



■ Features

- ◆ Input voltage: 20~60Vdc
- ◆ Isolated DMX/RDM Constant Current Driver
- ◆ High efficiency: up to 94% TYP.
- ◆ Waterproof (IP66)
- ◆ Power output 85W MAX (20V>Vin-Vout≥5V)
- ◆ Constant Current / DMX Dimming
- ◆ Output current can be set from 200~700mA
- ◆ Protection: SCP, OTP,OPP
- ◆ Life time is 80000 hours(Case temperature 75℃)
- ◆ According with UL, CE, ENEC

■ Specification

Model (PR085N070DQ_DMX Isolated)						
Electrical Specification:	Maximum input voltage range		20~60	Vdc		
	Output voltage range		8~52	Vdc		
	Output current		200~700	mA		
	Maximum output power		85	W		(5V≤Vin-Vo<20V)②
	Efficiency typical value (60Vdc/85W,full loaded②)		94~96	%		
	Start-up time		<0.5	S		
	The maximum setup current precision		±5	%		
	Ripple current (full loaded)		200	mA		
	Dimming range		0.1~100	%		
	Ambient temperature		-35~+50	℃		
Type	Output Current (every channel)	Output Voltage (every channel)	Output Power (total)	Input Voltage (MAX)	Efficiency	Ambient Temperature
PR085N070DQ_DMX Isolated	200mA	52V	41.60W	60V	94.04%	25℃
	250mA	52V	52.00W	60V	94.06%	25℃
	300mA	52V	62.40W	60V	95.12%	25℃
	350mA	52V	72.80W	60V	95.48%	25℃
	400mA	52V	83.20W	60V	95.23%	25℃
	450mA	47V	84.60W	60V	94.98%	25℃
	500mA	42V	84.00W	60V	94.73%	25℃
	550mA	38V	83.60W	58V	94.48%	25℃
	600mA	35V	84.00W	55V	94.03%	25℃
	650mA	32V	83.20W	52V	93.68%	25℃
	700mA	30V	84.00W	50V	93.13%	25℃
Output	Output voltage range (Vdc)	8~52				
	Output current range(mA)	200~700				
	Rated power (W)②	85(max)				
	Ripple current((Pk-AV)/AV)	10% MAX@ output 350~700mA CCM current conditions				
	Current tolerance②	±5%				
	Line regulation	±1%				
	Load regulation	±3%				
	Setup, rise time	<1.0s measured at 60Vdc input at 80%-100% load conditions				
Dimming Control	Dimming function	Isolated DMX dimming 0.1%~100%lo, optional dimming curve: logarithm, linear(default)				
Protection	Short circuit protection	Power supply active control stop output, power supply shall be self-recovery when the fault is removed.				
	No-load protection	The driver operating with no load will not be damaged, and it will try to restart every 4s in hiccup mode(output voltage 60V MAX).				
	Over temperature protection	When the temperature of the inside PCB exceeds 110℃ ±10%, output current will be decreased to 50%. And it can not recover until the temperature drops to 70℃ ±10%.				
	Over power protection	1.Total power exceeds 95W, the output current of each channel will decrease to 50% about 20 seconds, and then increased to 85W gradually. 2.Total power exceeds 105W, the output current of each channel will decrease to 50% immediately, and then increased to 85W gradually.				
Environment	Operating TEMP.	-35~+50℃				
	Operating humidity	20~95%RH, non-condensing				
	Storage TEMP., humidity	-40~+85℃, 10~95%RH				
	Vibration	10~55Hz, 1~2G 12min/cycle, period for 72min each along X, Y, Z axes				
Safety & EMC	Withstand voltage	DMX ports - Input&Output ports: 1.12KV				
	EMC emission	EN55015/FCC Part 15 Class B(with lamps and lanterns)				
	EMC immunity	Power input port, EN61547(Surge DM 0.5KV); DMX interface IEC/EN61000-4-5(CCITT Surge generator 10/700us 1KV)				
	ESD	EN61000-4-2 level 4 (contact ±8KV,air ±15KV)				
Others	Life time	80000 hours@Tc=75℃@ 60Vdc input, full load				
	MTBF	250,000 hours, measured at full load, 25℃ ambient temperature MIL-HDBK-217F(25℃)				
	Dimension	113x40x22 mm (LxWxH)				
	Weight	190g				

Note.1: 200mA-350mA, 4V≤Vin-Vo<20V; 350mA-700mA, 5V≤Vin-Vo<20V.

