

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-MU050S105DQI600

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 (logarithmic, 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
- DMX Bypass function (Option)

■ 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](#)

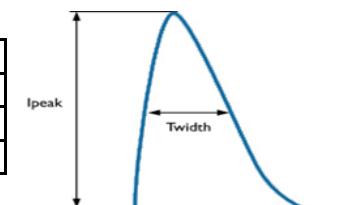
▪ 1mA Current Programmable Step

▪ Default Factory Setting

■ 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

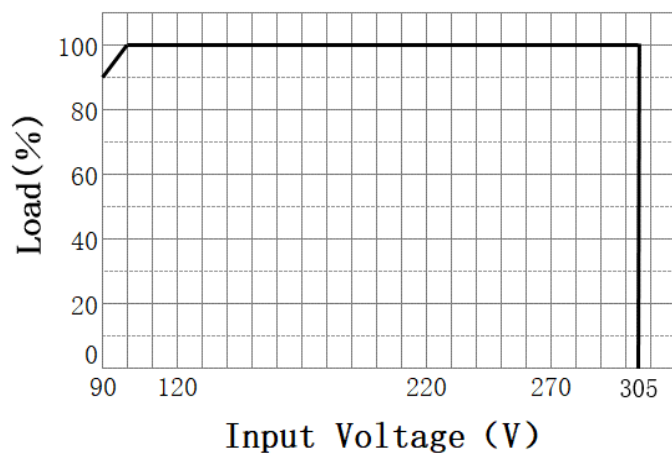


▪ Automaitc Circuit Breakers

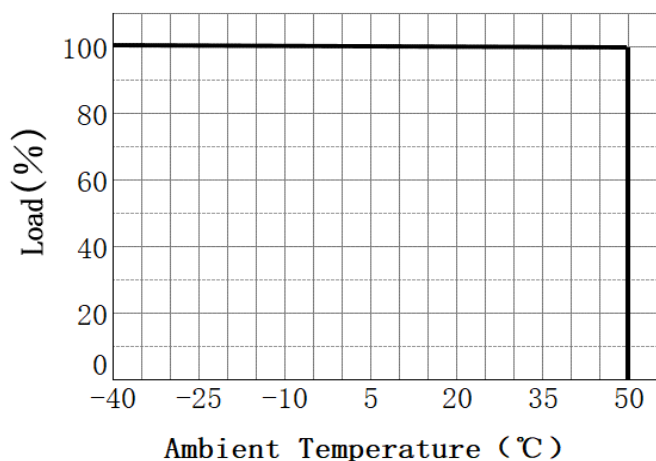
ACB Type	B10	B13	B16	B20	C10	C13	C16	C20
Number of LED Drivers @120Vac	16	21	26	32	16	21	26	32
Number of LED Drivers @230Vac	31	40	50	62	31	40	50	62
Number of LED Drivers @277Vac	36	47	58	72	36	47	58	72

■ Curve

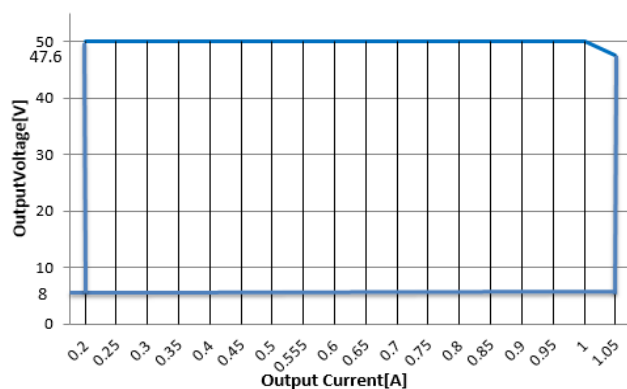
▪ Derating Curve



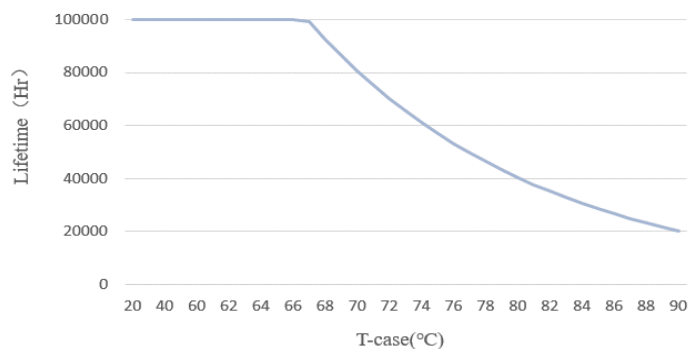
▪ Derating Curve



▪ V/I Curve(1CH for ref)

