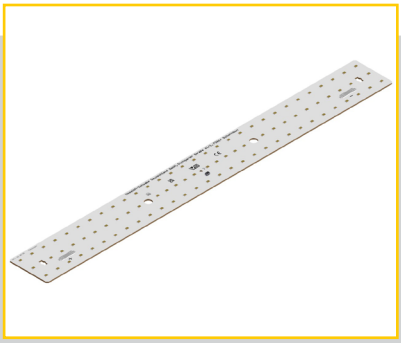
LED LINE SMD COMFORT-B 3R HO



LED LINE SMD COMFORT-B 3R HO

MLC 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

- **LONG SERVICE LIFE TIME: 93.000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 209 LM/W AT T_P = 50 °C**
- **LENGTH: 500 MM**
- **FLEXIBLE LIGHT DISTRIBUTION BY DIFFERENT OPTICS**

LIGHTING SOLUTIONS

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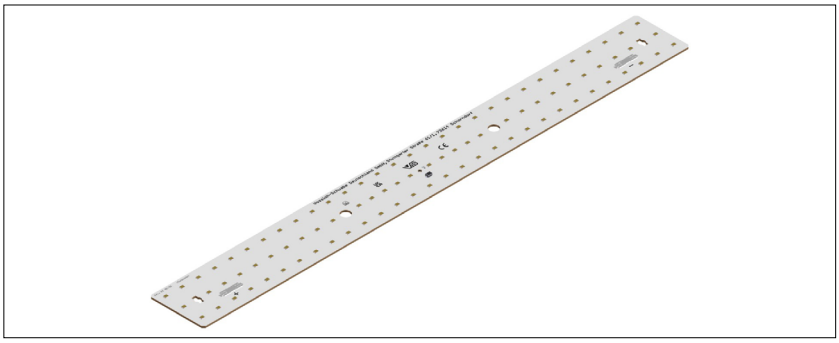
LED Line SMD Comfort-B 3R HO



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 / 700 mA
- On-board push-in 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.

Electrical Characteristics

at t_p = 50 °C

Type	No. of LEDs	Voltage DC (V) 150 mA V	200 mA V	250 mA V	350 mA V	500 mA V	700 mA V	Temperature Coefficient mV/K	Power consumption (W) 150 mA W	200 mA W	250 mA W	350 mA W	500 mA W	700 mA W
LED Line SMD Comfort-B 3R HO														
All types	90	78.4	79.2	80.0	81.3	83.2	85.5	-30.26	11.8	15.8	20.0	28.5	41.6	59.8

Voltage and power tolerance: ±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 °C min.	°C max.	Storage temperature range °C min.	°C max.	Max. allowed repetitive peak current mA
All types	700	–20	+80	–20	+70	1440

Operating Life

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	700 mA 40 °C	50 °C	80 °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	>93.000	>93.000	>93.000

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Optical Characteristics

at t_p = 50 °C

CRI R_a >80

Type	Ref. No.	Colour	Correl. colour temp.* K	Luminous flux** (lm) and efficiency (lm/W) at 150 mA typ. lm	150 mA typ. lm/W	200 mA typ. lm	200 mA typ. lm/W	250 mA typ. lm	250 mA typ. lm/W	350 mA typ. lm	350 mA typ. lm/W	500 mA typ. lm	500 mA typ. lm/W	700 mA typ. lm	700 mA typ. lm/W	Photometric code mA
LED Line SMD Comfort-B 3R HO																
MLC SC W5.5/500 B/90/827 HO G1	**573960**	WW	2700	2305	196	3040	192	3755	188	5145	181	7170	172	9720	162	827/359
MLC SC W5.5/500 B/90/830 HO G1	**573961**	WW	3000	2305	196	3040	192	3755	188	5145	181	7170	172	9720	162	830/359
MLC SC W5.5/500 B/90/835 HO G1	**573962**	NW	3500	2465	209	3245	205	4010	201	5500	193	7665	184	10390	174	835/359
MLC SC W5.5/500 B/90/840 HO G1	**573963**	NW	4000	2465	209	3245	205	4010	201	5500	193	7665	184	10390	174	840/359
MLC SC W5.5/500 B/90/850 HO G1	**573964**	CW	5000	2465	209	3245	205	4010	201	5500	193	7665	184	10390	174	850/359
MLC SC W5.5/500 B/90/865 HO G1	**573965**	CW	6500	2465	209	3245	205	4010	201	5500	193	7665	184	10390	174	865/359

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

Minimum order quantity (packaging unit): 24 pcs.

