

S Series Intelligent Driver



0.1% Deep Dimming
DALI dimmable
Human Centric Lighting

Flicker Free
Meet :
CEC title 24 JA8 &
JA10

■ 50W S Series-1 Channel Driver - MU050S150AQi3020

MOONS' 50W S Series 1 Channel LED Drivers are designed for DALI dimming application. It is a wireless programmable LED driver with an isolated DALI interface to all inputs and outputs.

■ Main Characteristics

- 1 Channel, constant current driver
- Programmable operation window
- Low inrush current
- Standby power < 0.2W
- 0.1% Dimming & 65536 Dimming Steps
- DALI dimming
- Power measurement
- DALI Bus Power Supply
- 2 types of dimming curve (logarithmic, linear)
- Maximum output power 50W
- Flicker free for whole operation range

■ Benefits

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

■ Applications

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

Certification

- Comply with DALI-2 and D4i
- Comply with IEC62386-101 (2.0), 102 (2.0), 103 (2.0), 207 (2.0)
- Comply with IEC62386-250, 251,252, 253
- Comply with UL Class2
- Comply with Energy Star 2.2
- Comply with UL, CE, ENEC



Electrical Specifications

Input	Efficiency (230Vac)	87% (Typical)
	Efficiency (120Vac)	86.5% (Typical)
	Voltage Range (Vac)	108~305
	Rated Input Voltage (Vac)	120~277
	Frequency Range (Hz)	50/60
	Power Factor	>0.9 @ 120~277Vac 50/60Hz input, with 50%~100% load conditions
	THD	<20% @ 120~277Vac 50/60Hz input, with 50%~100% load conditions
	AC Current (Typical)	0.6A MAX. @120Vac, 0.3A MAX. @230Vac
	Inrush Current (Typical)	<10A at 120~277Vac input 25℃ cold start at 100% condition
	Input Power (W)	65(MAX.)
	Standby Power (W)	<0.2W @120Vac/60HZ, 230Vac/50HZ, 277Vac/60HZ
	Leakage Current (MAX.)	0.75mA MAX. @277Vac
Output	Output Voltage Range (VDC)	8~54
	Output Current Range (mA)	100~1500
	Rated Power (W)	50(MAX.)
	Output Channel Number	1
	Ripple Current (PK-PK)/AV	<15% 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	540ms~660ms @ 120Vac/230Vac/277Vac for DALI 2.0
Power measurement	Input Power Tolerance	5% or 0.5W whichever is greater – accuracy
Dimming Port	DALI Bus Power Supply	15VDC ± 30%, < 56.5mA
	DALI Dimming	a. Range: 0.1% to 100% b. Soft-on, Fade-to-Black c. optional dimming curve: logarithmic/linear
Protection	Open Circuit Protection (V)	58.5
	Short Circuit	Output current of power supply equals set current
	Overload protection	Automatic recovery
	Over Temperature	Automatic recovery
Environment	Operating Temperature	-25~+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 ClassC, EN61000-3-3, J55015
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge L, N-FG: 2KV, L-N: 2KV)
Others	Lifetime	>50000 hours @Tc =70℃ 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)	359 x 30 x 21.5
	Weight	324g

■ Dimming Performance

▪ Flicker Free

- Meet: CEC title 24 JA8 & JA10, IEEE PAR 1789-2015
- The product is compliant with CEC title 24 JA8 and IEEE PAR 1789-2015 Recommended Practice 1 in the dimming range from 5mA to 100%.

▪ Dimming Method

in the range of 250~1500mA, the output current is in constant current reduction (CCR) mode
In the range of 0~250mA, the output current is in pulse width modulation (PWM) mode, and the PWM frequency 7.2KHZ.

