

## Linear LED modules 1100lm per 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, ENEC
- 4C - four connectors for parallel system, also recognized as a low voltage system - SELV
- Available CCT from 2200K to 6500K and CRI 80, 90



### LinLED CRI 80 Optimum G4

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux <sup>1</sup> φ [lm]	Useful luminous flux <sup>2</sup> [lm]	Voltage <sup>1</sup> Vf [V]	Power <sup>1</sup> P [W]	Efficacy <sup>1</sup> [lm/W]	Current minimum If min <sup>3</sup> [mA]	Current maximum If max [mA]	Energy Efficiency Class
LinLED 280x20mm 1100lm 830 4C 36V Opt G4	1010 137 12446	3000	175	1080	1107	32	5.6	193	30	900	C
LinLED 560x20mm 2200lm 830 4C 36V Opt G4	1010 137 12546		350	2159	2214	32	11	193	60	1800	C
LinLED 280x20mm 1100lm 840 4C 36V Opt G4	1010 137 12646	4000	175	1123	1151	32	5.6	201	30	900	B
LinLED 560x20mm 2200lm 840 4C 36V Opt G4	1010 137 12746		350	2245	2303	32	11	201	60	1800	B

### LinLED CRI 80 Optimum G3.1

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux <sup>1</sup> φ [lm]	Useful luminous flux <sup>2</sup> [lm]	Voltage <sup>1</sup> Vf [V]	Power <sup>1</sup> P [W]	Efficacy <sup>1</sup> [lm/W]	Current minimum If min <sup>3</sup> [mA]	Current maximum If max [mA]	Energy Efficiency Class
LinLED 280x20mm 1100lm 830 4C 36V Opt G3.1	1010 127 77046	3000	175	1067	1106	33	5.8	185	30	450	C
LinLED 560x20mm 2200lm 830 4C 36V Opt G3.1	1010 127 77146		350	2135	2213	33	12	185	60	900	C
LinLED 280x20mm 1100lm 840 4C 36V Opt G3.1	1010 127 77246	4000	175	1114	1154	33	5.8	193	30	450	C
LinLED 560x20mm 2200lm 840 4C 36V Opt G3.1	1010 127 77346		350	2228	2309	33	12	193	60	900	C

### LinLED CRI 80 Optimum G2

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux <sup>1</sup> φ [lm]	Useful luminous flux <sup>2</sup> [lm]	Voltage <sup>1</sup> Vf [V]	Power <sup>1</sup> P [W]	Efficacy <sup>1</sup> [lm/W]	Current minimum If min <sup>3</sup> [mA]	Current maximum If max [mA]	Energy Efficiency Class
LinLED 280x20mm 1100lm 830 4C 36V Opt G2	1010 117 32646	3000	185	1053	1089	34	6.2	169	30	450	C
LinLED 560x20mm 2200lm 830 4C 36V Opt G2	1010 117 33246		370	2105	2178	34	12	169	60	900	C
LinLED 280x20mm 1100lm 840 4C 36V Opt G2	1010 117 32746	4000	185	1106	1144	34	6.2	177	30	450	C
LinLED 560x20mm 2200lm 840 4C 36V Opt G2	1010 117 33346		370	2213	2289	34	12	177	60	900	C

### LinLED CRI 90 Optimum G2

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux <sup>1</sup> φ [lm]	Useful luminous flux <sup>2</sup> [lm]	Voltage <sup>1</sup> Vf [V]	Power <sup>1</sup> P [W]	Efficacy <sup>1</sup> [lm/W]	Current minimum If min <sup>3</sup> [mA]	Current maximum If max [mA]	Energy Efficiency Class
LinLED 280x20mm 1100lm 927 4C 36V Opt G2	1010 117 69946	2700	210	974	999	34	7.1	136	30	450	E
LinLED 560x20mm 2200lm 927 4C 36V Opt G2	1010 117 70046		420	1948	1998	34	14	136	60	900	E
LinLED 280x20mm 1100lm 930 4C 36V Opt G2	1010 117 40146	3000	210	1035	1073	34	7.1	145	30	450	D
LinLED 560x20mm 2200lm 930 4C 36V Opt G2	1010 117 40746		420	2071	2146	34	14	145	60	900	D
LinLED 280x20mm 1100lm 940 4C 36V Opt G2	1010 117 40246	4000	210	1107	1147	34	7.1	155	30	450	D
LinLED 560x20mm 2200lm 940 4C 36V Opt G2	1010 117 40846		420	2213	2294	34	14	155	60	900	D

