LED LINE SMD COMFORT-B 3R PRIMELINE





LED LINE SMD COMFORT-B 3R PRIMELINE

MLP SC 3R/FB G1

Typical Applications

Built-in luminaires/general illumination

- Office lighting
- Retail, corridor and shelf lighting
- T5/T8 replacement as built-in module
- Furniture lighting
- Backlighting for advertising
- Industrial lighting
- Indoor lighting

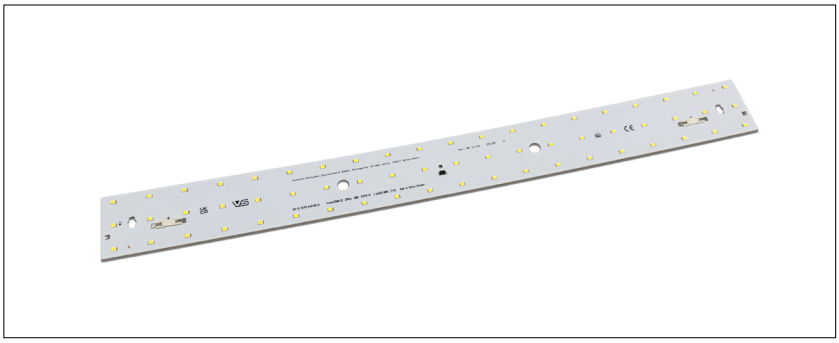
LED Line SMD Comfort-B 3R PrimeLine

- **LONG SERVICE LIFE TIME: 93.000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 223 LM/W AT T_P = 50 °C**
- **LENGTH: 493 MM**
- **FLEXIBLE LIGHT DISTRIBUTION BY DIFFERENT OPTICS**

LIGHTING SOLUTIONS

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LED Line SMD Comfort-B 3R PrimeLine



Technical Notes

- LED built-in module for integration into luminaires
- Dimensions:
  MLP SC 3R/FB G1:
  493 x 49 x 6.4 mm
- Driving current: 150 mA / 200 mA / 250 mA / 350 mA / 500 mA
- On-board push terminal system

Typical Light Distribution Curve

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

Please visit our homepage for details for suitable optics:

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

Electrical Characteristics – CRI > 80

at t_p = 50 °C

Type	No. of LEDs	Typ. voltage DC 150 mA V	200 mA V	250 mA V	350 mA V	500 mA	Temperature coefficient [mV/K]	Typ. Power consuption 150 mA W	200 mA W	250 mA W	350 mA W	500 mA
LED Line SMD Comfort-B 3R PrimeLine												
All types	60	53.5	54.0	54.5	55.4	56.7	-26.28	8.0	10.8	13.6	19.4	28.4

Voltage and power consumption tolerance: ±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 °C min.	°C max.	Storage temperature range °C min.	°C max.	Max. allowed repetitive peak current mA
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 50 °C	60 °C	80 °C	200 mA 50 °C	60 °C	80 °C	250 mA 50 °C	60 °C	80 °C	350 mA 50 °C	60 °C	80 °C	500 mA 50 °C	60 °C	80 °C
All types	>83.000	>82.000	>78.000	>83.000	>82.000	>78.000	>83.000	>82.000	>78.000	>83.000	>82.000	>78.000	>83.000	>81.000	>77.000

