# LNA ARENA SPORT 1.2kW RGBW Series



#### Standards & Marks

Model Number: LNA-1K2D12ABFGB□□

Unit Weight: ~5.1kg

Dimensions (L  $\times$  W  $\times$  H): 500x152x77 mm

# **LNA ARENA SPORT**

## **Highlights & Features**

- 4 independent programmable output channels
- Configurable channel address mode (1\*DT6 / 1\*DMX or 4\*DT6 or 4\*DMX)
- Max. output power 1200W (4×300W/channel)
- Input voltage range: 187~528VAC
- High Efficiency up to 97%
- Programmable output current range 150-1200 mA
- Output voltage range of 50-370Vdc per channel
- Built-in 2 in 1: DALI-2 & D4i and DMX/RDM communication protocols
- Wide dimming range 0.1-100%
- Flicker-free for HDTV broadcasting
- Strobe effects up to 33 fps
- After-glow effect free
- Constant lumen output (CLO)
- Smart timer dimming (STD)
- High-accuracy integrated power metering
- Max remote distance 300 meters
- Input surge protection: DM 10KV / CM 10KV

## **General Description**

The LNA-1K2 series is a constant current IP66 LED driver with 4 independent programmable channels, that operates with an input voltage range of 187~528Vac. This driver is intended for constant current high power RGBW & Tunable White LED luminaires. It is specially designed for sports lighting and industrial lighting applications, including architectural, stage, areas, and horticulture, etc. The dimming control supports two-way communication via DALI-2 & D4i, and it also incorporates DMX/RDM dimming function. This driver was specifically conceived and intended to offer remarkably high efficiency to achieve substantial energy savings. Additionally, a wide dimming range, advanced control, and autonomous timer diming ensure adaptability for dynamic atmospheres and seamless scenes. The LNA-1K2 driver offers a remote-control function, allowing the driver to be installed up to 300 meters from the luminaire, which provides greater flexibility in installation, operation, and easy maintenance.

### **Model Information**

Model Nu	mber	Input Voltage Range	Rated Output Power	Output Channel <sup>1</sup>	Control Interface <sup>2</sup>
LNA-1K2D12	ABFGB	208~480Vac (nominal) 187~528Vac (range)	1200W	4	DALI-2 & D4i and DMX/RDM

The driver has been configured for single address mode by default, which further assigns four consecutive 8-bit channel addresses for RDM control and reserves the same channel addresses for DALI applications. The user can also switch to other channel address modes through the GUI and programming tools.

2. The split DALI and DMX interface terminals are mounted in the junction box.

## **Model Numbering**

L	.N	Α	1K2	D	12	Α	В	F	G	В	
	ED iver		Output power 1K2:1200W	No. of Outputs:	current	Constant Current		Programmable	Dimming: G: DALI-2 & D4i and RDM/DMX	Die-casting	Mode series: 0~9, A~Z or blank.



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# **Specifications**

Input Ratings / Characteristics (test @ T<sub>ambient</sub> 25 °C)

