



A New Lighting Experience



- long service lifetime due to optimal thermal management
- very high lumen output
- highly efficient (up to 90 lm/W)
- available in different CCT's
- easy connections due to pre-assembled leads
- lead-free soldered
- resistant against shock and vibrations
- optional with attached lenses

TriplePowerEmitter White 3x4W / Warm white 3x3W

WU-M-325-XR-E
WU-M-325-XR-E with optics

Typical Applications

- Integration in luminaires
- Architectural illumination
- Marking of paths, stairs, etc.
- Furniture lighting
- Light advertising
- Entertainment, shop design

Vossloh-Schwabe Deutschland GmbH

Hohe Steinert 8 · 58509 Lüdenscheid, Germany · Phone: +49 (0) 23 51/101-0
Fax: +49 (0) 23 51/101-217 + -384 · www.vossloh-schwabe.com

TriplePowerEmitter White 3x4W / Warm white 3x3W

Technical Notes

- PCB diameter: 50 mm
- Pre-assembled with 2 leads
- Aluminum PCB for optimum thermal management
- ESD protection class 2
- Optional with attached lens

Electrical Characteristics

at ambient temperature $t_a = 25\text{ °C}$

Type	Ref. No.	Colour	Max. current mA	Max. voltage DC V	Max. power consumption W
Without lens					
WU-M-325-XRE-W	All types	White	1050	12.9	12.9
WU-M-325-XRE-WW	All types	Warm white	700	12.3	8.6
With attached lens					
WU-M-325-XRE-W-XX	All types	White	1050	12.9	12.9
WU-M-325-XRE-WW-XX	All types	Warm white	700	12.3	8.6

Use of external LED constant current driver with max. 1050 mA for white and 700 mA for warm white required.

Maximum Ratings

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

Type	Operation temperature range at t_c -point		Storage temperature range		Reverse voltage/LED V
	°C min.	°C max.	°C min.	°C max.	
All types	-20	+100	-40	+85	5

Optical Characteristics

at junction temperature $t_j = 25\text{ °C}$

Type	Ref. No.	Colour	Correlated colour temperature [K]	Bright- ness bin **	Luminous flux (lm) at			Radiation angle* °
					350 mA ($P_{el} = 4,2\text{ W}$)	700 mA ($P_{el} = 8,7\text{ W}$)	1050 mA ($P_{el} = 12,9\text{ W}$)	
Without lens								
WU-M-325-XRE-W	534424	White	5650...6950	N4	186.0...201.6	316.2...342.7	409.2...443.5	90
WU-M-325-XRE-W	535069	White	5650...6950	P2	201.6...221.7	342.7...376.9	443.5...487.7	90
WU-M-325-XRE-W	535070	White	5650...6950	P3	221.7...241.8	376.9...411.1	487.7...532.0	90
WU-M-325-XRE-W	535071	White	5650...6950	P4	241.8...262.2	411.1...445.7	532.0...576.8	90
WU-M-325-XRE-W	535182	White	5650...6950	Q2	262.2...281.8	445.7...478.9	576.8...619.7	90
WU-M-325-XRE-W	535183	White	5650...6950	Q3	281.8...300.0	478.9...510.0	619.7...660.0	90
WU-M-325-XRE-W	535272	White	5650...6950	Q4	300.0...321.0	510.0...545.7	660.0...706.2	90
WU-M-325-XRE-W	537917	White	5650...6950	Q5	321.0...342.0	545.7...581.4	706.2...752.4	90
WU-M-325-XRE-WW	535072	Warm white	2720...3040	N3	170.4...186.0	289.7...316.2	not allowed	90
WU-M-325-XRE-WW	535073	Warm white	2720...3040	N4	186.0...201.6	316.2...342.7	not allowed	90
WU-M-325-XRE-WW	535729	Warm white	2720...3040	P2	201.6...221.7	342.7...376.9	not allowed	90
WU-M-325-XRE-WW	535730	Warm white	2720...3040	P3	221.7...241.8	376.9...411.1	not allowed	90
WU-M-325-XRE-WW	537923	Warm white	2720...3040	P4	241.8...262.2	411.1...445.7	not allowed	90

* 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.

