

IP68 

TALEXchain CRYSTAL SELECT
TALEXchain CRYSTAL

Product description

- LED 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)
- High efficiency up to 118 lm/W for the LED module
- High colour consistency (MacAdam 3)
- 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
- Nominal life-time up to 80,000 h (at ta 55 °C with a failure rate max. 0.2 % per 1,000 h)
- Connection: Cable 180 mm, both sides

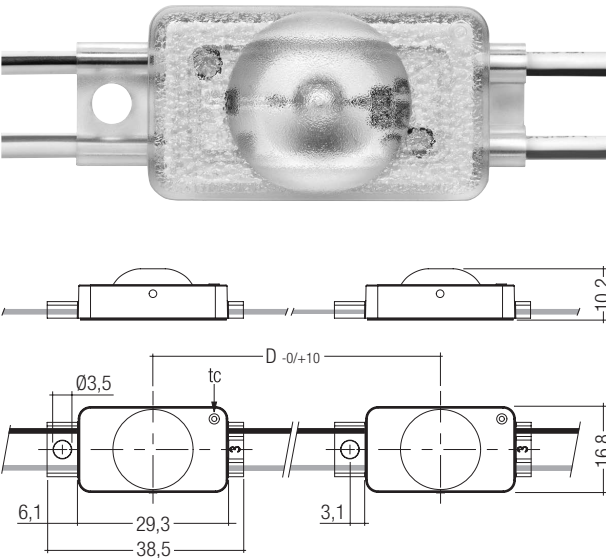
Technical data

Ambient temperature ta	-30 ... +55 °C
Max. surface temperature on module tc ^①	65 °C
Storage temperature ts	-30 ... +80 °C
Type of protection ^②	IP68
Risk group (EN 62471:2008)	0



Standards, page 4

Colour temperatures and tolerances, page 6, 7



Ordering data

Colour	Wavelength range	Colour temperature	Packing code	Type	Article number
1 light point per module					
Crystal white	–	7,500 K	2	LEDV P550-SEL CW 12 200 100 68 B	22176600
Crystal white	–	7,500 K	2	LEDV P550-SEL CW 12 150 100 68 B	22176611
Daylight white	–	6,500 K	2	LEDV P550-SEL DL 12 200 100 68 B	22176673
Daylight white	–	6,500 K	2	LEDV P550-SEL DL 12 150 100 68 B	22176612
Neutral white	–	4,200 K	2	LEDV P550-SEL NW 12 200 100 68 B	22176537
Neutral white	–	4,200 K	2	LEDV P550-SEL NW 12 150 100 68 B	22176622
Warm white	–	3,000 K	2	LEDV P550-SEL WW 12 200 100 68 B	22176676
Warm white	–	3,000 K	2	LEDV P550-SEL WW 12 150 100 68 B	22176626
Red	626 – 636 nm	–	2	LEDV P550-SEL R 12 200 100 68 B	22176682
Red	626 – 636 nm	–	2	LEDV P550-SEL R 12 150 100 68 B	22176613
Blue	455 – 460 nm	–	2	LEDV P550-SEL B 12 200 100 68 B	22176684

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	Photometric code ^②	Wavelength range	Colour temperature	Typ. luminous flux per module ^②	Colour rendering index CRI ^②	Supply voltage DC ^③	Typ. current per module ^②	Typ. power per module	Luminous efficacy	Energy classification per module
1 light point per module										
LEDV P550-SEL CW	775/349	–	7,500 K	45 lm	73	12 V	32 mA	0.38 W	118 lm/W	A++
LEDV P550-SEL DL	765/349	–	6,500 K	45 lm	73	12 V	32 mA	0.38 W	118 lm/W	A++
LEDV P550-SEL NW	842/349	–	4,200 K	38 lm	80	12 V	32 mA	0.38 W	100 lm/W	A++
LEDV P550-SEL WW	830/349	–	3,000 K	34 lm	80	12 V	32 mA	0.38 W	89 lm/W	A++
LEDV P550-SEL R	–	626 – 636 nm	–	12 lm	–	12 V	40 mA	0.48 W	25 lm/W	–
LEDV P550-SEL B	–	455 – 460 nm	–	8 lm	–	12 V	32 mA	0.38 W	21 lm/W	–

^① 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.

^② Tolerance range for optical and electrical data: ±15 % (optical data for blue: ±30 %; electrical data for red: +15 / -30 %).

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

^④ Maximum submerge depth 1 m / 60 min.

All values at ta = 25 °C.

Product configurator

The products listed on page 1 are a predefined selection of possible product configurations.

The product configurator also offers the option of configuring chains optimized for the particular application:

The light colour, module spacing, number of modules and beam characteristics can be selected.

