

# LED INDUSTRY KIT

WU-M-564



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**WU-M-564**

### Typical Applications

Built-in luminaires/general illumination

- Industry lighting for:
  - Production halls
  - Warehouses
- Lighting for sports facilities
- Lighting for department stores




### LED Industry Kit

- **LONG SERVICE LIFE TIME: > 60,000 H (L80/B10)**
- **HIGHLY EFFICIENT: UP TO 181 LM/W AT T<sub>p</sub> = 50 °C**
- **FLEXIBLE LIGHT DISTRIBUTION BY THREE DIFFERENT OPTICS**

## LED Industry Kit

### Technical Notes

- LED built-in module for integration into luminaires 
- Dimensions: 289x55 mm
- Driving current: 350 mA / 500 mA / 700 mA / 1050 mA
- On-board push terminal system
- Colour tolerance: 3-step MacAdam
- Beam angle: 120°



### Electrical Characteristics

at  $t_p = 50\text{ °C}$

Temperature coefficient:  $-61.89\text{ mV/K}$

Type	Voltage DC (V)												Power consumption (W)											
	350 mA			500 mA			700 mA			1050 mA			350 mA			500 mA			700 mA			1050 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.
WU-M-564-G-HB	55.9	59.6	62.5	57.3	61.0	63.9	59.2	62.8	65.8	62.3	65.9	68.9	19.6	20.9	21.9	28.7	30.5	32.0	41.4	44.0	46.1	65.4	69.2	72.3

**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 °C min.   °C max.		Storage temperature range °C min.   °C max.		Max. allowed repetitive peak current mA
		min.	max.	min.	max.	
WU-M-564	350	-20	+75	-20	+85	2600
	500	-20	+75	-20	+85	2200
	700	-20	+75	-20	+85	1700
	1050	-20	+75	-20	+85	1600

### Operating Life

in hours at measured temperature at  $t_p$  point

	350 mA			500 mA			700 mA			1050 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
L90/B10	> 60,000	> 60,000	42,000	> 60,000	> 60,000	42,000	> 60,000	> 60,000	41,000	52,000	52,000	30,000
L80/B10	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000
L70/B10	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000

### Optical Characteristics

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

CRI  $R_a$ : min. 80 / typ. 85

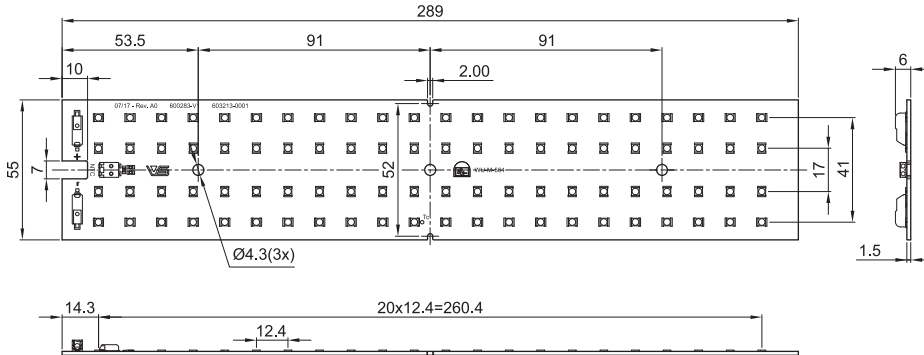
Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux* (lm) and efficiency* (lm/W) at								Photometric code
				350 mA		500 mA		700 mA		1050 mA		
				lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	
WU-M-564-G-HB-830	<b>564936</b>	warm white	3000	3530	169	4980	163	6855	156	9970	144	830/349
WU-M-564-G-HB-840	<b>564937</b>	neutral white	4000	3710	178	5235	172	7205	164	10485	152	840/349
WU-M-564-G-HB-850	<b>564938</b>	cool white	5000	3775	181	5330	175	7335	167	10670	154	850/349

\* Production tolerance of luminous flux and efficiency:  $\pm 10\%$  | Assembly option with NTC interface on-board (available on request)

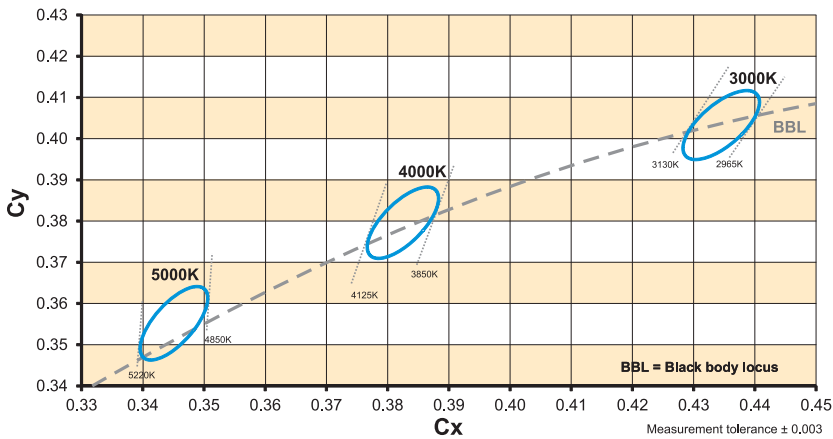
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## LED Industry Kit

