

LED LINE SMD KIT 3R

WU-M-526 (280 MM)

WU-M-536 (566 MM)



LED LINE SMD KIT 3R

WU-M-526-G / WU-M-536-G

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

LED SMD Kit 3R

- **LONG SERVICE LIFE TIME: 50,000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 188 LM/W AT $T_p = 50\text{ }^\circ\text{C}$**
- **LENGTH: 280 MM, 566 MM**
- **FLEXIBLE LIGHT DISTRIBUTION BY DIFFERENT OPTICS**
- **ZHAGA-COMPLIANT HOLE DISTANCE**

LED Line SMD Kit 3R

Technical Notes

- LED built-in module for integration into luminaires 
- Dimensions: 280x55 mm, 566x55 mm
- Driving current: 150 mA / 200 mA / 350 mA / 500 mA
- On-board push terminal system
- Colour tolerance: 3-step MacAdam
- Beam angle: 120°



Electrical Characteristics

at $t_p = 50\text{ °C}$

Type	No. of LEDs	Voltage DC (V)												Temp. coeff. mV/K	Power consumption (W)													
		150 mA			200 mA			350 mA			500 mA				150 mA			200 mA			350 mA			500 mA				
		min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.
526	33	28.2	30.2	33.7	29.0	31.0	34.5	31.2	33.1	36.7	32.9	34.9	38.4	-36.58	4.2	4.5	5.1	5.8	6.2	6.9	10.9	11.6	12.8	16.4	17.4	19.2		
526-HB	33	55.8	59.5	62.4	57.1	60.7	63.7	60.6	64.2	67.2	63.9	67.5	70.5	-73.16	8.4	8.9	9.4	11.4	12.1	12.7	21.2	22.5	23.5	32.0	33.8	35.3		
536	66	56.4	60.4	67.4	58.0	62.0	69.0	62.3	66.3	73.3	65.9	69.8	76.9	-73.16	8.5	9.1	10.1	11.6	12.4	13.8	21.8	23.2	25.7	33.0	34.9	38.5		
536-HB	66	111.7	118.9	124.9	114.2	121.4	127.4	121.2	128.5	134.4	127.8	135.0	141.0	-146.32	16.8	17.8	18.7	22.8	24.3	25.5	42.4	45.0	47.0	63.9	67.5	70.5		

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 mA
		°C min.	°C max.	°C min.	°C max.	
WU-M-526/-536	150	-20	+75	-20	+85	613
	200	-20	+75	-20	+85	587
	350	-20	+75	-20	+85	542
	500	-20	+75	-20	+85	519
WU-M-526-HB/-536-HB	150	-20	+75	-20	+85	942
	200	-20	+75	-20	+85	832
	350	-20	+75	-20	+85	654
	500	-20	+75	-20	+85	561

Operating Life

L80/B10

in hours at measured temperature at t_p point

	150 mA			200 mA			350 mA			500 mA		
	40 °C	50 °C	75 °C	40 °C	50 °C	75 °C	40 °C	50 °C	75 °C	40 °C	50 °C	75 °C
WU-M-526/-536	> 60000	> 60000	> 60000	> 60000	> 60000	59000	> 60000	> 60000	48000	> 60000	> 60000	39000
WU-M-526-HB/-536-HB	> 60000	> 60000	38000	> 60000	> 60000	33000	> 60000	> 60000	23000	50000	33000	16000

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LED Line SMD Kit 3R

Optical Characteristics

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

CRI R_a : min. 80 / typ. 85

Type	Ref. No.		Colour	Correl. colour temp K	Luminous flux* (lm) and efficiency (lm/W) at												Photo. metric code
	Top (TC)	Bottom (BC)			150 mA			200 mA			350 mA			500 mA			
					min. lm	typ. lm	typ. lm/W	min. lm	typ. lm	typ. lm/W	min. lm	typ. lm	typ. lm/W	min. lm	typ. lm	typ. lm/W	

