

# MU050I180AQI21

## Features

- 1 LED channel, 100% dimming Output Current can be set to from 200mA to 1800mA
- Soft light Dimming Range 0.1%~100%  
For linear dimming curve, the minimum dimming level is 0.1%  
For logarithmic dimming curve, the minimum dimming level is 0.1%
- Support DALI Dimming
- Dim-to-off with Standby Power<0.3 W
- Constant Power Maximum is 50W
- Protection: OTP, SCP, NLP,OPP
- Mode of wiring: On both ends of wiring
- UL Class 2,IP20
- 5-year warranty



403 × 30 × 21mm

## Electrical Specifications

Rated input voltage range	90-305 VAC
Maximum input voltage range	90 - 305 V
Input voltage frequency	50 / 60 Hz
Leakage current	<750uA
Output voltage range	8 - 50 V
Maxium input power	<70W
Effiency typical value ( 230V,50Hz,full loaded① )	85 - 87 %
Power factor ( 230V,50Hz,full loaded① )	>0.95
Stand-by power consumption②	<0.3W
THD(230V,50Hz,full loaded① )	<10%
Start-up time ( 230V,50Hz,full loaded )	<0.5S
Start-up time ( 120V,50Hz,full loaded )	<1S
The maximum setup current precision	± 5%
Input inrush current	<15A
Dimming range	0.1 -100%
Withstand Voltage I/P-O/P	3750 V
Withstand Voltage I/P-FG	1875 V
Withstand Voltage O/P-FG	500V
Surge L/N-earth , L-N	2KV,1KV
Operating Temp., Humidity	-25℃~+65℃,20%~95%RH
Storage Temp.,Humidity	-40℃~+85℃,10%~95%RH
Lifetime	≥50000hours@Tc=78℃ at 120VAC input,100% load
Weight	360g
Reference dimension	403 × 30 × 21mm

## Model Specifications

Type	Output Current	Output Voltage	Output Power	Input Power (230V,50Hz)	Efficiency	Case Temperature	Ambient Temperature
MU050I180AQI21	1000 mA	50 V	50.00 W	56.20 W	89.0%	90℃	-25 - 65℃
	1050 mA	48 V	50.40 W	56.80 W	88.7%	90℃	-25 - 65℃
	1100 mA	45 V	49.50 W	56.30 W	87.9%	90℃	-25 - 65℃
	1150 mA	43 V	49.45 W	56.30 W	87.8%	90℃	-25 - 65℃
	1200 mA	42 V	50.40 W	57.20 W	88.1%	90℃	-25 - 65℃
	1250 mA	40 V	50.00 W	57.00 W	87.7%	90℃	-25 - 65℃
	1300 mA	38 V	49.40 W	56.40 W	87.6%	90℃	-25 - 65℃
	1350 mA	37 V	50.00 W	57.00 W	87.7%	90℃	-25 - 65℃
	1400 mA	36 V	50.40 W	57.50 W	87.7%	90℃	-25 - 65℃
	1450 mA	34 V	49.30 W	56.50 W	87.3%	90℃	-25 - 65℃
	1500 mA	33 V	49.50 W	56.80 W	87.1%	90℃	-25 - 65℃
	1550 mA	32 V	49.60 W	57.00 W	87.0%	90℃	-25 - 65℃
	1600 mA	31 V	49.60 W	57.00 W	87.0%	90℃	-25 - 65℃
	1650 mA	30 V	49.50 W	57.00 W	86.8%	90℃	-25 - 65℃
	1700 mA	29 V	49.30 W	56.90 W	86.6%	90℃	-25 - 65℃
	1750 mA	29 V	50.75 W	58.40 W	86.9%	90℃	-25 - 65℃
	1800 mA	28 V	50.40 W	57.90 W	87.0%	90℃	-25 - 65℃

\*1: Load:50V\*1A

\*2: Stand-by power consumption 110V<50mW, 230V<200mW

## Safety & EMC Compliance

CUL	UL8750, UL1310, CAN/CSA-C22.2 No.223-M91
CE	EN 61347-1, EN61347-2-13
Conducted Emissions	FCC Part15 Class B / EN55015
Radiated Emissions	FCC Part15 Class B / EN55015
Harmonic Current Emissions	EN61000-3-2
Voltage Fluctuations and Flicker	EN61000-3-3
Electrostatic Discharge	EN61000-4-2
RFE Field Susceptibility	EN61000-4-3
Electrical Fast Transient	EN61000-4-4
Conducted Radio Frequency	EN61000-4-6
Power Frequency Magnetic Field Test	EN61000-4-8
Voltage Dips	EN61000-4-11
Electromagnetic Immunity	EN61547

## Function Description

- DALI Standards

Comply with IEC62386-102(2.0), IEC62386-207.

