

LEDLINE FLEX SMD IP67



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WU-M-616-IP67 / 10 W/m (> 900 lm/m)

Typical Applications

- Illumination of complex structures subject to high levels of moisture or dust
- Marking paths, stairs, etc.
- Furniture lighting
- Light advertising
- Entertainment, shop design
- Architectural illumination

LEDLine Flex SMD IP67

- **FLEXIBLE 24 V CONSTANT-VOLTAGE SMD STRIPE (SELV)**
with low mounting height
- **IP67 PROTECTED**
against high moisture and dust
- **DIMMABLE**
- **SELF-ADHESIVE 3M TAPE AT THE BACKSIDE**
for simple mounting on different surfaces
- **FREEDOM OF DESIGN**
thanks to cut options in 100 mm steps
- **EFFICIENCY: UP TO 100 LM/W**
- **THREE DIFFERENT COLOUR TEMPERATURES**
3000 K, 4000 K, 5700 K
- **NARROW COLOUR TOLERANCES**
3 step MacAdam
- **SERVICE LIFETIME: 36,000 H (L70/B50)**



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Technical Notes

- Extremely flexible encapsulated SMD line module
- Degree of protection: IP67
- Encapsulated dimensions (see drawing)
PCB 5000 mm: A = 5030 ±20 mm
- With 300 SMDs divisible in 50 single-steps (100 mm à 6 SMDs)
- Low LED pitch: 16.7 mm for homogeneous light distribution
- Minimum heat development
- Wide beam angle (120°)
- Voltage supply: 24 V DC
- Soldered wires on one side: 500 ±10 mm



Electrical Characteristics

at $t_a = 25\text{ °C}$

Type	Ref. No.	Colour	Step length mm	Number of LEDs/m	Forward current* mA/m	Forward voltage DC* V	Power* W/m
WU-M-616-830	567891	warm white	100	60	420	24	10
WU-M-616-840	567892	neutral white	100	60	420	24	10
WU-M-616-857	567893	cold white	100	60	420	24	10

* On account of the complex manufacturing process of the modules, the above values only represent statistical variables. The values do not necessarily correspond exactly to the actual parameters of every single product, which can vary from the typical specification.

Maximum Ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the module.

Type	Voltage DC*		Operation temperature range		Ambient temperature range for operation		Storage temperature range	
	V min.	V max.	°C min.	°C max.	°C min.	°C max.	°C min.	°C max.
All types	22.8	25.2	-20	+50	-20	+40	+20	+60

Optical Characteristics

at $t_a = 25\text{ °C}$

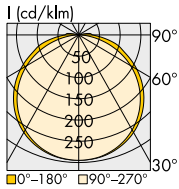
Type	Ref. No.	Colour	Colour temperature** K	Luminous flux* (lm/m)		Beam angle* °	CRI R_a
				min.	typ.		
WU-M-616-830	567891	warm white	3000	770	900	120	> 80
WU-M-616-840	567892	neutral white	4000	850	1000	120	> 80
WU-M-616-857	563893	cold white	5700	850	1000	120	> 80

* On account of the complex manufacturing process of the modules, the above values only represent statistical variables. The values do not necessarily correspond exactly to the actual parameters of every single product, which can vary from the typical specification.
** Colour tolerance: 3 SDCM

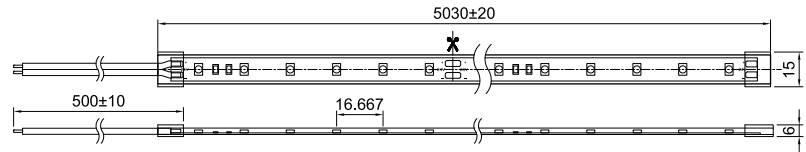
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

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Light Distribution Curves



Mechanical Dimensions



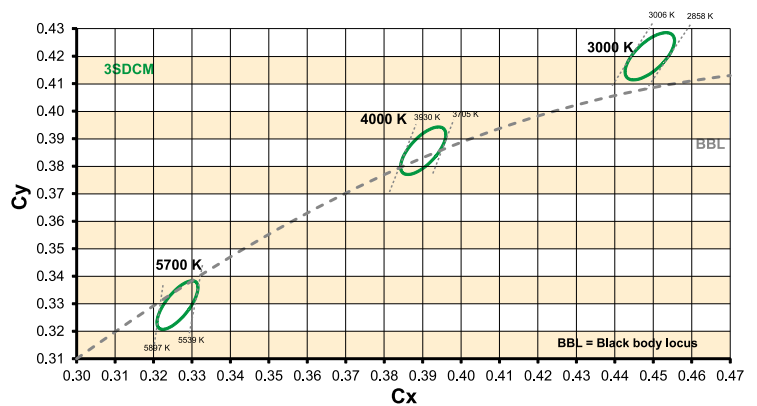
Bins

Colour coordinates and tolerances acc. to CIE 1931. The specified colour coordinates are measured integral (td ≤ 120 ms) at ta = 25 °C.

Center coordinates of MacAdam ellipse: 3 SDCM

Type CCT	X ₀ *	Y ₀ *
3000 K	0.4491	0.420
4000 K	0.3901	0.3856
5700 K	0.3262	0.3295

* measurement tolerance of colour coordinates: ± 0.01



Recommended connector

3M Scotchlok Outdoor connector UR2
Humidity resistant connector filled with sealant
Strand diameter: 0.4–0.9 mm

Ref. No.: 534992

End caps and sealing glue

End caps for sealing the cut (in case the LEDLine Flex module has been shortened)
Dimensions (LxVxH): 14x10x6 mm

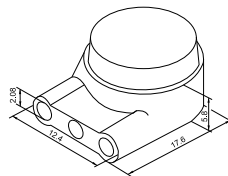
Fixing: with one component glue (RTV)

Minimum order quantity for end caps: 200 pcs.