Module length 280 mm

WU-M-526-

TC-830 / BC-830	560366	561061	warm white	3000	715	790	175	940	1040	168	1590	1760	152	2190	2425	139	830/349
TC-840 / BC-840	560680	560716	neutral white	4000	745	830	183	980	1095	176	1655	1850	159	2280	2545	146	840/349
TC-850 / BC-850	561056	561062	neutral white	5000	810	850	188	1065	1120	181	1805	1895	164	2485	2615	150	850/349
TC-865 / BC-865	561057	561063	cool white	6500	745	840	185	980	1105	179	1655	1870	161	2280	2575	148	865/349
TC-HB-830 / BC-HB-830	561162	561169	warm white	3000	1360	1505	169	1795	1985	164	3035	3360	149	4180	4625	137	830/349
TC-HB-840 / BC-HB-840	561163	561170	neutral white	4000	1485	1585	178	1955	2090	172	3310	3530	157	4555	4865	144	840/349
TC-HB-850 / BC-HB-850	561164	561171	neutral white	5000	1485	1610	181	1955	2125	175	3310	3595	160	4555	4950	147	850/349
TC-HB-865 / BC-HB-865	561165	561172	cool white	6500	1485	1580	177	1955	2085	172	3310	3525	157	4555	4855	144	865/349

Module length 566 mm

WU-M-536-

TC-830 / BC-830	561067	561074	warm white	3000	1430	1580	175	1880	2085	168	3180	3520	152	4380	4850	139	830/349
TC-840 / BC-840	561068	561075	neutral white	4000	1485	1660	183	1960	2185	176	3310	3695	159	4565	5090	146	840/349
TC-850 / BC-850	561069	561076	neutral white	5000	1620	1705	188	2135	2245	181	3610	3795	164	4970	5225	150	850/349
TC-865 / BC-865	561070	561077	cool white	6500	1485	1680	185	1960	2210	179	3310	3740	161	4565	5150	148	865/349
TC-HB-830 / BC-HB-830	562906	562910	warm white	3000	2720	3010	169	3590	3975	164	6070	6720	149	8365	9255	137	830/349
TC-HB-840 / BC-HB-840	562907	562911	neutral white	4000	2965	3170	178	3915	4175	172	6615	7065	157	9115	9730	144	840/349
TC-HB-850 / BC-HB-850	562908	562912	neutral white	5000	2965	3225	181	3915	4250	175	6615	7190	160	9115	9905	147	850/349
TC-HB-865 / BC-HB-865	562909	562913	cool white	6500	2965	3160	177	3915	4170	172	6615	7050	157	9115	9710	144	865/349

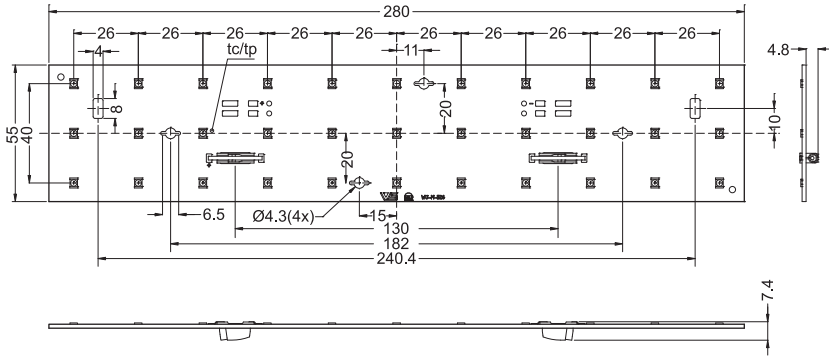
* Measurement tolerance: $\pm 7\%$ | CRI > 90 on request

Minimum order quantity (packaging unit): 42 pcs.

