

S Series Intelligent Driver



0.1% Deep Dimming
RGBW dimmable
Human Centric Lighting

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

■ 50W S Series-4 Channels Driver-MU050S105DQI800

MOONS' 50W S Series 4 Channels LED Drivers are designed for DMX/RDM full colour dimming application. It is a wireless programmable LED driver with an isolated DMX interface to all inputs and outputs.

■ Main Characteristics

- 4 Channels, constant current driver
- Programmable operation window
- Low inrush current
- Standby power < 0.5W
- 0.1% Dimming & 65536 Dimming Steps
- DMX(RDM) dimming
- Isolated DMX dimming circuit
- 4 types of dimming curve (log 255, gamma, square, linear)
- 50W max each channel with total 50W load
- Flicker free for whole operation range

■ Benefits

- Application-oriented operating window for maximum compatibility
- Independent 4 channels for Full colour RGBW dimming application
- Excellent dynamic response performance
- Exceptionally smooth fades

■ Applications

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

■ Certification

- Comply with UL Class2

■ Electrical Specifications

Input	Efficiency (230Vac)	86% (Typical)
	Efficiency (120Vac)	86% (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)	0.56A MAX. @120Vac, 0.29A MAX. @230Vac
	Inrush Current (Typical)	<10A at 100~277Vac input 25℃ cold start at 100% condition
	Input Power (W)	67(MAX.)
	Standby Power (W)	<0.5W @100Vac/50HZ, 230Vac/50HZ, 277Vac/60HZ
	Leakage Current (MAX.)	0.75mA MAX. @277Vac
Output	Output Voltage Range (VDC)	8~50
	Output Current Range (mA)	200~1050
	Rated Power (W)	50(MAX.)
	Output Channel Number	4
	Ripple Current	<15% 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	<0.5S @ 100Vac/230Vac/277Vac
Dimming Port	DMX Dimming	Isolated DMX dimming /0.1%~100%lo ref. Dimming module diagram and dimming curve
	Safety Standard	Withstanding Voltage DMX interface ~Output 1.12KVac
Protection	Open Circuit Protection (V)	58.5
	Short Circuit	Output current of power supply equals set current
	Over Temperature	Automatic recovery
Environment	Operating Temperature	-40~+50℃
	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, EN55015, EN61000-3-2 2018, EN61000-3-3
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge L,N-FG 2.5KV, L-N 2.5KV)
Others	Lifetime	>50000 hours @Tc = 77℃ at 100% load conditions
	MTBF	500000 hours, measured at full load, 25℃ ambient temperature SR-332 Issue 3
	Dimension (LxWxH mm)	438.8x30x21.7
	Weight(g)	396

■ Dimming Performance

▪ Flicker Free

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

ii. The product utilize driver and LED load 1 and 2 and 3 and 4 is compliant with CEC

title
24 JA8 and IEEE PAR 1789-2015 Recommended Practice 1 in the dimming range.

▪ 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

Touch Setting V1.1.2.9

Load Save Read Write Setting

Current

Channel 1 mA
Channel 2 mA
Channel 3 mA
Channel 4 mA

General Setting

Channel Setting
Ch1 Ch2 Ch3 Ch4

Power On Level
Ch1 % Ch2 % Ch3 % Ch4 %

Failure Level
Ch1 % Ch2 % Ch3 % Ch4 %

Address Count
Ch1

DMX Start Address
Ch1

Power Limit
Ch1 W

Dimming Curve
Ch1

Minimum Dimming Level
Ch1 %

Device Label
Ch1

Fade Time
Ch1 ms

Network Resolution
Ch1

Failure Delay Time
Ch1 s

Other Information

Maximum Temperature
Ch1 °C

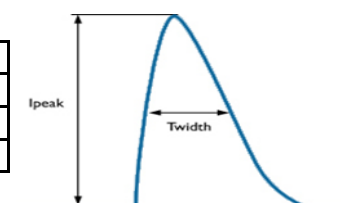
Lights On Time
Ch1

Serial Number: 00000000000000000000000000000000 Firmware version: 1.03

■ Inrush Current

▪ Ipeak & Time

Input Voltage	Inrush Current Ipeak	Inrush Current Time, measured 50% of Ipeak
120 Vac	1.92A	76us
230 Vac	4.44A	48us
277 Vac	4.8A	52us