Specification	Min.	Тур.	Max.	Test Conditions / Notes
Nominal Input Voltage	208Vac	-	480Vac	
Input Voltage Range	187Vac	-	528Vac	
Nominal Input Frequency	-	50/60Hz	-	
Input Frequency Range	47Hz	-	63Hz	
Naminal Innuit Current	-	5.7A	5.9A	1-ph L/N 220Vac, 1.2A* 250V=300W per channel, total 1200W
Nominal Input Current	-	3.1A	3.3A	2-ph L1/L2 400Vac, 1.2A* 250V=300W per channel, total 1200W
	95%	96%	-	1-ph L/N 220Vac, 1.2A* 250V=300W per channel, total 1200W
Efficiency <sup>3</sup>	92%	94%	-	1-ph L/N 220Vac, 0.36A* 250V=90W per channel, total 360W (30% Pmax)
Efficiency	96%	97.2%	-	2-ph L1/L2 400Vac, 1.2A* 250V=300W per channel, total 1200W
	92%	95%	-	2-ph L1/L2 400Vac, 0.36A* 250V=90W per channel, total 360W (30% Pmax)
Standby Power Consumption	-	-	0.5W	At 220Vac/50Hz, Dim OFF, in compliance with Erp (EU) 2019/2020
	0.95	0.99	-	1-ph L/N 220Vac, Full load
Power Factor	0.9	0.96	-	1-ph L/N 220Vac, >= 30%*Full load
Power Factor	0.95	0.99	-	2-ph L1/L2 400Vac, Full load
	0.9	0.95	-	2-ph L1/L2 400Vac, >= 30%*Full load
	-	6%	10%	1-ph L/N 220Vac, total Pout=1200W Load
Total Harmonia Distortion/THD)4	-	-	20%	1-ph L/N 220Vac, >= 30%*Full load
Total Harmonic Distortion(THD) <sup>4</sup>	-	12%	15%	2-ph L1/L2 400Vac, total Pout=1200W Load
	-	-	20%	2-ph L1/L2 400Vac, >= 30%*Full load
In words Commont	-	-	12A	At 220Vac, 50%Apk to 50%Apk time: <2 ms
Inrush Current	-	-	20A	At 400Vac, 50%Apk to 50%Apk time: < 2ms
Power metering accuracy	-	±1%	±2%	At 208Vac~480Vac, Voltage, current, PF, frequency, active power, apparent power, etc. on the AC side, Full load

## Output Ratings / Characteristics

Specification	Min.	Тур.	Max.	Test Conditions / Notes
Output Channels	-	4	-	Single address mode by default, 4 consecutive 8-bit channel addresses for RDM control and 4 identical channel addresses for DALI applications.
Total Output Power	-	-	1200W	All channel
Single Channel Output Power	-	-	300W	Per Output Channel
Default Output Current	-	850mA	-	
Programmable Output Current Range	150mA	-	1200mA	Operation range refer to Appendix 1
Dimming current range	1.2mA		1200mA	
Output Current Tolerance	-	-	±3%	Range from 700mA to 1200mA
Output Voltage Range	50V	-	370V	All operating conditions shall not exceed this voltage range
Max. No Load Output Voltage	-	-	450Vrms	Peak voltage at open load condition

Tested after 30 minutes warming up at full load. Complies with EN IEC 61000-3-2, Class C, maximum load range from 360W~1200W.

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Output Voltage to PE		-	-	450Vrms	Working voltage of COM to PE and V- to PE
Output Current P	Output Current Ripple <sup>5</sup>		1%	2%	ripple = (pk-pk)/avg, at low frequency(<8kHz)
Output Current N	ripbie	-	5%	20%	ripple = (pk-pk)/avg, at high frequency(>15kHz)
Strobe Effects <sup>6</sup>		-	-	33 fps	Supports continuous sequence as fast as 30ms-ON and 30ms-OFF (fps means frame per second)
Output Remote D	Output Remote Distance		-	300m	The distance is related to the actual application conditions, but the voltage in the driver side shall not exceed 370V.
	DALI version	-	0.7s	1s	Compliant with clause 9.13 of IEC 62386-102:2014
Turn on Delay	DMX-RDM	-	0.7s	1s	Connecting to the controller correctly.
Time	version	1.25s	-	-	No controller or incorrect connection to the controller, compliant with clause 3.5 of ANSI E1.37-1:2012.

<sup>5.</sup> Output current ripple could be affected by the parasitic capacitance of LED fixture, and complies with IEEE 1789-2015.