** The reference numbers represent a single brightness group. In order to ensure availability please contact your sales prior to order.

TriplePowerEmitter White 3x4W / Warm white 3x3W

Optical Characteristics

at junction temperature $t_j = 25\text{ °C}$

Type	Ref. No.	Colour	Correlated colour temperature (K)	Brightness bin**	Luminous flux (lm) at			Radiation angle* °
					350 mA ($P_{el} = 4,2\text{ W}$)	700 mA ($P_{el} = 8,7\text{ W}$)	1050 mA ($P_{el} = 12,9\text{ W}$)	
With attached lens 10°								
WU-M-325-XRE-W-10°	535074	White	5650...6950	N4	167.4...181.4	284.6...308.4	368.3...399.2	10
WU-M-325-XRE-W-10°	535075	White	5650...6950	P2	181.4...199.5	308.4...339.2	399.2...439.0	10
WU-M-325-XRE-W-10°	535076	White	5650...6950	P3	199.5...217.6	339.2...370.0	439.0...478.8	10
WU-M-325-XRE-W-10°	535077	White	5650...6950	P4	217.6...236.0	370.0...401.2	478.8...519.2	10
WU-M-325-XRE-W-10°	535184	White	5650...6950	Q2	236.0...253.5	401.2...431.0	519.2...557.8	10
WU-M-325-XRE-W-10°	535185	White	5650...6950	Q3	253.5...270.0	431.0...459.0	557.8...594.0	10
WU-M-325-XRE-W-10°	535273	White	5650...6950	Q4	270.0...288.9	459.0...491.1	594.0...635.6	10
WU-M-325-XRE-W-10°	537918	White	5650...6950	Q5	288.9...307.8	491.1...523.3	635.6...677.2	10
WU-M-325-XRE-WW-10°	535078	Warm white	2720...3040	N3	153.4...167.4	260.7...284.6	not allowed	10
WU-M-325-XRE-WW-10°	535079	Warm white	2720...3040	N4	167.4...181.4	284.6...308.4	not allowed	10
WU-M-325-XRE-WW-10°	535734	Warm white	2720...3040	P2	181.4...199.5	308.4...339.2	not allowed	10
WU-M-325-XRE-WW-10°	535735	Warm white	2720...3040	P3	199.5...217.6	339.2...370.0	not allowed	10
WU-M-325-XRE-WW-10°	537924	Warm white	2720...3040	P4	217.6...236.0	370.0...401.2	not allowed	10
With attached lens 15°								
WU-M-325-XRE-W-15°	542268	White	5650...6950	Q4	270.0...288.9	459.0...491.1	594.0...635.6	15
WU-M-325-XRE-W-15°	542270	White	5650...6950	Q5	288.9...307.8	491.1...523.3	635.6...677.2	15
WU-M-325-XRE-WW-15°	542277	Warm white	2720...3040	P2	181.4...199.5	308.4...339.2	not allowed	15
WU-M-325-XRE-WW-15°	542278	Warm white	2720...3040	P3	199.5...217.6	339.2...370.0	not allowed	15
With attached lens 20°								
WU-M-325-XRE-W-20°	542271	White	5650...6950	Q4	270.0...288.9	459.0...491.1	594.0...635.6	20
WU-M-325-XRE-W-20°	542273	White	5650...6950	Q5	288.9...307.8	491.1...523.3	635.6...677.2	20
WU-M-325-XRE-WW-20°	542279	Warm white	2720...3040	P2	181.4...199.5	308.4...339.2	not allowed	20
WU-M-325-XRE-WW-20°	542280	Warm white	2720...3040	P3	199.5...217.6	339.2...370.0	not allowed	20
With attached lens 40°								
WU-M-325-XRE-W-40°	542274	White	5650...6950	Q4	270.0...288.9	459.0...491.1	594.0...635.6	40
WU-M-325-XRE-W-40°	542275	White	5650...6950	Q5	288.9...307.8	491.1...523.3	635.6...677.2	40
WU-M-325-XRE-WW-40°	542282	Warm white	2720...3040	P2	181.4...199.5	308.4...339.2	not allowed	40
WU-M-325-XRE-WW-40°	542284	Warm white	2720...3040	P3	199.5...217.6	339.2...370.0	not allowed	40

* 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.