<sup>1</sup>At nominal current and T<sub>p</sub>

<sup>2</sup>At nominal current and 25°C

<sup>3</sup>It 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 <sub>x</sub>	CIE <sub>y</sub>
2700K	0.4578	0.4101
3000K	0.4338	0.4030
4000K	0.3818	0.3797
6500K	0.3123	0.3282

### Certificates & standards

Specification item	Compliant
ENEC	Yes
CE	Yes
RoHS	Yes
REACH	Yes
IP rating	No IP rating

### Lumen maintenance

for LinLED CRI 80 Optimum G4

Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>102 000	>102 000	>102 000	>102 000	>102 000	>102 000
	55°C	>102 000	>102 000	>102 000	>102 000	>102 000	>102 000
	65°C	>102 000	>102 000	>102 000	>102 000	89 000	88 000
	75°C	>102 000	>102 000	>102 000	>102 000	75 000	74 000
	85°C	>102 000	>102 000	>102 000	>102 000	64 000	63 000
If max	45°C	>102 000	>102 000	>102 000	>102 000	>102 000	>102 000
	55°C	>102 000	>102 000	>102 000	>102 000	90 000	89 000
	65°C	>102 000	>102 000	>102 000	>102 000	77 000	76 000
	75°C	>102 000	>102 000	>102 000	>102 000	65 000	64 000
	85°C	>102 000	>102 000	>102 000	>102 000	55 000	54 000

Reported data based on LM80 LED data 12000h

### LinLED CRI 80

for LinLED CRI 80 Optimum G2 & G3.1

Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>100 000	>100 000	>100 000	>100 000	73 000	63 000
	55°C	>100 000	>100 000	>100 000	>100 000	73 000	63 000
	65°C	>100 000	>100 000	>100 000	>100 000	71 000	62 000
	75°C	>100 000	>100 000	>100 000	>100 000	70 000	61 000
	85°C	>100 000	>100 000	>100 000	>100 000	69 000	61 000
If max	45°C	>100 000	>100 000	>100 000	>100 000	51 000	39 000
	55°C	>100 000	>100 000	>100 000	>100 000	51 000	39 000
	65°C	>100 000	>100 000	>100 000	>100 000	48 000	37 000
	75°C	>100 000	>100 000	>100 000	>100 000	45 000	35 000
	85°C	>100 000	>100 000	>100 000	>100 000	43 000	34 000

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

### LinLED CRI 90

for LinLED CRI 90 Optimum G2

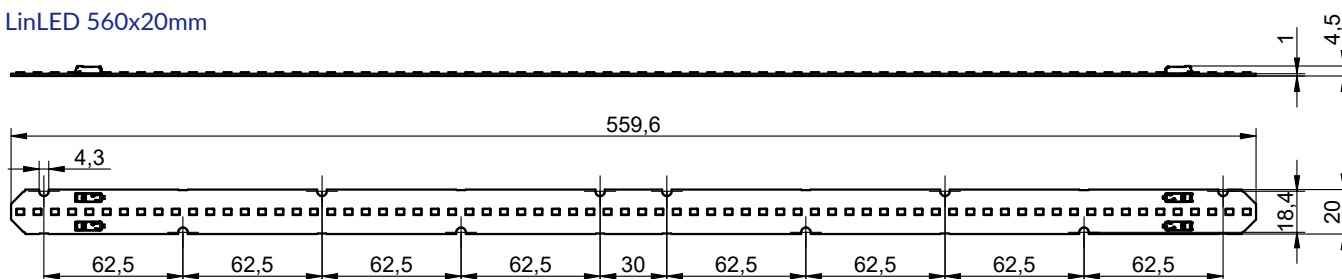
Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>100 000	>100 000	>100 000	>100 000	65 000	>60 000
	55°C	>100 000	>100 000	>100 000	>100 000	52 000	51 000
	65°C	>100 000	>100 000	85 000	79 000	41 000	36 000
If max	45°C	82 000	69 000	52 000	49 000	29 000	28 000
	55°C	73 000	63 000	47 000	44 000	25 000	24 000
	65°C	64 000	58 000	41 000	38 000	22 000	19 000