Selection parameters

Colour	Crystal white CW Daylight white DL Neutral white NW Yellow white YW Red R Blue B
Module distance D	90 – 300 mm in 10 mm steps
Number of modules	10 ^① , 20 – 100 in 1 piece steps ^②
Beam characteristic	140° (A), 155° (B)

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

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

Type code

Example: LEDV P550-SEL CW 12 200 10 68 B

LEDV P550-SEL	TALEXchain CRYSTAL SELECT
CW	Colour = crystal white
12	Supply voltage = 12 V
200	Module distance D = 200 mm
10	Number of modules = 10
68	Type of protection = IP68
B	Beam characteristic = 155°

For more information please call or email your Tridonic contact.

Photometric code

Key for photometric code, e. g. 842/349

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

LED control gear matrix – TALEXchain CRYSTAL SELECT

IN-BUILT LCU ^①						REMOTE LCU ^②			
Type	LCU 015/12 D010	LCU 035/12 D010	LCU 060/12 D010	LCU 100/12 D010	LCU 150/12 D010	LCU 035/12 E020	LCU 060/12 E020	LCU 100/12 E020	LCU 150/12 E020
Article number	24166316	24166318	24166322	24166326	24166331	24166319	24166323	24166327	24166332

Assignable LED control gear

Assignable LED control gear

Type	Number of modules										Number of modules								Max. chaining
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
LEDV P550-SEL CW	4	34	12	80	18	137	35	228	69	343	11	80	18	137	35	228	69	343	100
LEDV P550-SEL DL	4	34	12	80	18	137	35	228	69	343	11	80	18	137	35	228	69	343	100
LEDV P550-SEL NW	4	34	12	80	18	137	35	228	69	343	11	80	18	137	35	228	69	343	100
LEDV P550-SEL WW	4	34	12	80	18	137	35	228	69	343	11	80	18	137	35	228	69	343	100
LEDV P550-SEL R	3	27	10	63	14	108	27	181	54	271	9	63	14	108	27	181	54	271	100
LEDV P550-SEL B	4	34	12	80	18	137	35	228	69	343	11	80	18	137	35	228	69	343	100

^① Type of protection IP67

^② Type of protection IP20

Standards

- EN 62031
- EN 62471

The product meets the “inbuilt LED module” classification according to EN 62031.
The product passed the glow-wire test with 650 °C according to EN 62031.
The product passed the salt spray test (degree of severity: 6) according to EN 60068-2-52-1.

Certificates

- UL file: e313318
- CSA certificate: 249699
- ENEC for light colours CW, DL, NW, WW, GW, YW only

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. The module can fail within a short time. The tc point temperature of the module has to be measured in the thermally stable state and under operating conditions. Measurement setup e.g. according to IEC/EN 60598-1.

Lumen maintenance

Lumen depreciation	tc temperature 65 °C
L70B10	72,000 h
L70B50	105,000 h
L80B10	45,000 h
L80B50	65,000 h
L90B10	21,000 h
L90B50	31,000 h

Remarks:

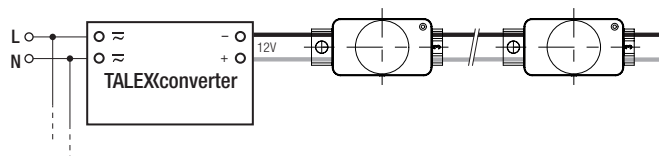
- Lumen depreciation – the decrease in lumen output that occurs as a lamp is operated.
- L70 or L₇₀ – shorthand for lumen depreciation to 70 % of initial lumen output indicates 70 % lumen maintenance. L50 would be lumen depreciation of 50 %.
- B50 – another aspect of LED life projection, used in conjunction with the lumen depreciation.
B50 indicates no more than 50% of a sample of LED devices would be expected to fail before a certain number of operating hours. Failure means light output drops below a target lumen maintenance level (such as L70 or L50). B10 would mean no more than 10% of the sample fails within the given time.

Wiring

Cable: AWG 18

Colour	red-white	black-white
Function	+	-

Wiring example



Empirical values for decrease of luminous flux over the chain

Colour	Module distance 100 mm	Module distance 150 mm	Module distance 200 mm	Module distance 300 mm	Number of modules
Crystal white	0 %	0 %	0 %	5 %	100
Daylight white	0 %	0 %	0 %	5 %	100
Neutral white	0 %	0 %	0 %	5 %	100
Warm white	0 %	0 %	0 %	5 %	100
Red	0 %	0 %	0 %	16 %	100
Blue	0 %	0 %	0 %	5 %	100

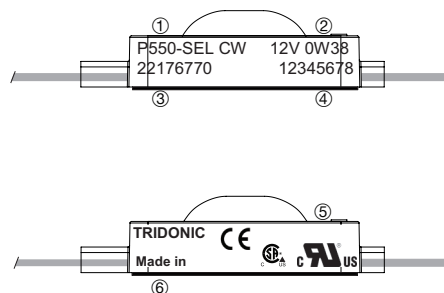
Heat value

0.23 MJ/module

Maintenance note

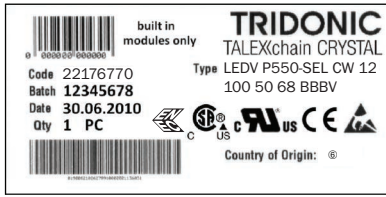
The product is maintenance free. If cleaning during application only clear water without the addition of cleaning agents should be used.

