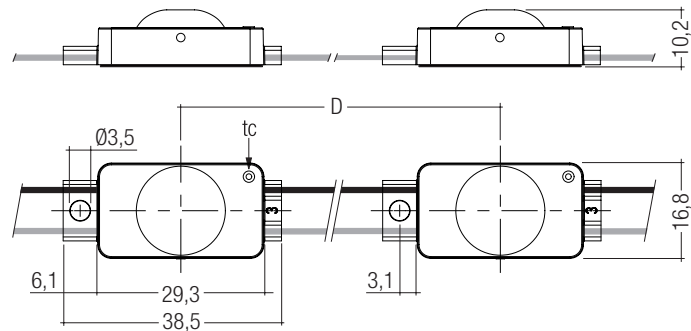
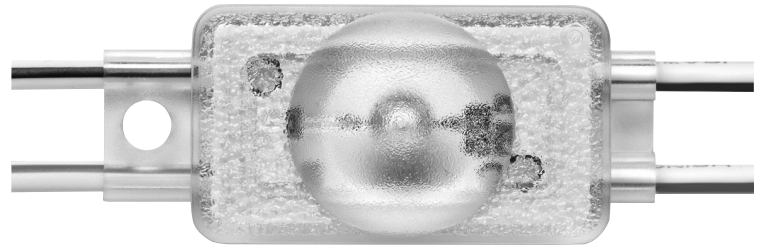
### Technical data

Ambient temperature $t_a$	-30 ... +55 °C
Max. surface temperature on module $t_c$	65 °C
Type of protection	IP68



Standards, page 2

Colour temperatures and tolerances, page 4



### Ordering data

Colour	Wavelength	range	tempera- ture	Packing code	Type	Article number
<b>1 light point per module</b>						
Crystal white	–	–	7,500 K	1	LED P550-SEL CW 12V 200 10 68 000	22176602
Crystal white	–	–	7,500 K	2	LED P550-SEL CW 12V 200 100 68 000	22176600
Crystal white	–	–	7,500 K	1	LED P550-SEL CW 12V 150 10 68 000	22176604
Crystal white	–	–	7,500 K	2	LED P550-SEL CW 12V 150 100 68 000	22176611
Daylight white	–	–	6,500 K	1	LED P550-SEL DL 12V 200 10 68 000	22176605
Daylight white	–	–	6,500 K	2	LED P550-SEL DL 12V 150 100 68 000	22176612
Neutral white	–	–	4,200 K	1	LED P550-SEL NW 12V 200 10 68 000	22176618
Neutral white	–	–	4,200 K	2	LED P550-SEL NW 12V 150 100 68 000	22176622
Warm white	–	–	3,000 K	1	LED P550-SEL WW 12V 200 10 68 000	22176625
Warm white	–	–	3,000 K	2	LED P550-SEL WW 12V 150 100 68 000	22176626
Yellow white	570 nm	–	–	1	LED P550-SEL YW 12V 200 10 68 000	22176623
Yellow white	570 nm	–	–	2	LED P550-SEL YW 12V 150 100 68 000	22176624
Red	626 – 636 nm	–	–	1	LED P550-SEL R 12V 200 10 68 000	22176606
Red	626 – 636 nm	–	–	2	LED P550-SEL R 12V 150 100 68 000	22176613
Green	525 – 540 nm	–	–	1	LED P550-SEL G 12V 200 10 68 000	22176617
Green	525 – 540 nm	–	–	2	LED P550-SEL G 12V 150 100 68 000	22176619
Blue	455 – 460 nm	–	–	1	LED P550-SEL B 12V 200 10 68 000	22176620
Blue	455 – 460 nm	–	–	2	LED P550-SEL B 12V 150 100 68 000	22176621

