

Linear LED modules 2000lm/1ft 4C

Product description

- Long life-time
- Built-in, constant current LED module
- Re-workable push-in terminals enabling easy connection
- Compliance and approval: CE
- 4C - four connectors for parallel system, also recognized as a low voltage system - SELV
- Available CCT from 2700K to 6500K and CRI 80, 90



LinLED CRI 80 Optimum G3

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux ¹ φ [lm]	Useful luminous flux ² [lm]	Voltage ¹ Vf [V]	Power ¹ P [W]	Efficacy ¹ [lm/W]	Current minimum If min ³ [mA]	Current maximum If max [mA]	Energy Efficiency Class
LinLED 70x24mm 500lm 830 4C 42V Opt G3	1010 127 59446	3000	75	502	518	38	2.8	177	10	200	C
LinLED 140x24mm 1000lm 830 4C 42V Opt G3	1010 127 59646		150	1004	1036	38	5.7	177	20	400	C
LinLED 280x24mm 2000lm 830 4C 42V Opt G3	1010 117 84946		300	2007	2071	38	11	177	40	800	C
LinLED 560x24mm 4000lm 830 4C 42V Opt G3	1010 117 85046		600	4015	4143	38	23	177	80	1600	C
LinLED 70x24mm 500lm 840 4C 42V Opt G3	1010 127 59546	4000	75	544	561	38	2.8	192	10	200	C
LinLED 140x24mm 1000lm 840 4C 42V Opt G3	1010 127 59746		150	1087	1122	38	5.7	192	20	400	C
LinLED 280x24mm 2000lm 840 4C 42V Opt G3	1010 117 85146		300	2175	2244	38	11	192	40	800	C
LinLED 560x24mm 4000lm 840 4C 42V Opt G3	1010 117 85246		600	4349	4488	38	23	192	80	1600	C

LinLED CRI 80 Optimum G2

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux ¹ φ [lm]	Useful luminous flux ² [lm]	Voltage ¹ Vf [V]	Power ¹ P [W]	Efficacy ¹ [lm/W]	Current minimum If min ³ [mA]	Current maximum If max [mA]	Energy Efficiency Class
LinLED 280x24mm 2000lm 830 4C 42V Opt G2	1010 117 32846	3000	280	1846	1909	40	11	166	40	600	D
LinLED 560x24mm 4000lm 830 4C 42V Opt G2	1010 117 33446		560	3691	3819	40	22	166	80	1200	D
LinLED 280x24mm 2000lm 840 4C 42V Opt G2	1010 117 32946	4000	280	1940	2007	40	11	175	40	600	C
LinLED 560x24mm 4000lm 840 4C 42V Opt G2	1010 117 33546		560	3880	4014	40	22	175	80	1200	C

LinLED CRI 90 Optimum G2

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux ¹ φ [lm]	Useful luminous flux ² [lm]	Voltage ¹ Vf [V]	Power ¹ P [W]	Efficacy ¹ [lm/W]	Current minimum If min ³ [mA]	Current maximum If max [mA]	Energy Efficiency Class
LinLED 280x24mm 2000lm 927 4C 42V Opt G2	1010 117 70146	2700	330	1745	1808	41	13	130	40	600	E
LinLED 560x24mm 4000lm 927 4C 42V Opt G2	1010 117 70246		660	3490	3617	41	27	130	80	1200	E
LinLED 280x24mm 2000lm 930 4C 42V Opt G2	1010 117 40346	3000	330	1874	1963	41	13	140	40	600	E
LinLED 560x24mm 4000lm 930 4C 42V Opt G2	1010 117 40946		660	3748	3925	41	27	140	80	1200	E
LinLED 280x24mm 2000lm 940 4C 42V Opt G2	1010 117 40446	4000	330	2003	2098	41	13	149	40	600	D
LinLED 560x24mm 4000lm 940 4C 42V Opt G2	1010 117 41046		660	4007	4196	41	27	149	80	1200	D

¹At nominal current and T_p

²At nominal current and 25°C

³It is recommended not to operate below minimum current in order to avoid un-even brightness

Tolerance range for optical and electrical ±10%

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Temperature & humidity

Specification item	Unit	Value
Tp	[°C]	45
Tp rated	[°C]	65
Tc	[°C]	85
Relative humidity (non-condensing)	[%]	5 ... 85
Storage ambient temperature	[°C]	-25 ... +85
Storage relative humidity (non-condensing)	[%]	5 ... 85

Tp - Temperature related to the performance parameters of the LED modules
Tp rated - Maximum operating temperature to which the rated performance characteristics are declared
Tc - Highest permissible value for safe operation

Technical data

Specification item	Unit	Value
Classification acc. to IEC 62031		built-in
Working voltage	[Vdc]	60
Beam angle	[deg]	120
Initial color consistency	[SDCM]	3
Photobiological safety		RG1 unlimited