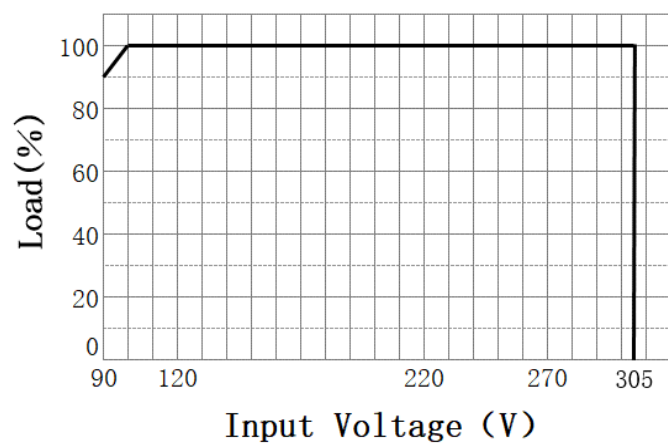


▪ Automaitc Circuit Breakers

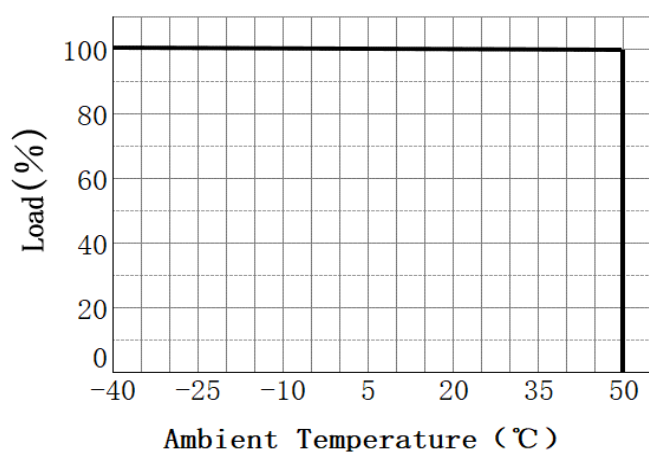
ACB Type	B10	B13	B16	B20	C10	C13	C16	C20
Number of LED Drivers @120Vac	16	21	26	32	16	21	26	32
Number of LED Drivers @230Vac	31	40	50	62	31	40	50	62
Number of LED Drivers @277Vac	36	47	58	72	36	47	58	72

■ Curve

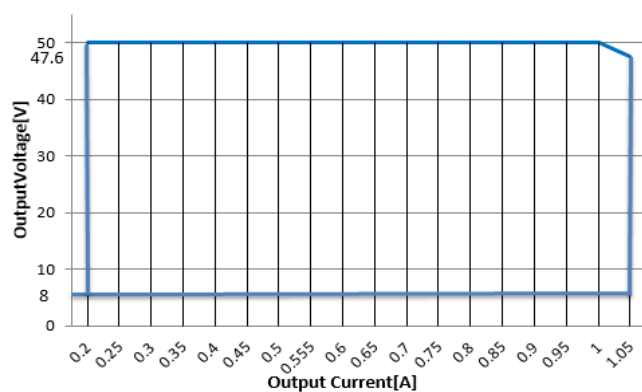
▪ Derating Curve



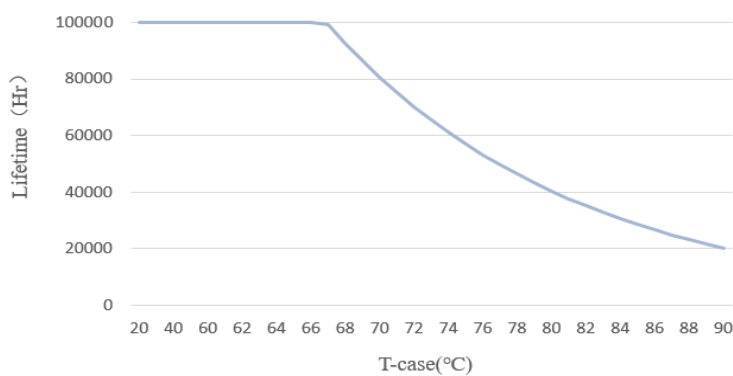
▪ Derating Curve



▪ V/I Curve(1CH for ref)

