

S Series Intelligent Driver



0.1% Deep Dimming
Human Centric Lighting

Flicker Free
Meet :
CEC title 24 JA8 & JA10
IEEE PAR 1789-2015

■ 20W S Series-1 Channel DALI Driver-PU020S105AQI3920

MOONS' 20W S Series 1 Channel LED Drivers are designed for DALI dimming application. It is a wireless programmable LED driver with MOONS' Touch setting tool.

■ Main Characteristics

- 1 Channel, constant current driver
- Programmable operation window
- Low inrush current
- Standby power < 0.2W
- 0.1% Dimming
- 2 types of dimming curve (logarithmic/linear)
- Output power 20W max
- Flicker free for whole operation range
- DALI BUS power 15V/56mA
- Input power detection accuracy $\pm 5\%$ or < 0.5W

■ Benefits

- Application-oriented operating window for maximum compatibility
- Excellent dynamic response performance
- Exceptionally smooth fades

■ Applications

- Architecture, Art and Museum, Entertainment, Hospitality, Healthcare, Urban landscape

■ Certification

- Comply with IEC62386-101, 102, 207, 250, 251, 252, 253
- Comply with UL Class2.
- Comply with Energy Star 2.2
- Certificated :

Class2
ClassP

■ Electrical Specifications

Input	Efficiency (230Vac)	84% (Typical)
	Voltage Range (Vac)	90~305
	Rated Input Voltage (Vac)	100~277
	Frequency Range (Hz)	50/60
	Power Factor	>0.9 at 100~277Vac 50/60Hz input, with 50%~100% load conditions
	THD	<20% at 100~277Vac 50/60Hz input, with 50%~100% load conditions
	AC Current (Typical)	0.28A MAX. @100Vac, 0.12A MAX. @230Vac
	Inrush Current (Typical)	<10A at 100~277Vac input 25℃ cold start at 100% condition
	Input Power (W)	28(MAX.)
	Standby Power (W)	<0.2W @ 100Vac/50HZ, 230Vac/50HZ, 277Vac/60HZ
	Leakage Current (MAX.)	0.5mA MAX. @277Vac
Output	Output Voltage Range (VDC)	8~54
	Output Current Range (mA)	150~1050
	Rated Power (W)	20(MAX.)
	Output Channel Number	1CH.
	Ripple Current (PK-PK)/AV	<10% at max. lout (ripple=(pk-avg)/avg) Low frequency (<120 Hz) content <1%
	Current Tolerance	± 5% at output current range
	Line Regulation	± 1%
	Load Regulation	± 3%
	Startup Time	<500ms @ 100Vac/230Vac/277Vac
Input power detection	Measurement accuracy	5% or 0.5W, take the relatively large value as the accuracy specification
Dimming Port	DALI Bus Power Supply	15VDC ± 30%, < 56mA
	DALI Dimming	DALI dimming 0.1%~100%, Soft-on, Fade-to-Black ,optional dimming curve: logarithmic/linear
Protection	Over temperature protection	t _c 100℃ +/-10%, the driver stop working
	Short Circuit	Output current of power supply equals set current
Environment	Operating Temperature	-40~+40℃
	Operating Humidity	20~95%RH, non-condensing
	Storage Temperature	-40~+85℃
	Storage Humidity	10~95%RH
	Vibration	10~500Hz, 5G 12min/cycle, period for 72min each along X、Y、Z axis
	Ingress Protection Rating	IP20
Safety&EMC	Safety Standard	UL8750,UL1310 Class 2, CAN/CSA-C22.2 No.223-M91,EN61347-1, EN61347-2-13
	EMC Emission	FCC Part 15 ClassB, EN61000-3-2 , EN61000-3-3
	EMC Immunity	EN61000-4-3,4,6,8,11, ANSI C62.41.2 (4KV) ,EN61000-4-5(2.5KV),EN61000-4-2(air discharge 8KV)
Others	Lifetime	>50000 hours @T _c =82 ° at 100% load conditions
	MTBF	500,000 hours, measured at full load, 25℃ ambient temperature SR-332 Issue 3
	Dimension (L x W x H mm)	109*41*27
	Weight	170g

