

LED LINE SMD W2 TWINLED



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WU-M-719

Typical Applications

Built-in luminaires/general illumination

- Office lighting
- Industrial lighting for
 - Production halls
 - Warehouses



LED Line SMD W2 TwinLED

- **LONG SERVICE LIFE TIME: 93,000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 201 LM/W
AT T_p = 50 °C**
- **DIMENSIONS: 560x20MM**

LED Line SMD

W2 TwinLED

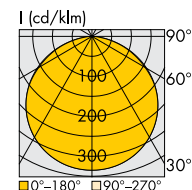
Technical Notes

- LED built-in module for integration into luminaires
- Dimensions
WU-M-719: 560x20 mm
- Driving current: 250 / 350 mA / 500 mA / 600 mA / 700 mA
- On-board push terminal system
- Beam angle: 120°



Typical Light Distribution Curve

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



Electrical Characteristics

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

Type	No. of SMDs	Typ. voltage DC					Temperature coefficient mV/K	Typ. power consumption				
		250 mA	350 mA	500 mA	600 mA	700 mA		250 mA	350 mA	500 mA	600 mA	700 mA
		V	V	V	V	V		W	W	W	W	W

LED Line SMD TwinLED - L56 W2

WU-M-719	60	53,3	54,2	55,5	56,2	57,0	-20,17	13,3	19,0	27,7	33,7	39,9
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Voltage and power consumption 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)
		$^\circ\text{C min.}$	$^\circ\text{C max.}$	$^\circ\text{C min.}$	$^\circ\text{C max.}$	
WU-M-719	700	-20	+80	-20	+70	1440

Operating Life

L80/B10

in hours at measured temperature at t_p point

	250 mA			350 mA			500 mA			600 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 $^\circ\text{C}$
WU-M-719	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 > 80

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

CRI: $R_a > 80$

Type	Ref.No.		Colour	Correlated colour temp.*	Typ. luminous flux** and typ. efficiency**										Photometric code
	Connection				at										
	bottom	small top			250 mA		350 mA		500 mA		600 mA		700 mA		
	(BC)	(STC)			lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	

LED Line SMD TwinLED - L56 W2

WU-M-719-BC/STC-830	573607	573608	WW	3000	2500	188	3430	181	4780	172	5645	167	6480	162	830/359
WU-M-719-BC/STC-840	573610	573611	NW	4000	2675	201	3665	193	5110	184	6035	179	6930	174	840/359
WU-M-719-BC/STC-850	573613	573614	CW	5000	2675	201	3665	193	5110	184	6035	179	6930	174	850/359
WU-M-719-BC/STC-865	573616	573617	CW	6500	2675	201	3665	193	5110	184	6035	179	6930	174	865/359

* Colour tolerance: 3 MacAdam | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$ | CRI > 90 on request

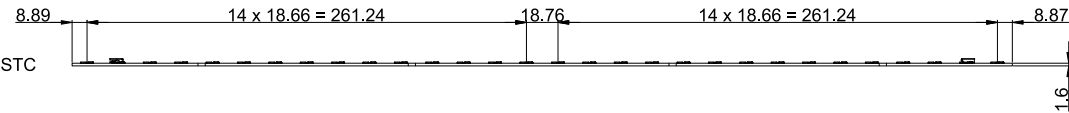
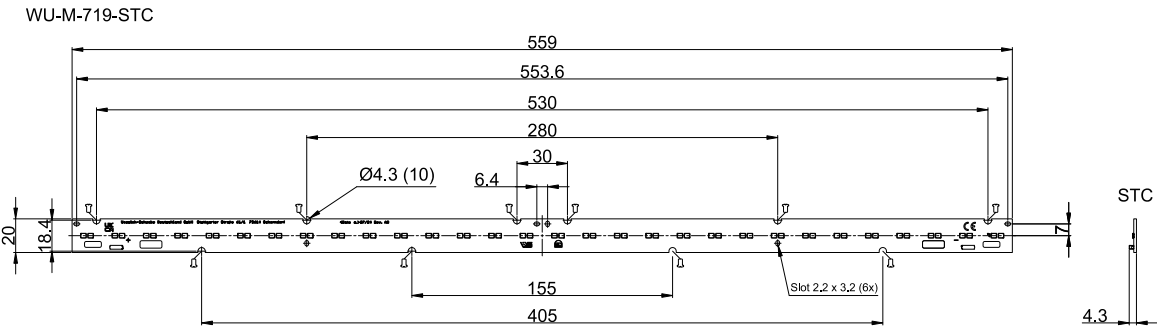
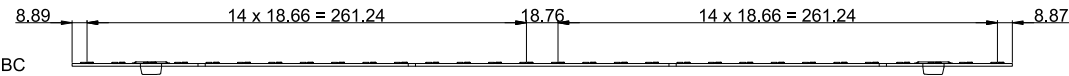
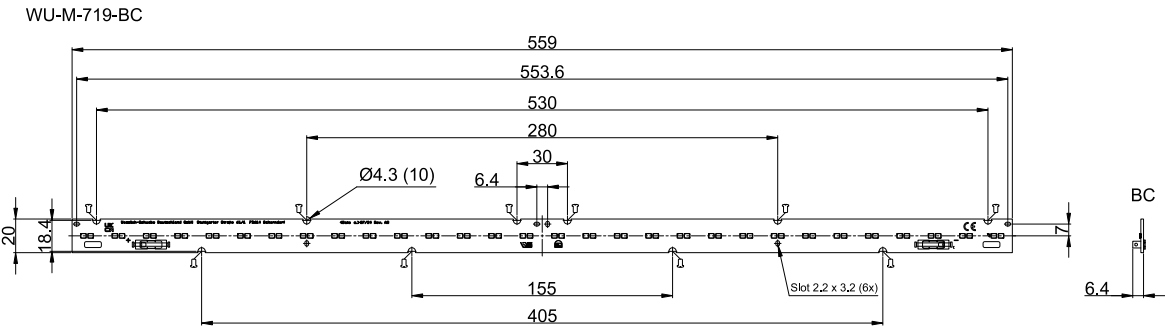
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Logistics Data