■ Programmable Performance

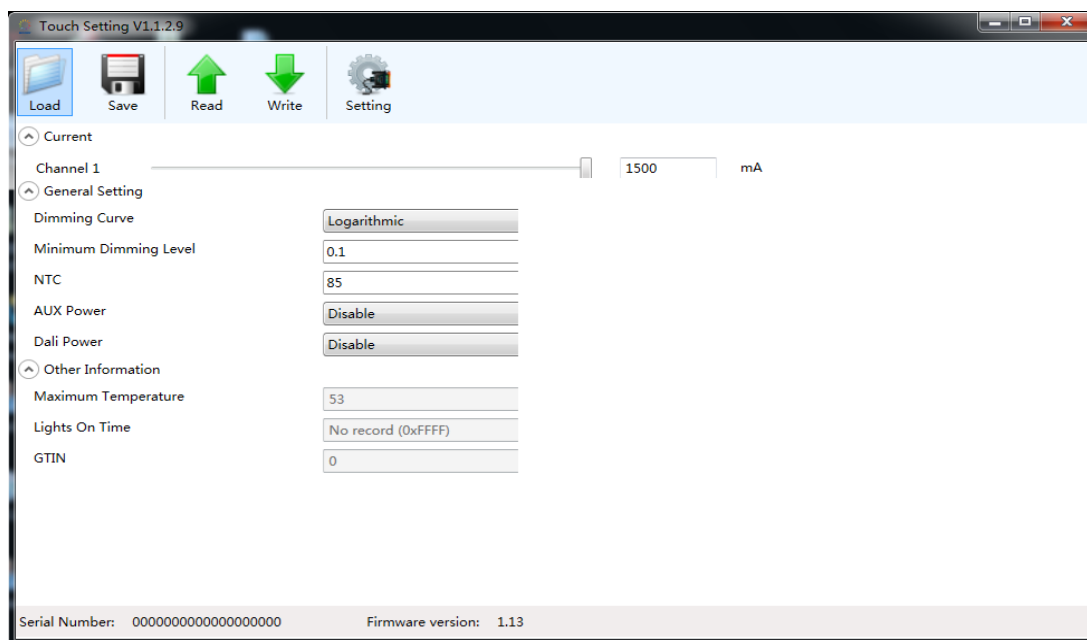
▪ Touch Setting

Program driver's parameters without cable.

[Download Software](#)

▪ 1mA Current Programmable Step

▪ Default Factory Setting

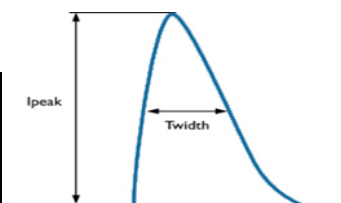


GTIN-13 Code: 6971481490601

■ Inrush Current

▪ Ipeak & Time

Input Voltage	Inrush Current Ipeak	Inrush Current Time, measured 50% of Ipeak
120 Vac	3.36A	54us
220 Vac	6.48A	52us
277 Vac	7.8A	50us

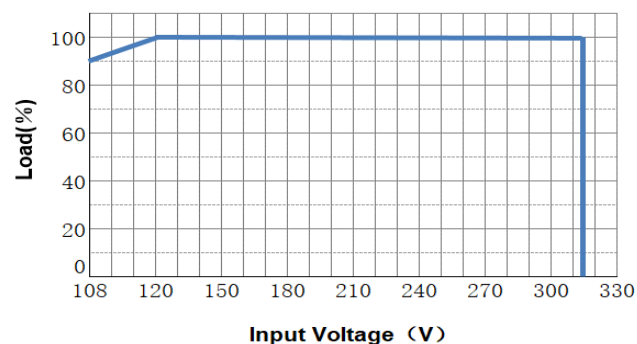


▪ Automaitc Circuit Breakers

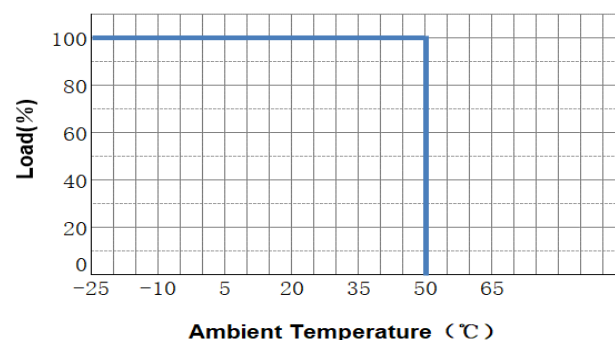
ACB Type	B10	B13	B16	B20	C10	C13	C16	C20
Number of LED Drivers @120Vac	22	29	35	44	22	29	35	44
Number of LED Drivers @220Vac	42	55	67	84	42	55	67	84
Number of LED Drivers @277Vac	51	67	82	103	51	67	82	103