■ Dimming Performance

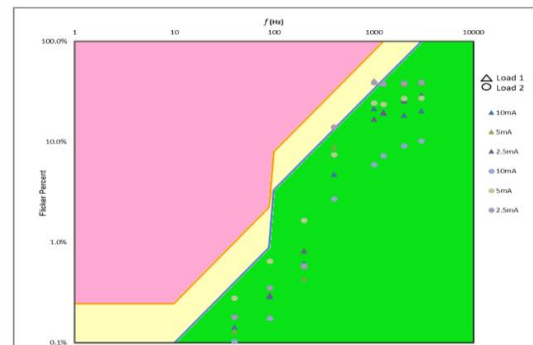
▪ Flicker Free

i. Meet :CEC title 24 JA8 & JA10, IEEE PAR 1789-2015



Solutions

Flicker Percent Frequency Spectrograms (0-10000Hz)



▪ Dimming Method

In the range of 250~1050mA, the current operates in continuous mode;
In the range of 0~250mA, the current operates in PWM dimming mode, and the PWM frequency 7.2KHZ.

■ Programmable Performance

▪ Touch Setting

Program driver's parameters without cable.

[Download Software](#)

▪ 1mA Current Programmable Step

▪ Default Factory Setting

Load

Save

Read

Write

Setting

Current

Channel 1

350 mA

General Setting

Dimming Curve

Logarithmic

Minimum Dimming Level

0.1 %

NTC

85

AUX Power

Disable

Dali Power

Disable

Power On Level

254

System Failure Level

254

Other Information

Maximum Temperature

-47 °C

Lights On Time

8 Hours

GTIN

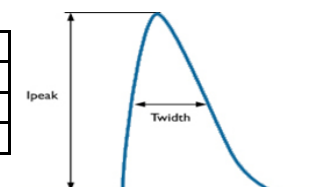
6971481490908

GTIN-13 Code: 6971481490908

■ Inrush Current

▪ Ipeak & Time

Input Voltage	Inrush Current Ipeak	Inrush Current Time, measured 50% of Ipeak
100 Vac	1.7A	30us
220 Vac	3.8A	35us
277 Vac	4.8A	35us

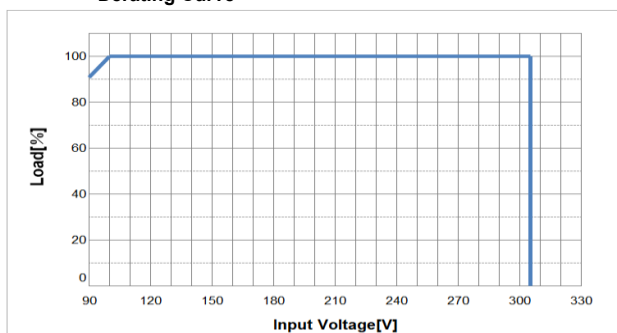


▪ Automaitc Circuit Breakers

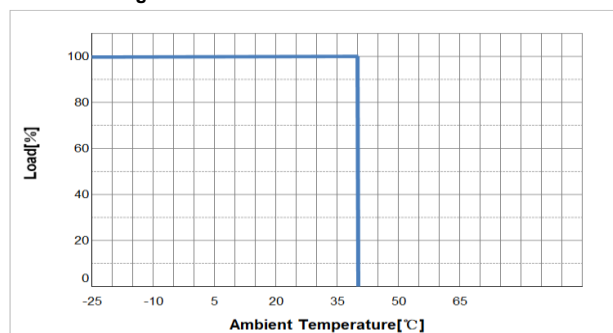
ACB Type	B10	B13	B16	B20	C10	C13	C16	C20
Number of LED Drivers @100Vac	16	20	25	31	26	33	41	51
Number of LED Drivers @220Vac	35	46	56	70	57	74	91	114
Number of LED Drivers @277Vac	43	56	69	86	70	91	112	140