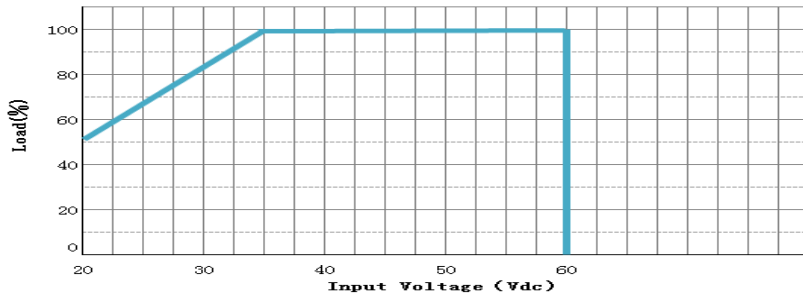
Note.2: 52V*410mA *4CHS total output power is 85W.

Note.3: P1(the 1st channel output power), P2(the 2nd channel output power), P3(the 3rd channel output power), P4(the 4th channel output power), 0≤P1≤36.5W, 0≤P2≤36.5W, 0≤P3≤36.5W, 0≤P4≤36.5W, 0≤P1+P2+P3+P4≤85W.

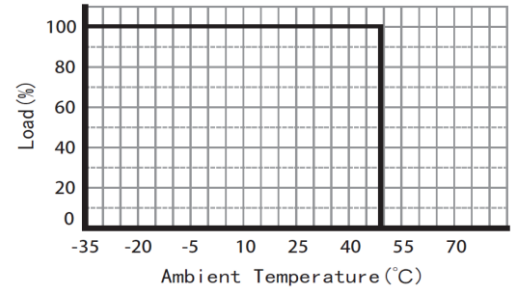
Note.4: At rated current, includes set up tolerance, line regulation and load regulation.