Color coordinates

According to CIE 1931

Specification item	CIE _x	CIE _y
2700K	0.4578	0.4101
3000K	0.4338	0.4030
4000K	0.3818	0.3797

Certificates & standards

Specification item	Compliant
ENEC	No
CE	Yes
RoHS	Yes
REACH	Yes
Zhaga	Comply with Book 7
IP rating	No IP rating

Lumen maintenance

LinLED CRI 80

for LinLED CRI 80 Optimum G2

Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>72 000	>72 000	>72 000	>72 000	71 000	61 000
	55°C	>72 000	>72 000	>72 000	>72 000	71 000	61 000
	65°C	>72 000	>72 000	>72 000	>72 000	69 000	60 000
	75°C	>72 000	>72 000	>72 000	>72 000	68 000	59 000
	85°C	>72 000	>72 000	>72 000	>72 000	67 000	58 000
If max	45°C	>72 000	>72 000	>72 000	>72 000	51 000	39 000
	55°C	>72 000	>72 000	>72 000	>72 000	51 000	39 000
	65°C	>72 000	>72 000	>72 000	>72 000	48 000	37 000
	75°C	>72 000	>72 000	>72 000	>72 000	45 000	35 000
	85°C	>72 000	>72 000	>72 000	>72 000	69 000	43 000

reported data based on LM80 LED data (@65mA 17000h / @160mA & 200mA 12000h)

LinLED CRI 80

for LinLED CRI 80 Optimum G3

Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>60 000	>60 000	>60 000	>60 000	44 000	39 000
	65°C	>60 000	>60 000	>60 000	>60 000	34 000	29 000
If max	85°C	>60 000	>60 000	>60 000	>60 000	29 000	25 000
	45°C	>60 000	>60 000	>60 000	>60 000	40 000	32 000
	65°C	>60 000	>60 000	>60 000	>60 000	30 000	27 000
	85°C	>60 000	>60 000	>60 000	>60 000	55 000	25 000

reported data based on LM80 LED data 10 000h

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LinLED CRI 90

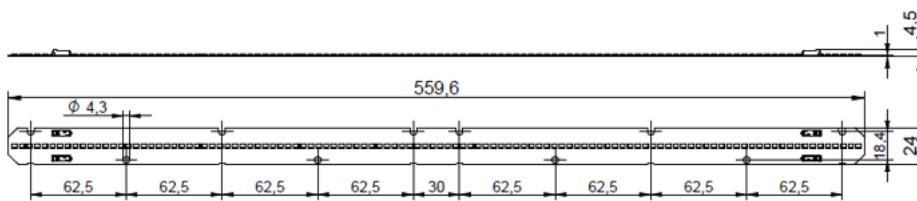
for LinLED CRI 90 Optimum G2

Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>60 000	>60 000	>60 000	>60 000	>60 000	57 000
	55°C	>60 000	>60 000	>60 000	>60 000	48 000	47 000
	65°C	>60 000	>60 000	>60 000	>60 000	38 000	34 000
If max	45°C	>60 000	>60 000	52 000	49 000	29 000	28 000
	55°C	>60 000	>60 000	47 000	44 000	25 000	24 000
	65°C	>60 000	58 000	41 000	38 000	22 000	19 000

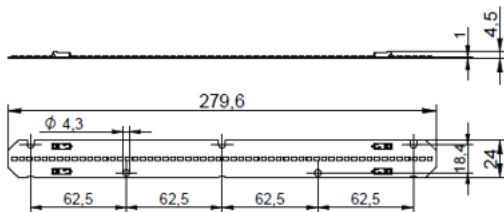
reported data based on LM80 LED data 10 000h

Dimensions

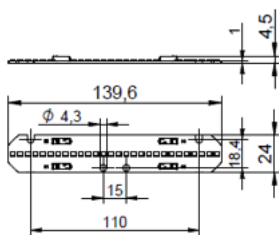
LinLED 560x24mm 4000lm 4C 42V



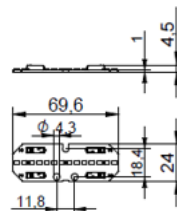
LinLED 280x24mm 2000lm 4C 42V



LinLED 140x24mm 2000lm 4C 42V



LinLED 70x24mm 2000lm 4C 42V



Mounting

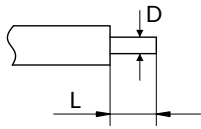
LED Modules cannot be exposed to tensile or compressive stresses. For this purpose it is necessary that the modules are assembled to a flat surface by only rounded head screws. Additionally plastic flat washer should be used to ensure creepage distance between screw's head and surface of the pcb. Max. torque for fixing: 0,5Nm.

LED modules are sensitive to electrostatic discharge (ESD). Follow safety regulations according to IEC 61340-5-1.