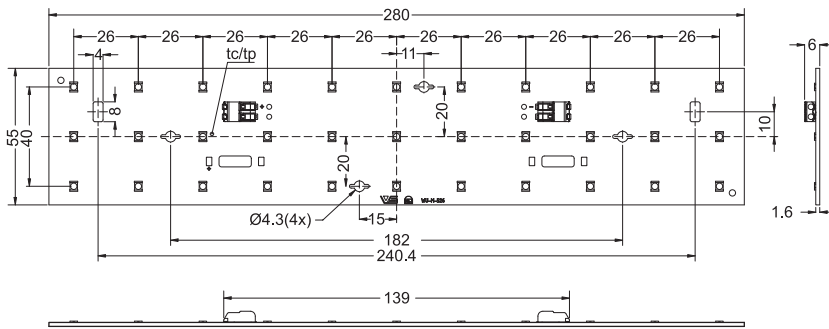
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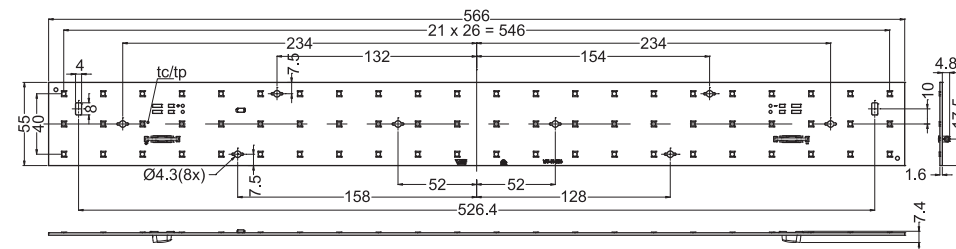
Mechanical Dimensions SMD Board