Optical Characteristics – CRI > 80

at t_p = 50 °C

Type	**Ref. No.**	Colour	Correlated colour temperature* K	Luminous flux** (lm) and efficiency (lm/W) at 150 mA typ. lm	typ. lm/W	200 mA typ. lm	typ. lm/W	250 mA typ. lm	typ. lm/W	350 mA typ. lm	typ. lm/W	500 mA typ. lm	typ. lm/W	Photometric code
LED Line SMD Comfort-B 3R PrimeLine														
MLP SC 3R/FB B/60/827 G1	on request	WW	2700	1585	198	2085	193	2570	188	3530	182	4930	174	827/359
MLP SC 3R/FB B/60/830 G1	**574969**	WW	3000	1720	214	2260	209	2780	204	3825	197	5340	188	830/359
MLP SC 3R/FB B/60/835 G1	on request	NW	3500	1720	214	2260	209	2780	204	3825	197	5340	188	835/359
MLP SC 3R/FB B/60/840 G1	**574970**	NW	4000	1785	223	2345	217	2890	212	3970	205	5545	196	840/359
MLP SC 3R/FB B/60/850 G1	**574971**	CW	5000	1785	223	2345	217	2890	212	3970	205	5545	196	850/369
MLP SC 3R/FB B/60/865 G1	**574972**	CW	6500	1720	214	2260	209	2780	204	3825	197	5340	188	865/369

2700 K and 3000 K = warm white (WW), 3500 K and 4000 K = neutral white (NW), 5000 K and 6500 K = cool white (CW)
* Colour tolerance: 3 MacAdams | ** Production tolerance of luminous flux and efficiency: ±10%
Minimum order quantity (packaging unit): 100 pcs.

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

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Electrical Characteristics – CRI > 90

at t_p = 50 °C

Type	No. of LEDs	Typ. voltage DC 150 mA V	200 mA V	250 mA V	350 mA V	500 mA V	Temperature coefficient [mV/K]	Typ. Power consuption 150 mA W	200 mA W	250 mA W	350 mA W	500 mA W
LED Line SMD Comfort-B 3R PrimeLine												
All types	60	52.7	53.2	53.7	54.5	55.6	-18.00	7.9	10.6	13.4	19.1	27.8

Voltage and power consumption tolerance: ±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 °C min.	°C max.	Storage temperature range °C min.	°C max.	Max. allowed repetitive peak current mA
All types	500	–20	+80	–20	+70	1440

Operating Life – CRI > 90

L80/B10

in hours at measured temperature at t_p point

Type	150 mA 50 °C	60 °C	80 °C	200 mA 50 °C	60 °C	80 °C	250 mA 50 °C	60 °C	80 °C	350 mA 50 °C	60 °C	80 °C	500 mA 50 °C	60 °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

Optical Characteristics – CRI > 90

at t_p = 50 °C

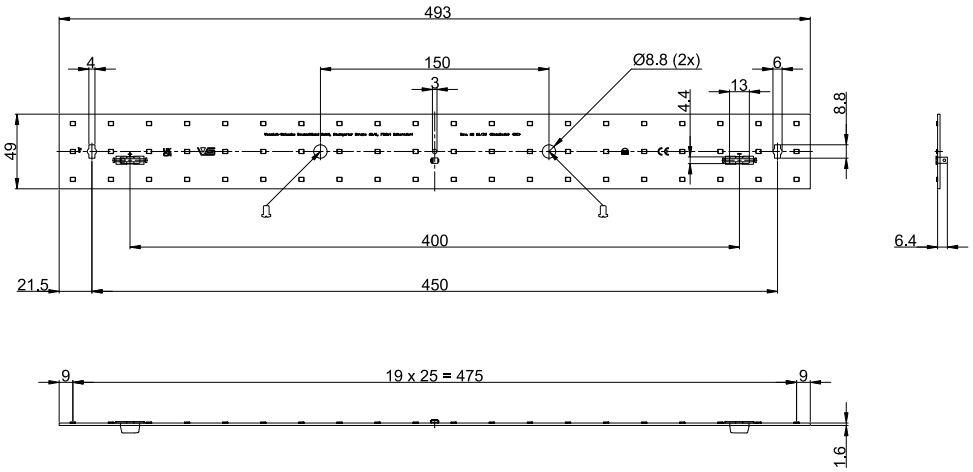
Type	**Ref. No.**	Colour	Correlated colour temperature* K	Luminous flux** (lm) and efficiency (lm/W) at 150 mA typ. lm	typ. lm/W	200 mA typ. lm	typ. lm/W	250 mA typ. lm	typ. lm/W	350 mA typ. lm	typ. lm/W	500 mA typ. lm	typ. lm/W	Photometric code
LED Line SMD Comfort-B 3R PrimeLine														
MLP SC 3R/FB B/60/927 G1	on request	WW	2700	1500	190	2000	188	2495	186	3460	181	4860	175	927/359
MLP SC 3R/FB B/60/930 G1	**574973**	WW	3000	1500	190	2000	188	2495	186	3460	181	4860	175	930/359
MLP SC 3R/FB B/60/935 G1	on request	NW	3500	1500	190	2000	188	2495	186	3460	181	4860	175	935/359
MLP SC 3R/FB B/60/940 G1	**574974**	NW	4000	1605	203	2135	201	2665	198	3700	194	5195	187	940/359
MLP SC 3R/FB B/60/950 G1	**574975**	CW	5000	1605	203	2135	201	2665	198	3700	194	5195	187	950/359
MLP SC 3R/FB B/60/965 G1	**574976**	CW	6500	1500	190	2000	188	2495	186	3460	181	4860	175	965/359

