

LED LINE SMD W5.5 3R COMFORT SELV

MLC SC W5.5/280 LV G1



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MLC SC W5.5 LV G1

Typical Applications

Built-in luminaires/general illumination

- Office lighting
- Retail, corridor and shelf lighting
- Trunking lighting system
- Furniture lighting
- Backlighting for advertising



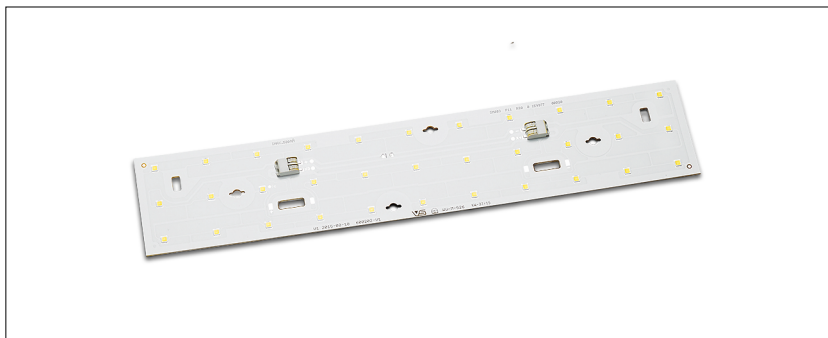
LED Line SMD W5.5 3R Comfort SELV

- **LONG SERVICE LIFE TIME: 93.000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 209 LM/W AT T_p = 50 °C**
- **LENGTH: 280 MM**
- **FLEXIBLE LIGHT DISTRIBUTION
BY DIFFERENT OPTICS**

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Technical Notes

- LED built-in module for integration into luminaires
- Dimensions:
MLC SC W5.5/280: 280x55 mm
- Driving current: 150 mA / 250 mA / 350 mA / 500 mA / 700 mA
- On-board push terminal system
- Beam angle: 120°
- Colour tolerance: 3-step MacAdam



Typical Light Distribution Curve

Data are available in .ldt format for download under www.vossloh-schwabe.com.

Suitable Optics

Please visit our homepage for details for suitable 3R optics W5.5:

www.vossloh-schwabe.com/en/products/optics-reflectors/linear-optics/linear-optics-3r-for-smd-w55

Electrical Characteristics

at $t_p = 50^\circ\text{C}$

Type	No. of LEDs	Voltage DC (V)					Temperature Coefficient mV/K	Power consumption (W)				
		150 mA	250 mA	350 mA	500 mA	700 mA		150 mA	250 mA	350 mA	500 mA	700 mA
		V	V	V	V	V		W	W	W	W	W

LED Line SMD W5.5 3R Comfort SELV - L28

MLC SC W5.5/280 x/33/yzz LV G1	33	28.7	29.3	29.8	30.5	31.3	-11.09	4.3	7.3	10.4	15.3	21.9
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Voltage and power tolerance: $\pm 10\%$

Use of external LED constant current driver required.

Maximum Ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the module.

Type	Operating current (mA)	Operation temperature range at t_c point		Storage temperature range		Max. allowed repetitive peak current for frequencies ≥ 100 Hz (mA)
		$^\circ\text{C min.}$	$^\circ\text{C max.}$	$^\circ\text{C min.}$	$^\circ\text{C max.}$	
All types	700	-20	+80	-20	+70	1440

Operating Life

L80/B10

in hours at measured temperature at t_p point

Type	150 mA			250 mA			350 mA			500 mA			700 mA		
	40 $^\circ\text{C}$	50 $^\circ\text{C}$	80 $^\circ\text{C}$	40 $^\circ\text{C}$	50 $^\circ\text{C}$	80 $^\circ\text{C}$	40 $^\circ\text{C}$	50 $^\circ\text{C}$	80 $^\circ\text{C}$	40 $^\circ\text{C}$	50 $^\circ\text{C}$	80 $^\circ\text{C}$	40 $^\circ\text{C}$	50 $^\circ\text{C}$	80 $^\circ\text{C}$
All Types	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000	>93.000

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LED Line SMD W5.5 3R Comfort SELV

Optical Characteristics

at $t_p = 50^\circ\text{C}$; without secondary optics

CRI $R_a > 80$

Type	Ref. No. Connection "x" Top (T)	Colour	Correl. colour	Luminous flux** (lm) and efficiency (lm/W) at										Photometric Code
				150 mA		250 mA		350 mA		500 mA		700 mA		
				typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.	
				lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	

LED Line SMD W5.5 3R Comfort SELV

MLC SC W5.5/280 x/33/827 LV G1	574294	WW	2700	845	196	1375	188	1885	181	2630	172	3565	162	827/359
MLC SC W5.5/280 x/33/830 LV G1	574295	WW	3000	845	196	1375	188	1885	181	2630	172	3565	162	830/359
MLC SC W5.5/280 x/33/835 LV G1	574296	NW	3500	905	209	1470	201	2015	193	2810	184	3810	174	835/359
MLC SC W5.5/280 x/33/840 LV G1	574297	NW	4000	905	209	1470	201	2015	193	2810	184	3810	174	840/359
MLC SC W5.5/280 x/33/850 LV G1	574298	CW	5000	905	209	1470	201	2015	193	2810	184	3810	174	850/359
MLC SC W5.5/280 x/33/865 LV G1	574299	CW	6500	905	209	1470	201	2015	193	2810	184	3810	174	865/359

* Colour tolerance: 3-step McAdams | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$

Minimum order quantity (packaging unit): 24 pcs.