### Auxiliary Power Supply Ratings / Characteristics

Specification	Min.	Тур.	Max.	Test Conditions / Notes		
Integrated 24V Auxiliary Power Supply						
Operating Voltage	21.6V	24.0V	26.4V	0.1W~6.0W, the ground is "DA-".		
High frequency ripple of operating voltage	-	-	1.0 V <sub>pp</sub>	21.6V~26.4V, fripple > 10kHz		
Voltage in no-load condition	-	-	30.0V	Output power < 0.1W		
Average output power capability	-	3.0W	-	CC mode load: 4.0mA~125mA (0.1W~3W).		
Pulsed output power capability	-	6.0W	-	Dynamic CC mode load: peak load = 250mA/2.2ms and avg load = 4.0mA~125mA/3.8ms.		
Start-up time	-	-	0.6s	From AC power on to Vaux increases and reaches 21.6 V, Mains applied at any phase angle.		
Integrated DALI-2 Bus Power Su	pply					
DALI-2 Bus voltage	12V	16V	22.5V	CC load: 0~50mA, integrated bus power supply is pre-configured to a disabled state, and it can be activated via GUI or DALI controller.		
Over Current Protection	50mA	-	62.5mA	Auto recovery and no component damaged. Limits output current to 50~62.5mA when output is short-circuited.		

## **Dimming Control**

Specif	ication	Test Condi	tions / Notes			
Control interface		DALI-2 & D4i	DMX/RDM <sup>7</sup>			
	Logarithmic	0.1%-100% (1.2mA~1200mA)				
Dimming curve		default	configurable			
Diffilling curve	Linear	0.4%-100% (4.8mA~1200mA)				
	Linear	configurable	default			

<sup>7.</sup> For DMX-RDM, a higher dimming resolution can be set to 10bit via GUI, which means 1024 steps for output, more details please refer to "LNA/EUCO Series Programming Tool User Manual".



<sup>6.</sup> In the Strobe mode, the OFF period should be within 5s in general, otherwise please refer to "LNA/EUCO Series Programming Tool User Manual" for more details to make a requisite configuration.

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## Control Interface Standards

Specification	Standards
DALI Control interface standards	DALI-2 & D4i IEC 62386-101 Ed 2.0 IEC 62386-102 Ed 2.0 IEC 62386-207 Ed 2.0 IEC 62386 part 150: Integrated 24Vdc auxiliary power supply IEC 62386 part 250: Integrated bus power supply for sensor and radios IEC 62386 part 251: Memory bank 1 extension (luminaire data) IEC 62386 part 252: Energy report IEC 62386 part 253: Diagnostics and maintenance
DMX/RDM Control interface standards	DMX/RDM ANSI E1.11 DMX512A ANSI E1.20 RDM – Remote Device Management ANSI E1.37-1 Additional message sets for dimmer

## Additional Dimming Features

Specification	Description
Smart Timer Dimming(STD)	3 different configurable autonomous dimming profiles (fixed timer, midnight centric timer, and ratio rescale timer) over the night are available for users to select and set in GUI. This function is not activated by default. For more details, please refer to "LNA/EUCO Series Programming Tool User Manual".
Constant lumen output(CLO)	CLO is a function to make the brightness consistent by compensating the ageing of the light source over the lifetime. It's available in GUI to set starting dimming level (for example 90%) and end of life of the product (for example 50khrs), so that the driver by counting its functioning hours can do a linear interpolation in between starting dimming level at t=0hrs, and go to 100% at t=end of life. This function is not activated by default. For more details, please refer to "LNA/EUCO Series Programming Tool User Manual".

## **Mechanical Characteristics**

Specification		Test Conditions / Notes				
Housing		Aluminum case, dark gray				
Dimensions (L	xWxH)	500x152x77 mm				
Mounting hole	dimension	Mounting hole dimension 480*134mm, M8 SCREW*4 pcs				
Unit Weight		~5.1 kg				
Cooling Syster	n	Natural Convection				
Input		L1, L2, PE				
Output <sup>8</sup> LED Load		PE, NTC, V+, V4-, V3-, V2-, V1-				
Control	DALI	DA+, DA-, +24V (" DA-" is the ground of "+24V")				
Control	DMX/RDM	D1+, D1-, COM				

<sup>8.</sup> This is a common "Output +" design that shares equal connections between V1-, V2-, V3- and V4-.

