

LED LINE SMD COMFORT-B 3R HO PRIMELINE



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MLP SC W5.5/500 HO 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 Comfort-B 3R HO PrimeLine

- **LONG SERVICE LIFE TIME: 93.000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 223 LM/W AT T_p = 50 °C**
- **LENGTH: 500 MM**
- **FLEXIBLE LIGHT DISTRIBUTION
BY DIFFERENT OPTICS**

LED Line SMD Comfort-B 3R HO PrimeLine

Technical Notes

- LED built-in module for integration into luminaires
- Dimensions LxWxH:
493 x 55 x 6.4 mm
- Driving current: 150 mA / 200 mA / 250 mA / 350 mA / 500 mA
- Push-in terminals for quick and simple wiring
- Design for optimum thermal management
- Degree of protection: IP00
- Surge protection device on board



Typical Light Distribution Curve

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

Electrical Characteristics - CRI > 80

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

Type	No. of LEDs	Voltage DC (V)					Temperature Coefficient mV/K	Power consumption (W)				
		150 mA	200 mA	250 mA	350 mA	500 mA		150 mA	200 mA	250 mA	350 mA	500 mA
		V	V	V	V	V		W	W	W	W	W

LED Line SMD Comfort-B 3R HO PrimeLine

All types	90	80.2	81.0	81.7	83.1	85.1	-39.43	12.0	16.2	20.4	29.1	42.5
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Voltage and power tolerance: $\pm 10\%$

Use of external LED constant current driver required.

Maximum Ratings - CRI > 80

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 mA
		$^\circ\text{C min.}$	$^\circ\text{C max.}$	$^\circ\text{C min.}$	$^\circ\text{C max.}$	
All types	500	-20	+80	-20	+70	600

Operating Life - CRI > 80

L80/B10

in hours at measured temperature at t_p point

Type	150 mA			200 mA			250 mA			350 mA			500 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	>83.000	>83.000	>78.000	>83.000	>83.000	>78.000	>83.000	>82.000	>78.000	>83.000	>83.000	>78.000	>83.000	>83.000	>77.000

Optical Characteristics - CRI > 80

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

Type	Ref. No.	Colour	Correl. colour temp.* K	Luminous flux** (lm) and efficiency (lm/W) at										Photometric code
				150 mA		200 mA		250 mA		350 mA		500 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 Comfort-B 3R HO PrimeLine

MLP SC W5.5/500 B/90/827 HO G1	on req.	WW	2700	2380	198	3125	193	3850	188	5295	182	7395	174	827/359
MLP SC W5.5/500 B/90/830 HO G1	574899	WW	3000	2580	214	3385	209	4175	204	5740	197	8010	188	830/359
MLP SC W5.5/500 B/90/835 HO G1	on req.	WW	3500	2580	214	3385	209	4175	204	5740	197	8010	188	835/359
MLP SC W5.5/500 B/90/840 HO G1	574900	NW	4000	2680	223	3520	217	4335	212	5960	205	8320	196	840/359
MLP SC W5.5/500 B/90/850 HO G1	574901	CW	5000	2680	223	3520	217	4335	212	5960	205	8320	196	850/369
MLP SC W5.5/500 B/90/865 HO G1	574902	CW	6500	2580	214	3385	209	4175	204	5740	197	8010	188	865/369

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

Minimum order quantity (packaging unit): 24 pcs.

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

LED Line SMD Comfort-B 3R HO PrimeLine

Electrical Characteristics - CRI > 90

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

Type	No. of LEDs	Voltage DC (V) 150 mA	200 mA	250 mA	350 mA	500 mA	Temperature Coefficient mV/K	Power consumption (W) 150 mA	200 mA	250 mA	350 mA	500 mA
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LED Line SMD Comfort-B 3R HO PrimeLine

All types	90	79.1	79.9	80.6	81.8	83.4	-27.00	11.9	16.0	20.1	28.6	41.7
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Voltage and power tolerance: $\pm 10\%$

Use of external LED constant current driver required.