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Wiring

Wire cross section and strip length:



D - wire cross section (solid and flexible wires)	Min	Max
	0.2mm ²	0.75mm ²
	AWG 24	AWG 18

L - strip length	Min	Max
	8mm	9mm

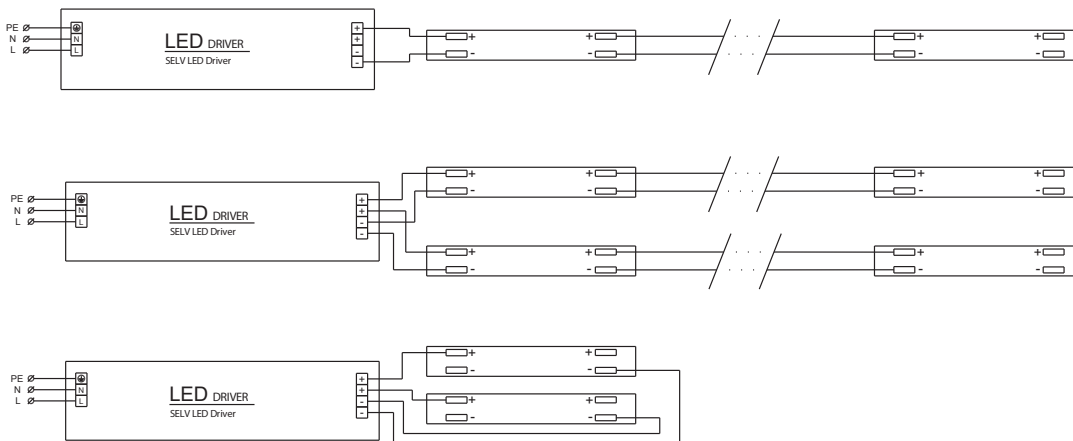
Opening for the release of wires from the top with release pin Electroterminal art. 881 167 884:



Connections

Max number of modules	Unit	Series	Parallel
LinLED 70x24mm	[pcs]	-	32
LinLED 140x24mm	[pcs]	-	16
LinLED 280x24mm	[pcs]	-	8
LinLED 560x24mm	[pcs]	-	4

Wiring for parallel connection system (4C)



To prevent irregular luminous intensity in parallel connection use only LED modules from the same V-code group. V-code (e.g. "A", "B", "AB") is printed on the LED module and box label. Naming is not adequate to efficacy or luminous flux.

Mounting

LED Modules cannot be exposed to tensile or compressive stresses. For this purpose it is necessary that the modules are assembled to a flat surface by only rounded head screws. Additionally plastic flat washer should be used to ensure creepeage distance between screw's head and surface of the pcb. Max. torque for fixing: 0,5Nm.

LED modules are sensitive to electrostatic discharge (ESD). Follow safety regulations according to IEC 61340-5-1.

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Ordering codes

Product name	Ordering code	Pieces per box	Pieces per pallet	Box dimensions [mm]
LinLED 70x24mm 500lm 830 4C 42V Opt G3	1010 127 59446	320	76800	150 x 266 x 83
LinLED 140x24mm 1000lm 830 4C 42V Opt G3	1010 127 59646	120	27360	248 x 175 x 66
LinLED 280x24mm 2000lm 830 4C 42V Opt G3	1010 117 84946	150	18000	300 x 266x 83
LinLED 560x24mm 4000lm 830 4C 42V Opt G3	1010 117 85046	160	9600	603 x 266 x 83
LinLED 70x24mm 500lm 840 4C 42V Opt G3	1010 127 59546	320	76800	150 x 266 x 83
LinLED 140x24mm 1000lm 840 4C 42V Opt G3	1010 127 59746	120	27360	248 x 175 x 66
LinLED 280x24mm 2000lm 840 4C 42V Opt G3	1010 117 85146	150	18000	300 x 266x 83
LinLED 560x24mm 4000lm 840 4C 42V Opt G3	1010 117 85246	160	9600	603 x 266 x 83
LinLED 280x24mm 2000lm 830 4C 42V Opt G2	1010 117 32846	150	18000	300 x 266x 83
LinLED 560x24mm 4000lm 830 4C 42V Opt G2	1010 117 33446	160	9600	603 x 266 x 83
LinLED 280x24mm 2000lm 840 4C 42V Opt G2	1010 117 32946	150	18000	300 x 266x 83
LinLED 560x24mm 4000lm 840 4C 42V Opt G2	1010 117 33546	160	9600	603 x 266 x 83
LinLED 280x24mm 2000lm 927 4C 42V Opt G2	1010 117 70146	150	18000	300 x 266x 83
LinLED 560x24mm 4000lm 927 4C 42V Opt G2	1010 117 70246	160	9600	603 x 266 x 83
LinLED 280x24mm 2000lm 930 4C 42V Opt G2	1010 117 40346	150	18000	300 x 266x 83
LinLED 560x24mm 4000lm 930 4C 42V Opt G2	1010 117 40946	160	9600	603 x 266 x 83
LinLED 280x24mm 2000lm 940 4C 42V Opt G2	1010 117 40446	150	18000	300 x 266x 83