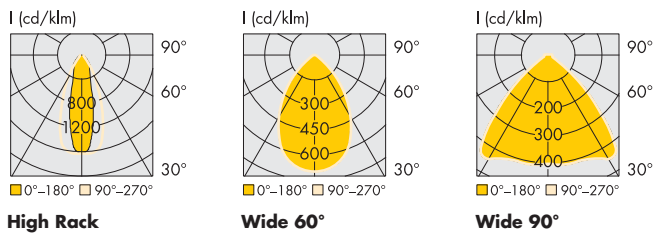
### Mechanical Dimensions SMD PCB



### Bins



### Typical Light Distribution Curves



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## LED Industry Kit

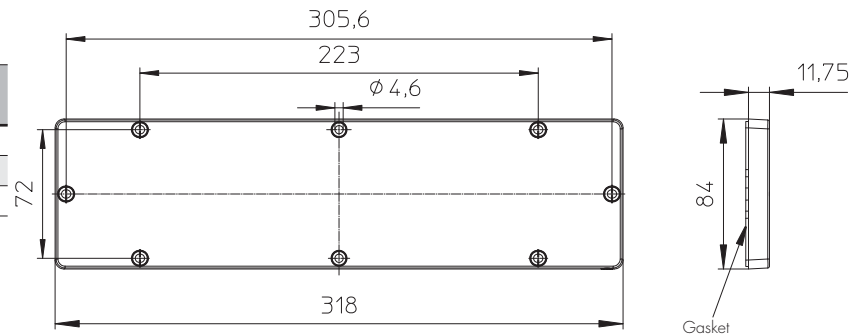
### Technical Notes for Optics

- Brilliant light distribution and surfaces
- Highly efficient up to 92%
- Material: PC, transparent
- Suitable for luminaires with impact rating IK08/5J
- Degree of protection: IP65 (incl. silicone gasket)
- Dimensions (LxWxH): 318x84x11.75 mm
- Max. allowed temperature: 100 °C
- Fixing holes for M4 screws



Light distribution	Optics type	Ref. No.	Efficiency %	Weight g
Wide 60°	97600	<b>565228</b>	92	190
Wide 90°	97601	<b>565229</b>	92	178
High Rack	97602	<b>565230</b>	92	

Material PMMA on request



### Heat Sink for LED Industry Kit

Under no circumstances may heat sinks ever be covered by insulation material or similar. Air ventilation must be ensured.

### Technical Notes for Heat Sink

Material: aluminium EN AW-6060 (AlMgSi 0,5)  
T66 anodized

Dimensions (LxWxH): 320x92x48.25 mm

Fixing holes for PCB: for self-tapping screws M4,  
screw length: 6 mm

Fixing holes for optics: for self-tapping screws M4,  
screw length: 12 mm

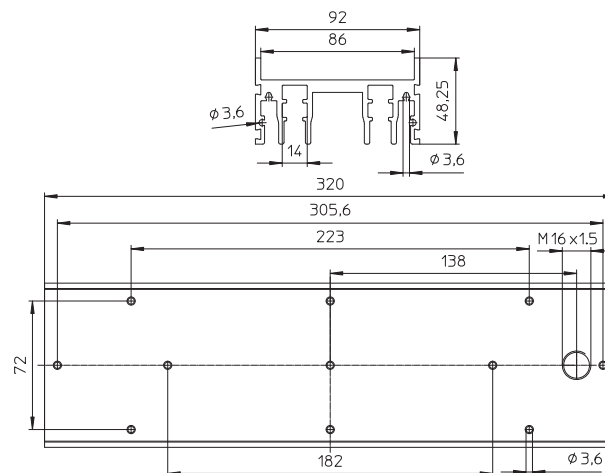
Centrally located cable bushing with an M16x1,5  
thread for an IP65 cable gland

Heat sink optimized for operating currents  
up to 700 mA at max. ambient temperature  
 $t_a$  50 °C

Weight: 1050 g

Packaging unit: 1 pcs.

**Ref. No.: 566638**



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## LED Industry Kit

### 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.
- 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) (no countersunk screws)  
Max. torque: 1.2 Nm (M4)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- 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:  $\pm 1$
- 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](http://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

### 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](http://www.vossloh-schwabe.com)). We will be happy to send you these conditions upon request.

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