LineMAX

R1B93

56 LEDs linear module for Daisy lens

5 YEARS WARRANTY

CC CONSTANT CURRENT



FEATURES

- PCB dimension: 560x24mm
- Up to 3823 lm
- Up to 204 lm/W
- CRI 80
- Max Electrical Insulation 150Vdc
- Max 3 LED boards in series
- Connection type: AVX Poke 70-9296
- Long lifetime up to 72000h (LED LM80 available on request)
- 280x24mm version available (code: R1886)

APPLICATIONS

Office

Indoor

Commercial

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CE RoHS COMPLIANT Pb-Free

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Code	CCT	CRI	Current [mA]	Voltage [V]	Power [W]	Total Lumen [lm]	Lm/W	Energy Efficiency
R1B93113080	3000K	80	200	37.8	7.5	1480	197	C
			500	39.2	19.6	3700	189	C
R1B93114080	4000K		200	37.8	7.5	1529	204	B
			500	39.2	19.6	3823	195	C
R1B93115080	5000K		200	37.8	7.5	1529	204	B
			500	39.2	19.6	3823	195	C

Flux tolerance +/- 10%
Vf Tolerance +/- 5%

Ask for more information about available LED and other options.

LED and board features	
LED number	28+28
LED type	Lumileds 2835S
Circuit	WHITE S14P4, TW 2xS14P2
Material	FR4
Solder	WHITE
Connections	
Connector	AVX Poke 70-9296
Power	
Abs. Max Input current CC	800mA
Mechanical Data	
L x H	559x23.6mm
Thickness	6.1mm
Conditions	
Max. temp. (Tp)	+90°C
Max. temp. (Tc)	+85°C
Operating temp. Range	-35 +55°C

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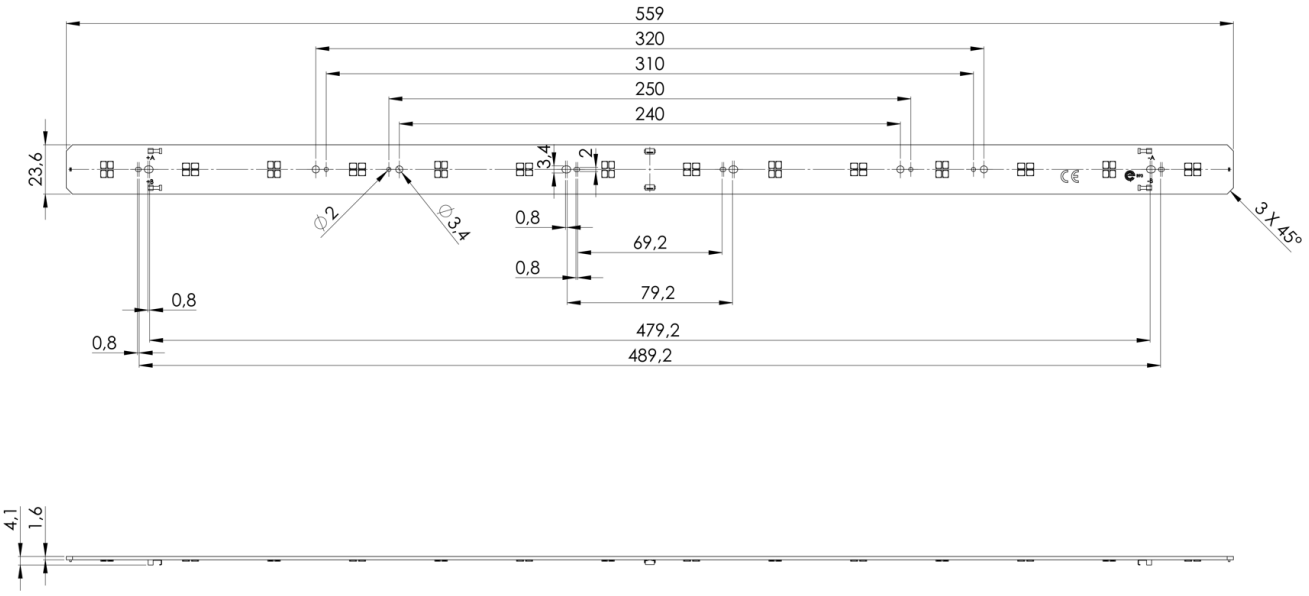
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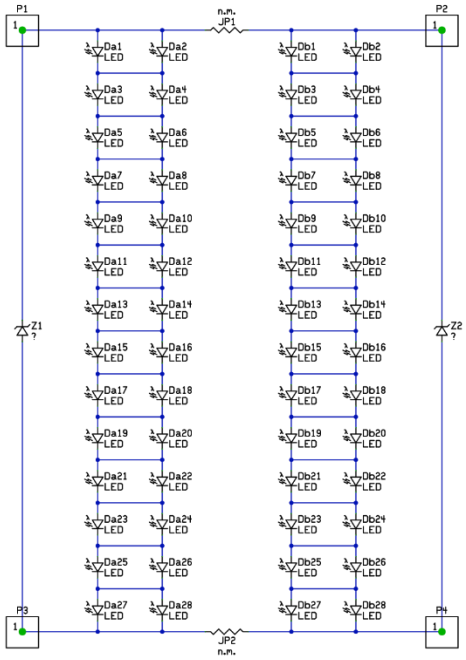
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MECHANICAL DRAWING