Packaging code 1: 1 piece/bag, 100 pieces/carton, 600 pieces/pallet

Packaging code 2: 1 piece/roll, 30 pieces/carton, 180 pieces/pallet

Specific technical data

Type	Number of modules	Typ. luminous flux per module <sup>2</sup>	Supply voltage DC <sup>3</sup>	Power per module <sup>2</sup>	Module distance D	Total length
<b>1 light point per module</b>						
LED P550-SEL CW 12V 200 10 68 000	10	45 lm	12 V	0.56 W	200 mm	2,200 mm
LED P550-SEL CW 12V 200 100 68 000	100	45 lm	12 V	0.56 W	200 mm	20,200 mm
LED P550-SEL CW 12V 150 10 68 000	10	45 lm	12 V	0.56 W	150 mm	2,200 mm
LED P550-SEL CW 12V 150 100 68 000	100	45 lm	12 V	0.56 W	150 mm	15,250 mm
LED P550-SEL DL 12V 200 10 68 000	10	45 lm	12 V	0.56 W	200 mm	2,200 mm
LED P550-SEL DL 12V 150 100 68 000	100	45 lm	12 V	0.56 W	150 mm	15,250 mm
LED P550-SEL NW 12V 200 10 68 000	10	37 lm	12 V	0.56 W	200 mm	2,200 mm
LED P550-SEL NW 12V 150 100 68 000	100	37 lm	12 V	0.56 W	150 mm	15,250 mm
LED P550-SEL WW 12V 200 10 68 000	10	34 lm	12 V	0.56 W	200 mm	2,200 mm
LED P550-SEL WW 12V 150 100 68 000	100	34 lm	12 V	0.56 W	150 mm	15,250 mm
LED P550-SEL YW 12V 200 10 68 000	10	52 lm	12 V	0.56 W	200 mm	2,200 mm
LED P550-SEL YW 12V 150 100 68 000	100	52 lm	12 V	0.56 W	150 mm	15,250 mm
LED P550-SEL R 12V 200 10 68 000	10	13 lm	12 V	0.56 W	200 mm	2,200 mm
LED P550-SEL R 12V 150 100 68 000	100	13 lm	12 V	0.56 W	150 mm	15,250 mm
LED P550-SEL G 12V 200 10 68 000	10	20 lm	12 V	0.42 W	200 mm	2,200 mm
LED P550-SEL G 12V 150 100 68 000	100	20 lm	12 V	0.42 W	150 mm	15,250 mm
LED P550-SEL B 12V 200 10 68 000	10	8 lm	12 V	0.56 W	200 mm	2,200 mm
LED P550-SEL B 12V 150 100 68 000	100	8 lm	12 V	0.56 W	150 mm	15,250 mm

<sup>1</sup> If the max. temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. For the precise position of the tc point see the above diagram.

<sup>2</sup> Tolerance range for optical and electrical data: ±15 %.

<sup>3</sup> Exceeding the max. operating voltage leads to an overload on the TALEXchain. This may in turn result in a significant reduction in lifetime or even in destruction.  
Tolerance range for the supply voltage: 12 V: +2 V / -0 V.

All values at ta = 25 °C.

**Standards**

- EN 62031
- EN 62471

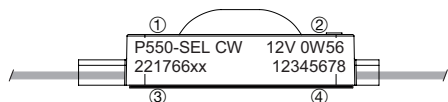
**Thermal behaviour**

operation temperature (operation, no defects)	ta	- 30 → + 55 °C
storage temperature	ts	- 30 → + 80 °C
max. temperature tc point	tc	- 30 → + 65 °C

The values apply to operation at 100 % output, natural convection  
 If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be destroyed. The tc point temperature of TALEXchain CRYSTAL SELECT should be measured in the thermally stable state and under operating conditions by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN60598-1.

tc temperature in °C	Luminous flux in %	Life time in h
15	80	32.000
	70	52.000
	50	100.000
35	80	30.000
	70	50.000
	50	95.000
65	80	25.000
	70	45.000
	50	80.000

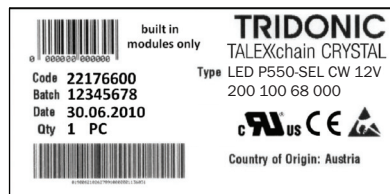
**Label product**



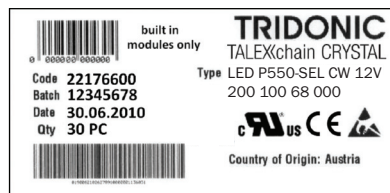
- ① Type
- ② Electr. specification
- ③ Article code
- ④ Production batch
- ⑤ Normative symbols



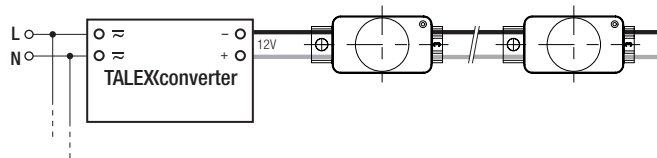
**Label product packaging**



**Label carton**



**Wiring example TALEXchain CRYSTAL SELECT**



TALEXchain CRYSTAL SELECT (except green) can be used with following converter:

Article-number	Type	U <sub>out</sub>	P <sub>max</sub>	Number of modules		Type of protection
				min.	max.	
24166316	TALEXconverter LCU 015/12 D010	12V	15W	3	23	IP 67
24166318	TALEXconverter LCU 035/12 D010	12V	35W	9	54	IP 67
24166322	TALEXconverter LCU 060/12 D010	12V	60W	12	93	IP 67
24166326	TALEXconverter LCU 100/12 D010	12V	100W	24	155	IP 67
24166331	TALEXconverter LCU 150/12 D010	12V	150W	47	232	IP 67

