

## MDC-120 SERIES:



### 150 Watt LED Power Supply

- 8.23 x 2.48 x 1.57" IP65 / IP67 Enclosed Package

#### Features:

- Universal AC full range input ( to 305Vac)
- Protections : Short circuit/Over current
- Over voltage/Over temperature auto recover
- Constant current design (C.C.mode)
- 10KV Lightning Surge protect
- With active PFC function
- Multiple dimming function
- IP65/IP67 Design for indoor and outdoor used
- Suitable for LED and street lighting application
- Comply with UL,TUV,CE,FCC,CQC safety regulation
- 5 years Warranty

#### INPUT:

|                           |  |
|---------------------------|--|
| Input Voltage             | Universal Input (90~305 VAC) / 127-431VDC        |
| Input Frequency           | 47-63Hz  |
| Inrush Current            | 75A @ 230 VAC max Cold Start                     |
| Input Current             | 1.6A @ 115VAC / 0.7A @ 277 VAC                   |
| Power Factor              | PF>0.98 @ 115VAC, >0.95 @ 230VAC, >0.93 @ 264VAC |
| Total Harmonic Distortion | <10% @230VAC @ 50Hz, @ full load                 |
| Leakage Current           | <0.75mA @ 277 VAC                                |
| Hold-Up                   | >12ms @ 115VAC Full Load                         |

#### OUTPUT:

|                             |  |
|-----------------------------|--|
| Minimum Load                | None   |
| Output Current Tolerance    | ±5%  |
| Line Regulation             | ±1%  |
| Ripple & Noise              | 2V p-p   |
| Output Ripple Current       | ±5%  |
| Over Voltage                | Latching, recycle input to reset<br>(see output models slection table for trip points) |
| Short Circuit Protection    | Auto-Recovery  |
| Over Temperature Protection | Ambient Temperature Over 70°C , Fixed 75% load output                                  |

#### GENERAL:

|                       |  |
|-----------------------|--|
| Efficiency            | 91%  |
| Operating Temperature | -40 ~ 70°C (see derating curve)  |
| Storage Temperature   | -40 ~ 85°C   |
| Operating Humidity    | 10% to 95% RH, non-condensing  |
| Vivration             | IEC 68-2-2-1995/CNS-3629-C6016/GB/T 2423.10-2008 ;<br>5-500Hz , 1.0G , 1 Oct/min , 2cycle X , Y , Z , 75 minutes |
| MTBF                  | 220Khrs min. MIL-HDBK-217F (25°C)  |

#### APPROVALS:

|        |   |
|--------|---|
| EMI    | EN 55015, EN 61000-3-2, EN 61000-3-3,<br>FCC Part18; CNS 14115, GB 17743  |
| EMS    | EN61547, EN61000-4-2, EN61000-4-3, EN61000-4-4,<br>EN61000-4-5, EN61000-4-6, EN 61000-4-8,<br>EN61000-4-11, GB17625.1 |
| SAFETY | UL 8750, EN 61347-1, EN 61347-2-13 ,<br>GB 19510.1, GB 19510.14   |
| Surge  | 10KV(L-N-PE) & 5KV(L-N) /1.2*50µ sec  |