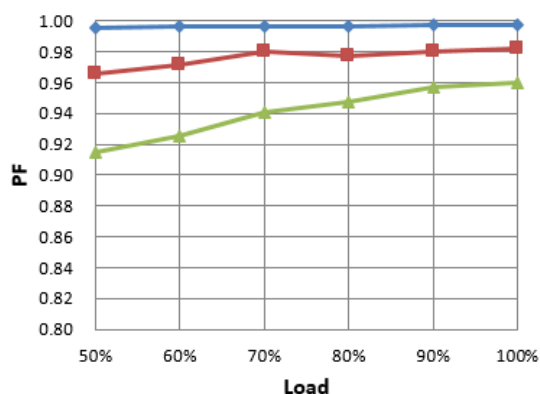


▪ Lifetime Vs Tc

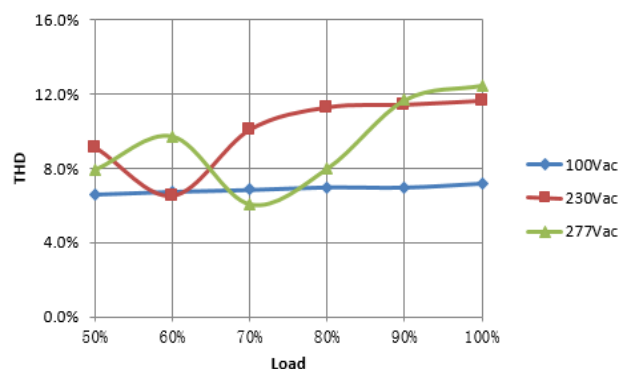


■ Curve

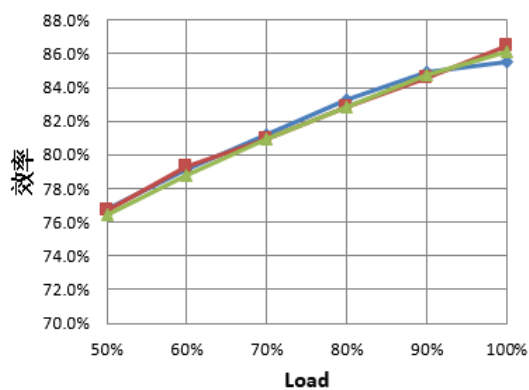
▪ PF VS Load Curve(250mA*4CH)



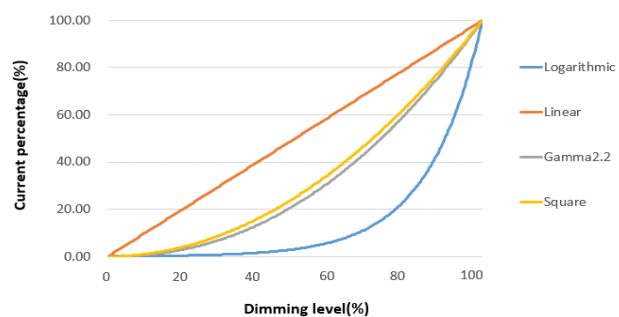
▪ THD VS Load Curve(250mA*4CH)



▪ Efficiency VS Load Curve(250mA*4CH)

