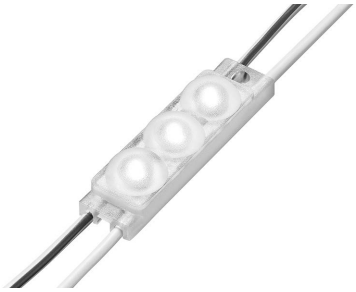
AGILIGHT® | TRIDONIC
Light It Up signage

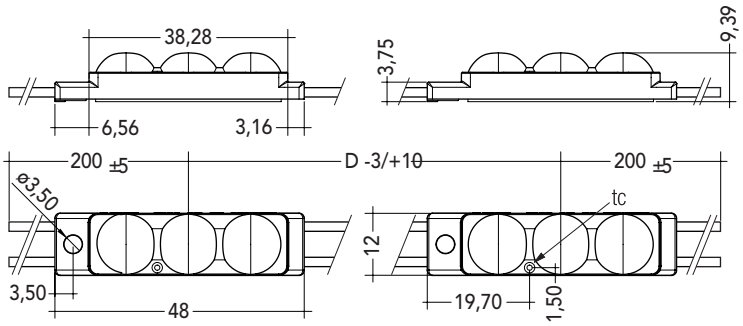
TALEXchain CRYSTAL CLASSIC P541

IP68 RoHS

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 colour consistency (MacAdam 5)
- Beam characteristic: 155°
- LED module with plastic casing and strain relief with IP68 protection
- Integrated current source to stabilise luminous flux
- Flexible chain, can be split between any module
- Mounting with screw or premounted double-sided adhesive tape possible
- Nominal life-time up to 50,000 h (at ta 60 °C with a failure rate max. 0.2 % per 1,000 h)





Technical data

Ambient temperature ta	-40..+60°C
Max. surface temperature on module tc[1]	65°C
Storage temperature ts	-40 ... +85 °C
Type of protection[4]	IP68
Risk group (EN 62471:2008)	0

Ordering data

Type	Article numbers	Colour	Wavelength range	Colour temperature[5]
3 light points per module				
LED P541E-C CW 12 150 100 68 B G1	28000715 / 87500715	Crystal white	–	7,500 K
LED P541E-C CW 12 200 100 68 B G1 X	28000716 / 87500716	Crystal white	–	7,500 K
LED P541E-C DL 12 100 100 68 B G1	28000361 / 87500293	Daylight white	–	6,500 K
LED P541E-C DL 12 150 100 68 B G1	28000362 / 87500294	Daylight white	–	6,500 K
LED P541E-C DL 12 150 100 68 B G1 X	28000363 / 87500295	Daylight white	–	6,500 K
LED P541E-C DL 12 200 100 68 B G1 X	28000364 / 87500296	Daylight white	–	6,500 K
LED P541E-C R 12 150 100 68 B G1	28000468 / 87500359	Red	620 – 630 nm	–
LED P541E-C G 12 150 100 68 B G1	28000471	Green	520 – 537 nm	–
LED P541E-C B 12 150 100 68 B G1	28000472	Blue	465 – 470 nm	–
LED P541E-C O 12 150 100 68 B G1	28000469	Orange	600 – 609 nm	–
LED P541E-C A 12 150 100 68 B G1	28000470	Amber	583 – 592 nm	–

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

Specific technical data

Type	Photometric code[2]	Wavelength range	Colour temperature[5]	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
3 light points per module										
LED P541E-C CW	775	–	7,500 K	31 lm	> 63	12 V	28 mA	0.34 W	92 lm/W	A++
LED P541E-C CW ... X	775	–	7,500 K	45 lm	> 63	12 V	42 mA	0.50 W	88 lm/W	A++
LED P541E-C DL	765	–	6,500 K	31 lm	> 70	12 V	28 mA	0.34 W	92 lm/W	A++
LED P541E-C DL ... X	765	–	6,500 K	45 lm	> 70	12 V	42 mA	0.50 W	88 lm/W	A++
LED P541E-C R	–	620 – 630 nm	–	12 lm	–	12 V	45 mA	0.54 W	22 lm/W	–
LED P541E-C G	–	520 – 537 nm	–	35 lm	–	12 V	37 mA	0.44 W	79 lm/W	–
LED P541E-C B	–	465 – 470 nm	–	11 lm	–	12 V	54 mA	0.65 W	17 lm/W	–
LED P541E-C O	–	600 – 609 nm	–	16 lm	–	12 V	37 mA	0.44 W	36 lm/W	–
LED P541E-C A	–	583 – 592 nm	–	12 lm	–	12 V	37 mA	0.44 W	27 lm/W	–

[1]If the max. temperature limits are exceeded, the life of the module will be greatly reduced or the module maybe damaged.

For the precise position of the tc point see the above diagram.

[2] Tolerance range for optical and electrical data: ±15 % (electrical data for red and blue: +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.

[5] Colour temperature for information only. Valid colour see ‚Coordinates and tolerances according to CIE 1931'.

All values at ta = 25 °C.

