

LightMAX

R0404

2x2 power LED module



7 YEARS WARRANTY

CC CONSTANT CURRENT



FEATURES

- PCB dimension: 53x53mm
- Up to 2777 lm
- Up to 190 lm/W, up to 205 lm/W @ 350mA
- CRI70
- CV version available on request
- Max Electrical Insulation 300V
- Max 20 LED boards in series in S2P2
- Connection type: Wago 2060 2 Pole
- Lifetime > 100.000h @ 700mA<math>< i>
- ENEC certified

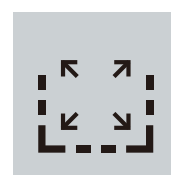
APPLICATIONS



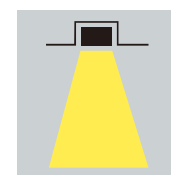
Street



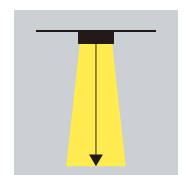
Industrial



Area



Downlight



High Bay

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CC Version – S2P2

Code	CCT	CRI	Current [mA]	Voltage [V]	Power [W]	Total Lumen [lm]	Lm/W	Energy Efficiency
R04040C2770	2700K	70	700	11.2	7.8	1384	177	C
			1000	11.5	11.5	1917	167	D
			1400	11.9	16.6	2592	156	D
R04040C3370	3000K		700	11.2	7.8	1438	184	C
			1000	11.5	11.5	1991	173	C
			1400	11.9	16.6	2693	162	D
R04040C4070	4000K		700	11.2	7.8	1482	190	C
			1000	11.5	11.5	2034	177	C
			1400	11.9	16.6	2777	167	D
R04040C5070	5000K		700	11.2	7.8	1482	190	C
			1000	11.5	11.5	2034	177	C
			1400	11.9	16.6	2777	167	D

*Lux tolerance +/- 10% @ Tc 60°C
 **Voltage tolerance +/- 5%

Ask for more information about available LED and other options.

CC Version – S4P1

Code	CCT	CRI	Current [mA]	Voltage [V]	Power [W]	Total Lumen [lm]	Lm/W	Energy Efficiency
R04040C2770	2700K	70	350	22.5	7.8	1380	177	C
			700	23.8	16.6	2585	156	D
R04040C3370	3000K		350	22.5	7.8	1434	184	C
			700	23.8	16.6	2686	162	D
R04040C4070	4000K		350	22.5	7.8	1464	187	C
			700	23.8	16.6	2743	165	D
R04040C5070	5000K		350	22.5	7.8	1464	187	C
			700	23.8	16.6	2737	165	D

*Lux tolerance +/- 10% @ Tc 60°C
 **Voltage tolerance +/- 5%

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7 YEARS
WARRANTY

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CURRENT

LED and board features	
LED number	4
LED type	5C5C
Circuit	S2P2 / S4P*
Material	Aluminium
Solder	Black
Connections	
Cable	0.2-0.75mm / 24-18 AWG
Connector	WAGO 20601 Pole
Power	
Ass. Max. output current CC	1600mA @ S2P2
Mechanical Data	
H x L	53x53mm
Thickness	6.1mm
Conditions	
Max. temp. (Ta)	+05°C
Max. temp. (Tc)	+00°C
Operating temp. Range	-35°C / 60°C

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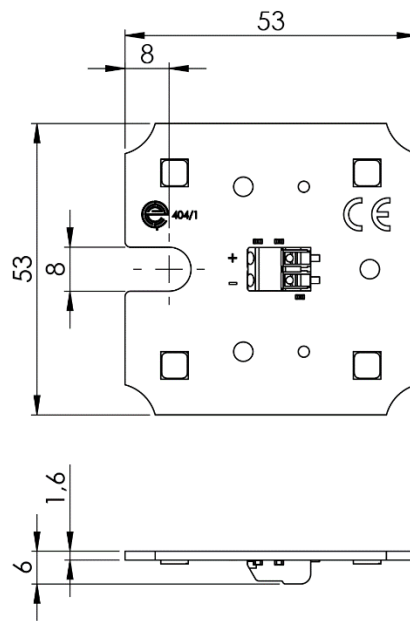
2x2 power LED module