## Environment & Package

Specification		Test Conditions / Notes	
Ambient	Operating	-40 ~+50°C	
Temperature	Storage	-40°C to +85°C	
Maximum Case Temp	erature	+85°C	
Lifetime Case Temperature		+80°C	



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Polotivo Humidity	Operating	10% to 95% RH (Non-Condensing)						
Relative Humidity	Storage	5% to 95% RH (Non-Condensing)						
Audible Noise (30cm	distance)	Sound Pressure Level (SPL) < 24dBA						
Ingress Protection class	ssification	IP66 (EN 60529)						
Impact Protection clas	sification	IK08 (EN 62262)						
Drop Test (Non-Operating)		According to ASTM D-775, 40cm height drop to concrete floor as below drawing, total 10 times.  Top 1  Rear 6  Rear 6  Comer 2-3-5  Bottom 3						
Vibration (Non-Operating)		IEC 60068-2-6, Random: 5 Hz to 10 Hz (1G); 30 min per axis for all X, Y, Z direction						
Packing		1pcs per carton						

### **Protections**

Specificati	Specification		Тур.	Max.	Test Conditions / Notes		
Input Under Voltage	Protection	165Vac	170 Vac	175 Vac			
Protection(IUVP)	Recovery	175 Vac	180 Vac	185 Vac	Shuts down and then restarts to normal status when the fault		
Input Over Voltage	nput Over Voltage Protection		545 Vac	550 Vac	condition is cleared.		
Protection(IOVP)	Recovery	530 Vac	535 Vac	540 Vac			
Open Load & Output Over Voltage Protection	Protection	-	-	450Vrms	Hiccup mode. The output voltage shall not exceed 450Vrms under no load, open load or other over voltage conditions.		
Constant Output Power Protection		305W 310 W 315 W		315 W	Output power limited. The driver shall come back to its original programmed current after the fault condition is cleared.		
Output Short Circuit Protection		YES			Hiccup mode. Restarts automatically after fault condition is removed.		
Internal Over Temperature Protection		YES			Driver OTP, decrease the output current to 20%*lo when Tc $\geqslant$ 90 $\pm$ 3°C, auto recovery when Tc $\leqslant$ 80 $\pm$ 3°C		
Programmable External Over Temperature Protection		YES			Luminary OTP, output power derating. Refer to <u>Appendix 8</u> "Programmable External Over Temperature Protection" for more details.		

## Electro-Magnetic Compatibility (EMC)

Specification	Standards Standards			
EMC-Emission Characteristics				
Radiated Emission	EN55015, GB/T17743, FCC Part 15, Subpart B			
Conducted Emission	EN55015, GB/T17743, FCC Part 15, Subpart B			
Harmonic Current Emission	IEC/EN 61000-3-2, GB 17625.1			



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Voltage Fluctuation & Flicker	IEC/EN 61000-3-3
EMC-Immunity Characteristics	
Electrostatic Discharge (ESD)	IEC/EN 61000-4-2
Radio Frequency Electro -magnetic Fields	IEC/EN 61000-4-3
Electrical Fast Transient (EFT)	IEC/EN 61000-4-4
Surge (AC Mains) <sup>9</sup>	IEC/EN 61000-4-5 - Common Mode: 10kV (L1 to Earth, L2 to Earth) - Differential Mode: 10kV (L1 to L2)
Conducted Disturbance	IEC/EN 61000-4-6
Voltage Dip & Interruptions	IEC/EN 61000-4-11

<sup>9.</sup> Level B, the maximum peak pulse of residual common mode voltage from output+/- to Earth is around 3.0kV.

### Reliability Data

Specification	Test Conditions / Notes		
	50,000 hours applicable for 220Vac to 480Vac(50/60Hz)@100% of load, Ta=50℃ (Tcase=80℃),		
Lifetime	100,000 hours applicable @ 100% of load, Tcase≤70℃. Appendix 3 "Life Time versus Case Temperature Curve" for more details.		
MTBF	475khrs. at Ta=+45°C Telcordia SR-332		
Warranty	5 years, refer to Appendix 10 "Warranty Policy" for more details.		