Optical Characteristics

at t_p = 50 °C

CRI R_a >90

Type	Ref. No.	Colour	Correl. colour temp.* K	Luminous flux** (lm) and efficiency (lm/W) at 150 mA typ. lm	150 mA typ. lm/W	200 mA typ. lm	200 mA typ. lm/W	250 mA typ. lm	250 mA typ. lm/W	350 mA typ. lm	350 mA typ. lm/W	500 mA typ. lm	500 mA typ. lm/W	700 mA typ. lm	700 mA typ. lm/W	Photometric code mA
LED Line SMD Comfort-B 3R HO																
MLC SC W5.5/500 B/90/927 HO G1	**573966**	WW	2700	1825	155	2410	152	2975	149	4080	143	5685	137	7710	129	927/359
MLC SC W5.5/500 B/90/930 HO G1	**573967**	WW	3000	1985	169	2620	165	3235	162	4435	156	6180	149	8380	140	930/359
MLC SC W5.5/500 B/90/935 HO G1	**573968**	NW	3500	1985	169	2620	165	3235	162	4435	156	6180	149	8380	140	935/359
MLC SC W5.5/500 B/90/940 HO G1	**573969**	NW	4000	2145	182	2830	179	3495	175	4790	168	6675	160	9050	151	940/359
MLC SC W5.5/500 B/90/950 HO G1	**573970**	CW	5000	2145	182	2830	179	3495	175	4790	168	6675	160	9050	151	950/359
MLC SC W5.5/500 B/90/965 HO G1	**573971**	CW	6500	2145	182	2830	179	3495	175	4790	168	6675	160	9050	151	965/359

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

Minimum order quantity (packaging unit): 24 pcs.

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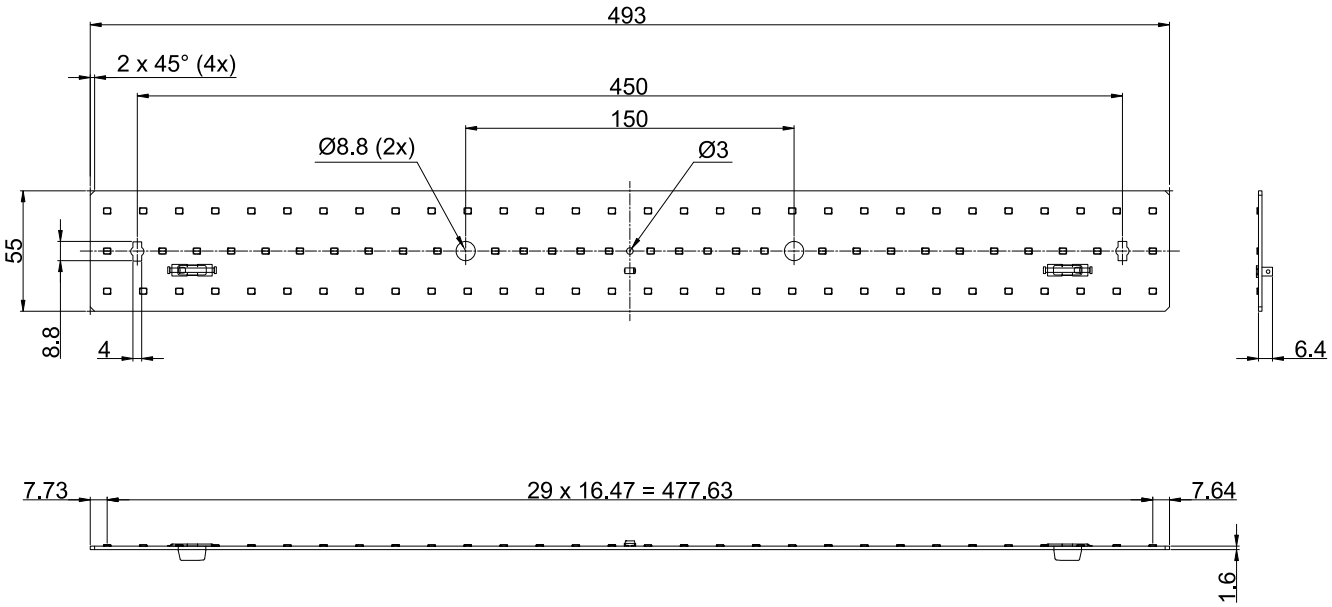
Mechanical Dimensions SMD Board