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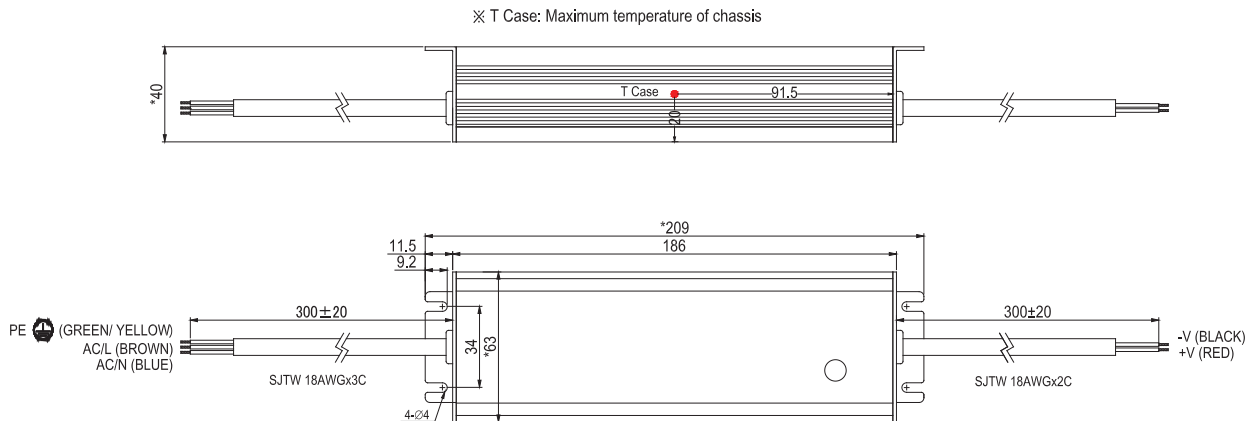
| Output Specifications: |               |                    |                |           |              |            |
|------------------------|---------------|--------------------|----------------|-----------|--------------|------------|
| Model:                 | Rated Current | Current Adj. Range | Output Voltage | OVP Level | Output Power | Efficiency |
| MDC-120-0350           | 350mA         | 210~350mA          | 210~430V       | 475~495V  | 150W         | 92%        |
| MDC-120-0500           | 500mA         | 300~500mA          | 150~300V       | 335~355V  | 150W         | 92%        |
| MDC-120-0700           | 700mA         | 420~700mA          | 107~215V       | 230~240V  | 150W         | 92%        |
| MDC-120-1050           | 1050mA        | 630~1050mA         | 74~148V        | 165~175V  | 155W         | 92%        |
| MDC-120-1400           | 1400mA        | 840~1400mA         | 54~108V        | 120~130V  | 151W         | 92%        |
| MDC-120-2100           | 2100mA        | 1260~2100mA        | 31~58V         | 62~74V    | 122W         | 91%        |
| MDC-120-2450           | 2450mA        | 1500~2450mA        | 36~49V         | 57~63V    | 120W         | 91%        |
| MDC-120-2800           | 2800mA        | 1700~2800mA        | 31~42V         | 49~55V    | 120W         | 91%        |
| MDC-120-3500           | 3500mA        | 2100~3500mA        | 26~35V         | 41~47V    | 122W         | 91%        |
| MDC-120-4550           | 4550mA        | 2700~4550mA        | 21~27V         | 31~37V 1  | 23W          | 90%        |

\* Suffix Required to complete part number as follows:

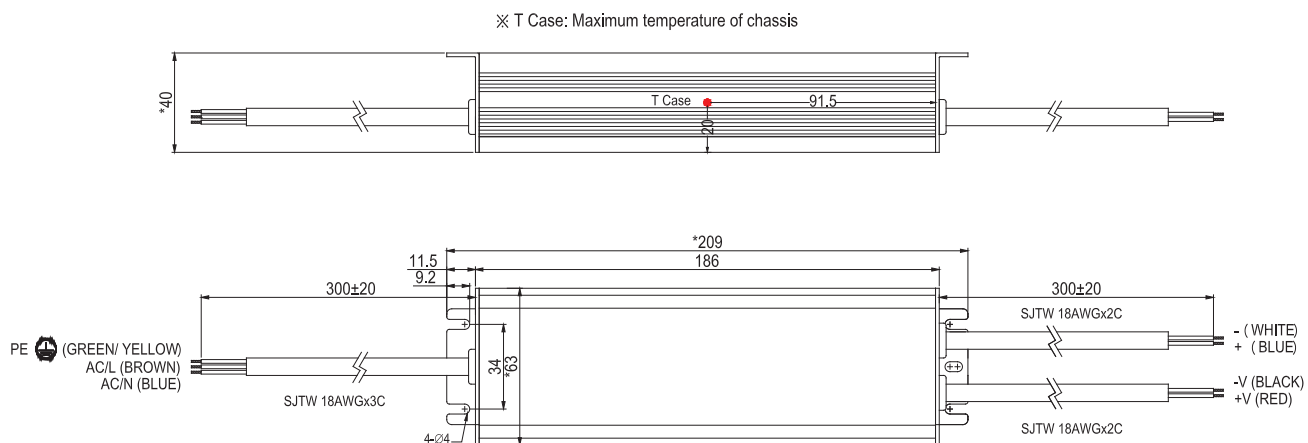
A suffix designates IP65 Grade, current adjustable via internal variable resistor

