

Features

- Built-in 10KV lightning surge protection (EN61000-4-5)
- 90 ~ 305Vac full range input; Active PFC
- Output voltage range up to 58Vdc for outdoor lighting
- Aluminum case IP65/ IP67 waterproof
- Dual mode over temperature thermal design
- Output voltage automatic tracing & fixing function
- Built-in 3 in 1 output current dimming function (Type B)
- Optional timer dimming function (contact Darfon)
- All Series approved to UL/CB/CCC/CE/PSE
- Outdoor LED luminaries rugged driver solutions
- 5 years Warranty



MDC-150-XXXX □ Type A: IP65 grade · Adjust current by variable resistor internal

Type B: IP67grade · Output current dimming by 0~10V/10V PWM signal/Resistor

Model	Rated Output Current	Output Current Adj. Range(1)	Output Voltage Range	Output Voltage @ No Load (2)	OVP level	Rated Output Power	Efficiency(3)
MDC-150-2450	2450mA	1650~2450mA	29~58V	64V	62~80V	142W	91%
MDC-150-3150	3150mA	2000~3150mA	32~49V	56V	54~73V	154W	91%
MDC-150-3500	3500mA	2200~3500mA	27~42V	49V	49~65V	147W	91%
MDC-150-4550	4550mA	2750~4550mA	25~35V	41V	41~55V	159W	91%

1. For Type A only

2. Please refer to " LED Driving Output Mode " chart

3. Efficiency test condition please refer to "Efficiency v.s. Load " chart

◆ Input Specification

Input voltage range (1)	90 ~ 305VAC ; 127VDC ~ 431VDC
Input Frequency	47 ~ 63Hz
Power Factor (2) (Typ.)	PF>0.98 / 115VAC, PF>0.95 / 230VAC, PF>0.93 / 264VAC , @ full load
Total Harmonic Distortion	THD<10% @230VAC/50Hz , @ full load
Output Current (Typ.)	2.0A / 115Vac, 1.0A / 230Vac, 0.85A / 277Vac
Inrush current (Typ.)	75A peak @230VAC , Cold Start
Leakage current	< 0.75mA/277VAC

1. Please refer to " Input Voltage v.s. De-Rating Curve " chart

2. Please refer to " PFC v.s. Load Curve" chart

◆ Output Specification

Output Current Tolerance	± 5%
Ripple & Noise (1)	0.2V p-p
Output Ripple Current	± 5%
Line Regulation	± 1%
Turn-on Time	< 1.5S @ 115VAC , 0.5S @ 230VAC, @ full load
Hold up Time	> 12ms / 115VAC, @ full load

1. Ripple current is measured at 20MHz of bandwidth. The measured terminal is paralleled with a 22uF E-cap and a 0.1uF Ceramic cap.

◆ General Specification

MTBF	220Khrs min. MIL-HDBK-217F(25°C)
Life Time	> 50,000hrs , 230VAC , 100% Load, @ T-Case 70°C
Dimension	219 * 67 * 40mm (L*W*H)
Weight	980g

◆ Protections

Short Circuit	Auto recovery
Over Voltage	Auto recovery
Over Temperature De-rated (1)	Over 70°C , automatic de-rate to 75% of rated load current
Over Temperature (1)	85°C±10°C , Auto recovery