Label product

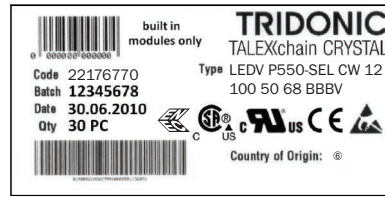


- ① Type
- ② Electr. specification
- ③ Article code
- ④ Production batch
- ⑤ Normative symbols
- ⑥ CZ: Check Republic, HU: Hungary

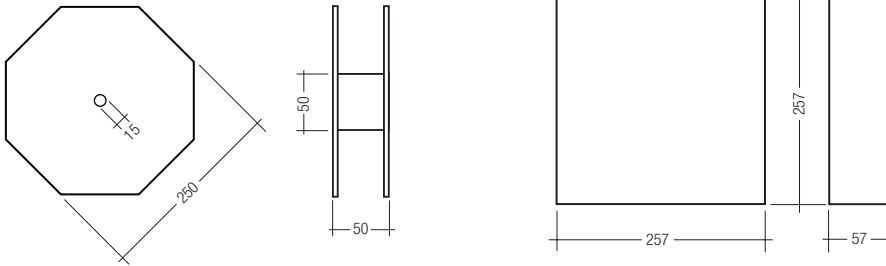
Label product packaging



Label carton

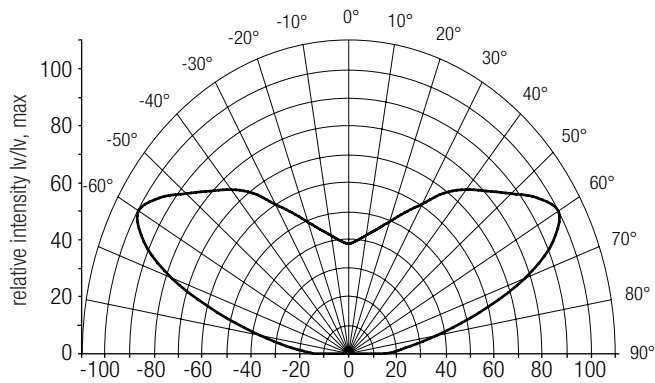


Dimensions roll packaging (packing code 2)