Curve

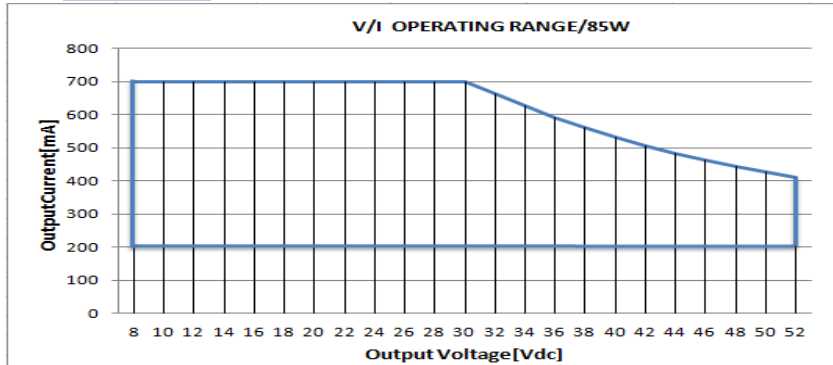
Derating Curve



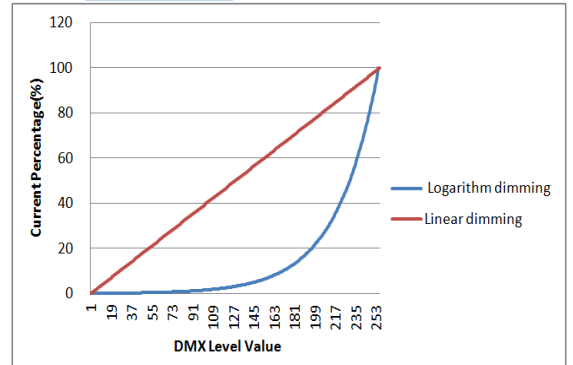
Derating Curve



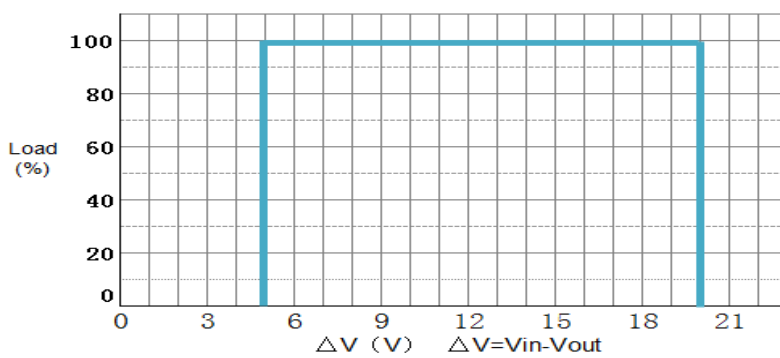
V/I Curve



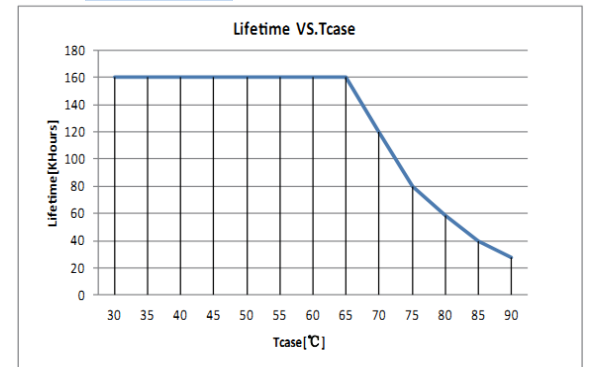
Io VS DMX dim



ΔV Curve

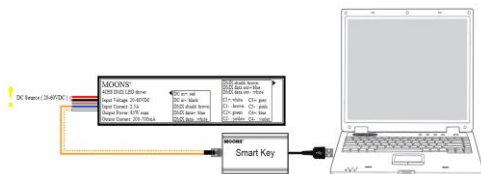


Lifetime VS Tambier



■ Application of introduction

1. Field Programmable Topology



The DMX software and SmartKey are used to configure MOONS' DMX driver. Here guide you how to complete the corresponding hardware connection of MOONS' DMX Intelligent drivers. During the configuring process, the driver should be charged (DC Source).

3. SmartKey PC Software Function Instruction

User can set various configuration of the DMX driver through MOONS' DMX software. More software function description, please refer to the DMX software user manual via accessing MOONS' Web Site.

https://leddriver.moons.com.cn/SouProduct/Ucenter/M_Search/Software_view.aspx?MATNR=DMXSoftware&rnd=7553

2. Default factory setting

■ Application of introduction

• Supply Voltage

- DC constant voltage input so that the driver can be used with different numbers of LEDs and different sizes of product by scaling the power. voltage and dimensions of a separate DC power supply.
- 60VDC Input MAX.
- Protection from damage by reverse polarity of supply voltage.
- Protection from damage if supply voltage is switched.(i.e. not smooth ramp up of supply voltage as typical from power supply switch on)
- Protection from damage by overvoltage transients and spikes to 0.5KV.

• Driver Outputs

- 4 channels
- 4 channels current source
- Fully adjustable driver current between 200mA and 700mA(via programming interface)
- Output current tolerance $\pm 5\%$ at max output 700 mA; Others' are reference to DALI protocol standard.
- It is desirable to have the ability to adjust each channels current separately(set via programming interface)
- Default driver current set to 350mA
- Difference between input and output voltage must be no more than 4V at 200mA~350mA and 5V at 200mA~700mA(LEDs total Vf+ cable losses + difference is the minimum PSU supply voltage to maintain stability)
- Short circuit protection of outputs
- Channels may be left open circuit when unused
- Total driver output power is 85 W
- Each channel must be able to power 700mA at full voltage until full power of the driver is reached