2700 K and 3000 K = warm white (WW), 3500 K and 4000 K = neutral white (NW), 5000 K and 6500 K = cool white (CW)
* Colour tolerance: 3 MacAdams | ** Production tolerance of luminous flux and efficiency: ±10%
Minimum order quantity (packaging unit): 100 pcs.

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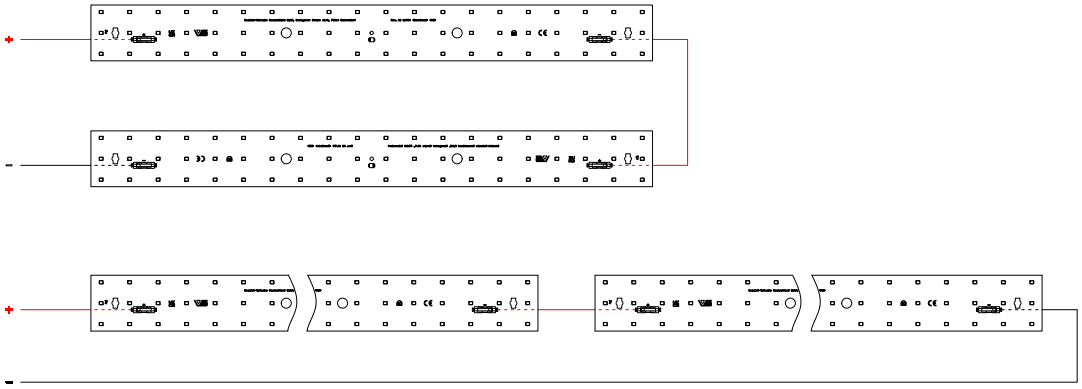
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Mechanical Dimensions SMD Board

