

# DARFON MBC-160 Series 160W single output power supply

## Features

- Universal AC full range input (to 305Vac)
- Protections: Short circuit/Over current
- Over voltage/Over temperature auto recovery
- Constant current design (C.C.mode)
- Built-in 4KV Lightning Surge protection
- With active PFC function
- Multiple dimming functions
- IP65/IP67 Design for indoor and outdoor use
- Suitable for LED and street lighting applications
- UL/CB/CCC/CE approvals
- 5 years Warranty



MBC-160-XXXX □ A type: IP65 grade · Adjust current by variable resistor internal  
 B type: IP67 grade · Dimming by 1~10V/PWM signal/Resistor

Model	Rated Current	Current adjust range(1)	Output Voltage	OVP level	Output Power	Efficiency (2)
MBC-160-2450	2450mA	1470~2450mA	42~63V	73~82V	154W	92%
MBC-160-2800	2800mA	1680~2800mA	37~56V	65~73 V	157W	92%
MBC-160-3150	3150mA	1890~3150mA	32~49V	56~64V	154W	92%
MBC-160-3850	3850mA	2310~3850mA	26~42V	48~55V	162W	92%
MBC-160-4550	4550mA	2425~4550mA	25~35V	40~45V	160W	92%

1. Only A Type Adjust current by variable resistor internal
2. Efficiency test condition please reference " Efficiency Vs Load "

## ◆ 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.)	1.87A/115Vac, 0.86A/230Vac, 0.77A/277Vac
Inrush current (Typ.)	75A peak @230VAC, Cold Start
Leakage current	< 0.75mA/277VAC

1. Please reference " Input Voltage-De-rating curve "

2. Please reference " PFC Vs Load Curve"

### ◆ Output Specification

Output Current Tolerance	±5%
Ripple & Noise (1)	300mV p-p
Output Ripple Current	±5%
Line Regulation	±1%
Turn-on Delay Time	<1.0s @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	>40,000hrs , 230VAC , 100% Load , @ T-Case 70°C
Dimension	Φ151 * 72 mm ( *H)
Weight	1600g

### ◆ Protections

OVP,OPP	Auto recovery
Short circuit	Auto recovery
Over Temperature Re-rated(1)	Ambient Temperature Over 70°C , Fixed 75% load output
OTP(1)	85°C±10°C , Auto recovery