MLC SC W5.5/500 B/90/yzz HO G1



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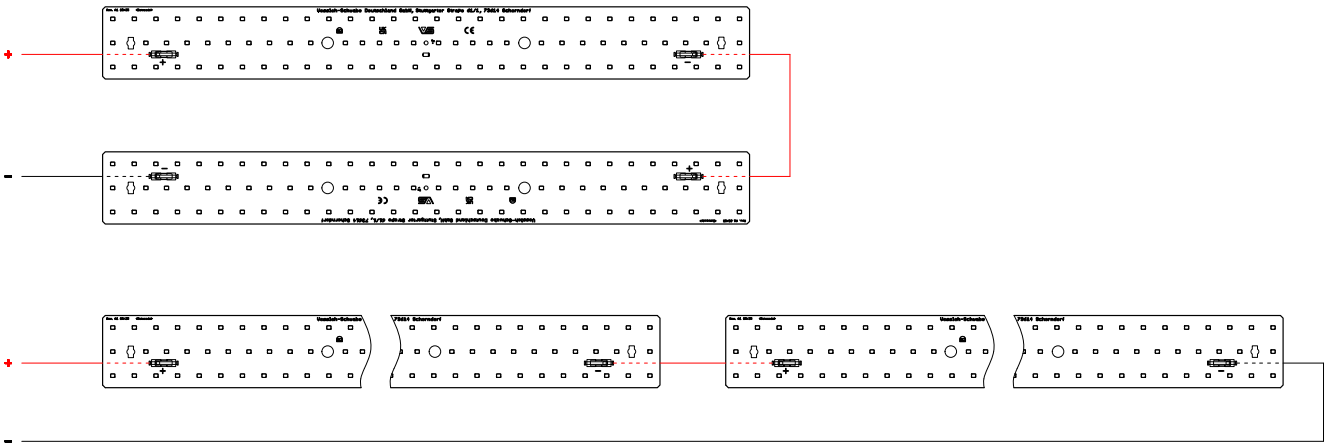
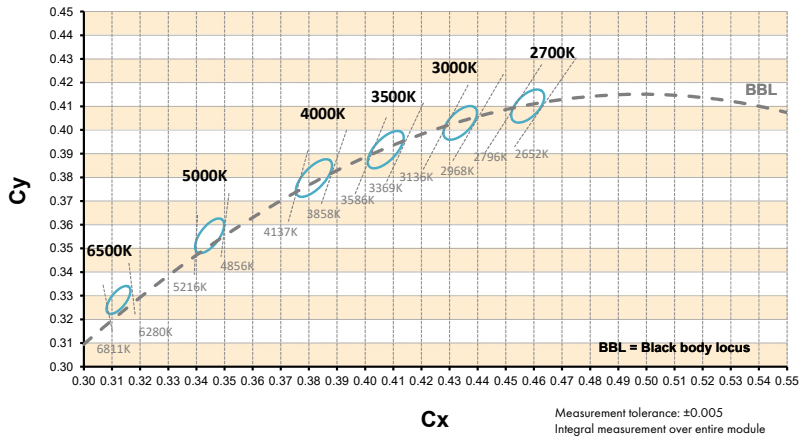
Connection Example