7 YEARS WARRANTY

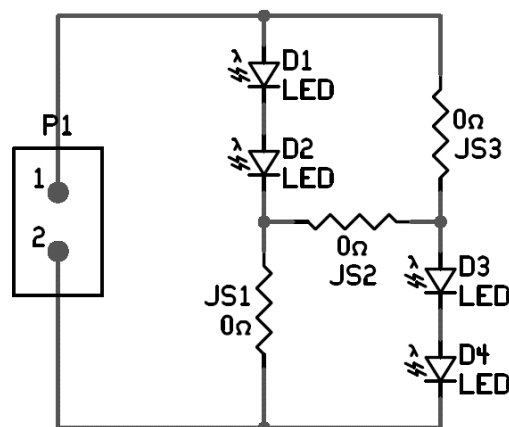


CC CONSTANT CURRENT

MECHANICAL DRAWING



ELECTRICAL CIRCUIT



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Accessories



7 YEARS WARRANTY

CC CONSTANT CURRENT



LED optics: WAU series		
View Angle (Fwhm)	35°x140° - 25° - 60° - 90° - 150°	
Dimension Type	65x65x9,92 mm - 4 in 1	
Material/Operating temperature	PC LUX2180T / -40°C - 110°C	
Efficiency	> 90%	
Thermal interface: IREPAD-53X53		
Dimension/Thickness	53x53mm / 0,23mm	
Thermal conductivity	1,5 W/ mK	
Heat sink: HSALI068		
Dimension	66x65,5x40mm	
Material/Finish	Black anodized aluminum	
Thermal wattage	20W	
Power supply	S4PI version - DBLD040C105DND	S2P2 version - DYCLI2RC700
Dimensions (LxWxH)	158x68x33,5 mm	50x50x25mm
Protection type	IP67 - 10kV surge protection	IP67 - Optional surge protection
Output	17-38Vdc - Settable Current	10-17Vcc - 700 mA
Input	90-305VAC	220-240VAC

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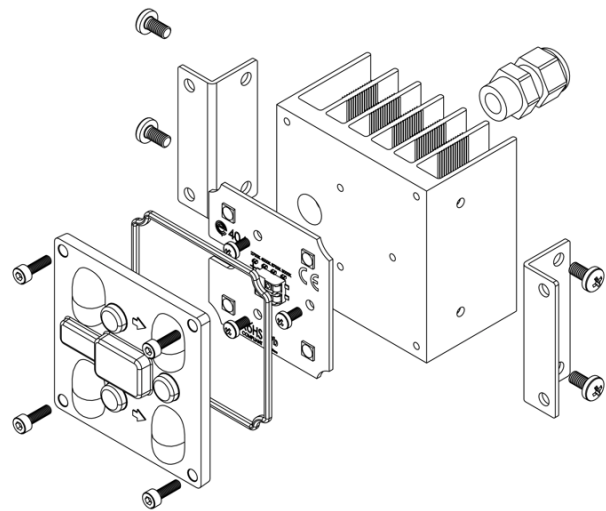
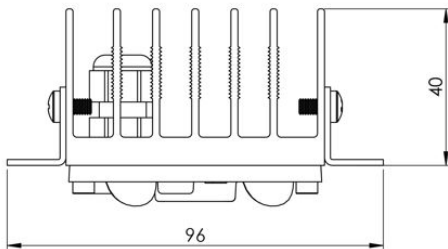
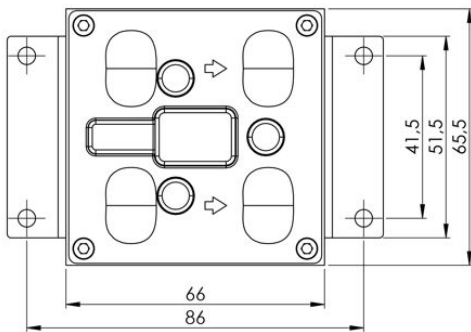
Accessories



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DRAWING - IP 2x2 RELAMPING 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 with a casing or luminaire. Installation must be carried out in a voltage-free state (i.e. disconnected 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.

- o Consider safety regulations acc. EN 60598 in the luminaire design, especially when the operating LED driver is not galvanically isolated.
 - In mode of operation regard to sufficient isolation.
 - Live parts must not be touched in operation mode. Danger in life!
- o ESD (electrostatic discharge) protection measures must be observed when handling and installing the LED modules. See VS's application notes on ESD protection.
- o Adequate anti-static electricity measures, including the use of conductive shoes, ionizers, work bench grounding, wrist straps, flooring and stools should be used.
- o 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
- o Safe operation only possible by the use of external constant current sources (max. see table 'Electrical Characteristics').
- o Operation only with power supply units that feature the following protection:
 - Short circuit protection
 - Overload protection
 - Overheating protection
- o The module can be fixed with M3 screws. Fixation only with flat or cylinder head screws (M3) (no countersunk screws) Max. torque: 1.2 Nm (M3)
- o Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- o For interconnection the LED modules is equipped with push-in terminals (WAGO 2050).
- o Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceeds the permitted touchable value.
- o 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.
- o To ensure problem-free operation, the specified maximum temperature at the tip 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.
- o 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 recognized 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.
- o 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.
- o 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 exceeds the permitted touchable value.
- o 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.
- o The photobiological safety of the LED modules must be classified into risk groups in accordance with IEC/TR 62778: L_{ns} < group 1 (except HB, 6500 K, > 500 mA: risk group 2

APPLIED STANDARDS

IEC / EN 62031
LED modules for general lighting – Safety specifications

IEC / TR 62778
Application of IEC 62777 for the assessment of blue light hazard to light sources and luminaires