

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 0-10V Driver-PU020S105AQI091

MOONS' 20W S Series 1 Channel LED Drivers are designed for 0-10V 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 < 0.5W, AUX power disable
- 0.1% Dimming
- 2 types of dimming curve (logarithmic/linear)
- Output power 20W max
- Flicker free for whole operation range

■ 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 UL Class2, ClassP
- 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°C cold start at 100% condition
	Input Power (W)	28(MAX.)
	Standby Power (W)	<0.5W @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.)
	Auxiliary power supply	12V/60mA, when the driver is not in standby mode
	Output Channel Number	1CH
	Ripple Current (PK-PK)/AV	<10% at max. Iout (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
Dimming Port	0-10V Dimming	Output current 120uA. Isolated 0-10V dimming 0.1~100%. Soft-on, Fade-to-Black ,optional dimming curve: logarithmic/linear
Protection	Over temperature protection	tc 100°C +/-10%, the driver stop working
	Short Circuit	Output current of power supply equals set current
Environment	Operating Temperature	-40~+40°C
	Operating Humidity	20~95%RH, non-condensing
	Storage Temperature	-40~+85°C
	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 @Tc =82 at 100% load conditions
	MTBF	500,000 hours, measured at full load, 25°C ambient temperature SR-332 Issue 3
	Dimension (L x W x H mm)	109*41*27
	Weight	170g

■ Dimming Performance

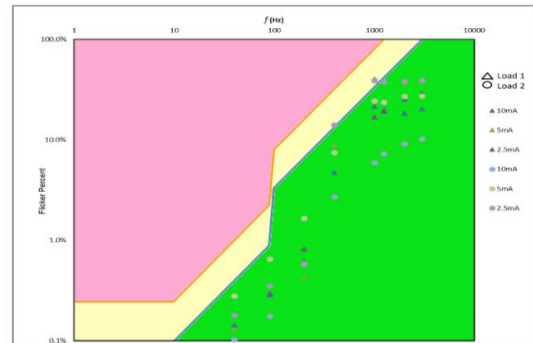
▪ Flicker Free

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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

Logarithm

MinLevel=0.1%

Dimming To Minimum

Disable

Dimming Curve

Logarithmic

Minimum Dimming Level

0.1 %

AUX Power

Disable

Channel Setting

Ch1

Enable

Fade Time

300 ms

Input 0-10V Voltage Range:

Upper

9.0 V

On

1.4 V

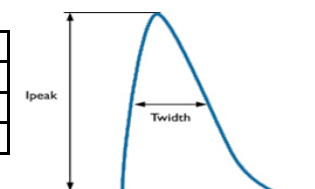
Off

1.1 V

■ 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

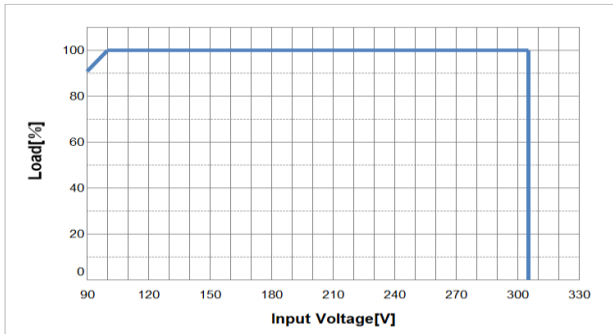


▪ Automatic Circuit Breakers

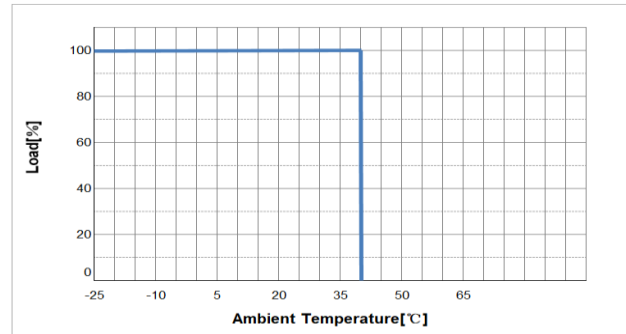
MCB Type	B10	B13	B16	B20	C10	C13	C16	C20
Number of LED Drivers @100Vac	16	20	25	31	26	33	41	51
Number of LED Drivers @220Vac	35	46	56	70	57	74	91	114
Number of LED Drivers @277Vac	43	56	69	86	70	91	112	140