## Safety & Other Approvals

Safety Category		Standards				
ENEC	MARK	EN 61347-1:2015, EN 61347-1:2015/A1:2021 EN 61347-2-13:2014, EN 61347-2-13/A1:2017 IEC/EN 62384:2020				
СВ	REPORT	EN 61347-1:2015, EN 61347-1:2015/A1:2021 EN 61347-2-13:2014, EN 61347-2-13/A1:2017				
CE	MARK	CE Declaration of Conformity.				
UKCA	MARK	BS EN 61347-2-13: 2014+A1:2017				
RCM	MARK	AS/NZS 61347-1: 2016+A1 AS 61347-2-13: 2018				
UL	MARK	UL Compliant ANSI / UL8750 2nd Ed. CSA C22.2 No.250.13, 4th Ed.				
CCC	MARK	GB 19510.1 GB 19510.14				
BIS	Compliant	IS 15885(Part 2/Sec 13)				
KC	Compliant	K 61347-1 K 61347-2-13				
PSE	Compliant	J 61347-1 J 61347-2-13				
Isolation		Class I, input to output: non-isolation, DMX/RDM and DALI to input/output reinforced isolation.				
RoHS		RoHS 2.0 Directive(EU) 2015/863				
REACH		In compliance				



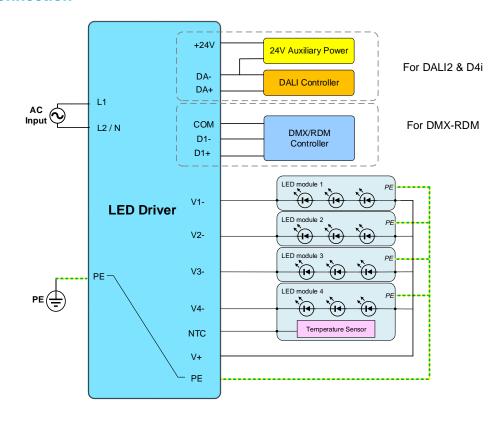
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## **Miniature Circuit Breaker Configuration**

The maximum number of LED drivers connectable to a single MCB is recommended in the following table for maximum 1200W and each nominal input voltage. Due to the differences in application conditions and the different kinds of circuit breakers available on the market, this table is just for reference.

Input Voltage	MCB Type	10A	16A	20A	25A	32A	40A	63A
208 Vac	B/C	1	2	2	3	4	5	7
220 Vac	B/C	1	2	2	3	4	5	8
277 Vac	B/C	2	2	3	4	5	6	10
400 Vac	B/C	2	4	4	5	7	9	14
480 Vac	B/C	3	4	5	6	8	10	16

### **Electrical Connection**



#### Note:

- 1. This is a common "OUTPUT +" (V+) design for the output channels, but V1-, V2-, V3- and V4 should not be connected together during installation.
- 2. Simply connect the controller to the appropriate terminals to fulfill the control requirements without additional configuration.
- 3. The maximum permissible voltage on the control interface terminals should not exceed 60Vrms, otherwise damage may occur and reliability may be compromised.

## **Programming Configuration**

1. LNA/EUCO Series Programming Tool



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Common setting functions and implementation methods/conditions are shown in the following table, more functions and details please refer to the **LNA/EUCO Series Programming Tool User Manual.** 

