

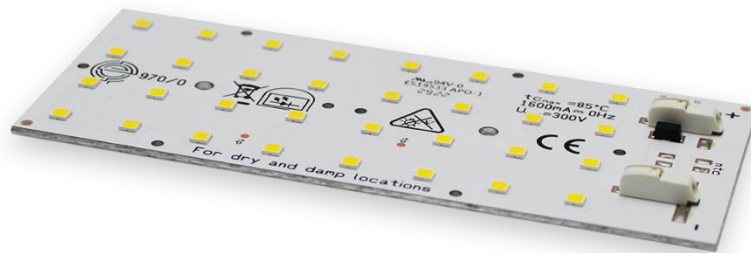
LightMAX

R0970

32 LED module for flood lighting

5 YEARS
WARRANTY

CE ROHS COMPLIANT Pb Free 05
CC CONSTANT
CURRENT



FEATURES

- PCB dimension: 120x50mm
- Up to 5650 lm
- Up to 184 lm/W
- CRI 80
- Electrical Insulation 300V
- Up to 20 LED boards in series
- Connection type: WAGO SMD 4mm 1P 206C
- Long lifetime up to 80000h
- NIC available on request

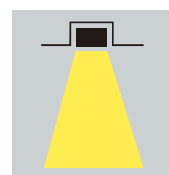
APPLICATIONS



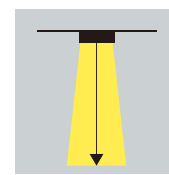
Street



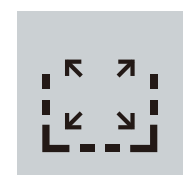
Industrial



Downlight



High Bay



Area

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LV 3030HE 3V LED Version

Code	CCT	CRI	Current [mA]	Voltage [V]	Power [W]	Total Lumen [lm]	Lm/W	Energy Efficiency
R0970C3080	3000K	80	70C	1.1	7.7	1335	173	D
			1050	1.4	11.9	2003	168	D
			1400	1.6	16.2	2675	165	D
R0970C4080	4000K		70C	1.1	7.7	1426	185	C
			1050	1.4	11.9	2120	178	C
			1400	1.6	16.2	2825	174	C
R0970C5080	5000K		70C	1.1	7.7	1426	185	C
			1050	1.4	11.9	2120	178	C
			1400	1.6	16.2	2825	174	C

Tlux tolerance +/- 10%
Vf Tolerance +/- 0.5Voll

Ask for more information about available LED and other options

HV 3030 6V LED Version

Code	CCT	CRI	Current [mA]	Voltage [V]	Power [W]	Total Lumen [lm]	Lm/W	Energy Efficiency
R0947C3080	3000K	80	70C	22.2	15.5	2671	172	D
			1050	22.8	23.9	4006	167	D
			1400	23.3	32.6	5350	164	D
R0947C4080	4000K		70C	22.2	15.5	2853	184	C
			1050	22.8	23.9	4240	177	C
			1400	23.3	32.6	5650	173	C
R0947C5080	5000K		70C	22.2	15.5	2853	184	C
			1050	22.8	23.9	4240	177	C
			1400	23.3	32.6	5650	173	C

Tlux tolerance +/- 10%
Vf Tolerance +/- 0.5Voll

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LED and board features	
LED number	32
LED type	3030
Circuit	S4P8
Material	Aluminium
Solder	White
Connections	
Cable	AWG 24-18
Connector	WAGO SMD 4mm ² P 206C
Power	
Ass. Max. output current CC HA 3V	2400mA
Ass. Max. output current CC 6Volt	1600mA
Mechanical Data	
H x L	50x120mm
Thickness	6.1mm
Conditions	
Max. temp. (Ta)	90°C
Max. temp. (Tc)	85°C
Operating temp. Range	-35°C - 80°C

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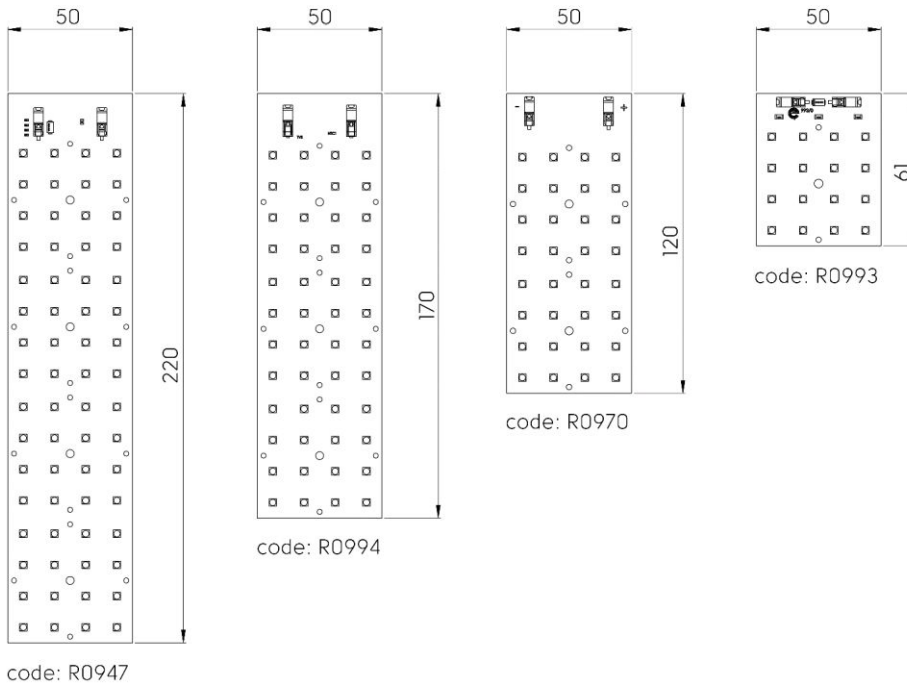
32 LED module for flood lighting