■ Curve

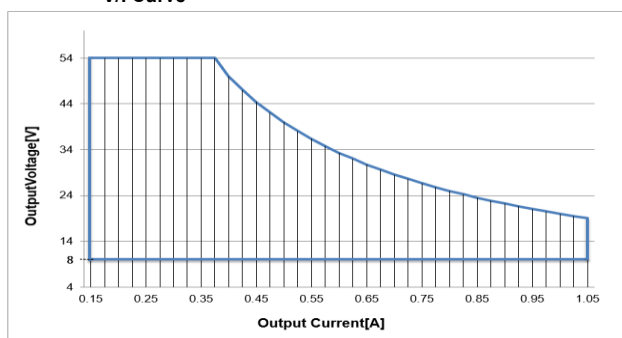
▪ Derating Curve



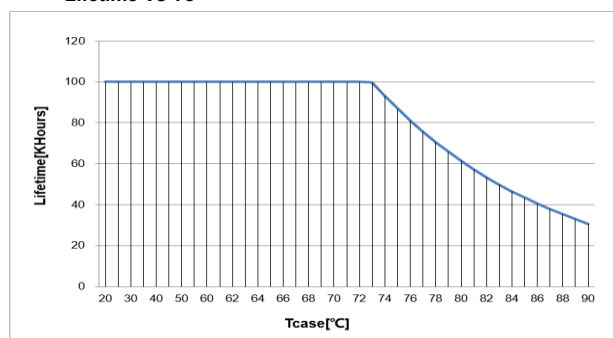
▪ Derating Curve



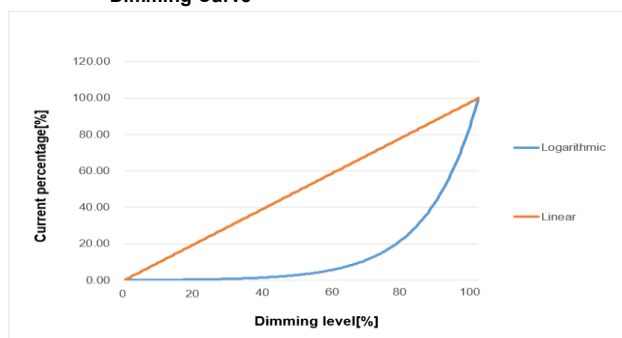
▪ V/I Curve



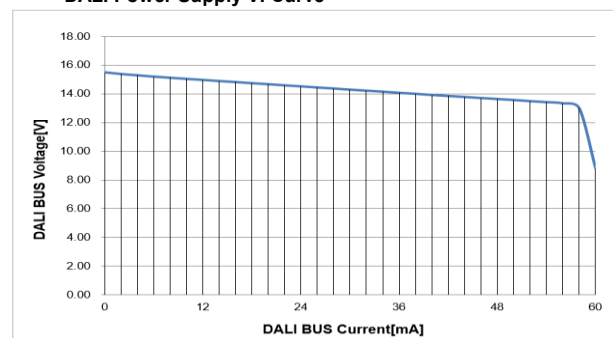
▪ Lifetime Vs Tc



▪ Dimming Curve

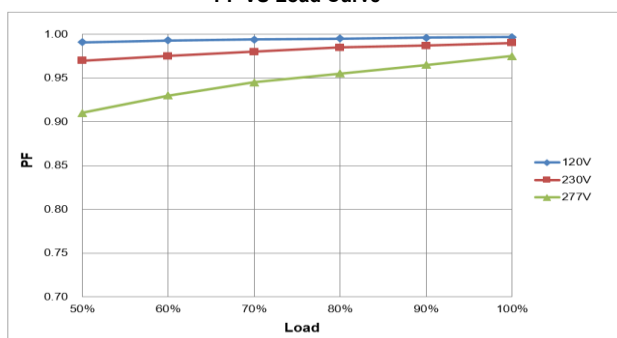


▪ DALI Power Supply VI Curve

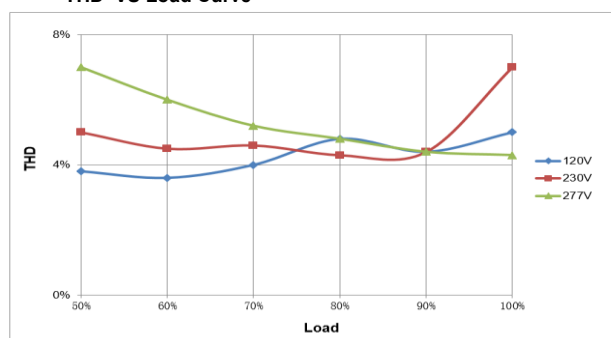


■ Curve