Maximum Ratings - CRI > 90

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 $^\circ\text{C min.}$	$^\circ\text{C max.}$	Storage temperature range $^\circ\text{C min.}$	$^\circ\text{C max.}$	Max. allowed repetitive peak current mA
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All types	500	-20	+80	-20	+70	1440
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Operating Life - CRI > 90

L80/B10

in hours at measured temperature at T_p point

Type	150 mA 40 °C	50 °C	80 °C	200 mA 40 °C	50 °C	80 °C	250 mA 40 °C	50 °C	80 °C	350 mA 40 °C	50 °C	80 °C	500 mA 40 °C	50 °C	80 °C
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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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Optical Characteristics - CRI > 90

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

Type	Ref. No.	Colour	Correl. colour temp.*	Luminous flux** (lm) and efficiency (lm/W) at 150 mA	200 mA	250 mA	350 mA	500 mA	Photometric code
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LED Line SMD Comfort-B 3R HO PrimeLine

MLP SC W5.5/500 B/90/927 HO G1	on req.	WW	2700	2250	190	3000	188	3740	186	5190	181	7290	175	927/359
MLP SC W5.5/500 B/90/930 HO G1	574903	WW	3000	2250	190	3000	188	3740	186	5190	181	7290	175	930/359
MLP SC W5.5/500 B/90/935 HO G1	on req.	WW	3500	2250	190	3000	188	3740	186	5190	181	7290	175	935/359
MLP SC W5.5/500 B/90/940 HO G1	574904	NW	4000	2405	203	3205	201	3995	198	5550	194	7795	187	940/359
MLP SC W5.5/500 B/90/950 HO G1	574905	CW	5000	2405	203	3205	201	3995	198	5550	194	7795	187	950/359
MLP SC W5.5/500 B/90/965 HO G1	574906	CW	6500	2250	190	3000	188	3740	186	5190	181	7290	175	965/359

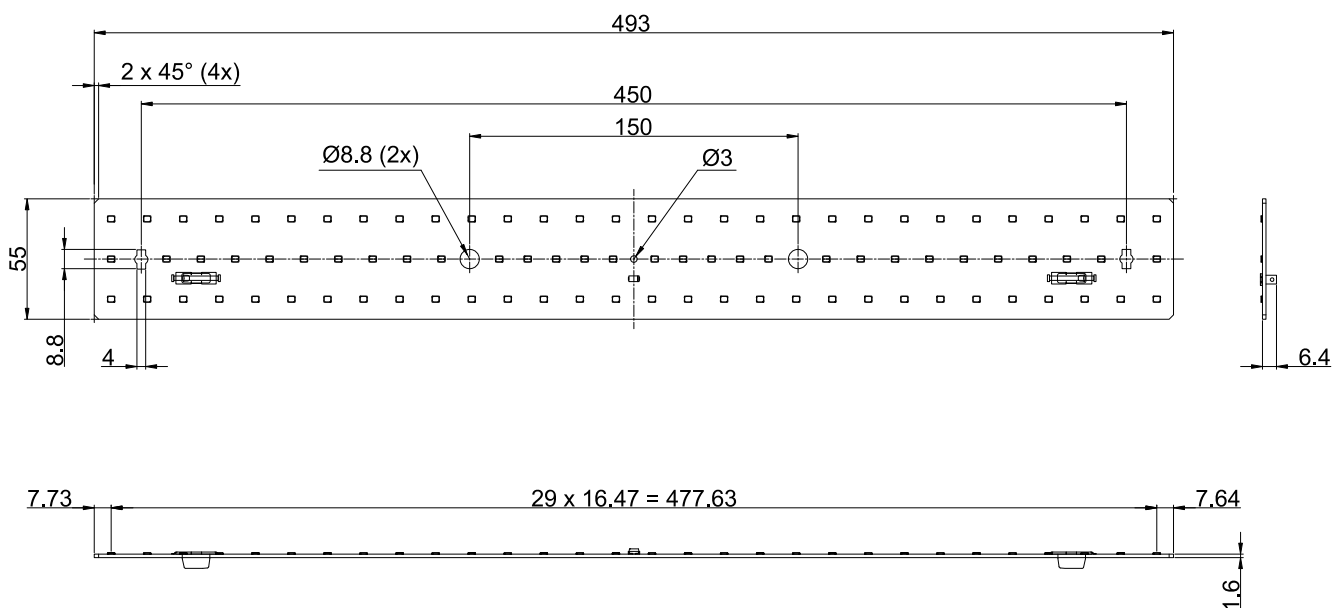
* Colour tolerance 3-step McAdams | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$

Minimum order quantity (packaging unit): 24 pcs.