■ Curve

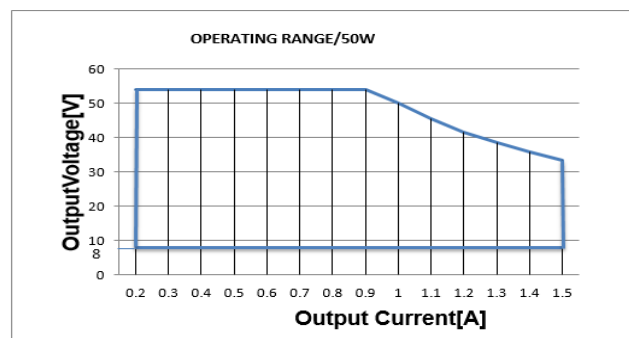
▪ Derating Curve



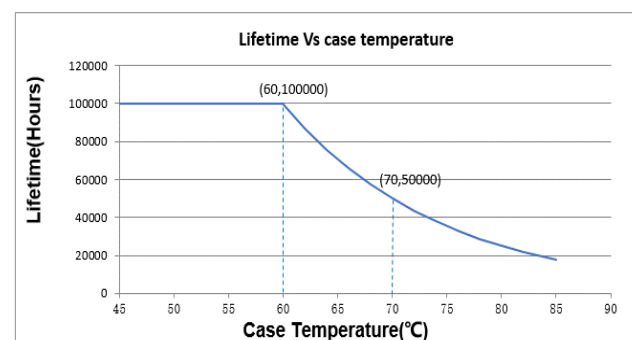
▪ Derating Curve



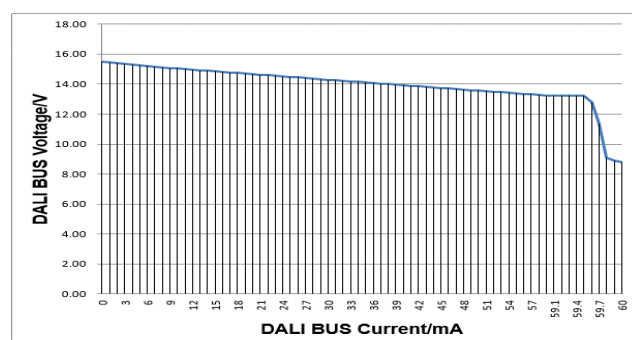
▪ V/I Curve



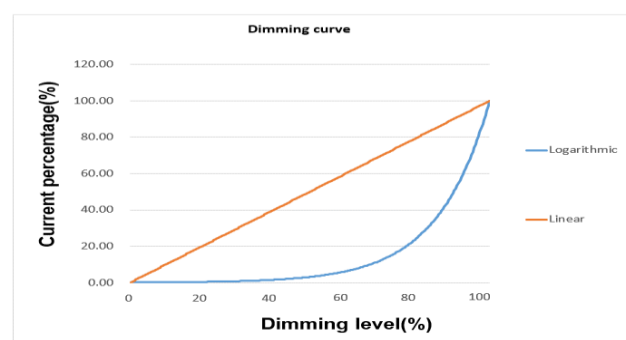
▪ Lifetime Vs Tc



▪ DALI Power Supply VI Curve

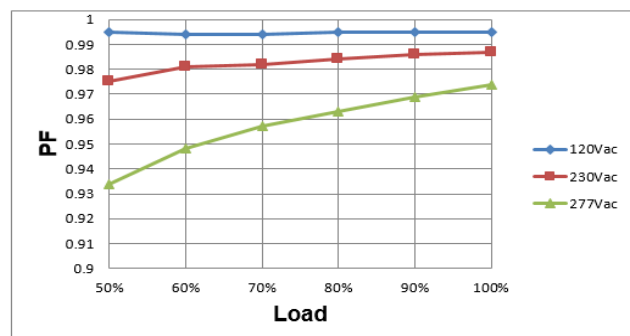


▪ Dimming Curve