ELECTRICAL CIRCUIT



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Accessories: LEDiL lens

5 YEARS WARRANTY

CC CONSTANT CURRENT



Specifications: **LEDiL DAISY-7X1 series**	
Compatible models	WW, W, W2, WW-D, W-D, W2-D, O, O-D, ZT-25, M, ZT25-D, M-D, FT-D, BW
Material	Lens – PMMA; Shade – PC
Type	Linear 7in1
Efficiency	>90%
Operating Temperature	PMMA: -40°C ~ +70°C; PC: -40°C ~ +110°C

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.

- o 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. 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 (Imax. 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 countersank 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 2060).
- o Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed 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 tp 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 exceed 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:_ risk 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 62471 for the assessment of blue light hazard to light sources and luminaires

Universal Science srl - Società con unico socio
Via Adige 30 – 20006 Pregnana Milanese (MI) - Italy
www.universal-science.it | www.redilt.it

GENERAL CONDITIONS OF SALE

These General Conditions of Sale (G.C.S.) govern the sale of goods (Products) marketed by Universal Science srl with headquarters in Via Adige, 30 - 20006 - Pregnana Milanese (MI). All contracts (Orders) for the sale of Products by Universal Science to its customers by telephone, fax, email or post, are governed by these G.C.S. which are specifically approved by the Customer pursuant to art. 1341 and 1342 of the Italian Civil Code, forming an integral and substantial part of each Purchase Order. These G.C.S. do not affect the rights attributed by mandatory provisions of law to the Customer acting as a consumer, meaning any natural person acting for purposes unrelated to any business or professional activity carried out.

1. Orders

1.1. The sale of the Products takes place in the following ways. Orders may be sent by Customers to Universal Science by fax, post, telephone or email. The Order must show the complete acceptance of these G.C.S. We reserve the right to confirm quotations and delivery terms within 7 days from the date of the order. If we do not provide a reply, those indicated in the order are considered valid. The minimum order amount is €200 excluding VAT.

1.2. Each Order constitutes a contractual acceptance by the Customer and the sale is considered concluded upon receipt of the Order by Universal Science at its headquarters. Universal Science reserves the right not to execute incomplete Orders or in the event of non-compliance with the provisions of art. 3.1_1.3 In the case of non-fulfilment of the order due to product unavailability or other reasons, Universal Science will inform the Customer by agreeing where necessary the delivery methods of the products and/or the reimbursement of any sums received. In any case, the Customer will not be entitled to any further reimbursement or indemnity or compensation of any kind.

2. Prices

2.1. Prices are to be considered VAT excluded. Any regulatory changes concerning variations in VAT or other sales taxes, which occur afterwards, will result in an adjustment on the invoice. Universal Science is not responsible for the accuracy of the data listed in the Customer Order for invoicing.

2.2. The prices shown in the offer of the products marketed are valid for 30 days from the date the offer is sent.

3. Payment and delivery of products

3.1. Payment f or the Order will be agreed with Universal Science prior to the Customer submitting the Order to Universal Science. In the case of cash on delivery/advance payment, the balance must be paid by bank transfer.