- 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



Measurement tolerance: ±0.005
Integral measurement over entire module

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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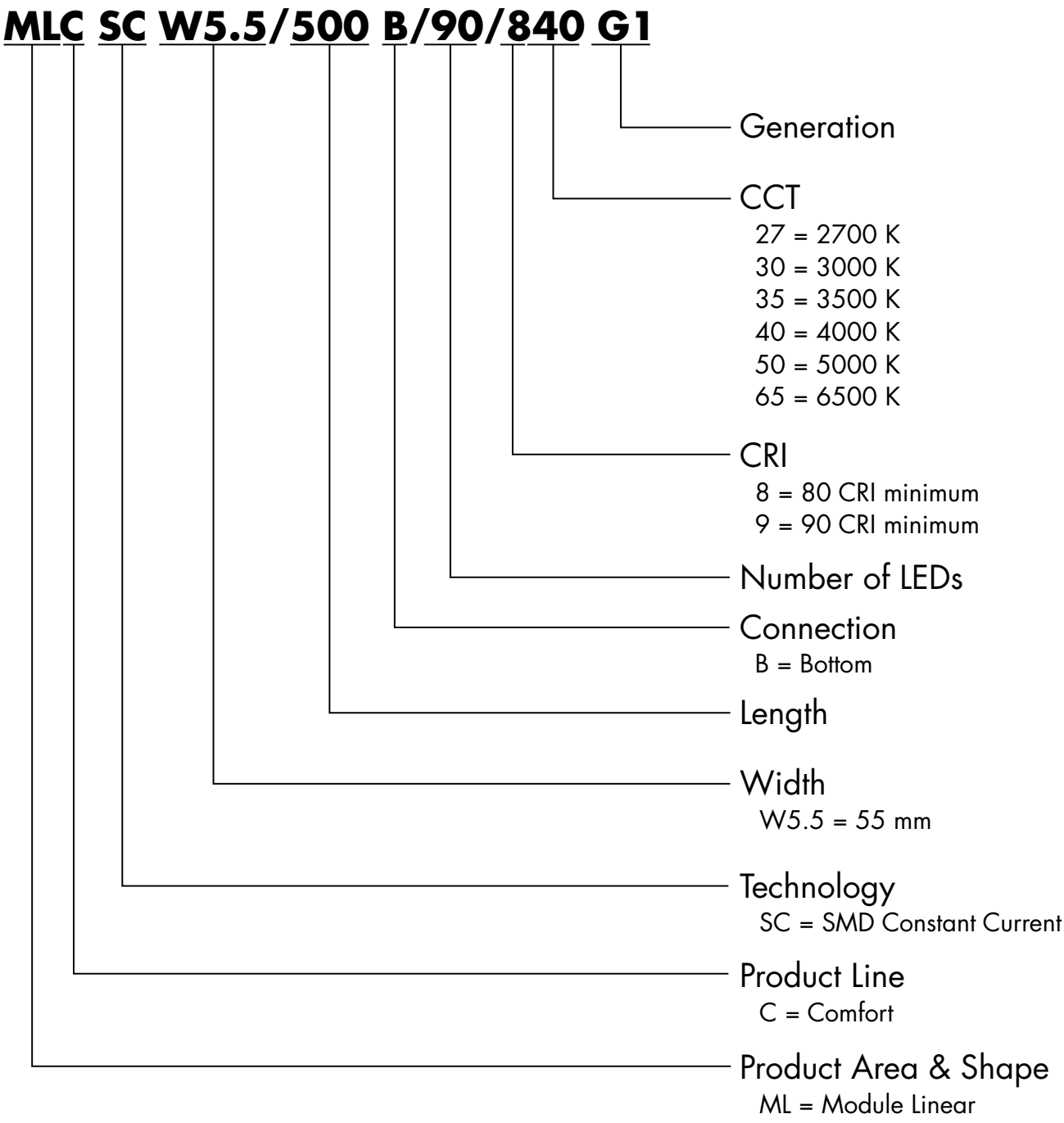
Nomenclature example



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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)/ countersank 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

pending

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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