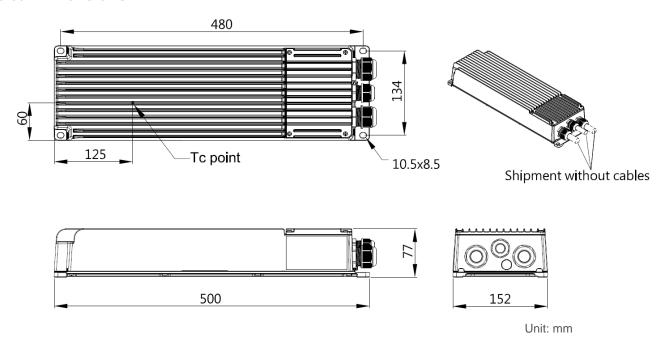
	Item	DALI-2	DMX/RDM	
	Tool Connection	DA+,DA-	D1+,D1-	
Setup	AC power supply			
	Load Connection	0	0	
Tool	Programming Tool	SDPTDV05UAB, SDDV1505UAB, SDDV1505UAC		
	Max. current programming	√	√	
	Default output current	√	√	
Configurable Parameters and Functions	Luminaire OTP setting	√	√	
	Constant lumen output setting	√	√	
	Smart timer dimming	√	√	
	Address mode	√	√	
	Software update	√	V	

**Note:** ■ Required, O Optional,  $\sqrt{\text{Available}}$ .

### 2. DALI & RDM Data Management and Configuration

This driver is compatible with D4i and RDM functions, providing a variety of free configuration options and rich monitoring data, such as personalized assignment of addresses, access to output status information. Customers can configure it flexibly according to their own usage requirements. Please refer to the "D4i & RDM Data Management User Manual" for the relevant configuration instructions.

## **Physical Dimensions**





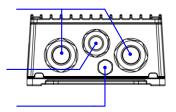
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## **Cable Gland**

M25 cable gland to housing: 3.43Nm

M20 cable gland to housing: 3.43Nm

Vent to housing: 0.6~0.8 Nm



Input: M25 cable gland (5 Nm) Clamping cable:  $10.0\sim16.3$ mm  $1.0\sim2.5\Box$  AWG  $17\sim12$ 

Control: M20 cable gland, plug by default (1 Nm)

> Output: M25 cable gland (5 Nm) Clamping cable: 10.0~16.3mm 0.75~2.5□ AWG 18~12

A

Do not loosen the Protective Vent

Option A:

Clamping cable (3.5 Nm) 6.3~11.3mm(1 hole seal) 0.3~2.5□ AWG 22~12





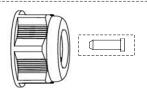


Option B:

Clamping cable (3.5 Nm)  $5.0\sim6.5$ mm(2 holes seal)  $0.3\sim2.5$  AWG  $22\sim12$ 







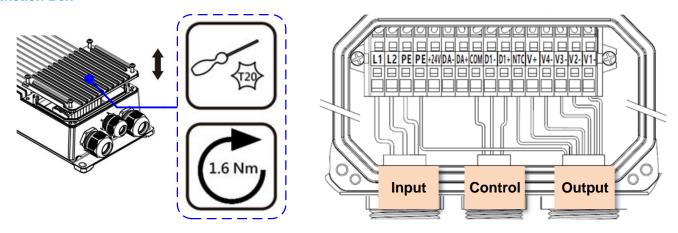
The 2 holes seal and plug are in the plastic bag.

Note: More details about cable selection information, please refer to the Installation User Manual.



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## **Junction Box**



Note: The cap and fastening 4 screws all have the function of anti-falling off.

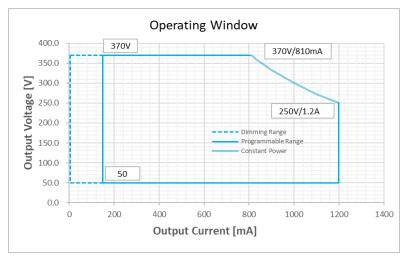
Number	Label	Description		
1	L1	AC input		
2	L2	AC input		
3	PE	Protective Earth		
4	PE	Protective Earth for luminaire		
5	+24V	24V auxiliary power supply ,and the ground of "+24V" is "DA-".		
6	DA-	DALI input -, and the ground of "+24V"		
7	DA+	DALI input +		
8	COM	DMX Shield / Common port		
9	D1-	DMX input -		
10	D1+	DMX input +		
11	NTC	LED module temperature sensor		
12	V+	Output + for all channel		
13	V4-	Channel 4 output -		
14	V3-	Channel 3 output -		
15	V2-	Channel 2 output -		
16	V1-	Channel 1 output -		