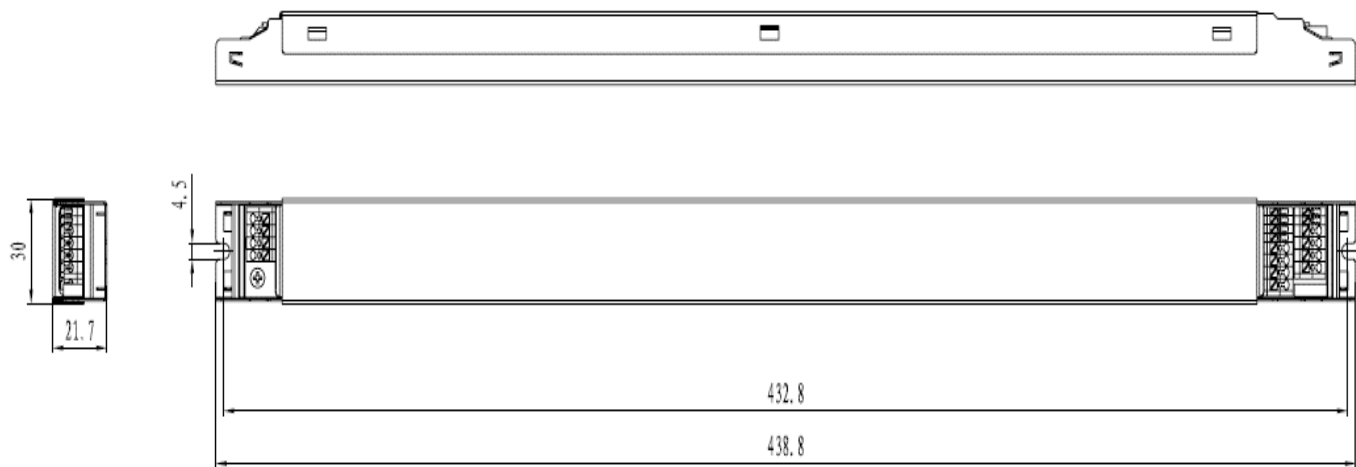


▪ Dimming Curve

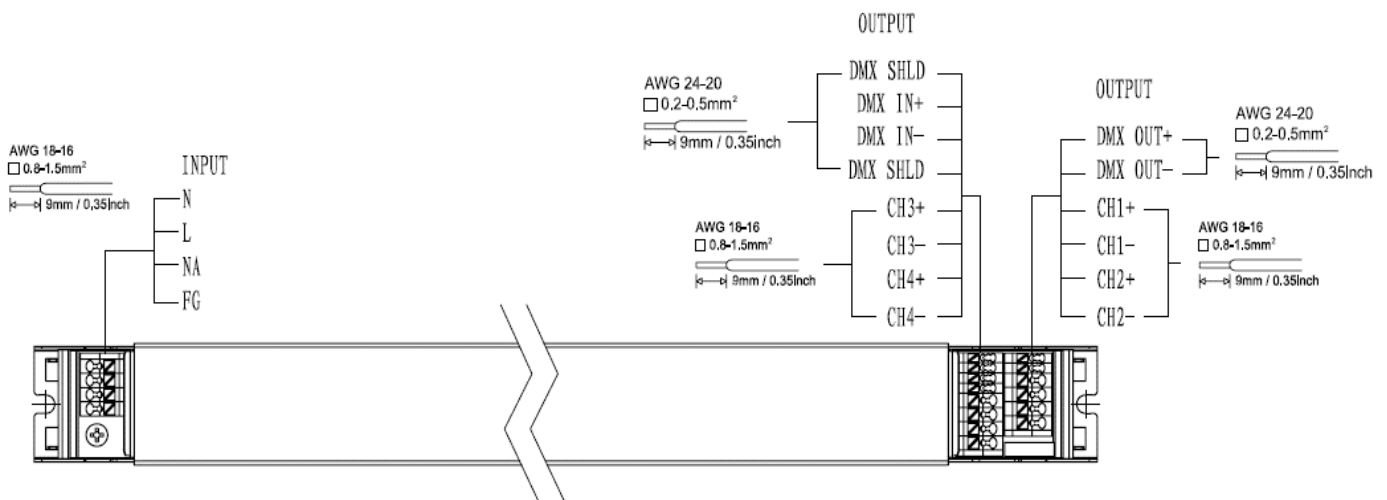


■ Mechanical Specification

■ Dimensions (Unit: mm)



■ Ports



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

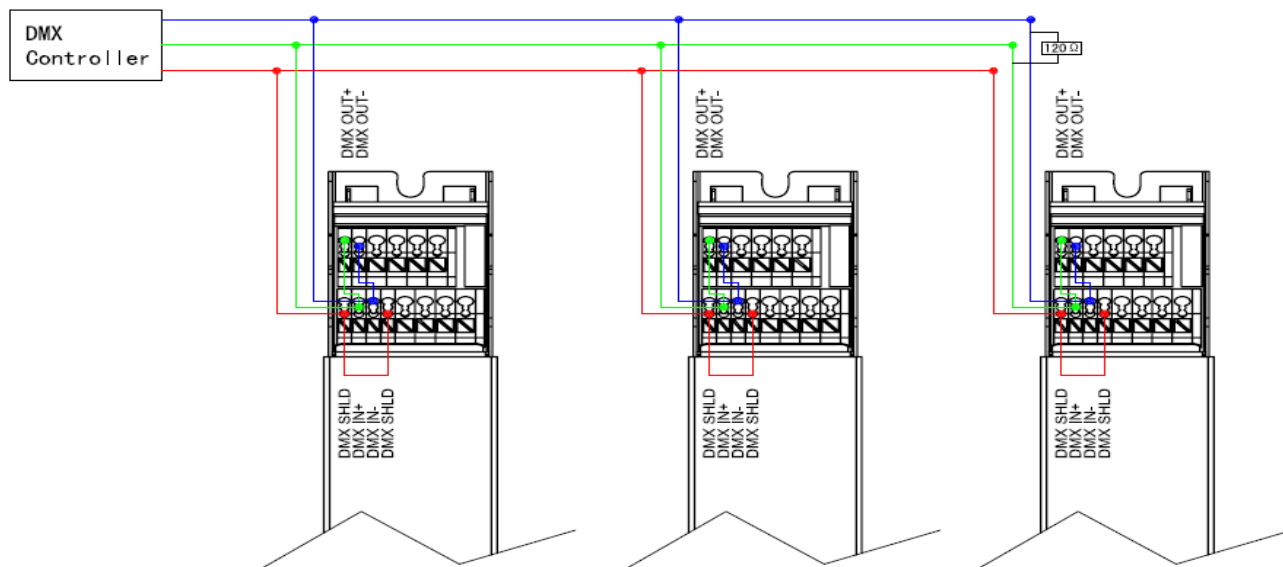
! To remove wire, insert screwdriver into slot.