Article-number	Type	U <sub>out</sub>	P <sub>max</sub>	Number of modules		Type of protection
				min.	max.	
24166319	TALEXconverter LCU 035/12 E020	12V	35W	7	54	IP 20
24166323	TALEXconverter LCU 060/12 E020	12V	60W	12	93	IP 20
24166327	TALEXconverter LCU 100/12 E020	12V	100W	24	155	IP 20
24166332	TALEXconverter LCU 150/12 E020	12V	150W	47	232	IP 20

TALEXchain CRYSTAL SELECT Green can be used with following converter:

Article-number	Type	U <sub>out</sub>	P <sub>max</sub>	Number of modules		Type of protection
				min.	max.	
24166316	TALEXconverter LCU 015/12 D010	12V	15W	4	31	IP 67
24166318	TALEXconverter LCU 035/12 D010	12V	35W	11	72	IP 67
24166322	TALEXconverter LCU 060/12 D010	12V	60W	16	124	IP 67
24166326	TALEXconverter LCU 100/12 D010	12V	100W	31	207	IP 67
24166331	TALEXconverter LCU 150/12 D010	12V	150W	62	310	IP 67

Article-number	Type	U <sub>out</sub>	P <sub>max</sub>	Number of modules		Type of protection
				min.	max.	
24166319	TALEXconverter LCU 035/12 E020	12V	35W	10	72	IP 20
24166323	TALEXconverter LCU 060/12 E020	12V	60W	16	124	IP 20
24166327	TALEXconverter LCU 100/12 E020	12V	100W	31	207	IP 20
24166332	TALEXconverter LCU 150/12 E020	12V	150W	62	310	IP 20

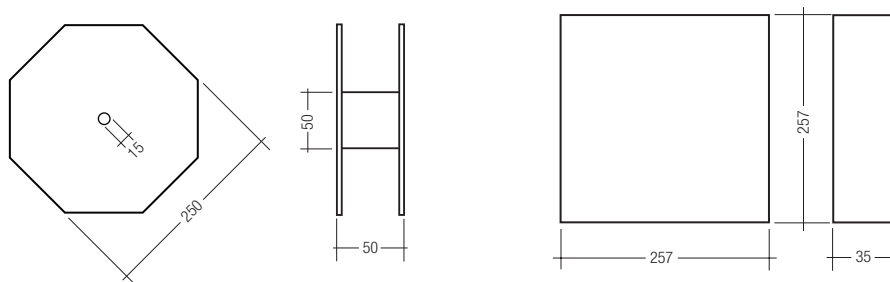
Chaining: max. 100 modules

Further converter in the product catalogue or at [www.tridonic.com](http://www.tridonic.com)

**Empirical values for decrease of luminous flux over the chain**

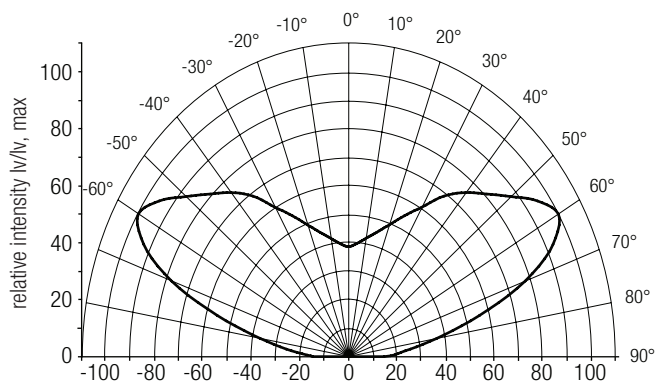
Module distance D	Chaining 50 modules	Chaining 100 modules	Max. number of chained modules without decrease of luminous flux
150 mm	0 %	23 %	60
200 mm	0 %	33 %	55

Dimensions roll packaging (packing code 2)



Optical characteristics TALEXchain CRYSTAL SELECT

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



The evaluation to the eye safety is according to the EN 62471:2008  
(Photobiological safety of lamps and lamp systems)