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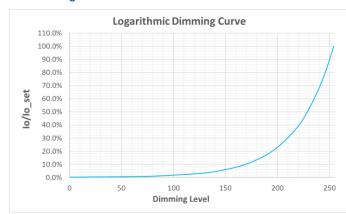
## **Appendix**

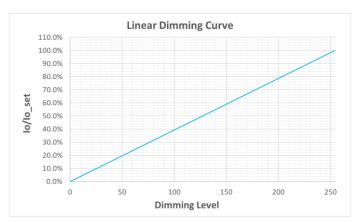
### 1. Operating Range Curve



**Note:** EUCO ARENA SPORT 1.2kW series can be programmed with wide output current through computer and programming tool. For more details, please refer to **LNA/EUCO Series Programming Tool User Manual**.

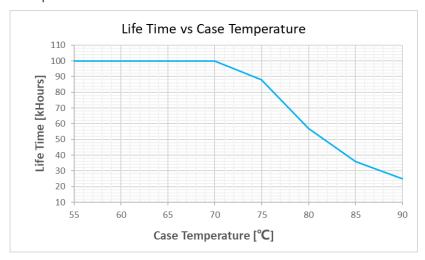
## 2. Dimming Curve





DALI/DMX

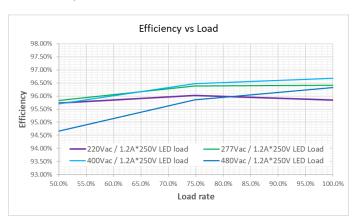
### 3. Life Time versus Case Temperature Curve





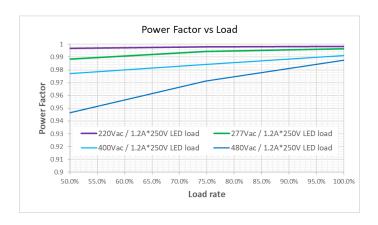
# LNA ARENA SPORT 1.2kW RGBW Series

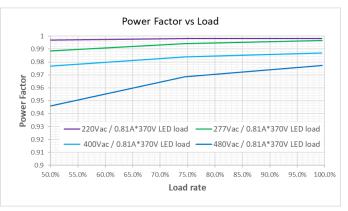
### 4. Efficiency versus Load





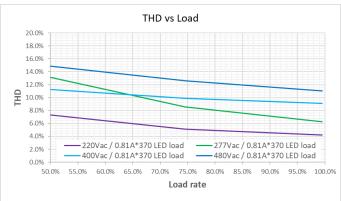
#### Power Factor versus Load





## 6. THD versus Load

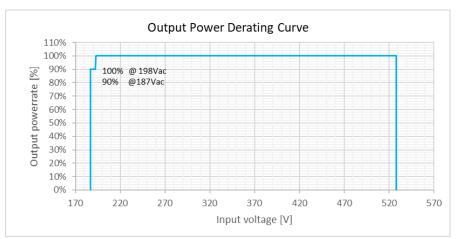




## 7. Output Power Derating



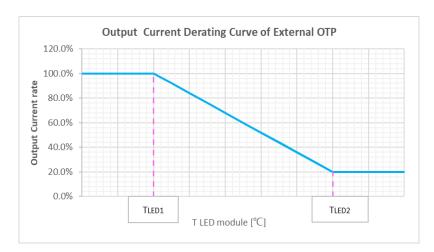
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When input range falls from 198Vac to 187Vac, the maximum output power would be limited to 1080W by reducing the output current automatically. Hysteresis control logic is applied in triggering/recovering process.