■ Curve

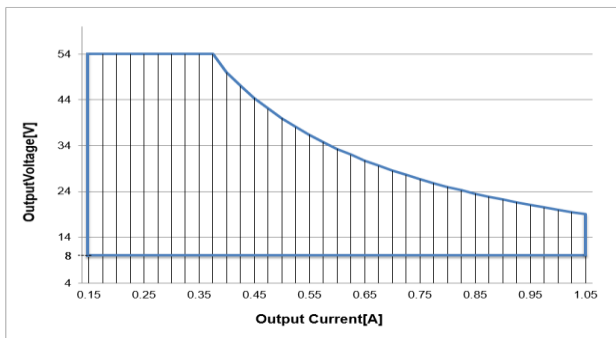
▪ Derating Curve



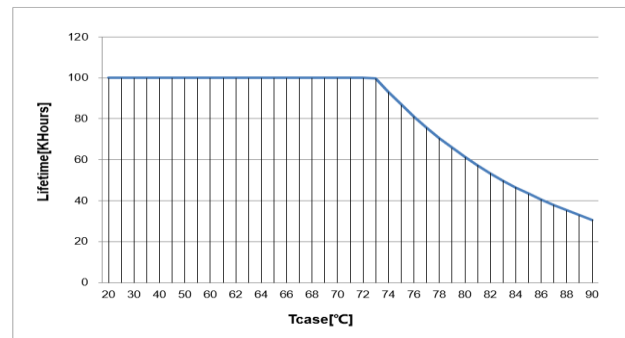
▪ Derating Curve



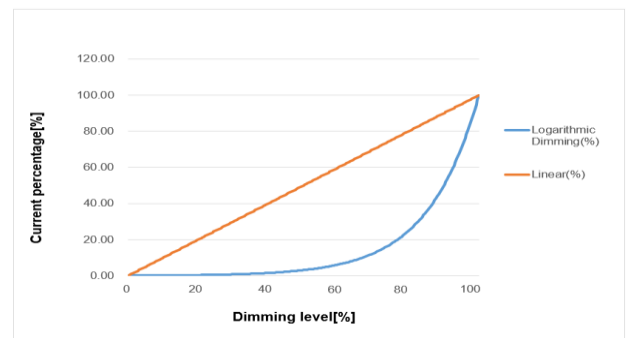
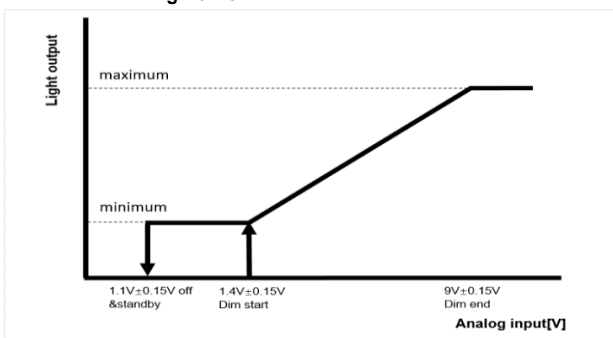
▪ V/I Curve



▪ Lifetime Vs Tc



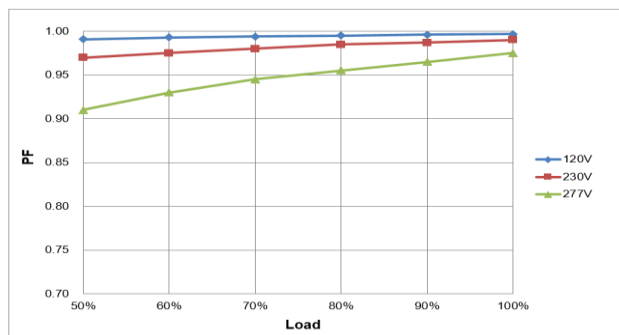
▪ Dimming Curve



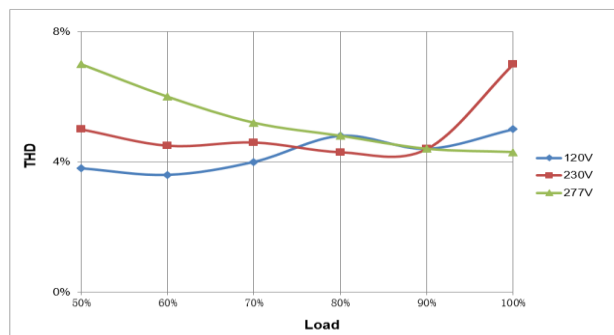
Off&standby voltage、Dim start voltage、Dim end voltage,three voltages are configurable and compatible with all dimmers in the market.
The dimming curve between dim start voltage and dim end voltage is configurable.