** The reference numbers represent a single brightness group. In order to ensure availability please contact your sales prior to order.

Operating Life

50,000 hrs. (lumen maintenance at 70 %, $t_c = 80\text{ °C}$, $I_f = 350\text{ mA}$)

This value does not refer to the colour temperature.

Thermal Characteristics

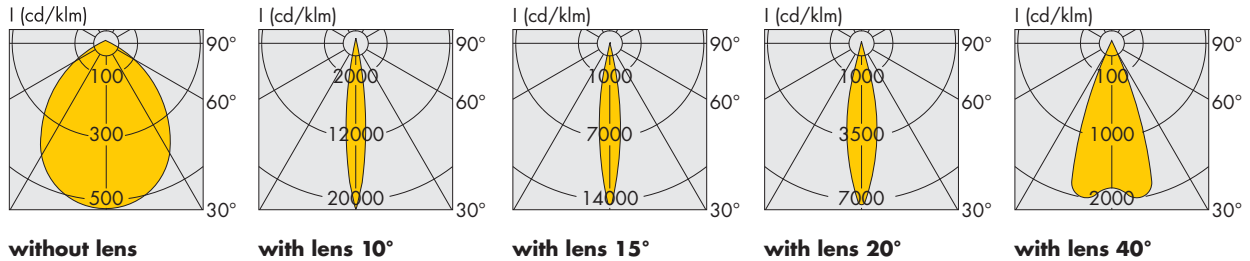
Type	Thermal resistance, p-n junction to t_c point K/W	Thermal resistance, p-n-junction to bottom of PCB K/W
All types	3.3	3.5

VS recommends an additional cooling element for improved thermal management.

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification. Please find further detailed information at www.vs-optoelectronic.com.

TriplePowerEmitter White 3x4W / Warm white 3x3W

Light Distribution Curves



without lens

with lens 10°

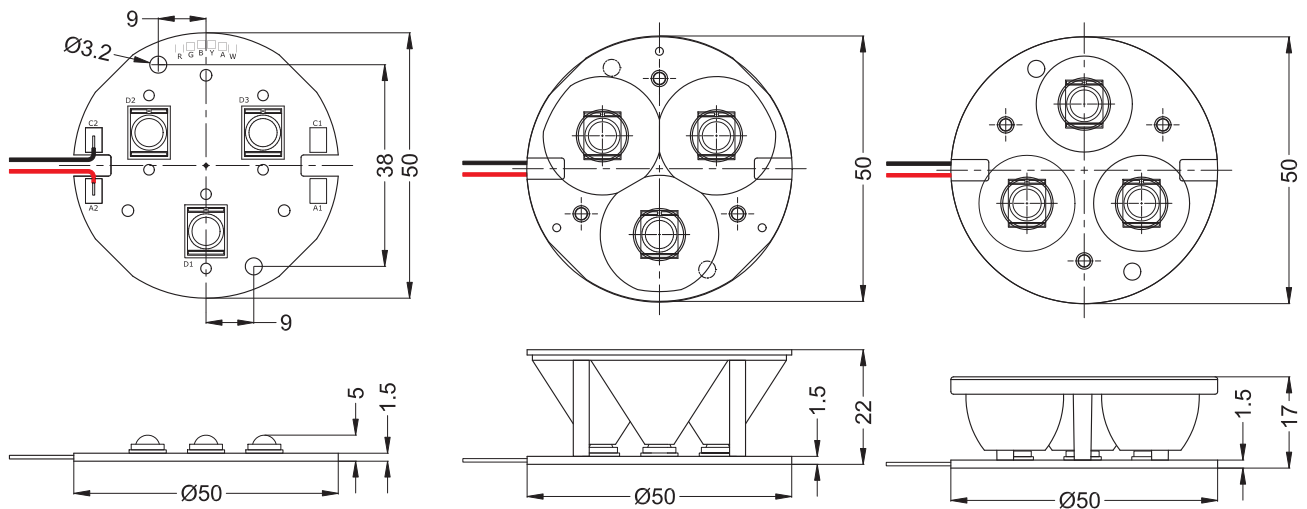
with lens 15°

with lens 20°

with lens 40°

Mechanical Dimensions

The PCB is pre-assembled with 2 leads of 200 mm in length:
 red: anode (+); AWG-22/0.34 mm²; black: cathode (-); AWG-22/0.34 mm²