1. Please refer to "Temperature v.s. De-Rating Curve "chart

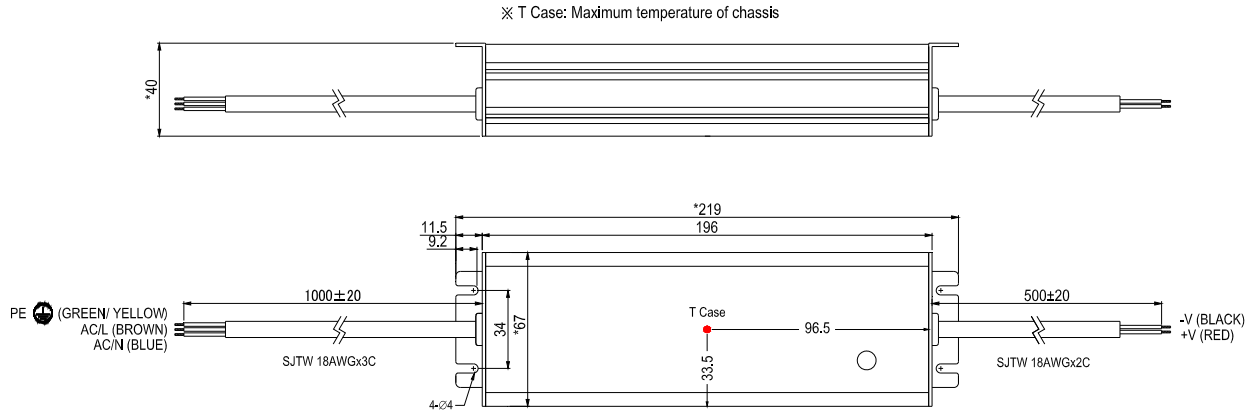
◆ Environment, Safety and EMC

Operating Temperature & Humidity (1)	-40°C ~ 70°C ; 10% ~ 95% RH , Non-condensing
Storage Temperature & Humidity	-40°C ~ 85°C ; 10% ~ 95% RH
Vibration	IEC 68-2-2-1995/CNS-3629-C6016/GB/T 2423.10-2008 ; 5-500Hz , 1.0G , 1 Oct/min , 2cycle X, Y, Z, 75 minutes
Safety standards	UL 8750, EN 61347-1, EN 61347-2-13, GB 19510.1, GB 19510.14
EMI	EN 55015, EN 61000-3-2, EN 61000-3-3, FCC Part18; CNS 14115
EMS	EN 61547, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11
Surge	10KV(L/N-PE) & 5KV(L-N) /1.2*50μ sec
Hi-Pot	I/P-O/P: 3.75KVAC, I/P-PE: 2KVAC, O/P-PE: 0.5KVAC
Insulation Resistance	I/P-O/P, I/P-PE, O/P-PE: >100MΩ /500VDC/25°C/70%RH

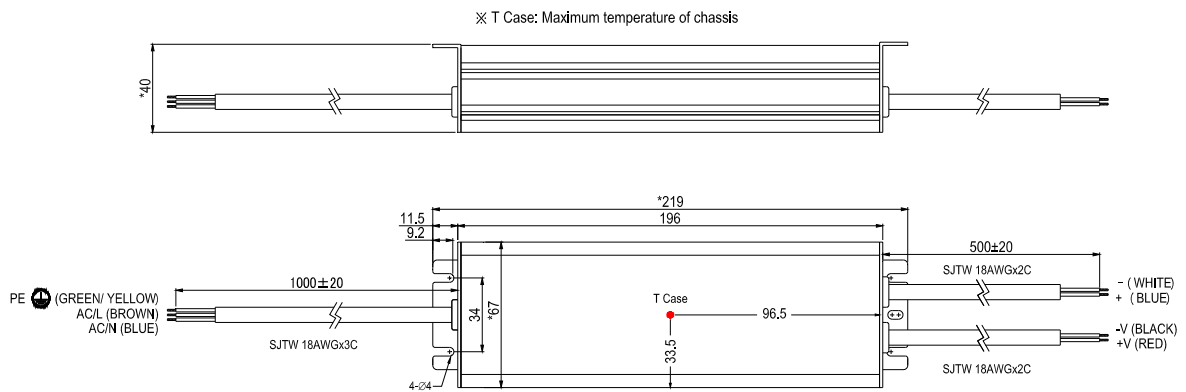
1. Please refer to "Temperature v.s. De-Rating Curve "chart

◆ Mechanical Drawing

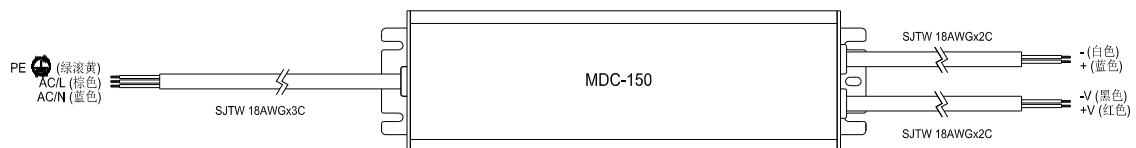
Type A



Type B



◆ Dimming Mode (Type B only)