Ref. No.: 568127 with holes for lead entry

Ref. No.: 568128 without holes

Ref. No.: 568129 RTV one component glue (50 g tube)



LED Constant-voltage Converters 24 V

You will find more information about our LED drivers on our website: www.vossloh-schwabe.com

Max. output W	Mains voltage 50–60 Hz V ±10%	Output current A	Ref. No.	Version	Max. service life time hrs.	Service life time at °C	Connection	Casing	Dimensions LxVxH mm	Quantity of LEDLine Flex modules per converter*
IP67										WU-M-616
150	220–240	0–6.25	186434	EasyLine	50.000	70	Preassembled leads	M58.1	206x68.6x37	3x
200	220–240	0–8.3	186634	EasyLine	50.000	85	Preassembled leads	M58.1	206x68.6x37	4x

Please ensure you choose the correct LED converter for the modules in question and that the respective output parameters (current, voltage, wattage) are correct.

* Note: Only parallel drive circuits ensure a safe operation. Serial connection must be avoided.

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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.

- The LEDLine Flex SMD must be operated with a constant-voltage (CV) LED converter.
 - Operation only with power supply units that feature the following protection:
 - Short-circuit protection
 - Overload protection
 - Overheating protection
 - SELV (Safety Extra Low Voltage)
 - It is imperative to pay attention to the correct polarity when connecting to the LED driver. Wrong polarity may destroy the strip.
 - The maximum output of the power supply must be observed.
 - Exceeding the max. operating voltage (see table on page 2) leads to an overload on the LED module. This may result in a reduction of service life or even destroy the LED module.
 - The maximum recommended length of a single unit to be driven in series is 5 meters (one complete reel) to ensure consistent output along the complete length. It is possible to increase the total length driven from a single driver by adding additional lengths connected in parallel.
 - LED modules and all PCB components must not be subjected to any undue mechanical stress.
 - The LEDLine Flex modules must not be operated in rolled-up conditions.
 - The circuit path must not be damaged or interrupted.
 - Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
 - Expected lifetime: 36,000 h (L70/B50) at $t_a = 25\text{ °C}$
 - Each LEDLine Flex SMD IP67 is backed by adhesive tape (3M Adhesive Tape Type 200MP) for easy assembly. Please observe the manufacturer's technical data provided at www.3M.com/ converter. Products equipped with adhesive transfer tape must only be applied to dry and clean surfaces that are free from grease, oil, silicone or other soiling. It is therefore recommended to clean the substrate with isopropyl alcohol (IPA). Please ensure a full surface bond over the entire contact area when sticking the module to the substrate.
 - The following substances are regarded as critical for creating an adhesive bond:
 - Polyefins (polyethylene, polypropylene)
 - Rubber
 - Powder-coated materials
 - Silicone rubber
 - Teflon
- For optimum adhesive bonding, a temperature of approx. 25 °C should be ensured during installation. In addition, firm pressure must be exerted on the LEDLine Flex tape (but NOT on the SMD components or solder parts).

- Owing to the varying application options and different types of surface as well as ambient conditions, VS accepts no liability for the quality of the adhesive bond achieved when mounting these products. Prior to sticking a VS product care must be taken to check whether the material in question is actually suitable for the intended purpose under consideration of all possible application-relevant influences. Supplementary holders must be used if necessary.
- The product must be stored no longer than 12 months (in packed condition) at approx. 20 °C and up to 50% relative humidity in order to ensure optimal bonding.
- Storage conditions for LEDLine Flex SMD IP67 modules must remain within a temperature range of –20 °C to +60 °C.
- Contacts are created by soldering the leads onto the soldering pads (labelled 24 V ±). The soldering temperature must not exceed 380 °C. The max. soldering time is 5 seconds.
- During installation the bending radius must not fall below 60 mm. On sharp edges the LEDLine Flex SMD IP67 may only be bent at a position where no electronic components or solder parts are mounted. The module can be damaged if it is bent in a crosswise or twisted direction (prevent shear or pull-off forces).
- LEDLine Flex modules are suitable only for mounting on rigid and solid surfaces. The module must not be mounted on flexible substrates as the LED module would be damaged when the substrate bends.
- LEDLine Flex IP67 modules must be installed, handled and bent at a module temperature of between 10 °C to 40 °C.
- The LEDLine Flex SMD IP67 is designed in that way, that the PCB can be carefully separated at every 100 mm step using a pair of scissors or a cutter knife (along the marked line in the middle of the connection pads between two single steps; see drawing on page 3). NOTE: Although all accessories offered by VS have been specifically designed for the LEDLine Flex SMD IP67 modules, and if properly applied, they will meet the IP67 requirements, VS will not be liable for damage caused by moisture and corrosion after the LED module has been cut.
- Do not use the IP67 LEDLine Flex module in the following environments:
 - locations containing corrosive inflammable or oxidizing gases such as Cl, H₂S, NH₃, SO₂, NO_x, sulfur, etc.
 - direct exposure to salt water or organic solvents
 - exposure to direct sunlight
 - highly airtight locations
 - locations subjected to the effects of electric or magnetic fields, intense (continuous) vibration or shock.

Product Guarantee

- 3 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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