A New Lighting Experience

- **high quality due to Chip-on-Board technology**
- **easy connection technique with "easy connect"-system**
- **board to board connection**
- **lead-free soldered**
- **available in different colours**
- **low heat generation**
- **low mounting height**

EasyLED

WU-M-308, WU-M-309

Typical Applications

- Marking of paths, stairs, etc.
- Furniture lighting
- Light advertising
- Entertainment, shop design
- Profile integration

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EasyLED GB 1/4 April, 2009

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Technical Notes

- WU-M-308: 200 x 10 mm, 6 COB LEDs
- WU-M-309: 200 x 10 mm, 12 COB LEDs, divisible in length of 100 mm
- LED-chips are driven by constant current sources
- Voltage supply: 24 V DC
- Power: 0.48 W (WU-M-308) and 0.96 W (WU-M-309)

Electrical Characteristics

at ambient temperature t_a = 25 °C

Type	**Ref. No.**	Colour	Number of LEDs	Current* mA	Voltage DC* V	Power* W
WU-M-308-SO	**530014**	Red	6	20	24	0.48
WU-M-308-SG	**530013**	Green	6	20	24	0.48
WU-M-308-SB	**530012**	Blue	6	20	24	0.48
WU-M-308-SY	**530015**	Yellow	6	20	24	0.48
WU-M-308-W-3200K	**528482**	Warm white	6	20	24	0.48
WU-M-308-W-4200K	**528483**	Neutral white	6	20	24	0.48
WU-M-308-W-5400K	**528481**	Neutral white	6	20	24	0.48
WU-M-308-W-6500K	**528484**	Cold white	6	20	24	0.48
WU-M-309-SO	**530018**	Red	12	40	24	0.96
WU-M-309-SG	**530017**	Green	12	40	24	0.96
WU-M-309-SB	**530016**	Blue	12	40	24	0.96
WU-M-309-SY	**530019**	Yellow	12	40	24	0.96
WU-M-309-W-3200K	**528486**	Warm white	12	40	24	0.96
WU-M-309-W-4200K	**528487**	Neutral white	12	40	24	0.96
WU-M-309-W-5400K	**528485**	Neutral white	12	40	24	0.96
WU-M-309-W-6500K	**528488**	Cold white	12	40	24	0.96

* 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 lifetime or destruction of the module.

Type	Voltage DC		Operation temperature range at t_c point		Storage temperature range		Reverse voltage/LED
	V min.	V max.	°C min.	°C max.	°C min.	°C max.	V
All types	23	25	–20	+70	–40	+85	5

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Optical Characteristics

at ambient temperature t_a = 25 °C

Type	**Ref. No.**	Colour	Dom. wavelength* (nm) Colour temperature* (K)	Luminous flux* lm	Radiation angle* °
WU-M-308-SO	**530014**	Red	625	8	170
WU-M-308-SG	**530013**	Green	530	11	170
WU-M-308-SB	**530012**	Blue	470	4	170
WU-M-308-SY	**530015**	Yellow	590	9	170
WU-M-308-W-3200K	**528482**	Warm white	3200 K	14	170
WU-M-308-W-4200K	**528483**	Neutral white	4200 K	17	170
WU-M-308-W-5400K	**528481**	Neutral white	5400 K	17	170
WU-M-308-W-6500K	**528484**	Cold white	6500 K	15	170
WU-M-309-SO	**530018**	Red	625	16	170
WU-M-309-SG	**530017**	Green	530	22	170
WU-M-309-SB	**530016**	Blue	470	8	170
WU-M-309-SY	**530019**	Yellow	590	18	170
WU-M-309-W-3200K	**528486**	Warm white	3200 K	27	170
WU-M-309-W-4200K	**528487**	Neutral white	4200 K	34	170
WU-M-309-W-5400K	**528485**	Neutral white	5400 K	34	170
WU-M-309-W-6500K	**528488**	Cold white	6500 K	31	170

* On account of the complex manufacturing process of the modules the above values only represent statistical variables.
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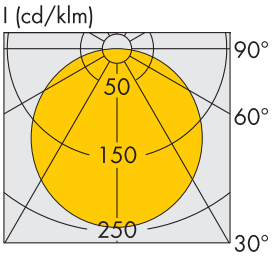
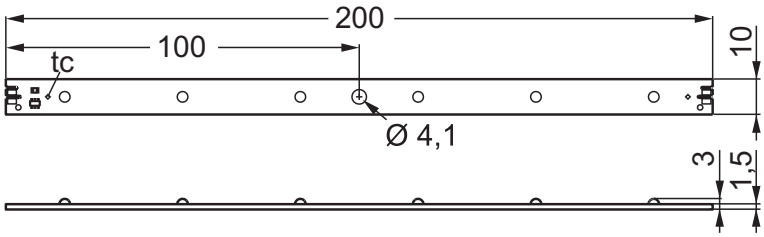
Light Distribution Curves

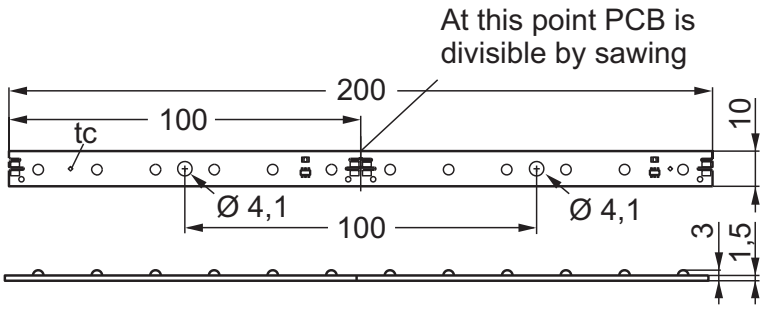


WU-M-308, WU-M-309

Mechanical Dimensions



WU-M-308



WU-M-309

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Assembly and Safety Information

- LED modules and all PCB components must not be subjected to undue mechanical stress:
  – LED modules must not be handled as bulk cargo
  – Shear and pressure stress must be avoided on the grouting material of LEDs during assembly and handling
- The circuit path may not be damaged or interrupted.
- Power supply units must be used for operation in which the following protective measures are ensured:
  – Short-circuit protection
  – Overload protection
  – Overheating protection
  – SELV equiv. (Safety Extra Low Voltage)
- The maximum output of the power supply must be observed.
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- The modules are not protected against dust or moisture. When LED modules are operated in unduly moist or dusty environments, care must be taken to ensure each module is built into a protective casing in compliance with the correct IP classification or provided with corrosion protection. Damage caused by moisture and/or corrosion will not be recognised as a material or manufacturing defect.
- Contact with chemicals containing acid or acetic acid can permanently damage LEDs. Substances and materials containing acid or acetic acid must therefore not be used for cleaning, maintaining and installing LED modules or LED luminaires. The vapours produced by such chemicals alone can damage LEDs.
- Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
- For easy connection of the modules use the VS Optoelectronic "Easy Connect"-system (see data sheet "Connection cable EasyConnect"):
  – Feed in connector with cables (Ref. No.: 528489)
  – PCB to PCB connector with cables (Ref. No.: 528490)
  – PCB to PCB connector (Ref. No.: 528491)
- The maximum quantity of modules for operation in one row is 10 modules WU-M-309 or 15 modules WU-M-308 when the voltage is applied at one side.
- A fixing hole (Ø 4.1 mm) is integrated in the PCB for easy assembly. To avoid short cuts or damage please use only plastic bolts (recommended Ø 3 mm) for assembly. Make sure not to destroy the PCB during fixing.

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