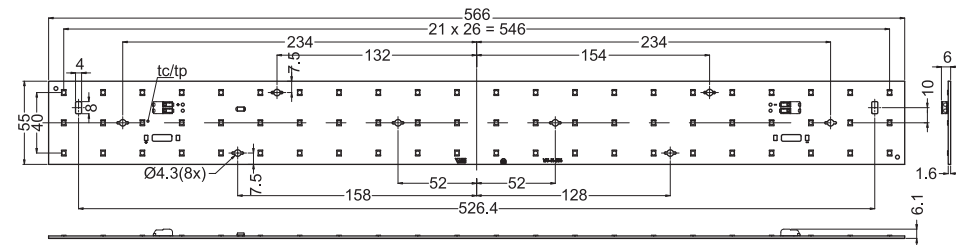
WU-M-526-BC



WU-M-526-TC



WU-M-536-BC



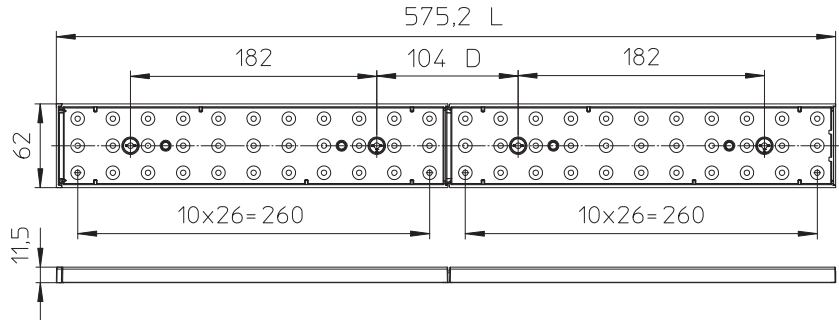
WU-M-536-TC

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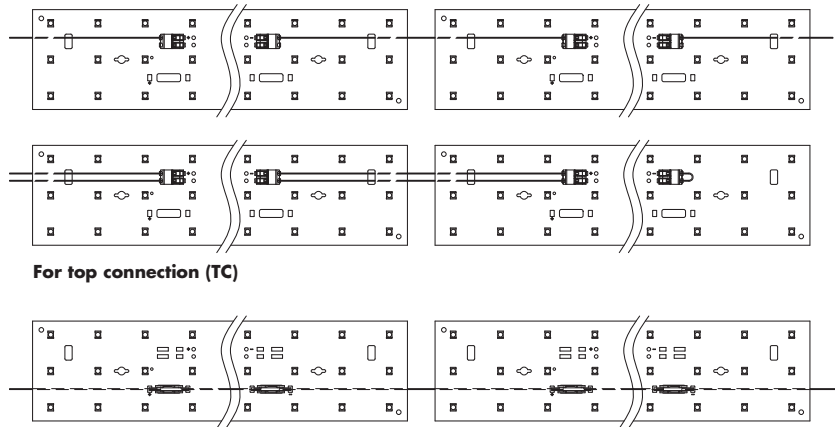
Module Assembly

The L and D dimensions change with the number of modules and as a result of variations in the various end caps and spacers.



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.