Type code

Example: LED P541E-C DL 12 200 100 68 B G1 X

LED P541E-C	**TALEX**chain CRYSTAL CLASSIC
DL	Colour = Daylight white
12	Supply voltage = 12 V
200	Module distance D = 200 mm
100	Number of modules = 100
68	Type of protection = IP68
B	Beam charcteristic = 155°
G1	Generation = 1
X	Increased luminous flux

Photometric code

Key for photometric code, e. g. 765

1st digit		2nd + 3rd digit
Code	CRI	Colour temperature in Kelvin x 100
7	67 – 76	
8	77 – 86	
9	87 – ≥90	

LED control gear matrix – **TALEX**chain CRYSTAL CLASSIC P541

	IN-BUILT LCU				
Type	LCU 15W 12V IP67	LCU 35W 12V IP67	LCU 60W 12V IP67/ LC 60W 12V IP66	LCU 100W 12V IP67/ LC 100W 12V IP66	LCU 180W 12V IP67
Article number	28000507	28000508	28000509/ 28001026	28000510/ 28001027	28000511

Assignable LED control gear

Type	Number of modules										Max. chaining
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
LED P541-C CW	4	38	9	89	16	153	39	256	47	460	100
LED P541-C CW ... X	3	25	7	60	11	103	26	173	32	311	100
LED P541-C DL	4	38	9	89	16	153	39	256	47	460	100
LED P541-C DL ... X	3	25	7	60	11	103	26	173	32	311	100
LED P541E-C R	3	24	6	56	10	96	30	161	29	289	100
LED P541E-C G	3	29	7	68	12	118	30	197	36	354	100
LED P541E-C B	2	19	5	46	8	79	25	133	24	239	100
LED P541E-C O	3	29	7	68	12	118	30	197	36	354	100
LED P541E-C A	3	29	7	68	12	118	30	197	36	354	100

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 850 °C according to EN 62031.

Certificates

- UL file: E313318
- CSA file: 249699
- ENEC

Thermal behaviour

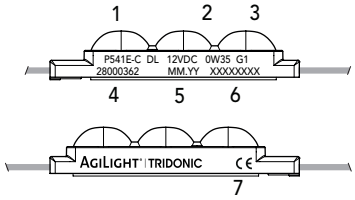
operation temperature (operation, no defects)	ta	- 40 → + 60 °C
storage temperature	ts	- 40 → + 85 °C
max. temperature tc point	tc	- 20 → + 80 °C

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.

Maintenance note

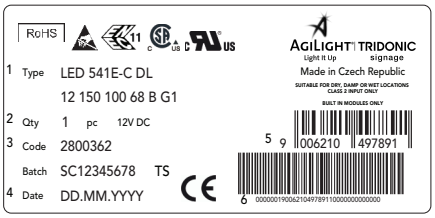
The product is maintenance free. If cleaning during application only clear water without the addition of cleaning agents should be used.

Label product



1 Type
2 Electr. specification
3 Generation
4 Article code
5 Production date
6 Production batch
7 Normative symbols

Label product packaging



1 Type
2 Packaging quantity
3 Article code
4 Production date
5 Barcode EAN13 for packaging unit
6 Barcode EAN128 (includes EAN13 and batch number)

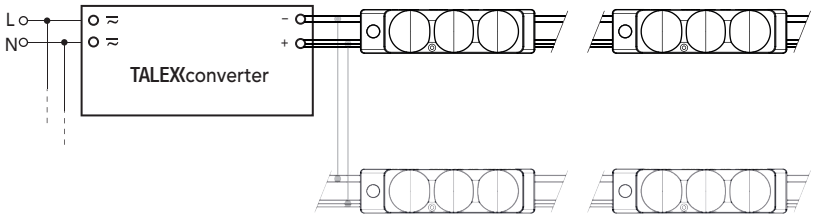
Label carton

1 Type
2 Packaging quantity
3 Article code
4 Production date
5 Barcode EAN13 for packaging unit
6 Barcode EAN128 (includes EAN13 and batch number)

Wiring
Cable: AWG 18

Colour	red-white	white
Function	+	–

Wiring example

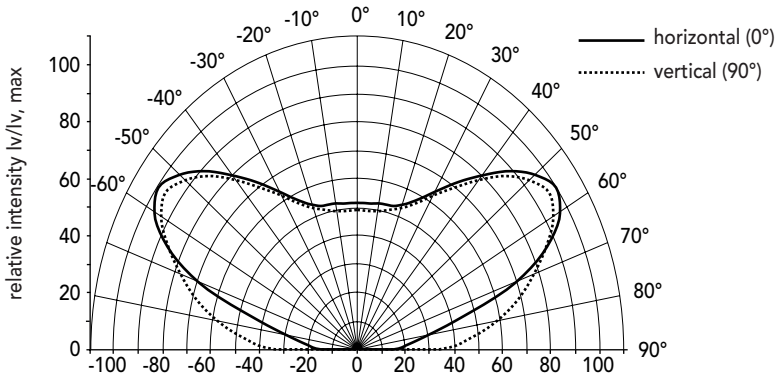


Empirical values for decrease of luminous flux over the chain

Type	Colour	Module distance 100 mm	Module distance 150 mm	Module distance 200 mm	Number of modules
LED P541E-C CW	Crystal white	0 %	0 %	–	100
LED P541E-C CW ... X	Crystal white	–	0 %	0 %	100
LED P541E-C DL	Daylight white	0 %	0 %	–	100
LED P541E-C DL ... X	Daylight white	–	0 %	0 %	100
LED P541E-C R	Red	–	0 %	–	100
LED P541E-C G	Green	–	42 %	–	100
LED P541E-C B	Blue	–	16 %	–	100
LED P541E-C O	Orange	–	0 %	–	100
LED P541E-C A	Amber	–	0 %	–	100