5 YEARS WARRANTY



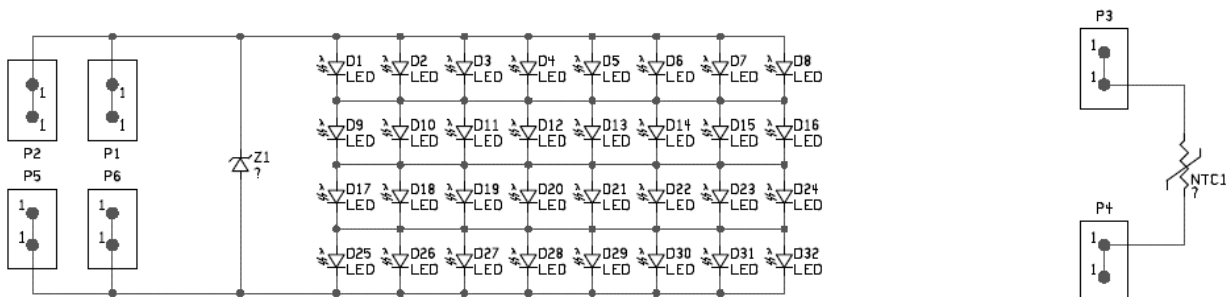
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FLOOD LIGHTING SERIES - DRAWINGS



→ You can check the R0970 Mechanical Drawing [CLICKING HERE](#).

ELECTRICAL CIRCUIT



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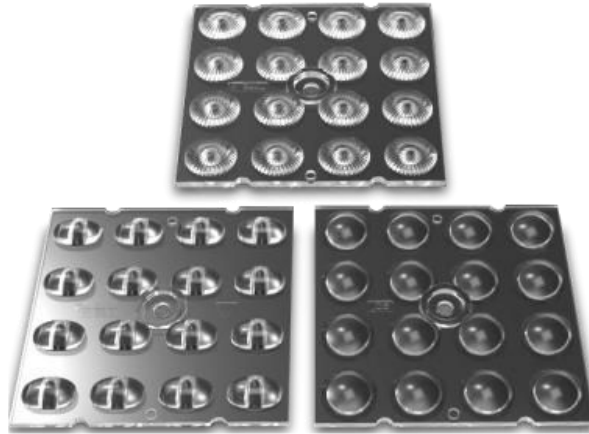
R0970

Accessories: LedLink Optics lens



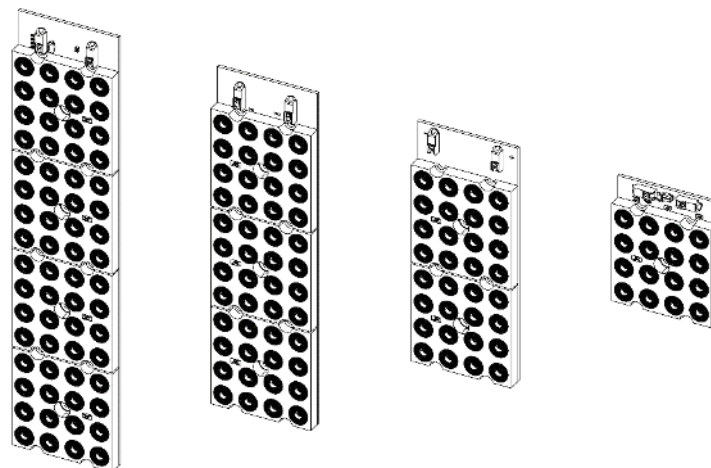
5 YEARS WARRANTY

CC CONSTANT CURRENT



Specifications: DVV series	
View Angle (Fwhm)	25°/55°/90°/150°/25°x145°/45°x140°/45°x155°/60°x145°/60°x155°/70°x160°
Material	PC 1250Z
Type	6 in 1
Efficiency	>90%
Operating Temperature	-40°C ~ 110°C

FLOOD LIGHTING SERIES WITH DVV LENS



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: $L_{\text{max}} < \text{group 1}$ (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