B suffix designates IP67 Grade, current adjustable by 1~10 PWM Signal, 10K~100KΩ Resistor or PWM

### OUTLINE DRAWING (Suffix A models):

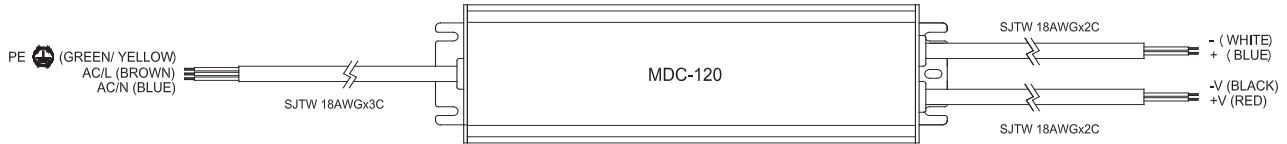


### OUTLINE DRAWING (Suffix B models):



## MDC-120 SERIES:

### Type B Models, Resistor / $V_{ADJ}$ / PWM Values



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

\* 10K~100K $\Omega$  adjust output current

|                    |              |              |              |              |              |              |              |              |              |               |         |
|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------|
| Resistor value     | 10K $\Omega$ | 20K $\Omega$ | 30K $\Omega$ | 40K $\Omega$ | 50K $\Omega$ | 60K $\Omega$ | 70K $\Omega$ | 80K $\Omega$ | 90K $\Omega$ | 100K $\Omega$ | OPEN    |
| Rated Current rate | 10%          | 20%          | 30%          | 40%          | 50%          | 60%          | 70%          | 80%          | 90%          | 100%          | 95~105% |

\* 1~10Vdc adjust output current

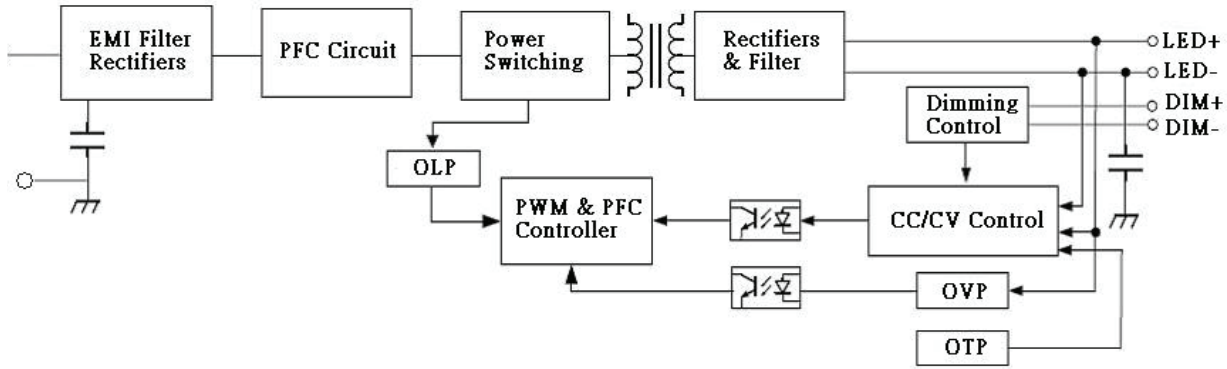
|                    |     |     |     |     |     |     |     |     |     |      |         |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---------|
| Vdc                | 1V  | 2V  | 3V  | 4V  | 5V  | 6V  | 7V  | 8V  | 9V  | 10V  | OPEN    |
| Rated Current rate | 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% |