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Mechanical Dimensions SMD Board

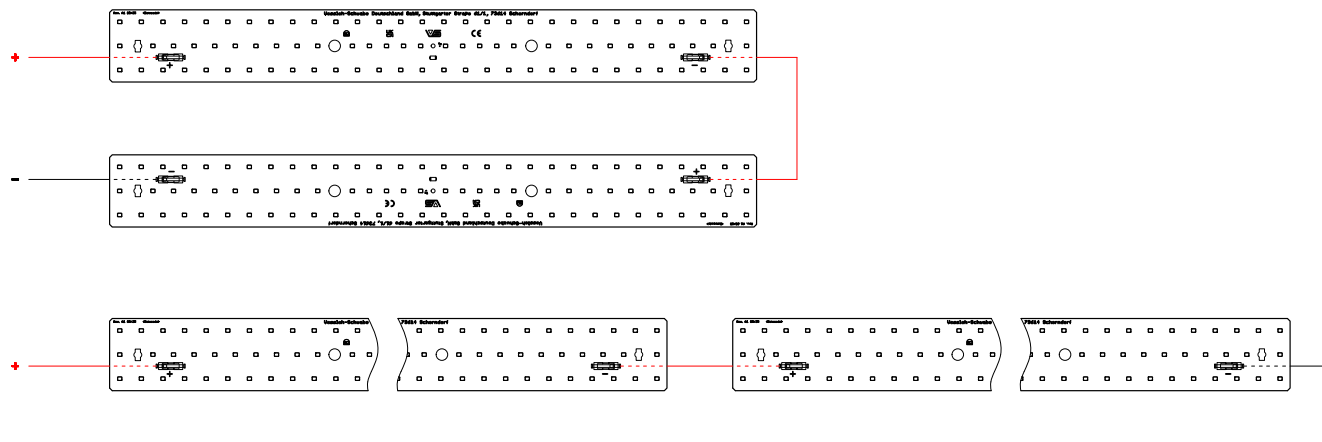
MLP SC W5.5/500 B/90/yz HO G1



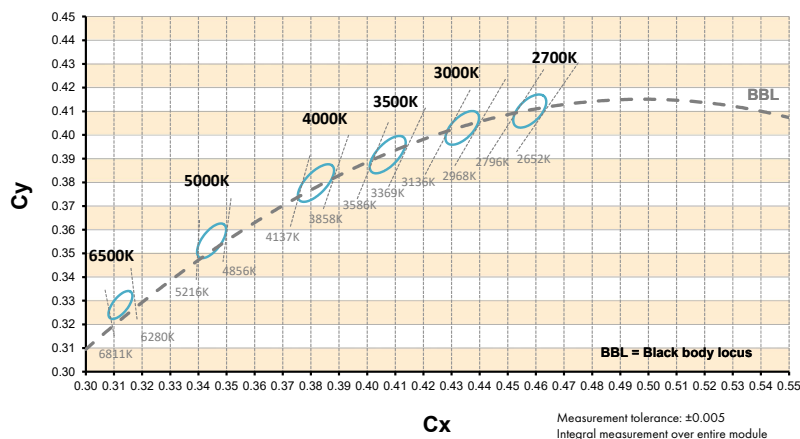
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Connection Example

- 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 400 V DC (basic insulation) and 250 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

MLP SC W5.5/500 B/90/840 HO G1

Generation

High Output

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

B = Bottom

Length

Width

W5.5 = 55 mm

Technology

SC = SMD Constant Current

Product Line

P = Prime

Product Area & Shape

ML = Module Linear

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 luminaire 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.
- 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)
Additional plastic washers (M5) have to be used in combination with M4 screws for fixation without optics.
- 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 2070).
- 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 within the complete range of allowed operating current per LED module.

Applied Standards

EN 62031

LED modules for general lighting – Safety specifications



EN 62471

Photobiological safety of lamps and lamp systems

EN 62471-7

Photobiological safety of lamps and lamp systems - Part 7: Light sources and luminaires primarily emitting visible radiation

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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