RoHS Compliance:

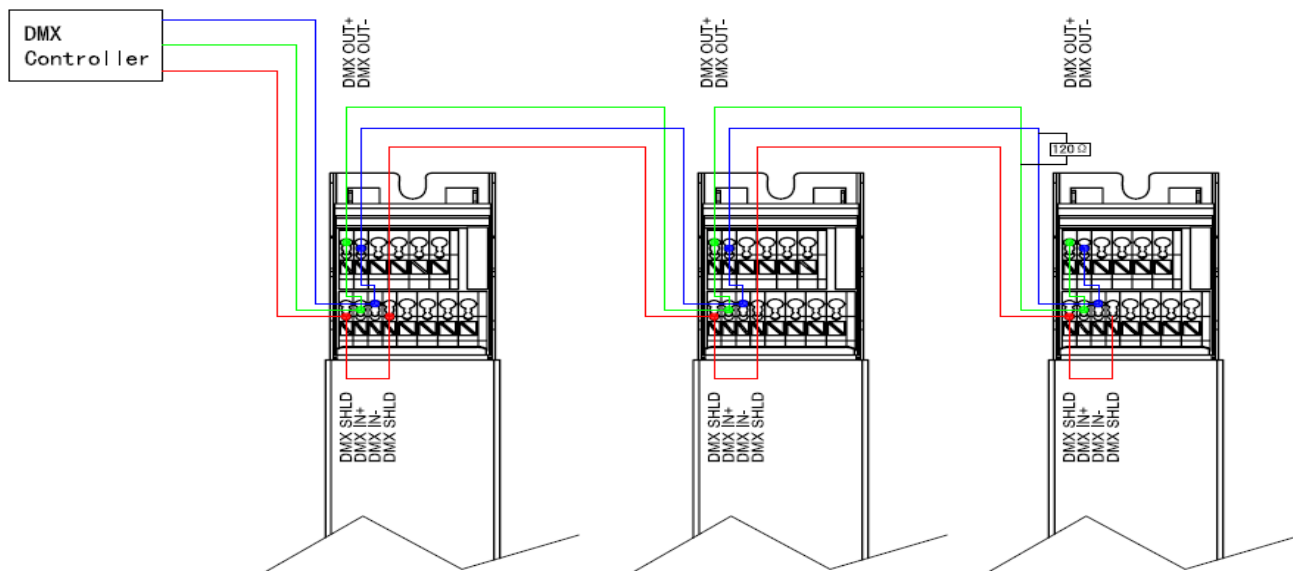
Our products comply with the European Directive 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

■ Connecting DMX/RDM lighting systems

▪ Connecting the cable on MOONS' drivers with 'DMX IN' terminals only. Drivers with only one set of DMX terminals(DMX IN +, DMX IN -, and DMX shield)use a standard DMX bus mode . At the last driver, a 120Ω resistor must be connected between the DMX IN + and DMX IN - pins of the driver as termination. This method is compatible with RDM.



▪ Connecting the cable on MOONS' drivers with 'DMX IN' and 'DMX OUT' terminals. MOONS' drivers have an extra set of DMX terminals (DMX OUT +, DMX OUT - and DMX shield) in addition to the 'DMX in' terminals,customers can automatically assign addresses to drivers using smartKeys , after the address is assigned,the AC power of the driver is turned off and on again, the relay between DMX IN and DMX out is closed, and the DMX network switches to bus mode. In normal operation, the relay inside the drive is closed, and the network is always in bus mode.At the last driver, a 120Ω resistor must be connected between the DMX IN + and DMX IN - pins of the driver as termination.This method is compatible with RDM.



! When 32 pcs drivers' signal wires are wired as Daisy chain topology with 'DMX in' and 'DMX out', user can use MOONS' Smartkey and Smartkey Network Software to define first driver's address, other drivers will be addressed according to drivers' order automatically.Please refer to SmartkeyNetwork_Software User Manual [Download](#)