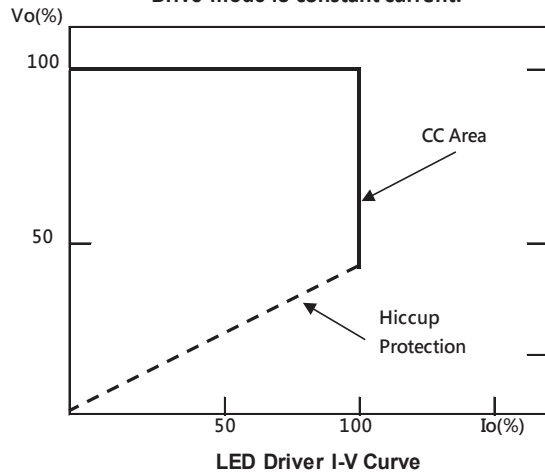
## MDC-120 SERIES:

### Function block



### LED Output curve(MDC-120-0700)

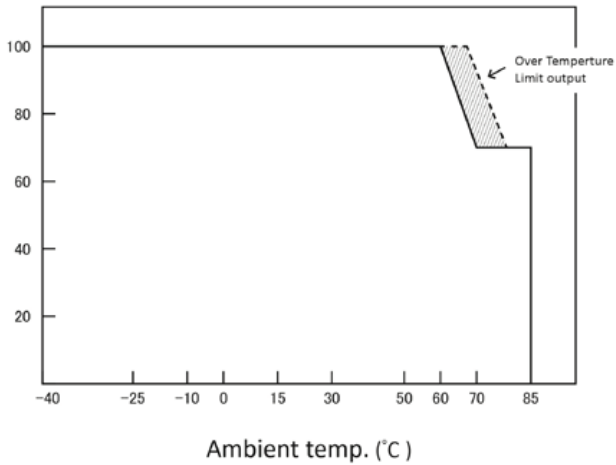
The characteristic of LED Driver is constant current(CC),  
Drive mode is constant current.



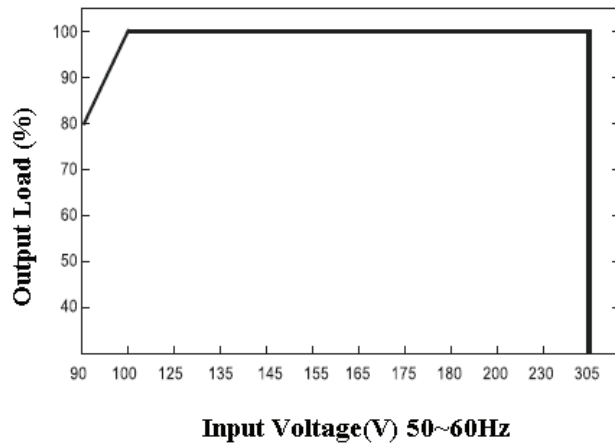
## MDC-120 SERIES:

### Output Load De-rating Curve

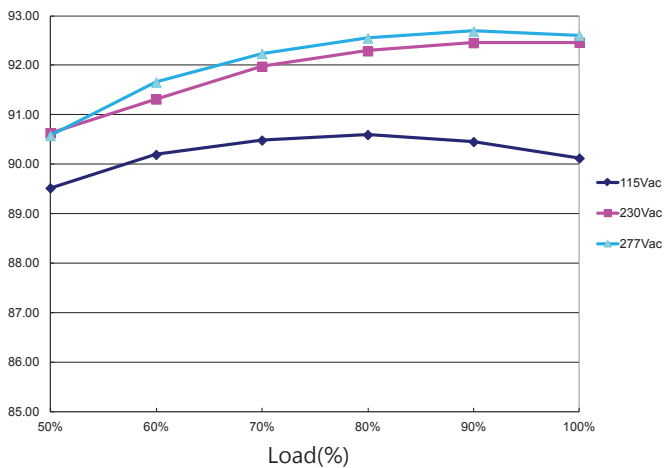
Temperature-De-rating curve



Input Voltage-De-rating curve



### Efficiency Vs Load(MDC-120-3500)



### Power Factor Vs Load(MDC-120-3500)