* Do not put "-V (BLACK)" & "- (WHITE)" in connection

* Short ~100KΩ adjust output current (MDC1504550)

Resistor value	Short	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
Rated Current rate	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

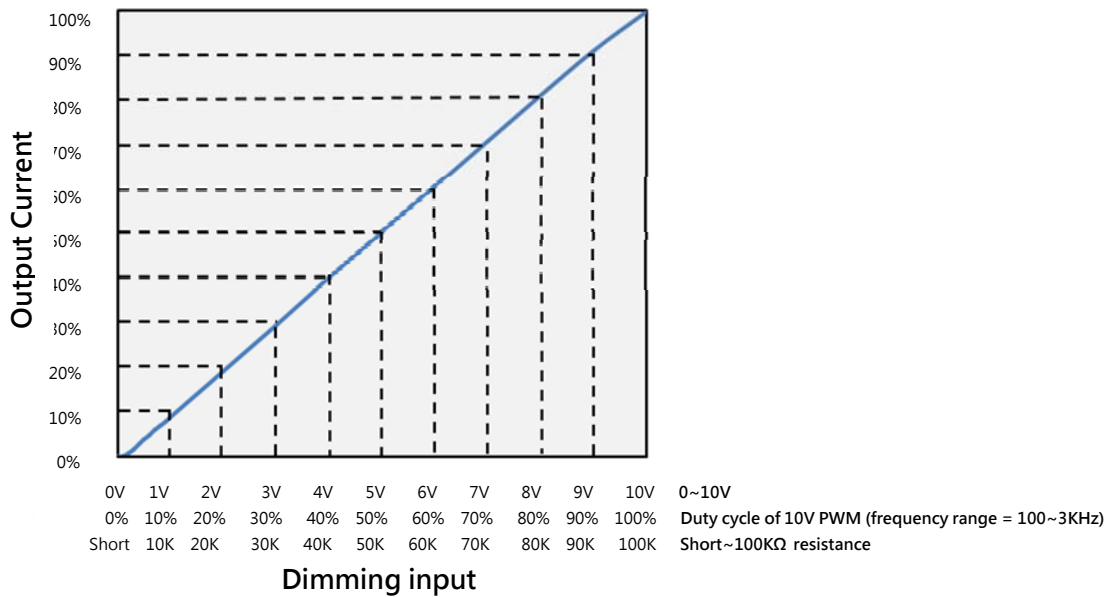
* 0~10Vdc adjust output current (MDC1504550)

Vdc	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Rated Current rate	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

* 10V PWM adjust output current ; Frequency range 100Hz~3KHz (MDC1504550)

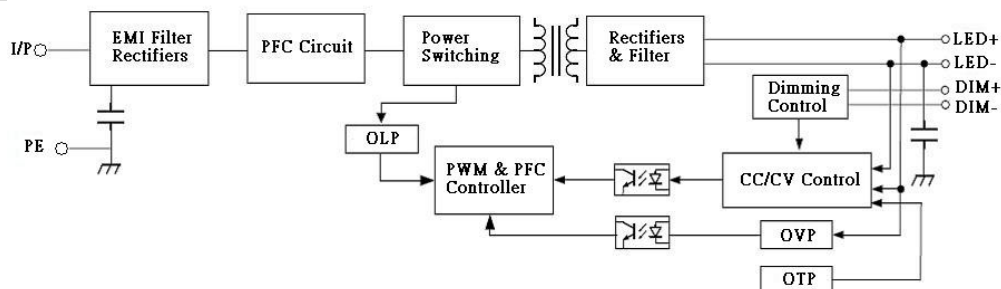
Duty	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Rated Current rate	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

◆ Dimming Curve (MDC1504550)



※ Note : 1. The output current drops down to 0% when the dimming input is 1KΩ or 0.1Vdc, or 10V PWM signal with 0.1% duty cycle.
 2. 0V ~ 1V dimming application please consult Darfon.