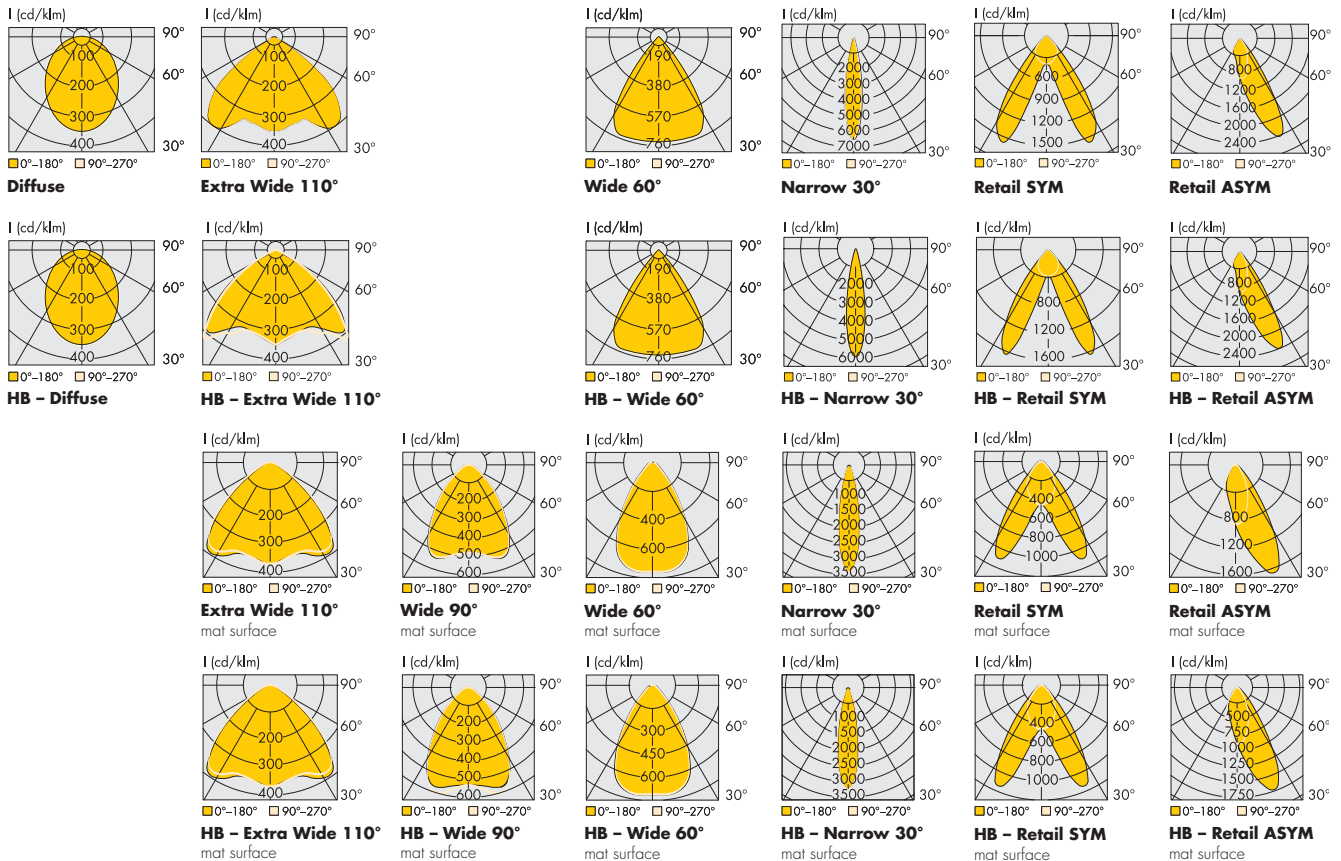


For top connection (TC)

For bottom connection (BC)

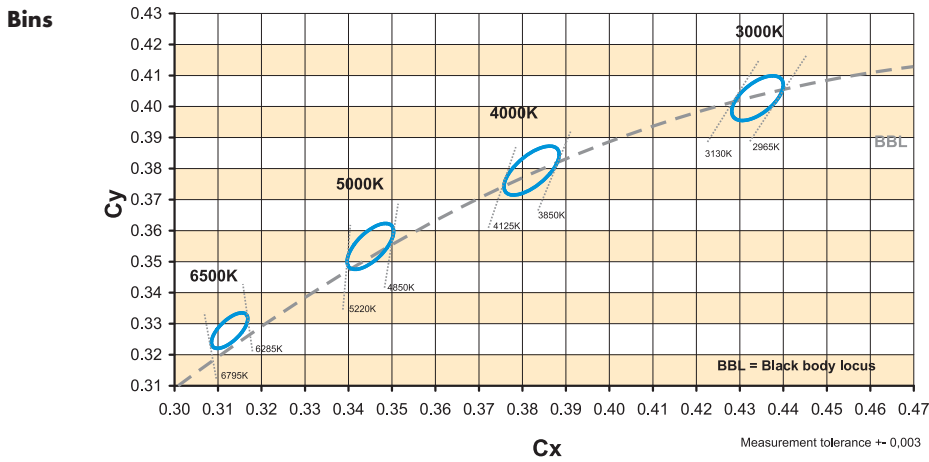
Typical Light Distribution Curves

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



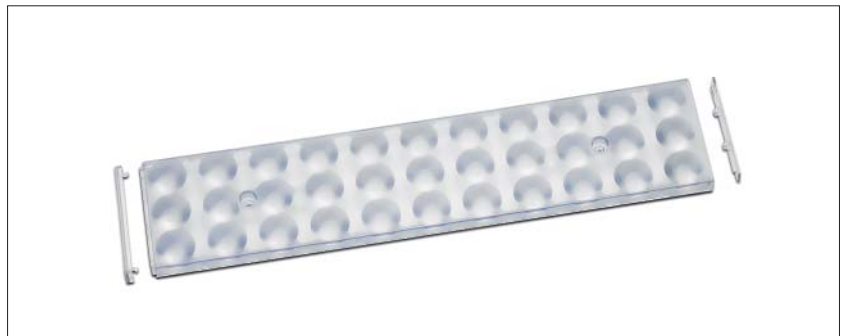
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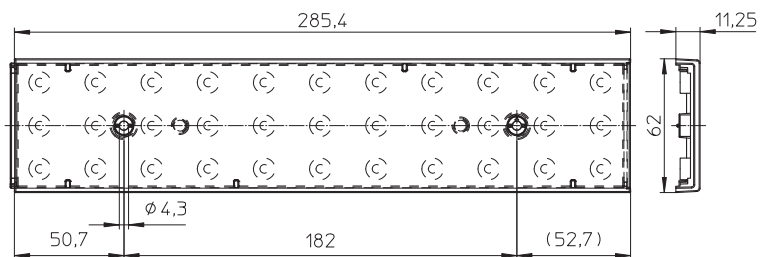
Technical Notes for Optics

Brilliant light distribution and surfaces
 Highly efficient up to 96%
 Material: PMMA, transparent or translucent
 Dimensions (LxWxH): 285.4x62x11.25 mm
 SMD Kits can be stringed together,
 for modules 280 mm, 566 mm and module chains
 Max. allowed temperature: 80 °C
 Fixation with flat or cylinder head screws (M4)
 or with fixing clip (see page 7)
 Max. torque: 1.2 Nm (M4)
 Packaging unit: 120 pcs.