calculated data based on LM80 LED data 10 000h

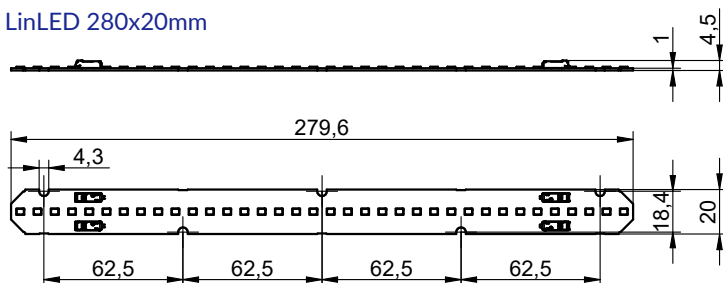
## Linear LED modules 1100lm per 1ft 4C

### Dimensions

#### LinLED 560x20mm



#### LinLED 280x20mm



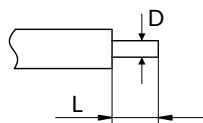
### Mounting

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.

### Wiring

Wire cross section and strip length:



D - wire cross section (solid and flexible wires)	Min	Max
	0.2mm <sup>2</sup>	0.75mm <sup>2</sup>
	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:



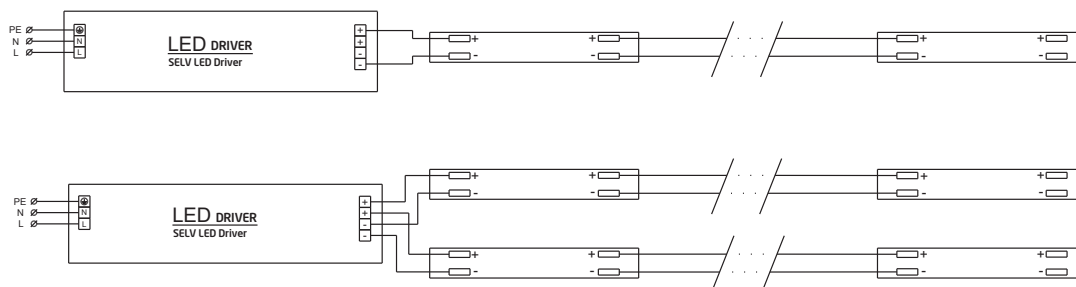
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### Connections

Max number of modules	Unit	Series	Parallel
LinLED 280x20mm	[pcs]	-	8
LinLED 560x20mm	[pcs]	-	4

You can combine different lengths of LED modules so that the maximum length does not exceed 2240mm

#### 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.

### Energy Label / EPREL database

To obtain Energy Label for this product visit <https://eprel.ec.europa.eu/> and enter model identifier

Model identifier consists of 10 digits XXXX XXX XXX. It is printed directly on the LED module or on product label. This is the number you can see in EPREL database.

Ordering code consist of 12 digits XXXX XXX XXX46. Additional last two digits means packaging of the product.

### Ordering codes

Product name	Ordering code	Pieces per box	Pieces per pallet	Box dimensions [mm]
LinLED 280x20mm 1100lm 830 4C 36V Opt G4	1010 137 12446	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 830 4C 36V Opt G4	1010 137 12546	204	12240	603 x 266 x 83
LinLED 280x20mm 1100lm 840 4C 36V Opt G4	1010 137 12646	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 840 4C 36V Opt G4	1010 137 12746	204	12240	603 x 266 x 83
LinLED 280x20mm 1100lm 830 4C 36V Opt G3.1	1010 127 77046	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 830 4C 36V Opt G3.1	1010 127 77146	204	12240	603 x 266 x 83
LinLED 280x20mm 1100lm 840 4C 36V Opt G3.1	1010 127 77246	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 840 4C 36V Opt G3.1	1010 127 77346	204	12240	603 x 266 x 83
LinLED 280x20mm 1100lm 830 4C 36V Opt G2	1010 117 32646	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 830 4C 36V Opt G2	1010 117 33246	204	12240	603 x 266 x 83
LinLED 280x20mm 1100lm 840 4C 36V Opt G2	1010 117 32746	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 840 4C 36V Opt G2	1010 117 33346	204	12240	603 x 266 x 83
LinLED 280x20mm 1100lm 927 4C 36V Opt G2	1010 117 69946	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 927 4C 36V Opt G2	1010 117 70046	204	12240	603 x 266 x 83
LinLED 280x20mm 1100lm 930 4C 36V Opt G2	1010 117 40146	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 930 4C 36V Opt G2	1010 117 40746	204	12240	603 x 266 x 83
LinLED 280x20mm 1100lm 940 4C 36V Opt G2	1010 117 40246	192	23040	300 x 266 x 83
LinLED 560x20mm 2200lm 940 4C 36V Opt G2	1010 117 40846	204	12240	603 x 266 x 83