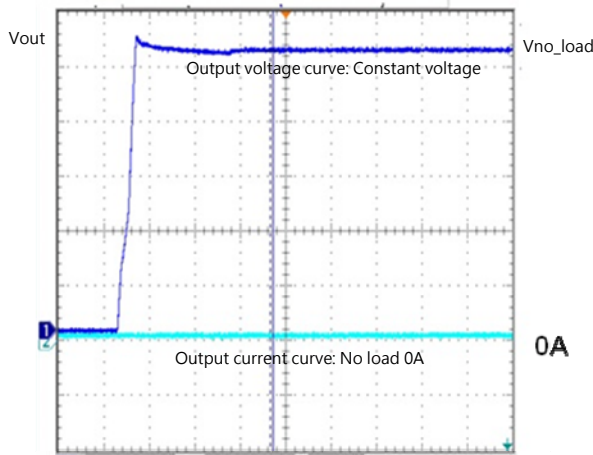
◆ Function Block



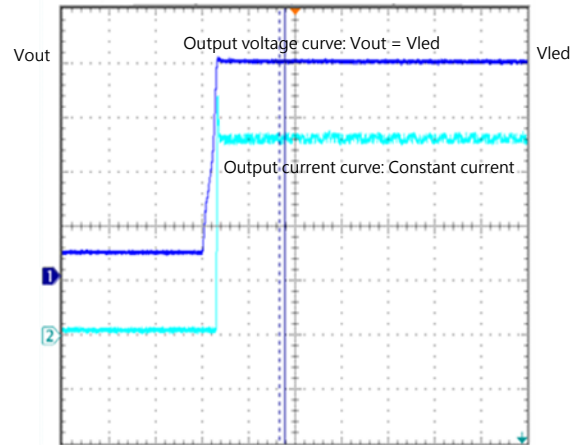
◆ LED Driving Output Mode

Darfon LED driver output characteristics with constant voltage mode (CV) & constant current mode (CC) to direct drive all kinds of LED lighting correctly

No load start up waveform:
Vout = Vno_Load (CV)



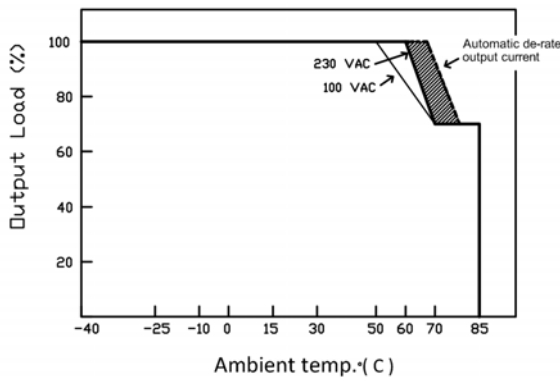
Connecting LED load start up waveform:
Vout = Vled ; Iout = Iset (CC)
(Iset = Default output current)



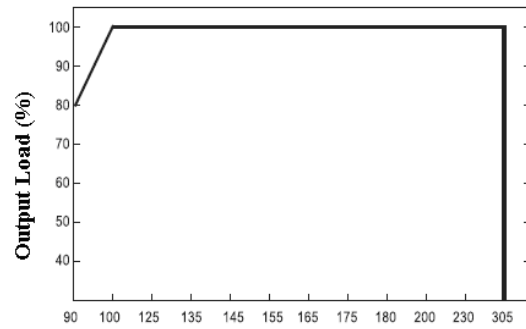
Welcome to consult Darfon to optimize your LED driving configuration!!

◆ Output Load De-Rating Curve

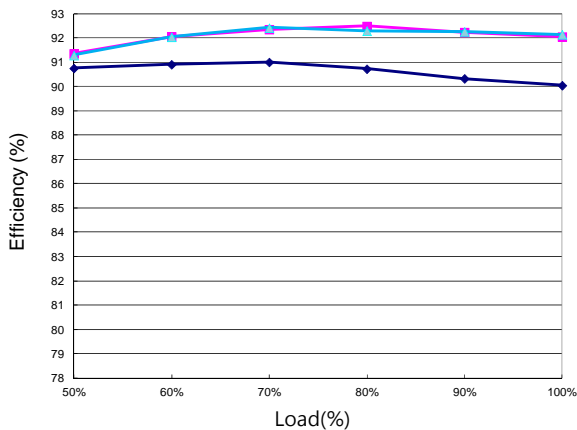
Temperature v.s. De-Rating Curve



Input Voltage v.s. De-Rating Curve



Efficiency Vs Load(MDC-150-4550)



Input Voltage(V) 50~60Hz

Power Factor Vs Load(MDC-150-4550)