Light distribution	Optics type	Ref. No.	Efficiency %	Weight g
Material: transparent, high-glossy				
Extra Wide 110°	99400	560371	95	105
Wide 60°	99401	560372	95	88
Narrow 30°	99404	560375	95	94
Retail SYM	99402	560373	95	93
Retail ASYM	99403	560374	95	99
Material: transparent, mat				
Extra Wide 110°	99410	564557	95	105
Wide 90°	99415	564559	95	80
Wide 60°	99411	563660	95	88
Narrow 30°	99414	564558	95	94
Retail SYM	99412	563337	95	93
Retail ASYM	99413	563338	95	99
Material: translucent, high-glossy				
Diffuse	99400	562543	85	105.8

Optics



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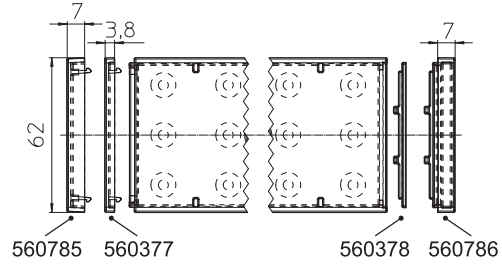
End Caps

Lateral attachment on the optics
(on the side of the groove or tongue)

Material: PC, transparent, mat

End cap type	For optics type	Ref. No.	Length L mm	Weight g	Packaging unit (pcs.)
Tongue side	994	560377	3.8	1.6	250
Tongue side	994	560785	7	2.3	250
Groove side	994	560378	—	1	500
Groove side	994	560786	7	3.3	500

End Caps



Spacer

For creating different lengths of lighting strips

Insert in optics to connect (groove or tongue side)

Material: PMMA, transparent or translucent, high-glossy

Spacer type	For optics type	Ref. No.	Length L mm	Weight g	Packaging unit (pcs.)
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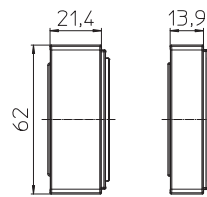
Material: transparent, high-glossy

Short	994	564458	13.9	4.5	
Long	994	563187	21.4	6.1	
Short, VS brand	994	560793	13.9	4.5	
Long, VS brand	994	560789	21.4	6.1	

Material: translucent, high-glossy

Short	994	564459	13.9	4.5	
Long	994	564457	21.4	6.1	
Short, VS brand	994	564678	13.9	4.5	
Long, VS brand	994	564677	21.4	6.1	

Spacer



Fixing Clip

For fastening LED optics of type 994 and LED PCBs to luminaire sheets without needing screws

Vibration resistant version

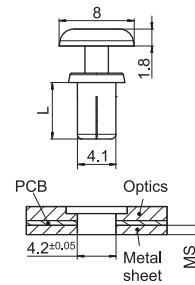
Material: PA, natural (UL-94 V-2)

Weight: 0.2 g, Packaging unit: 1000 pcs.

Type	Ref. No.	For luminaire sheet thickness* (MS) mm	Length L mm
98001	562557	0.5–1.3	8
98002	562558	1.4–2.2	9
98003	562559	2.3–3.1	10

* For PCB thickness: 1.5 mm

Fixing Clip



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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LED Line SMD Kit 3R

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.
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 could 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)
- 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 and BJB 46.121.1001 for bottom 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
Rating in accordance with IEC / TR 62778: risk group 1 (except HB, 6500 K, > 500 mA: risk group 2)

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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