• DMX Interface

- The DMX dimming circuit is isolated from primary (input and output) circuit.
- DMX 512-A interface protocol (E1.11-2004).
- DMX in with RDM (E1.20-20XX).
- RDM protocol to be implemented for addressing as a minimum.
- Data output to slave driver, 1-25 slaves, proprietary protocols are acceptable.
- Slave driver to be set via programming interface if manual setting is required.
- DMX data shield to be connected to 0V power supply input via a 100 ohm current limiting resistor only.
- On power up the output channels will remain in 100% state by default(can be changed via programming interface).
- On power up with no DMX signal the output channels can be set to an adjustable level from 0-100%,DMX signal should override this (set via programming interface).
- On loss of DMX data the output channels will remain in the state of the last DMX command.
- It must be possible to set the footprint of the driver from 1-4 and map any channels to these address positions(adjustable via programming interface).
- RDM Identifier is 0x0303.
- Serial number range to be agreed with MOONS'.
- Update firmware through DMX interface.

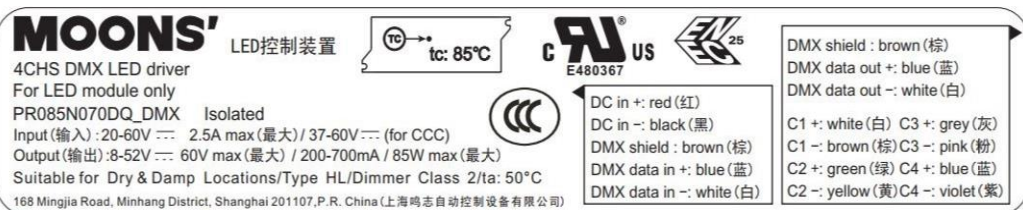
• Programming Interface

- A software interface is required to allow programming of driver variables as below ,this should be via the DMX interface so it can be programmed after installation in the product.
- Start address.
- Default manual mode.
- Footprint and channel mapping.
- Master or Slave driver .
- Power up off/on and level adjustment.
- Logarithm or linear dimming curve.
- Show programming .
- fast/slow display adjustment .
- Driver current .

• Dimming performance

- The driver is predominately used in products that project light onto surfaces and not for direct viewing of the LED's.
- The quality of dimming change at very low levels is not of high importance.
- When fixed at any dimmed level flicker should not be seen.
- Dimming curve should default to linear but be adjustable to Logarithm via programming interface.

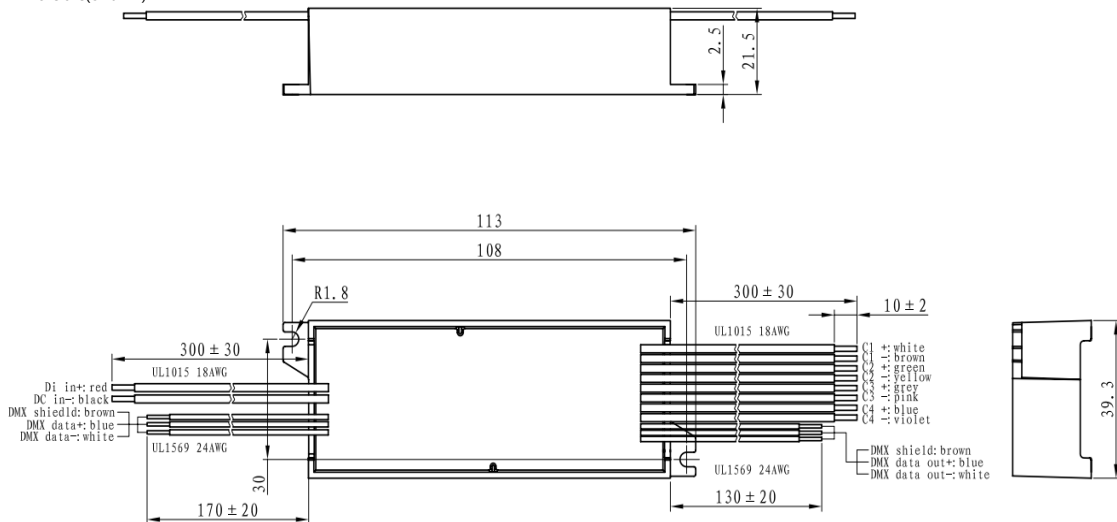
■ Label



Note: The background color is black; the font color is gray.

■ Mechanical Specification

Dimensions(Unit:mm)



■ Physical figure



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.