- SwitchDIM (with memory function)---push dimming

SwitchDIM means that you can use two lines to connect L and N to DA+ and DA- respectively, and add a switch in series to either of the two lines to complete the function of ON/OFF and dimming. Short press(<0.6s) can turn on/off the driver, and long press can adjust the dimming level. When several drivers are connected together and controlled by one switch, press the switch for 10s, all the drivers are dimmed to 50% at the same time.

- MCS technology

Connect Smartkey to the driver through MCS( Multifunctional Configuration Settings) ports. With MOONS' Configurator software, you can set the MAX current of the driver( each step is 1 mA),dimming curve type etc.Please refer to specification of Smartkey to get specific information.

- Temperature Detection

In order to protect the LED, the temperature of LED is detected by a NTC. When the temperature exceeds the point which can be set by Smartkey, the output current can be decreased automatically, but not less than 25%.

- Constant Output Power

The driver can satisfy the curve of constant output power within a large range of output current and voltage.

- Protection

Thermal Protection

When the temperature of the inside PCB exceeds 110℃ , output current will be decreased to 50%. And it can not recover until the temperture drops to 70℃ .

Short-circuit Protection

Once the output short-circuits, the output will be cut off automatically. Then the driver will try to restart every 4s.

No-load Protection

The driver operating with no load will not be damaged, and it will try to restart every 4s. So the driver supports hot plug in.

Over-Power Protection

If the total power exceeds 60W, the output current of each channel will decrease to 50% , and then the maximum output power is increased to 50W gradually.

- DALI Signal Abnormality

If the signal of DALI is abnormal, including open-circuit and short-circuit, the output will recover to the preset maxium value.

- Online Update

Use smart key to connect PC and the driver to update the firmware.

Please refer to the specification of Smart key.

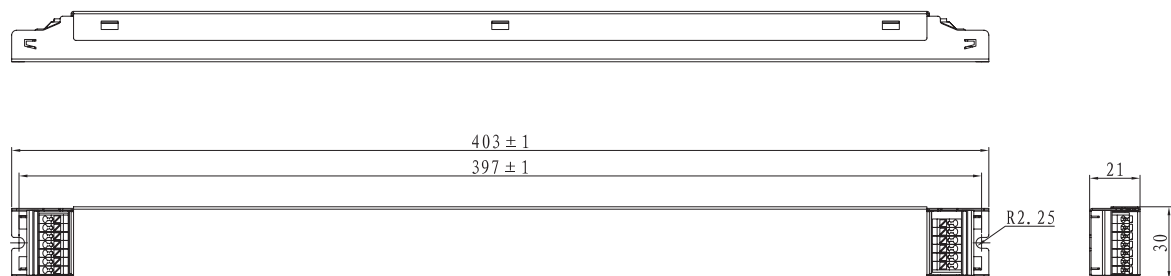
- Daisy-Chain

DALI dimming ports has 2 groups of DA+ and DA-, which support daisy-chain.

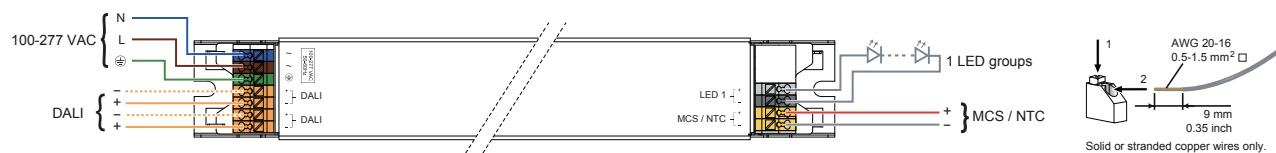
\*1: Recommended manufacture and type of the NTC

Manufacture: Thinking TSM2A473J409ARZA(SMD) \ VISHAY NTCS0805e4473JXT \ MURATA NCP21WB473J03RA