Beam characteristics 155°

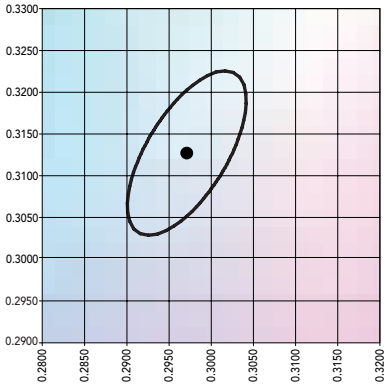
Light distribution Iv/Ivmax.



Coordinates and tolerances according to CIE 1931

Crystal white (CL)

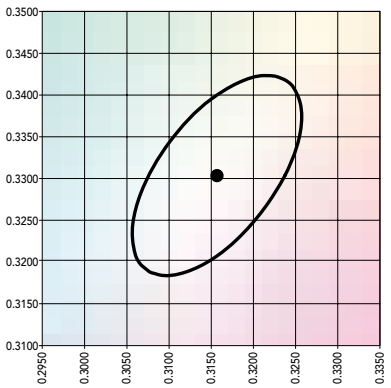
	x0	y0
Centre	0.2970	0.3132



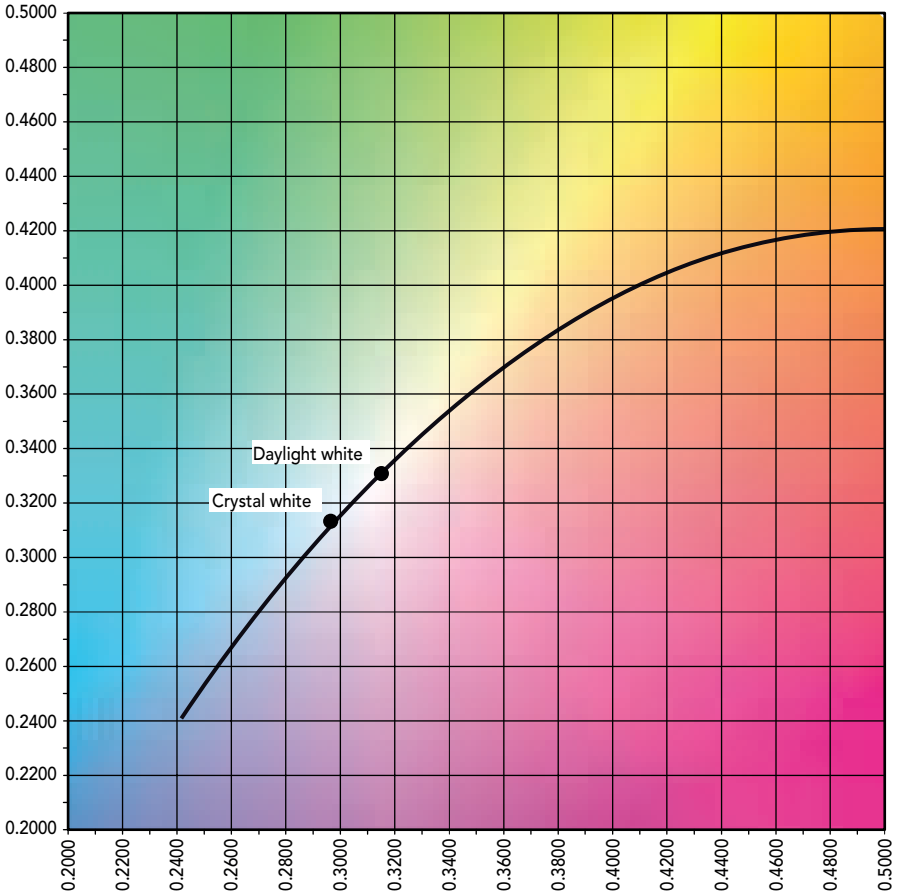
MacAdam ellipse: 5SDCM

Daylight white (DL)

	x0	y0
Centre	0.3154	0.3305



MacAdam ellipse: 5SDCM


0.5000
0.4800
0.4600
0.4400
0.4200
0.4000
0.3800
0.3600
0.3400
0.3200
0.3000
0.2800
0.2600
0.2400
0.2200
0.2000
Daylight white
Crystal white
0.2000
0.2200
0.2400
0.2600
0.2800
0.3000
0.3200
0.3400
0.3600
0.3800
0.4000
0.4200
0.4400
0.4600
0.4800
0.5000