Optical Characteristics

at $t_p = 50^\circ\text{C}$; without secondary optics

CRI $R_a > 90$

Type	Ref. No. Connection "x" Top (T)	Colour	Correl. colour	Luminous flux** (lm) and efficiency (lm/W) at										Photometric Code
				150 mA		250 mA		350 mA		500 mA		700 mA		
				typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.	
				temp.* K	lm lm/W	lm lm/W	lm lm/W	lm lm/W	lm lm/W	lm lm/W	lm lm/W	lm lm/W	lm lm/W	

LED Line SMD W5.5 3R Comfort SELV

MLC SC W5.5/280 x/33/927 LV G1	574300	WW	2700	670	155	1090	149	1495	143	2085	137	2825	129	927/359
MLC SC W5.5/280 x/33/930 LV G1	574301	WW	3000	730	169	1185	162	1625	156	2265	149	3075	140	930/359
MLC SC W5.5/280 x/33/935 LV G1	574302	NW	3500	730	169	1185	162	1625	156	2265	149	3075	140	935/359
MLC SC W5.5/280 x/33/940 LV G1	574303	NW	4000	785	182	1280	175	1755	168	2445	160	3320	151	940/359
MLC SC W5.5/280 x/33/950 LV G1	574304	CW	5000	785	182	1280	175	1755	168	2445	160	3320	151	950/359
MLC SC W5.5/280 x/33/965 LV G1	574305	CW	6500	785	182	1280	175	1755	168	2445	160	3320	151	965/359

* Colour tolerance: 3-step McAdams | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$

Minimum order quantity (packaging unit): 24 pcs.

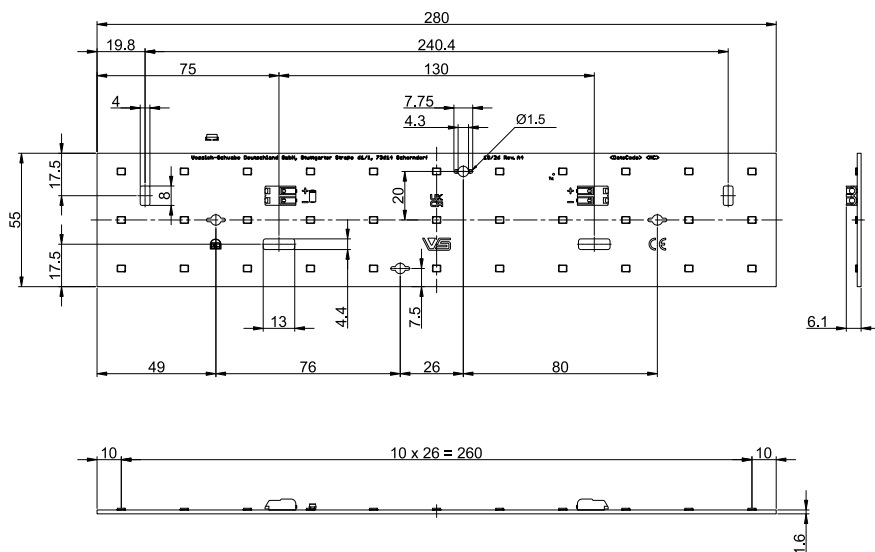
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LED Line SMD W5.5 3R Comfort SELV – LED Modules for Office Lighting