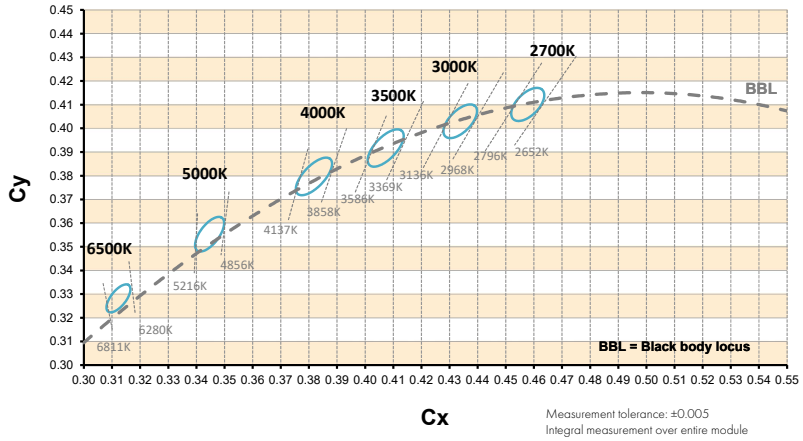


Connection Example

- 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

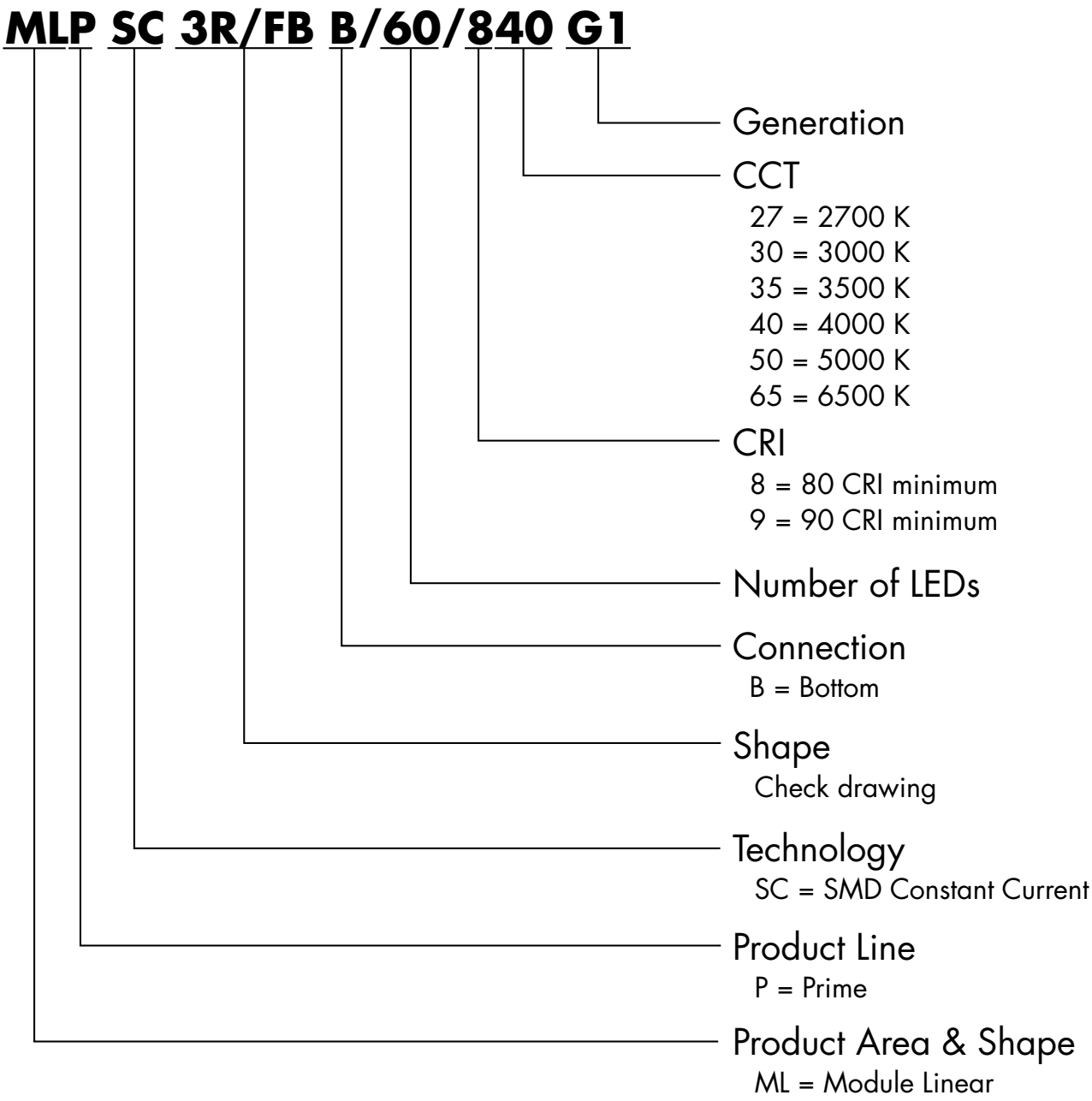
Linear LED Constant Current Drivers

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 of death!!!



- 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 sould 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.
- For interconnection the LED modules is equipped with push-in terminals (WAGO 2070)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- 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
  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

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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