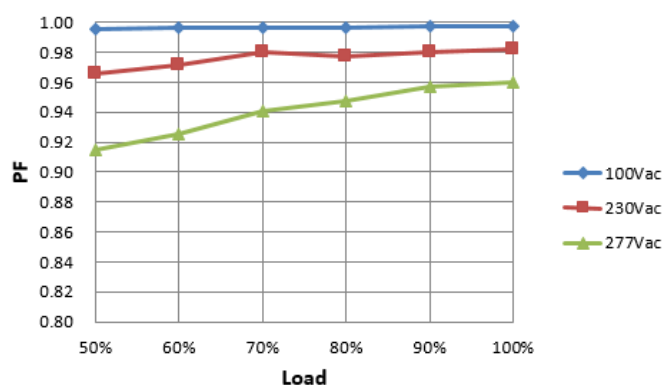


▪ Lifetime Vs Tc

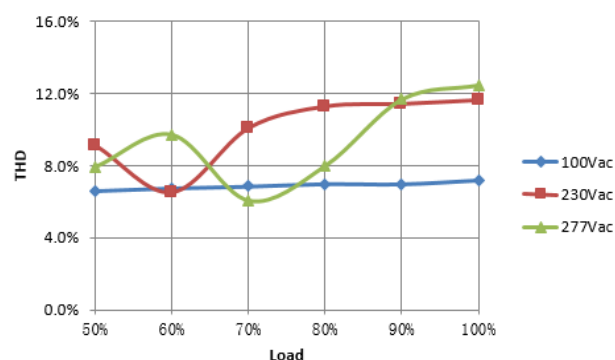


■ Curve

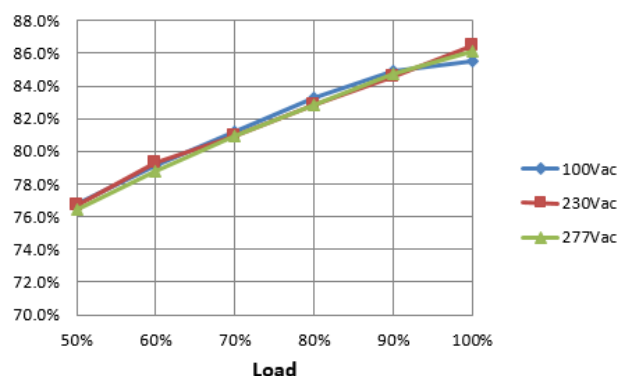
■ PF VS Load Curve(250mA*4CH)



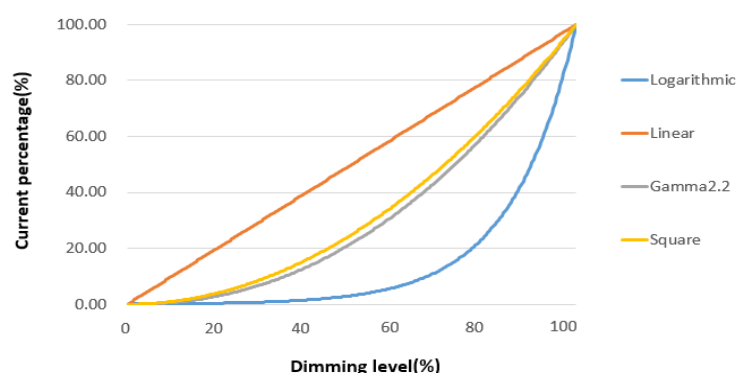
■ THD VS Load Curve(250mA*4CH)



■ Efficiency VS Load Curve(250mA*4CH)