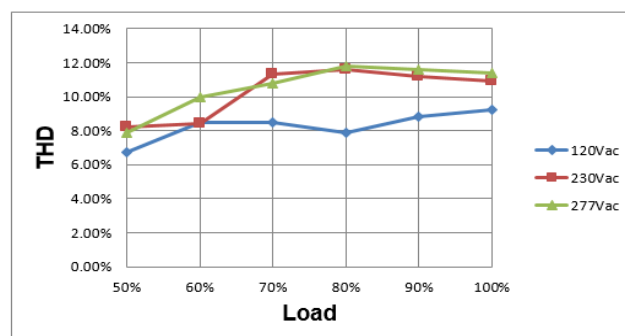


■ Curve

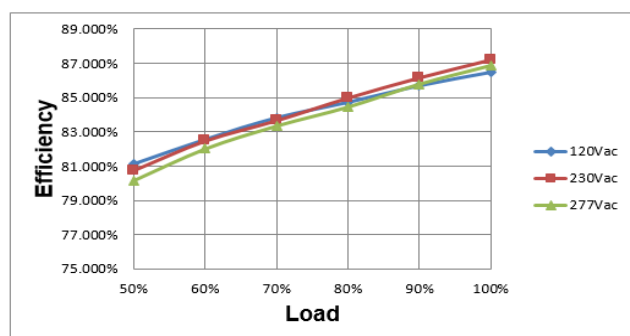
■ PF VS Load Curve



■ THD VS Load Curve

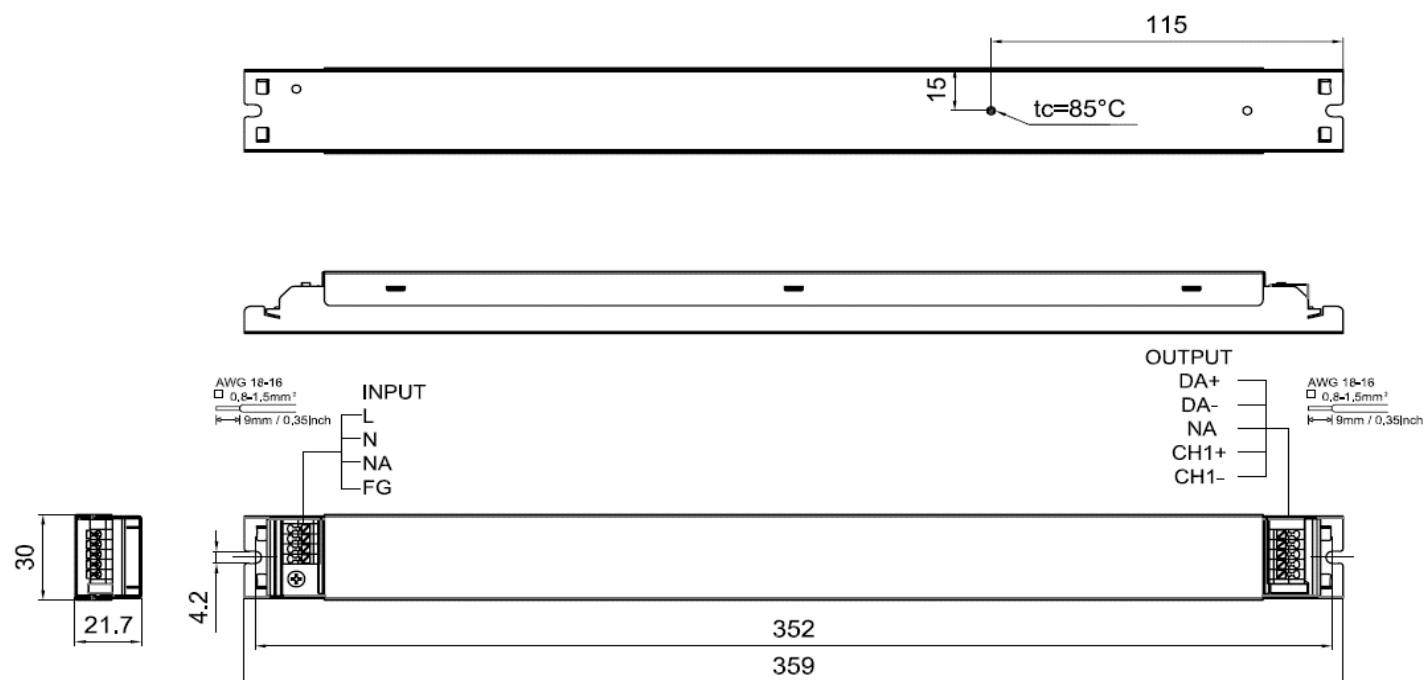


■ Efficiency VS Load Curve

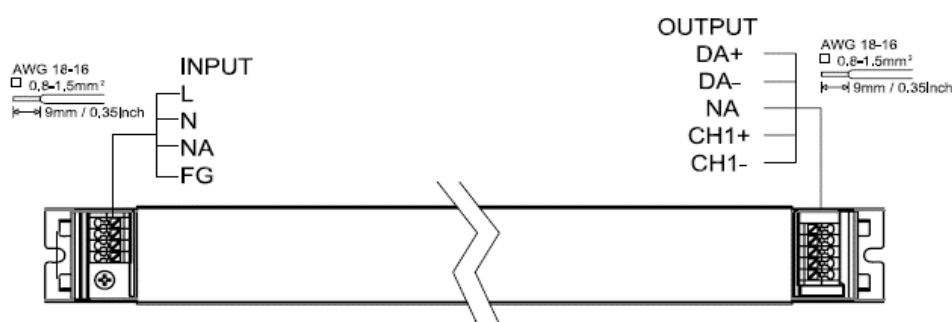


■ Mechanical Specification

▪ 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: 2021-01-26, Version A1

5/5