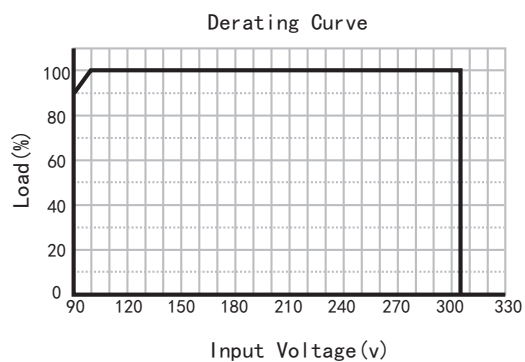
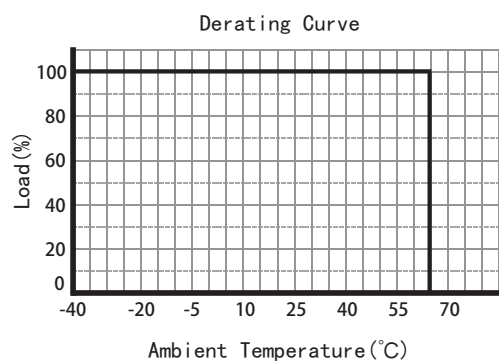
## Mechanical Outline (unit: mm)



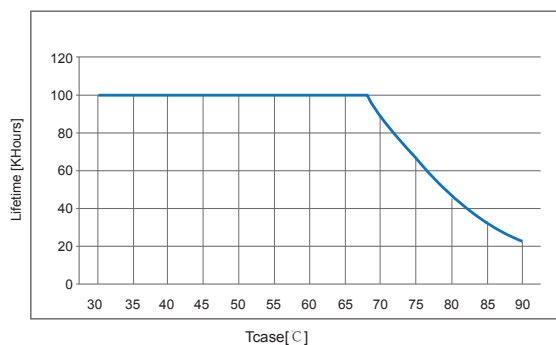
## Ports



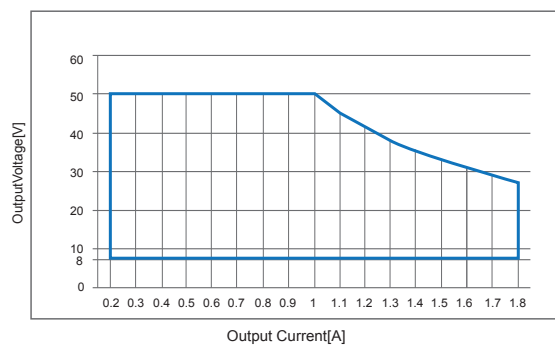
## Test curve



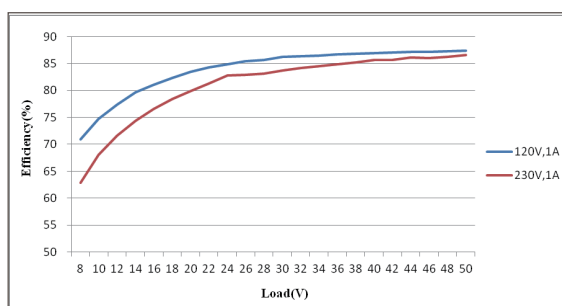
Lifetime VS.Tcase



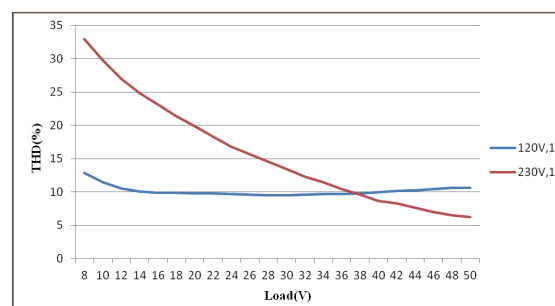
V/I OPERATING RANG



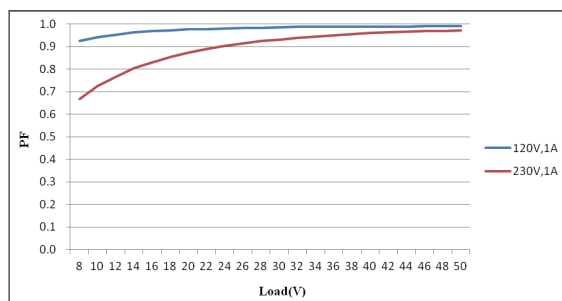
Efficiency Curve



Current Total Harmonic Curve



Power Factor Curve



DALI Curve