Product Dimension mm	Product description	Packaging unit	Dimension of box mm	Pieces per box	Gross weight of box g	Weight per piece g	Box pieces per pallet	Pieces per pallet	Gross weight of pallet kg	Dimension of pallet mm
LED Line SMD TwinLED - L56 W2										
560x20	WU-M-719-STC-yzz	Carton box	570x190x57	48	1670	31	104	4992	197.7	1200x800x890
560x20	WU-M-719-BC-yzz	Carton box	570x190x57	24	924	31	104	2496	120.1	1200x800x890

STC - Small Top connector
BC - Bottom connector
yzz - CCT&CRI combination (830, 840...)

Mechanical Dimensions

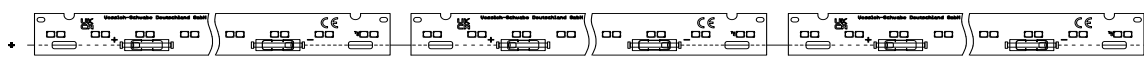


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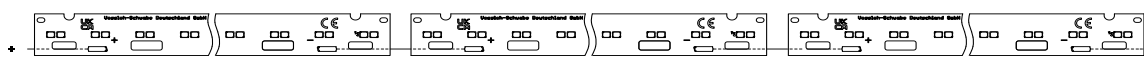
Connection

- 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 350 V DC (basic insulation) and 185 V DC (reinforced insulation).
- The LED modules are designed on that way that allows screw-less fixation to the luminaire fixture together with optic by using special metal spring.
- In case of assembly of the LED modules in profiles (e.g. aluminium) where the profile touches the top edge of the PCB the clearance and creepage distances are reduced to 150 V DC (basic insulation) and 50 V DC (reinforced insulation).
- Max. diameter of screw head (M4): Ø 8 mm for H1 holes
- Max. diameter of screw head (M3): Ø 5.5 mm for H2 holes
- Only the marked holes  are fixing holes for screws M4. Please do not use other holes for fixation!

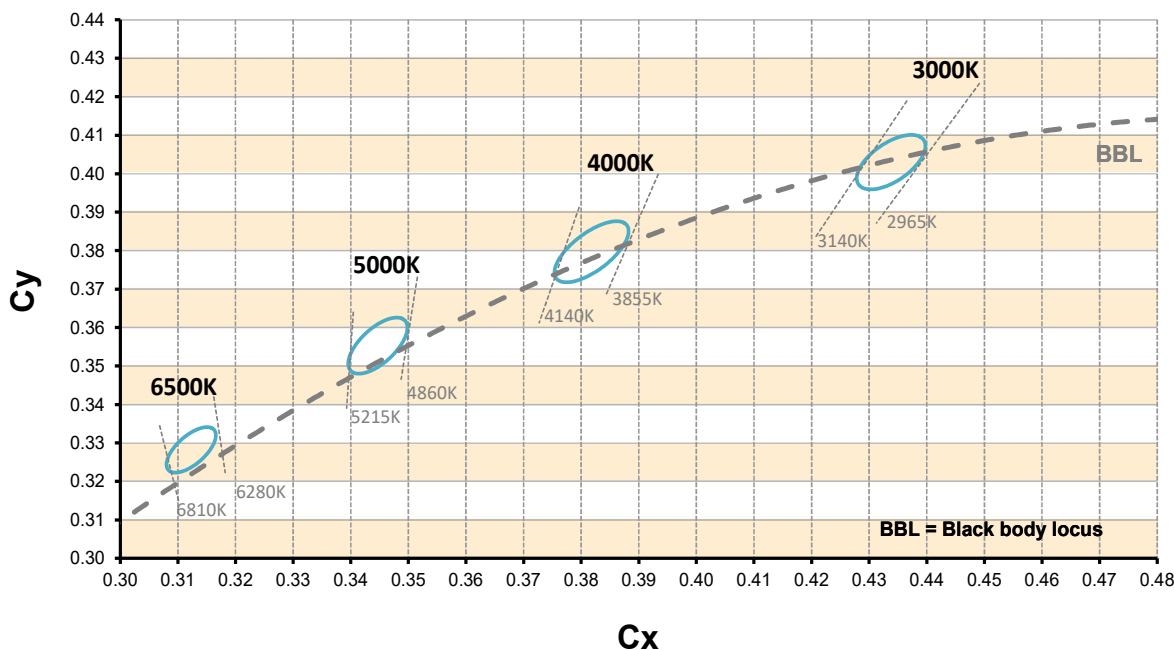
Connecting example - BC



Connecting example - STC



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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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 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 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 LED modules are designed on that way that allows screw-less fixation to the luminaire fixture together with optic by using special metal spring
- 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.
- Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed the permitted touchable value.
- Measurement tolerances:
 - luminous flux: $\pm 7\%$
 - voltage: $\pm 3\%$
 - CRI: ± 1
- 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
As long as subsequent table is fulfilled:

Type	CCT	E threshold for higher operating currents to be risk group 1 (lx)
WU-M-719	K ≤ 6500	≤ 765.4

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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