3.2. Delivery (Transport) is always carried out by the chosen courier and is charged to the customer. If the customer does not have their own courier, the Transport will be carried out with the Universal Science courier, charging the relative costs on the invoice.

3.3. Delivery terms will be defined where necessary. These terms are purely indicative and non-binding. Universal Science is in no way responsible for direct or indirect losses due to any delay in delivery.

4. Product characteristics

4.1. Universal Science reserves the right to modify, without notice and for reasons of improvement, the characteristics of its production in line with continuous technological evolution

4.2. Universal Science makes no guarantee as to the compatibility of the Products with other products or equipment used by the Customer.

4.3. Any deficiencies or damage which is visible at the time of delivery and clearly due to transportation will be borne by Universal Science without any charge to the Customer, provided that the courier is Universal Science's and that it is expressly mentioned on the accompanying Production documentation.

4.4. Any complaints must be sent in writing to the operational headquarters within 8 days of receipt of the Products.

4.5. Universal Science is not responsible for the misuse of its Products by the Customer or any other person.

4.6. As regards products with logo which are not handled and in stock for a period of 1 year, these will be considered free from any commitment.

5. Competent Court

5.1. Any disputes fall under the jurisdiction of the Court of Milan (Italy).

6. Withdrawal

6.1. The Customer can withdraw from a standard Product Order within 3 working days, starting from the day that the Order is received. The Customer will not be able to exercise the right of withdrawal in the case of personalized Products or those which cannot be returned due to their nature.

7. Warranties

No requests for penalties or refunds for delayed delivery of materials are accepted, except for agreements stipulated and ratified between the parties. The penalties, if accepted and signed by the parties, cannot exceed 20% of the value of the order in question, without prejudice to the warranties and legal obligations.

The standard warranty of the Products has a duration of 24 months starting from the manufacturing date shown on the product itself, without prejudice to any extensions as indicated in the specific product documentation or special conditions previously agreed between the parties or defined by the manufacturer if produced by third parties.

The extended warranty, where indicated, consists of 3, 5 or 7 years (based on LED type) + 6 months with reference to the manufacturing date shown on the product. This value includes the possibility of a 3% "natural" failure percentage over the first 3 years; beyond this value the warranty rules will be applied.

Any normal physiological decay of the LED in terms of brightness, as well as any chromatic variation, is not considered to be a fault. The warranty is void in the event of delayed payment (for the entire period of the delay) and/or for misuse, such as failure to apply the normal precautions necessary for an electronic product, failure to comply with electrical parameters, mechanical stress, handling without care, or tampering, or incorrect installation which is not in line with the warnings defined in the technical documentation.
In order to improve the products, in compliance with the regulations in force, the company reserves the right to apply changes to the products without notice.
The guarantee is intended ex works.
The products must be returned by requesting written authorization from Universal Science, which will issue the RMA number (Return Material Authorization).
The product will be returned carriage paid and once repaired, it will be returned at Universal Science's expense.
In the case of the replacement of LED modules, the possibility must be considered that the new module is different from the photometric and efficiency point of view compared to the version supplied, as it is affected by natural decay.
In the event of confirmed defects which are unable to be repaired, a regular credit note will be issued.

8. Disclaimer of Warranty - Liability

Universal Science provides its customers with product information as it is received from product manufacturers. Universal Science does not guarantee that the information made available to its customers is the most current, accurate and complete; it may be subject to change at any time and is not to be considered as a substitute for the official information issued by the manufacturers of the goods marketed by Universal Science. Universal Science is not liable for any damage that may occur to its customers or third parties following and as a result of information distributed by it directly or through the use of third-party services. With regard to links to third party web pages, Universal Science cannot be held responsible in any way for the content of these pages. Any purchase orders will be considered accepted only after confirmation by the manufacturer. At the discretion of the manufacturer, the quantities and deliveries may be subject to variations that are not dependent on the will of Universal Science even during the execution of the Order.

PRIVACY POLICY

The Data Controller in charge of the collected and exchanged personal data is Universal science srl.
The complete privacy policy is available on the website at the following link: http://universal-science.it/wp-content/uploads/2022/09/Data-collection-and-Privacy-Policy.pdf