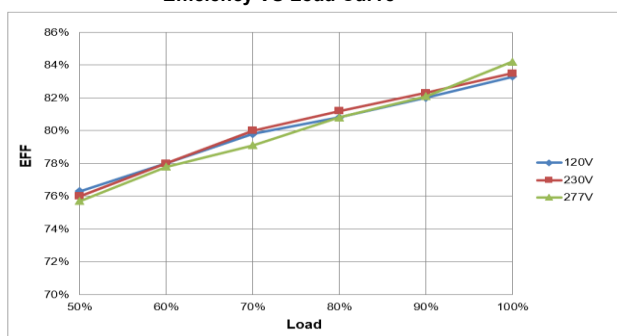
▪ PF VS Load Curve



▪ THD VS Load Curve

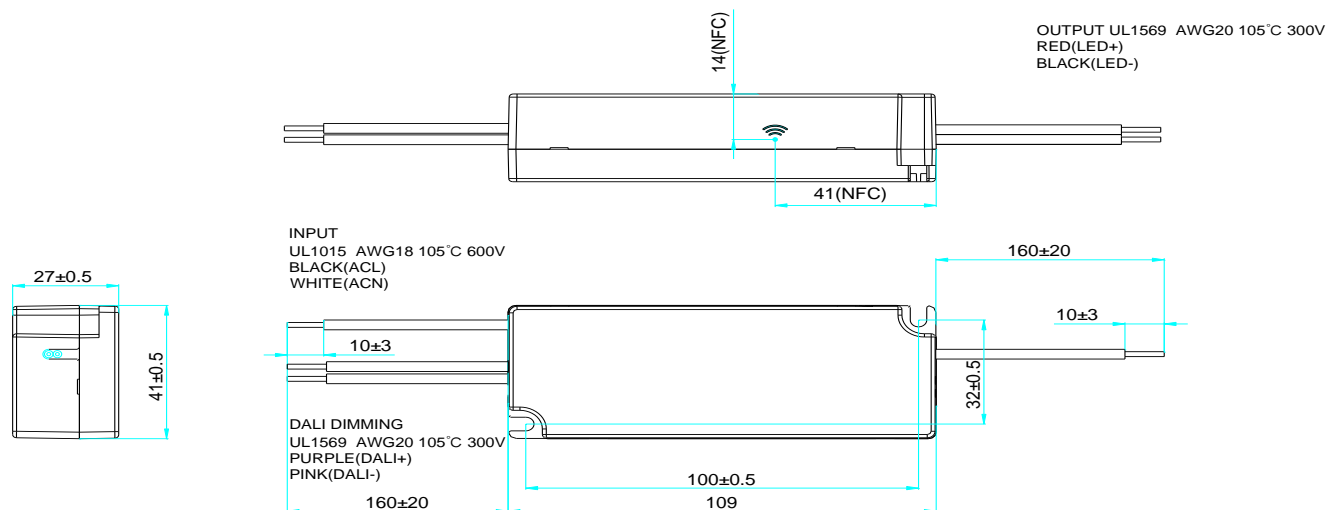


▪ Efficiency VS Load Curve

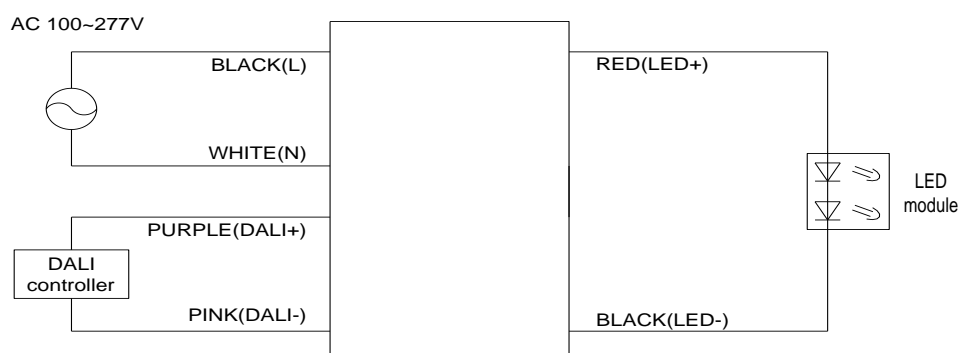


■ Mechanical Specification

▪ Dimensions (Unit: mm)



▪ Connection diagram



RoHS Compliance:

Our products comply with the European Directive 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.