1. Please reference " Temperature -De-rating curve "

### ◆ Environment, Safety and EMC

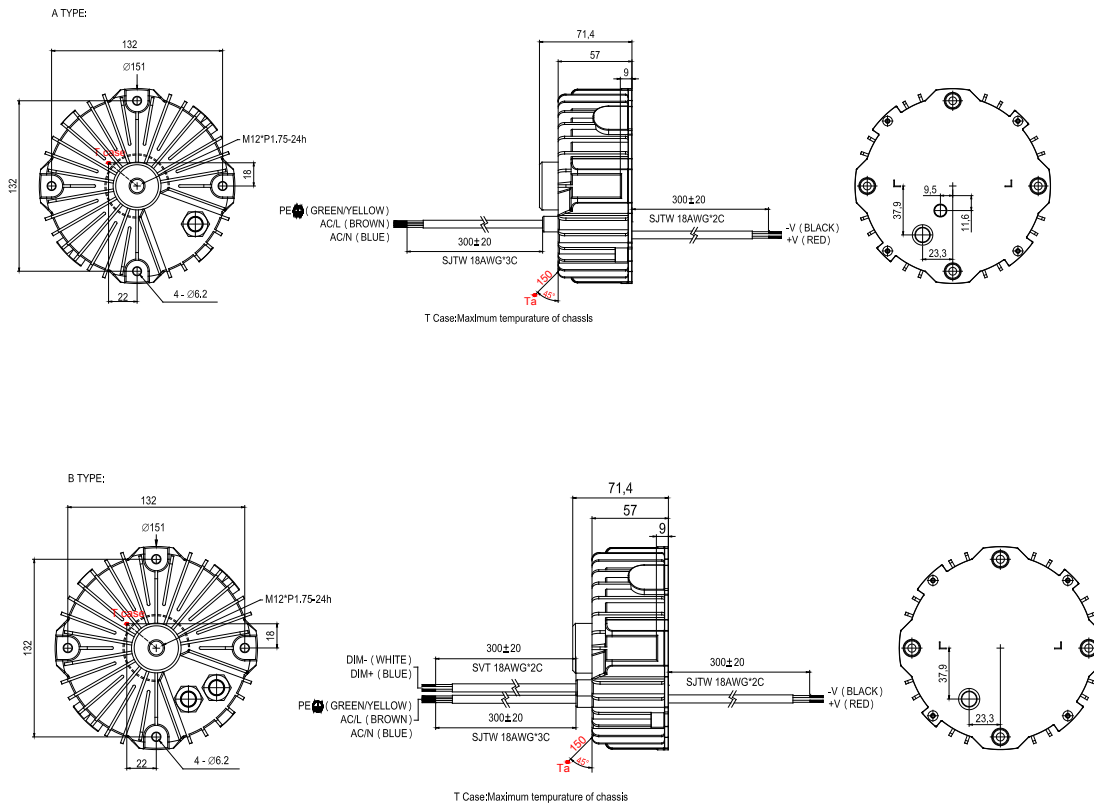
Operating Temperature & Humidity (1)	-40°C~60°C ; 10%~95% RH , Non-condensing
Storage Temperature & Humidity	-40°C~85°C ; 10%~95% RH
Vibration	IEC 68-2-2-1995/CNS-3629-C6016/GB/T 2423.10-2008 ; 5-500Hz , 1.0G , 1 Oct/min , 2cycle X , Y , Z, 75 minutes
Safety standards	Meet UL 8750, EN 61347-1, EN 61347-2-13 , GB 19510.1, GB 19510.14
EMI	Meet EN 55015, EN 61000-3-2, EN 61000-3-3, FCC Part18; CNS 14115
EMS	Meet 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

# DARFON **MBC-160 Series** 160W single output power supply

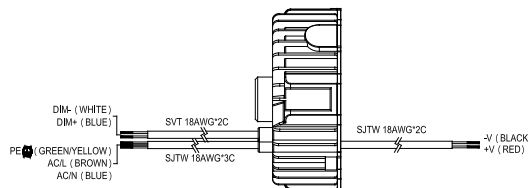
Surge	4KV(L/N-PE) & 2KV(L-N) /1.2*50μ sec
Hi-Pot	I/P-O/P: 3.75KVAC, I/P-PE: 2KVAC, O/P-PE: 0.5KVAC
Insulation Resistance	I/P-O/P, I/P-PE, O/P-PE: >100MΩ /500VDC/25°C/70%RH

1. Please reference " Temperature-De-rating curve "

## ◆ Mechanical Drawing



## ◆ Dimming mode ( B type only )



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

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\* 10K~100KΩ adjust output current