### 8. Programmable External Over Temperature Protection

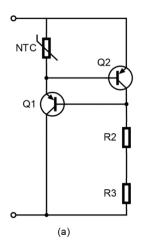
This protection is an optional feature and user can ignore it without connecting to NTC connector in the junction box. The driver monitors the temperature of the LED module through NTC terminal. The output current will be reduced smoothly and linearly at OTP status and return to normal when the fault condition is removed.

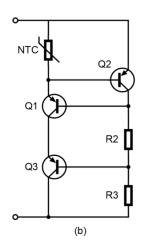


The trigger point of this protection can be set easily according to the actual conditions of the LED fixtures, the user can set the trigger point between 90  $^{\circ}$ C and 120  $^{\circ}$ C by the Delta programming tool, and the default value is 110  $^{\circ}$ C. When the temperature exceeds the triggering point, the output current will decrease automatically to bring the temperature of the LED module back to safe value. More details about parameter setting please refer to User Manual DALI programming or DMX-RDM programming. An external temperature sensing circuit is required to achieve the NTC terminal function to prevent the LED fixture from overheating. The default setting is for a 33Kohm NTC, the circuits shown as both (a) and (b) below are acceptable.



# LNA ARENA SPORT 1.2kW RGBW Series

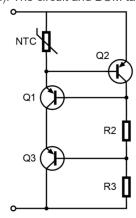




Parameter	Part	Manufacturer	Description
NTC	TSM1A333F3952RZA	THINKING	RES NTC 33Kohm F 3950K +/-1% SMD 0603 TP
R2 / R3	RC1206FR-07 5M1L	YAGEO	RES SMD 1/4W 5.1Mohm F 1206
Q1 / Q2 / Q3	PBHV9050T	NEXPERIA	500V 150 mA PNP high-voltage low VCEsat transistor

**Note:** The circuits of above (a) and (b) have same OTP performance by using the same parts listed in the table, and to achieve good accuracy of OTP, Q2 should be placed close to NTC to make them have same temperature.

This product is also compatible with the circuitry for a 10Kohm NTC, this version could be selected and activated by "OTP on Fixture" section of GUI (Select "10K" in this section). The circuit and BOM table are shown as below.



Parameter	Part	Manufacturer	Description
NTC	NTCG163JH103JT1	TDK	RES NTC 10Kohm F 3380K +/-1% SMD 0603
R2/R3	RC1206FR-07 1ML	YAGEO	RES SMD 1/4W 1Mohm F 1206
Q1/Q2/Q3	PBHV9050T	NEXPERIA	500V 150 mA PNP high-voltage low VCEsat transistor

#### Note:

- The recommended temperature detection circuit should be on the LED module.
- NTC should be placed as close to Q2 as possible.
- Do not make any change to the temperature detection circuit of LED module.
- The specifications of alternative components should be the same as the recommended sources. Especially, the NTC is a key and thermos-sensitive component and DO NOT change to other types, like B value = 4480K.



# LNA ARENA SPORT 1.2kW RGBW Series

### 9. External SPD requirement for extra LED fixture common mode surge protection

Delta driver has strong capability(10kV) against unexpected surge pulses but considering that end-users may install an external surge protector device (SPD) for greater protection capabilities, therefor Delta recommends that the SPD should be installed on the AC input side, and strongly suggests not to install the SPD on the output side of driver or in front of the LED modules to avoid irreparable damage to the driver.

## 10. Warranty Policy

Please reach out our Warranty Policy should you require any further clarification.

### 11. Attention

Delta provides all information in the datasheets on an "AS IS" basis and does not offer any kind of warranty through the information for using the product. In the event of any discrepancy between the information in the catalog and datasheets, the datasheets shall prevail (please refer to <a href="http://www.DeltaPSU.com">http://www.DeltaPSU.com</a> for the latest datasheets information). Delta shall have no liability of indemnification for any claim or action arising from any error for the provided information in the datasheets. Customer shall take its responsibility for evaluation of using the product before placing an order with Delta.

Delta reserves the right to make changes to the information described in the datasheets without notice.