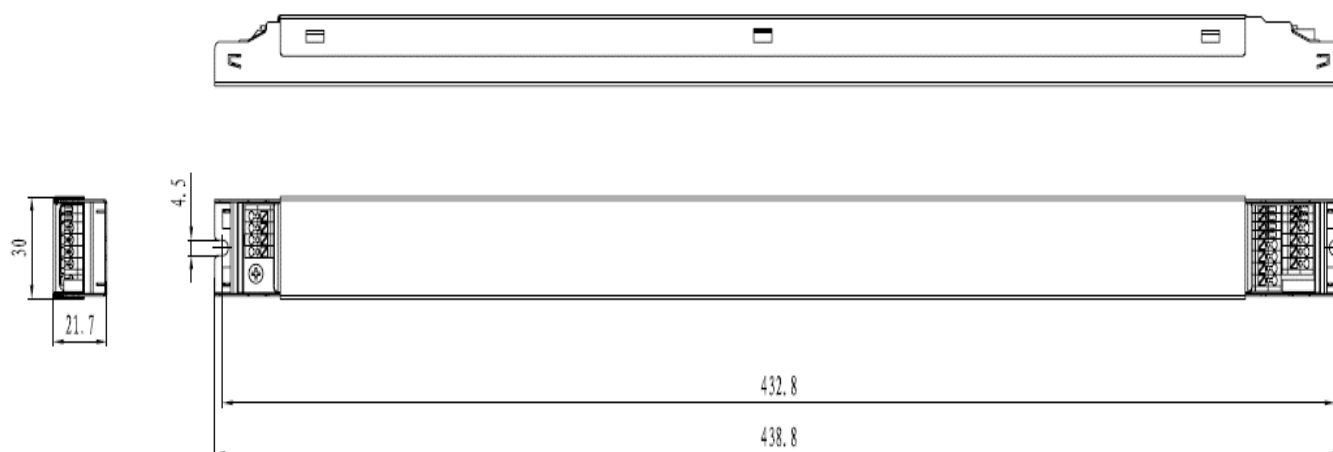


■ Dimming Curve

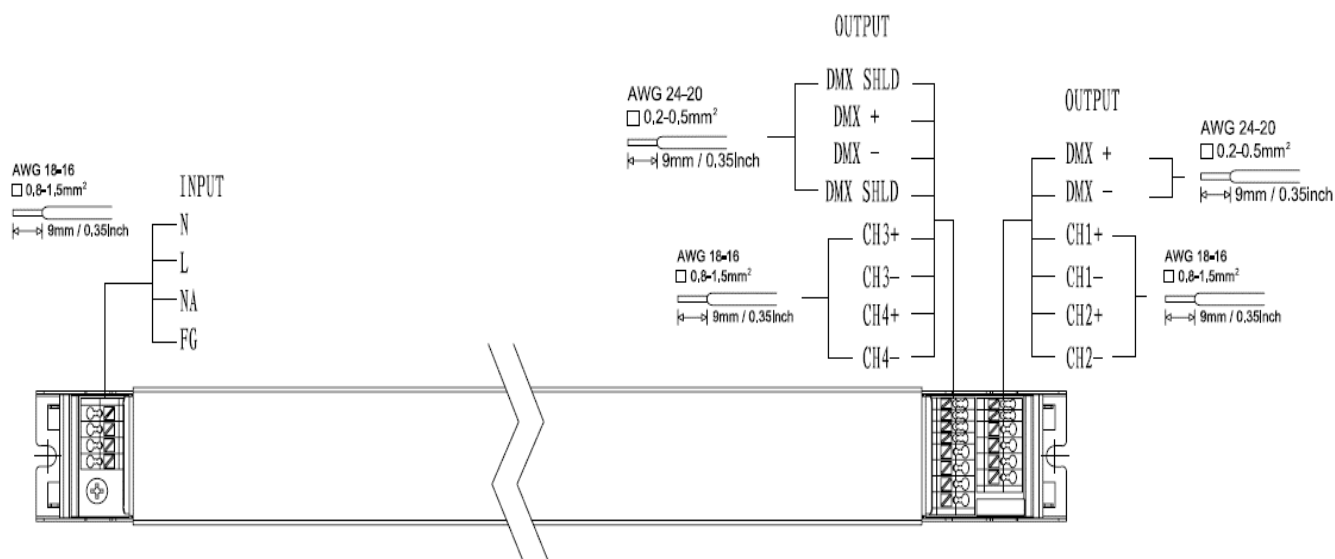


■ Mechanical Specification

• Dimensions (Unit: mm)



• Ports



! These terminals are intended for both solid and stranded wire.

! To remove wire, insert screwdriver into slot.

RoHS Compliance:

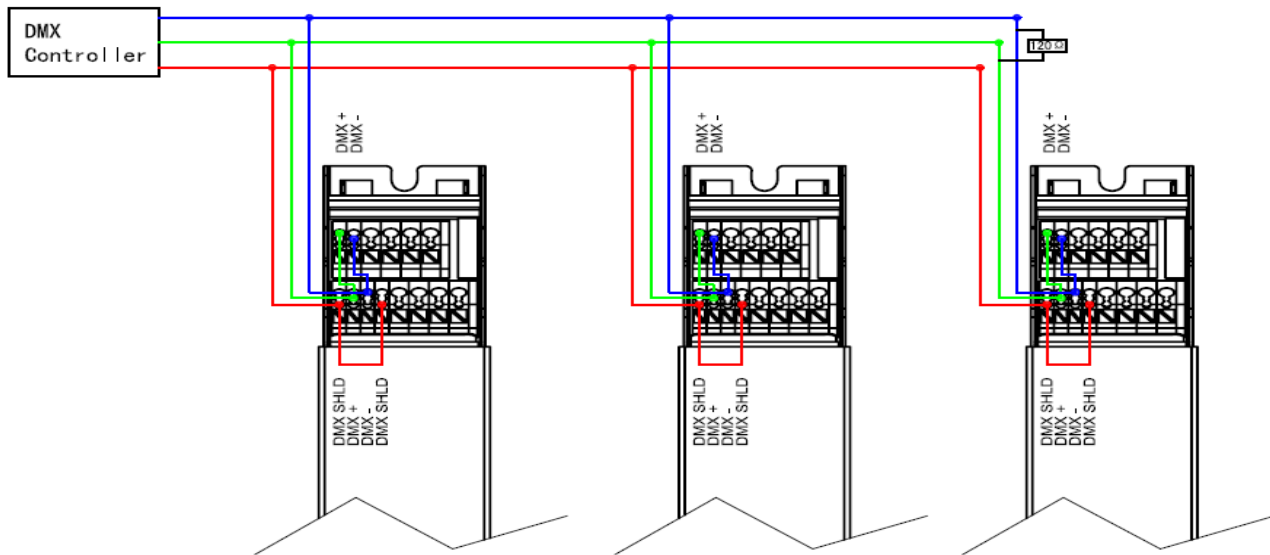
Our products comply with the European Directive 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

Date of release: 2021-09-18, Version A0

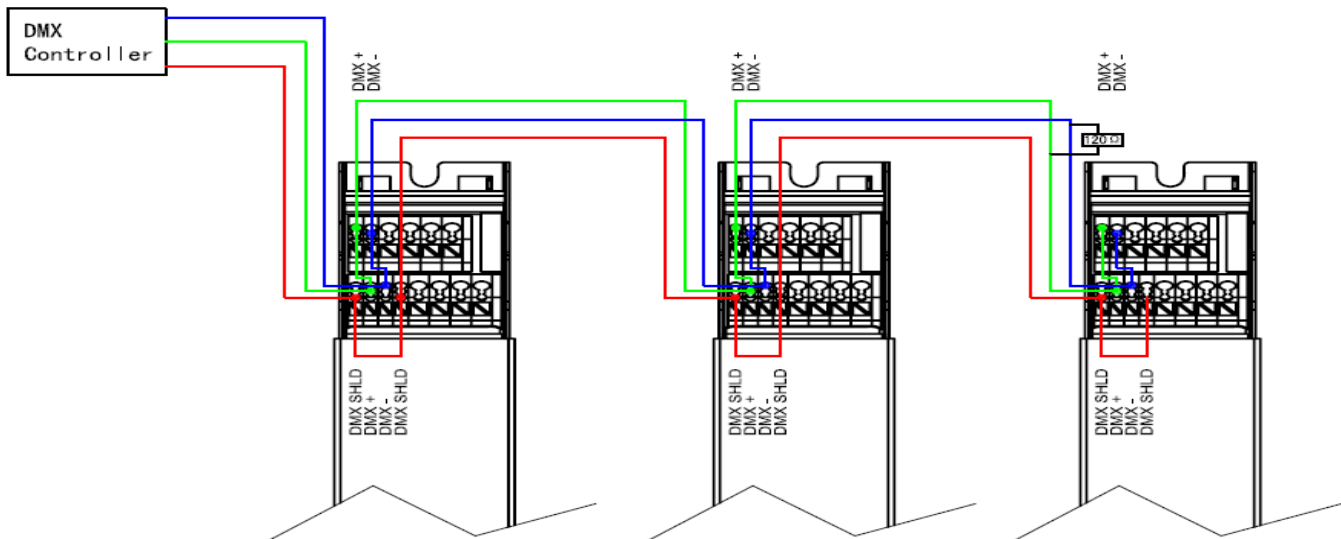
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■ Connecting DMX/RDM lighting systems

• Connecting the cable on MOONS' drivers with 'DMX +' terminals(DMX +, DMX -, and DMX shield). At the last driver, a 120Ω resistor must be connected between the DMX + and DMX - pins of the driver as termination. The DMX interface of the driver is compatible with RDM.



• Connecting the cable on MOONS' drivers with 'DMX +' and 'DMX -' terminals. In order to facilitate the customer wiring, we have two sets of DMX interfaces, and the two DMX interfaces are short-connected by jumpers inside the driver. At the last driver, a 120Ω resistor must be connected between the DMX + and DMX - pins of the driver as termination. The DMX interface of the driver is compatible with RDM.



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