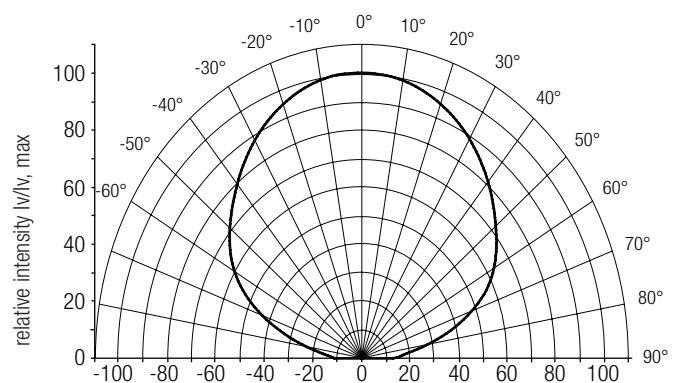
Beam characteristics 155°

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



Beam characteristics 140°

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

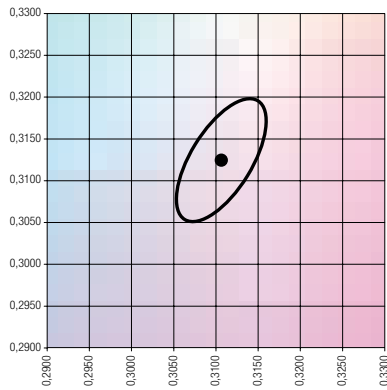


Coordinates and tolerances according to CIE 1964

Crystal white

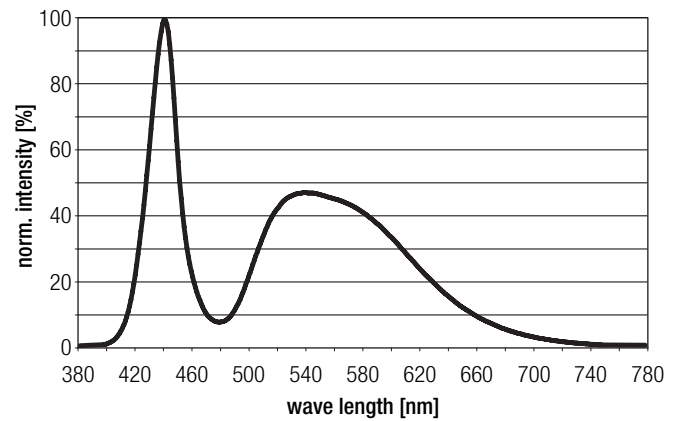
7,500 K

	x0	y0
Centre ^①	0.3106	0.3124



MacAdam ellipse: 3SDCM

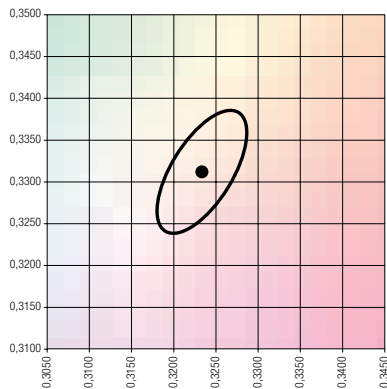
^① Measuring tolerance of centre: +/-0.01.



Daylight white

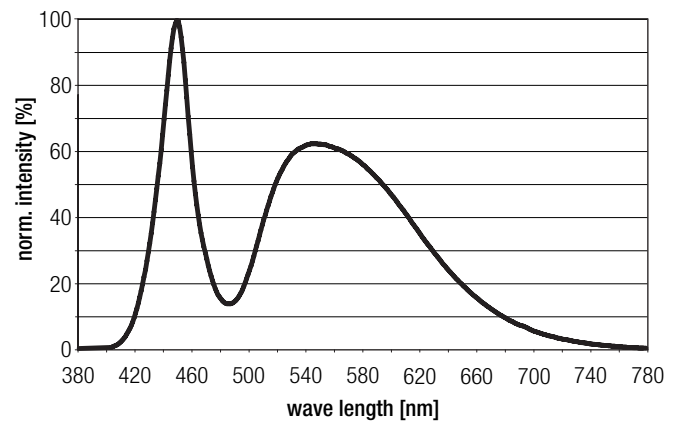
6,500 K

	x0	y0
Centre ^①	0.3230	0.3310



MacAdam ellipse: 3SDCM

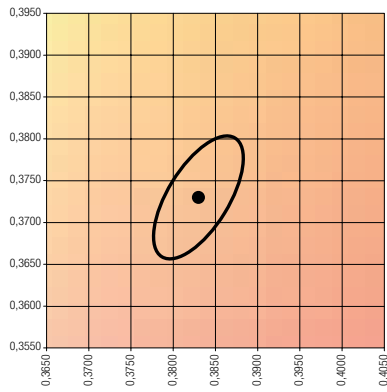
^① Measuring tolerance of centre: +/-0.01.



Neutral white

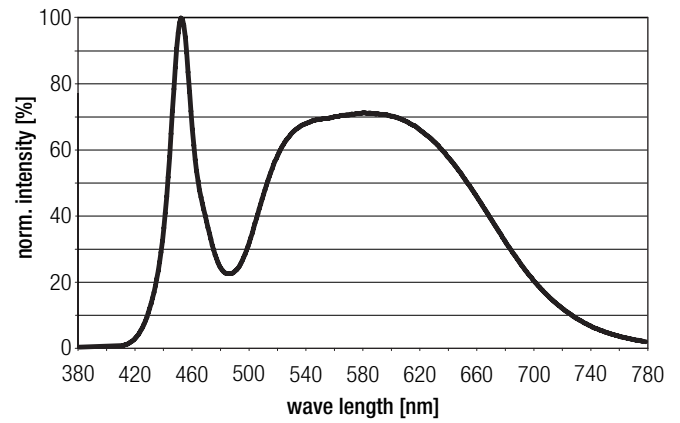
4,200 K

	x0	y0
Centre ^①	0.3833	0.3733



MacAdam ellipse: 3SDCM

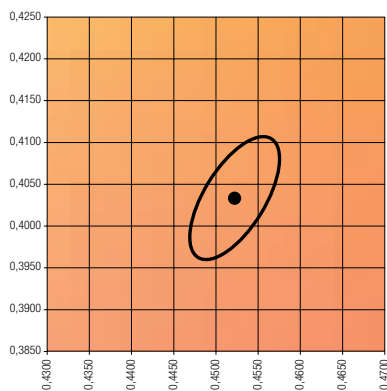
^① Measuring tolerance of centre: +/-0.01.



Warm white

3,000 K

	x0	y0
Centre ^①	0.4520	0.4033



MacAdam ellipse: 3SDCM

^① Measuring tolerance of centre: +/-0.01.