Mechanical Dimensions

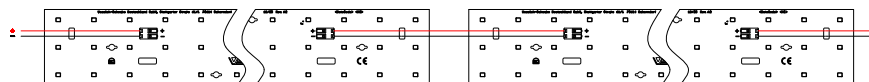
T = Top Connection

MLC SC W5.5/280T/33/yz LV G1

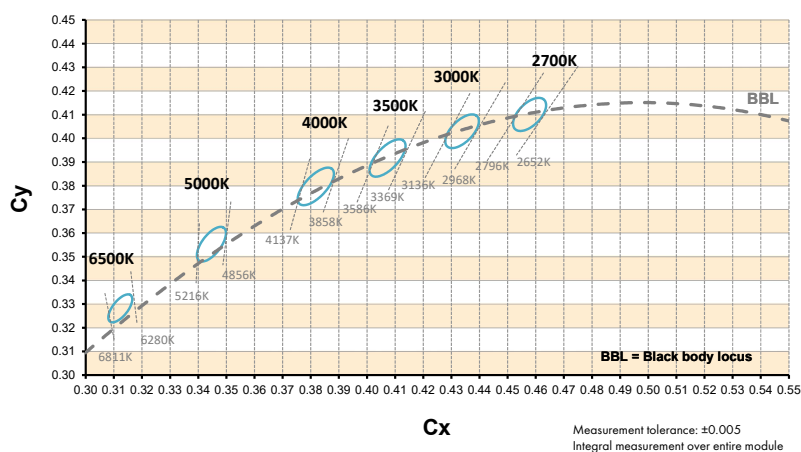


Connection Examples

- The number of modules that can be connected in series depends on the available output voltage of the LED driver.
- The clearance and creepage distances are designed for working voltages up to 700 V DC (basic insulation) and 300 V DC (reinforced insulation).
- Max. diameter of screw head (M4): 8 mm
- The modules are connected in series in both wiring examples.



Bins



Linear LED Constant Current Drivers

Please visit our homepage for details for suitable LED constant current drivers: www.vossloh-schwabe.com

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Nomenclature example

MLC SC W5.5/280 T/33/840 LV G1

Generation

SELV

CCT

27 = 2700 K

30 = 3000 K

35 = 3500 K

40 = 4000 K

50 = 5000 K

65 = 6500 K

CRI

8 = 80 CRI minimum

9 = 90 CRI minimum

Number of LEDs

Connection

T = Top

Length

280 = 280 mm

Width

W5.5 = 55 mm

Technology

SC = SMD Constant Current

Product Line

C = Comfort

Product Area & Shape

ML = Module Linear

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Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The LED modules are designed for operation within a casing or luminaire. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advice must be observed; non-observance can result in the destruction of the LED assembly modules, fire and/or other hazards.

- Consider safety regulations acc. EN 60598 in the luminair design, especially when the operating LED driver is not galvanic isolated.
 - In mode of operation regard to sufficient isolation.
 - Live parts must not be touched in operation mode.
Danger in life!!!
- ESD (electrostatic discharge) protection measures must be observed when handling and installing the LED modules. See VS's application notes on ESD protection.
- Adequate anti-static electricity measures, including the use of conductive shoes, ionizers, work bench grounding, wrist straps, flooring and stools should be used.
- LED assembly modules must not be subjected to any undue mechanical stress, e. g.:
 - do not treat as bulk cargo
 - avoid shear and compressive forces during handling and installation
 - do not damage circuit paths
 - avoid any pressure on the light emitting surface
- Safe operation only possible by the use of external constant current sources (I_{max} . see table "Electrical Characteristics").
- Operation only with power supply units that feature the following protection:
 - Short-circuit protection
 - Overload protection
 - Overheating protection
- The module can be fixed with M4 screws. Fixation only with flat or cylinder head screws (M4) /countersunk screws
Max. torque: 1.2 Nm (M4)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- For interconnection the LED modules is equipped with push-in terminals (WAGO 2060 for top side connection).
- Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed the permitted touchable value.
- The following points must be observed when connecting LED modules in parallel:
 - All LED strings that are wired in parallel must contain the same number of LEDs (symmetrical loading).
 - Owing to differing forward biases, there can be a difference of up to 10% in brightness between modules connected in parallel.
- To ensure problem-free operation, the specified maximum temperature at the t_p point (see "Operating Life") must be observed (and measured in accordance with EN 60598-1). To satisfy this point, it may be necessary to put measures in place to ensure any heat is dissipated from the PCB to the environment.



- In the event of outdoor applications or applications in damp locations, care must be taken to protect LED assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. LED assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Due to the manufacturing process, the PCBs of the LED assembly modules can have sharp edges and corners. Care must therefore be taken during handling and installation to avoid injury.
- For optimal load of used constant current driver the modules can only be connected in series. The quantity of LED modules is limited by the sum of forward voltage and the capacity of used constant current driver. Safety regulations acc. to EN 60598 has to be observed if the sum of forward voltage exceed the permitted touchable value.
- Operating LED modules in the presence of certain chemical substances or in chemically enriched (aggressive) environments can impair module functionality or even cause total module failure. Detailed information can be found in our "Chemical Incompatibility" PDF on our website www.vossloh-schwabe.com
- The photobiological safety of the LED modules must be classified into risk groups in accordance with EN 62471: 2008.
Rating in accordance with IEC / TR 62778: risk group 1

CCT K	Max. operating current for risk group 1 mA	E threshold for higher operating currents to be risk group 1 lx
≤ 5000	RG1 unlimited	N/A
6500	759	956

Applied Standards

EN 62031

LED modules for general lighting – Safety specifications

EN 62471

Photobiological safety of lamps and lamp systems

Product Guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

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