■ Curve

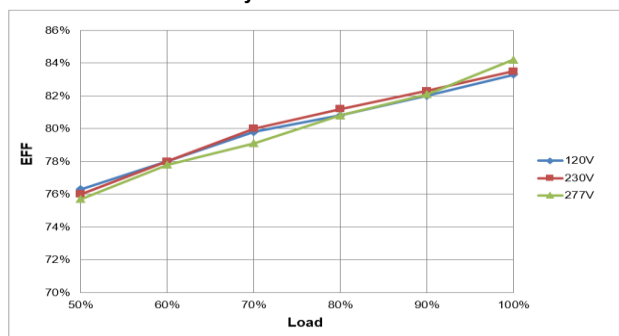
▪ PF VS Load Curve



▪ THD VS Load Curve

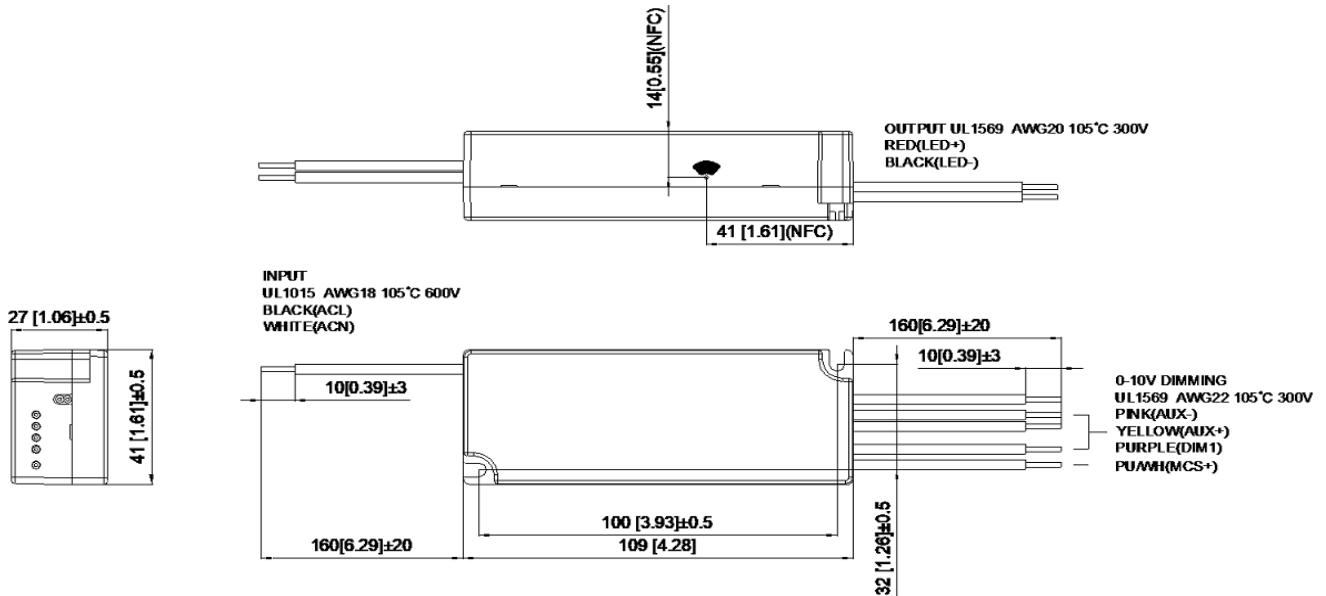


▪ Efficiency VS Load Curve

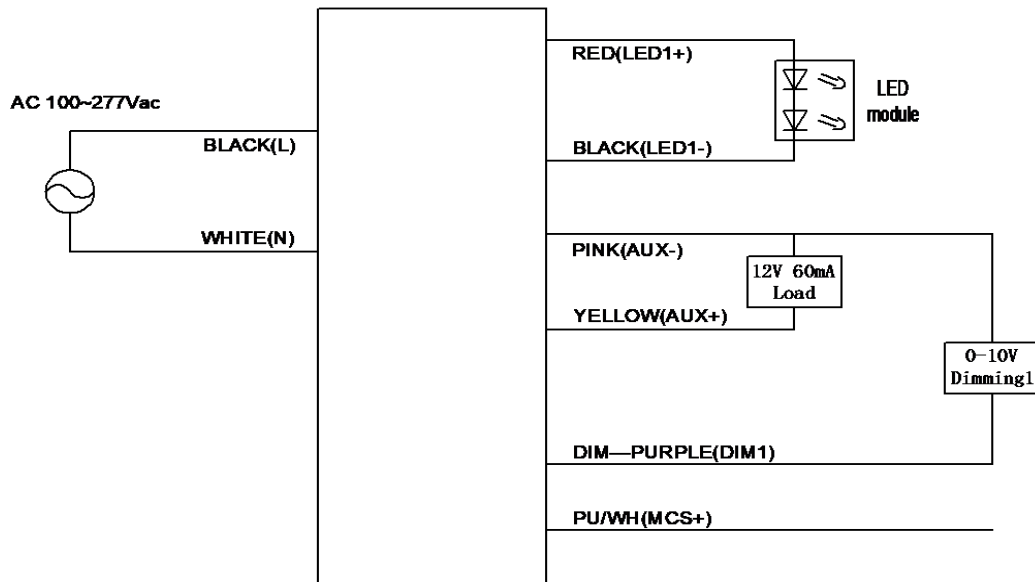


■ Mechanical Specification

▪ Dimensions (Unit: mm)



▪ Connection diagram



Dim1、Aux+,two signals are common ground(AUX-).

Solo mode: Dim1 adjusts the brightness of one.

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.