Type	Article number	Colour	Actinic UV	near UV	blue light	retinal thermal	IR radiation, eye
			$E_s$	$E_{UVA}$	$L_B$	$L_R$	$E_{IR}$
			200–400 nm	315–400 nm	300–700 nm	380–1,400 nm	780–3,000 nm
LED P550-SEL CW 12V 200 10 68 000	22176602	Crystal white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL CW 12V 200 100 68 000	22176600	Crystal white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL CW 12V 150 10 68 000	22176604	Crystal white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL CW 12V 150 100 68 000	22176611	Crystal white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL DL 12V 200 10 68 000	22176605	Daylight white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL DL 12V 150 100 68 000	22176612	Daylight white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL NW 12V 200 10 68 000	22176618	Neutral white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL NW 12V 150 100 68 000	22176622	Neutral white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL WW 12V 200 10 68 000	22176625	Warm white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL WW 12V 150 100 68 000	22176626	Warm white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL YW 12V 200 10 68 000	22176623	Yellow white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL YW 12V 150 100 68 000	22176624	Yellow white	exempt	exempt	exempt	exempt	exempt
LED P550-SEL R 12V 200 10 68 000	22176606	Red	exempt	exempt	exempt	exempt	exempt
LED P550-SEL R 12V 150 100 68 000	22176613	Red	exempt	exempt	exempt	exempt	exempt
LED P550-SEL G 12V 200 10 68 000	22176617	Green	exempt	exempt	exempt	exempt	exempt
LED P550-SEL G 12V 150 100 68 000	22176619	Green	exempt	exempt	exempt	exempt	exempt
LED P550-SEL B 12V 200 10 68 000	22176620	Blue	exempt	exempt	exempt	exempt	exempt
LED P550-SEL B 12V 150 100 68 000	22176621	Blue	exempt	exempt	exempt	exempt	exempt

**Exempt:**

The LED does not pose any photobiological hazard.

**Low risk:**

The LED does not pose a hazard due to normal behavioral limitations on exposure.

**Moderate risk:**

The LED does not pose a hazard due to the aversion response to very bright light sources or due to thermal discomfort.

**High risk:**

The LED may pose a hazard even for momentary or brief exposure.

Coordinates and tolerances according to CIE 1964

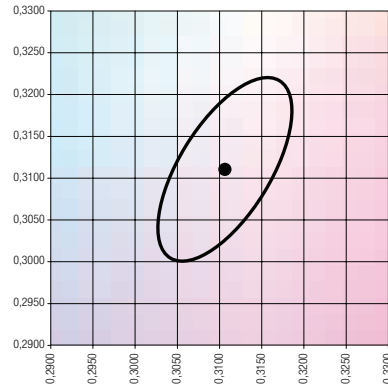
CIE coordinates

7,500 K

	x0	y0
Centre	0.3106	0.3124

MacAdam ellipse: 5SDCM

Crystal white



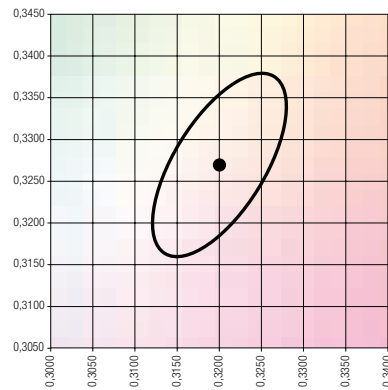
CIE coordinates:

6,500 K

	x0	y0
Centre	0.3230	0.3310

MacAdam ellipse: 5SDCM

Daylight white



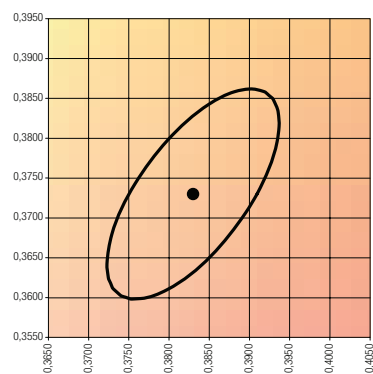
CIE coordinates:

4,200 K

	x0	y0
Centre	0.3770	0.3660

MacAdam ellipse: 5SDCM

Neutral white



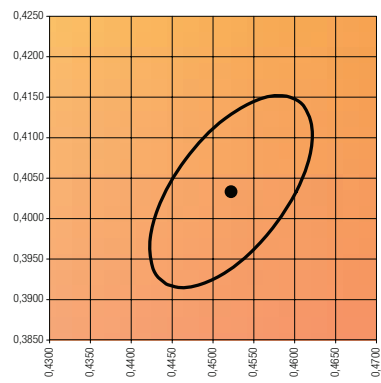
**CIE coordinates:**

**3,000 K**

	x0	y0
Centre	0.4520	0.4033

MacAdam ellipse: 5SDCM

**Warm white**



**CIE coordinates:**

**570 nm**

	x0	y0
Centre	0.4215	0.4632

MacAdam ellipse: 6SDCM

**Yellow white**