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

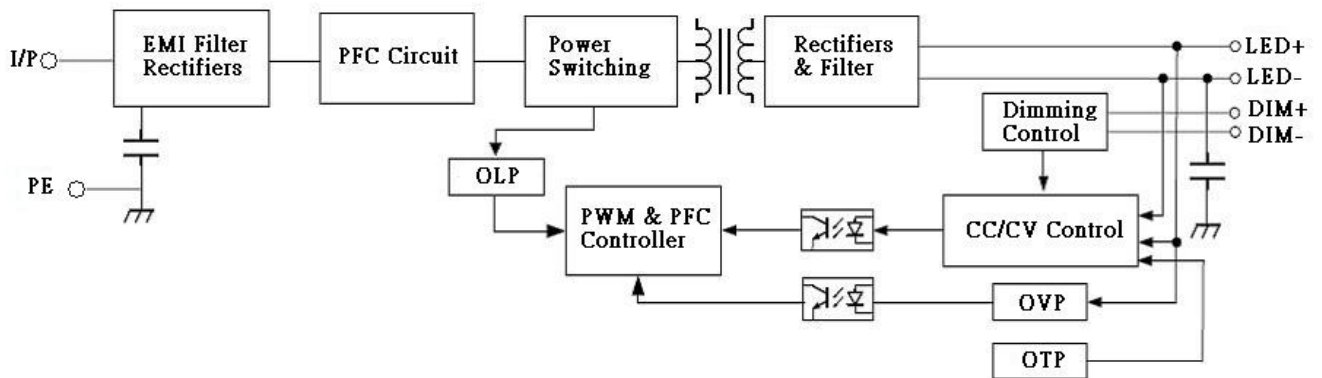
\* 1~10Vdc adjust output current

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

\* 10V PWM adjust output current ; Frequency range 100Hz~3KHz

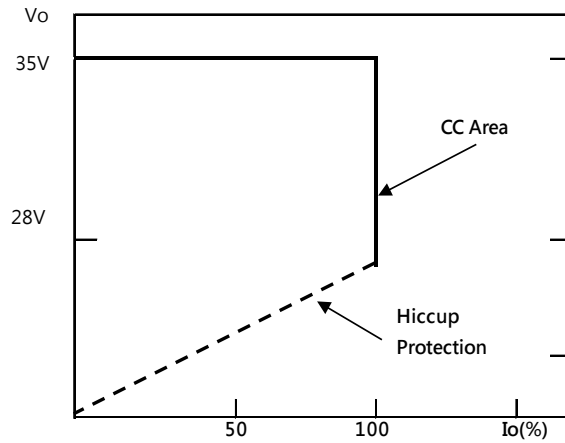
Duty	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Rated Current rate	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

## ◆ Function block



## ◆ LED Output curve(MBC-160-4550)

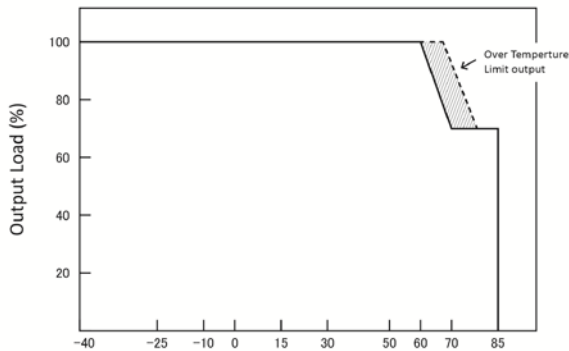
The characteristic of LED Driver is constant current(CC),  
Drive mode is constant current.



LED Driver I-V Curve

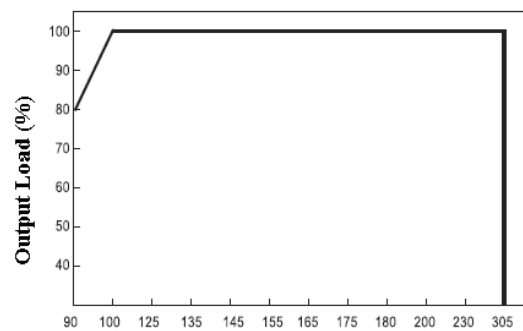
## ◆ Output Load De-rating Curve

Temperature-De-rating curve



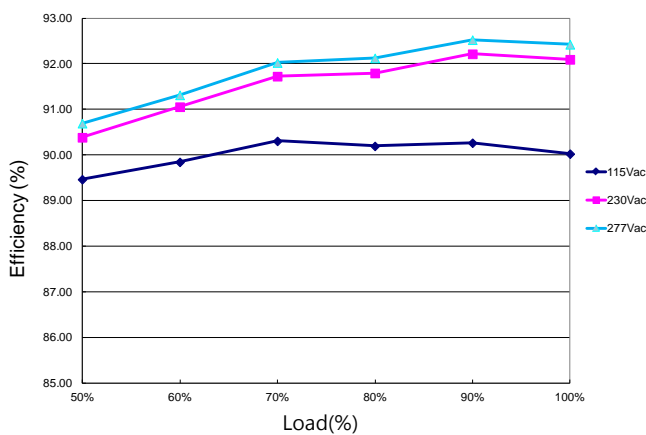
Ambient temp. (°C)

Input Voltage-De-rating curve



Input Voltage(V) 50~60Hz

## Efficiency Vs Load MBC-160-4550



## Power Factor Vs Load (MBC-160-4550)