Module without lens

Module with lens 10°

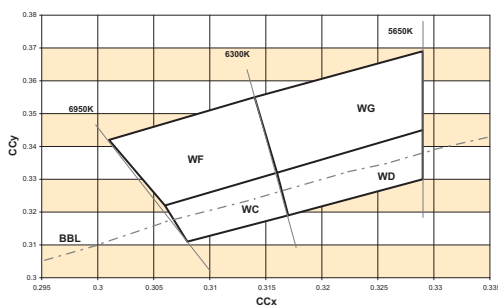
Module with lens 15°, 20°, 40°

Bins

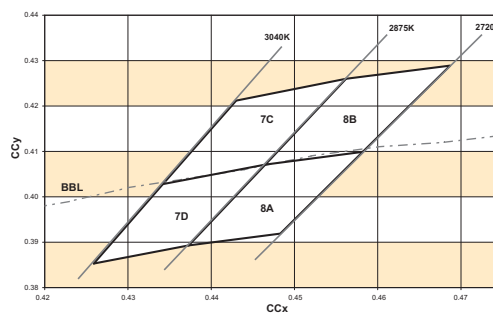
The standard shipping format regarding the reference numbers on page 2 includes all chromaticity coordinate groups.

The concrete delivered group is marked on each product packing. Reduction of orderable groups is possible only project-based.

White



Warm white



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification. Please find further detailed information at www.vs-optoelectronic.com.

TriplePowerEmitter White 3x4W / Warm white 3x3W

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 LEDs during assembly and handling
 - The circuit path must not be damaged or interrupted.
 - Fixing holes are integrated in the PCB for easy assembly. Please use only plastic bolts for assembly to avoid short circuits or damage.
 - Safe operation is only possible with an external constant current source (max. 1050 mA for white and max. 700 mA for warm white modules).
 - Operation is dependent on constant current drivers that should provide the following protective measures:
 - short-circuit protection
 - overload protection
 - overheating protection
 - SELV equiv. (Safety Extra Low Voltage)
 - TriplePowerEmitters 3x4 Watt are pre-assembled with two leads (AWG-22) with a length of 200 mm.
 - Safe operation is dependent on ensuring that the t_c temperature of 100°C are not exceeded. Depending on the ambient temperature and type of application, additional cooling surfaces and heat-conductive paste or tape (Ref. No. 529157) must be used to avoid heat accumulation in the module.
 - Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
 - The maximum output of the power supply must be observed.
 - Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
 - 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.
 - For the optimal degree of utilization of the attached regulated current source the TriplePowerEmitter 3x4 Watt may be used in series connection, whereby the number of modules is limited by the sum of the forward voltages along with the power of the used regulated current source. A parallel connection of the modules is not permitted.
 - Tests have shown the following chemicals to be harmful to LEDs used on the modules. It is recommended not to use the under-mentioned chemicals anywhere in an LED system. The fumes from even small amounts of these chemicals may damage the LEDs.
 - Chemicals that might outgas aromatic hydrocarbons (e.g., toluene, benzene, xylene)
 - Methyl acetate or ethyl acetate (i.e., nail polish remover)
 - Cyanoacrylates (i.e., "Superglue")
 - Glycol ethers (including Radio Shack®, Precision Electronics Cleaner – dipropylene glycol monomethyl ether)
 - Formaldehyde or butadiene (including Ashland PLIOBOND® adhesive)
 - Dymax 984-LVUF conformal coating
 - Loctite Sumo glue
 - Gorilla glue
 - Clorox bleach
 - Clorox Clean-Up cleaner spray
 - Loctite 384 adhesive
 - Loctite 7387 activator
 - Loctite 242 threadlocker
- Detailed information of handling of Cree LEDs can be found on www.cree.com.

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification. Please find further detailed information at www.vsslosh-schwabe.com.