

• **Power from 25 to 10000 watts High density**

• **Wide range of voltage**

inputs DC : 12Vdc....1500Vdc

AC : 85Vac...530Vac

output DC : 12Vdc....400Vdc

AC : 115Vac / 230Vac 50Hz/60Hz

• **Protection**

short circuit, overload, thermal

• **Up to 96% efficiency**

• **2500V input/output isolation**

• **Wall , DIN rail or Rack mounting**

• **Application**

- Solar, battery, Fuel cells

- Automatism, renewable energies

The WRHD series is a range of shielded integrated switching mode DC-DC converters. This products are designed for applications needing high power in a small volume.

Description :

Heat sink aluminum housing, shield on the 6 faces

protection rating : IP20 min

wall mounting or optional DIN rail mounting

Conformal coating in option

wiring on screw terminal, section according to power

overload protected (current limitation)

continuous short circuit protected

thermal protection (output power limitation)

under voltage protection (locking)

adjustable voltage output in option

low no-load consumption

forced air cooling or by natural convection

built-in EMC filter (EN55022 class A)

parallel connection with current sharing is possible

(specific manufacturing on request).

wide input range (2:1 or 4:1 depends of model)

burn-in test with full load on manufacture (increased reliability)

embedded power factor correction

WRUHD-DC/DC



WRHD-DC/DC



WRUHD-AC/DC



WRHD-AC/DC



WRHDT-AC/DC



WRHD-DC/AC

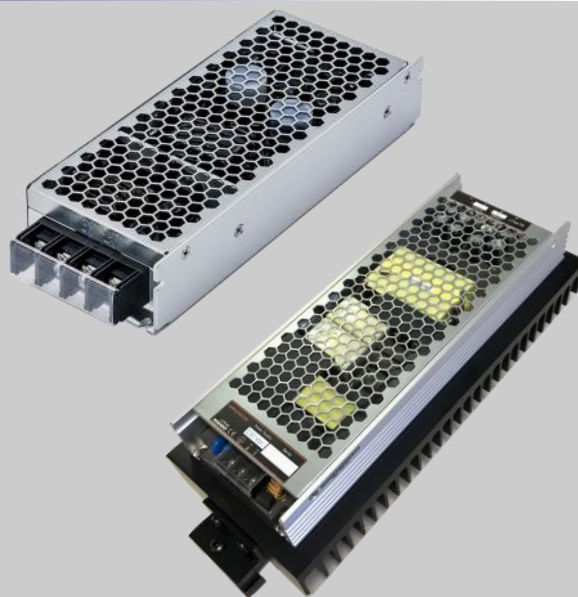


DC-DC CONVERTER

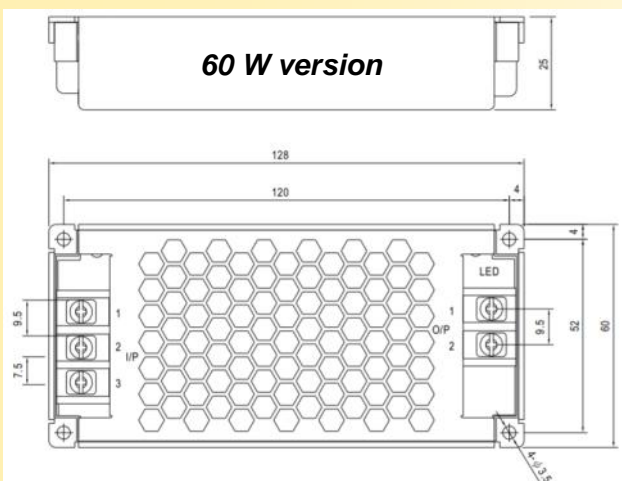
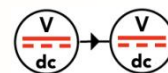
ultra high density

WRUHD-DC/DC **LOREME**

- **Power range : 60 to 500 watts**
- **Input : 12Vdc, 24Vdc, 48Vdc, 110Vdc, 127Vdc**
200Vdc ... 1500Vdc
- **Output : 3.3 to 48Vdc**
- **Protection : short circuits, overload, thermal**
- **High efficiency: up to 92%**
- **2500V Input / output isolation**
- **Wall or DIN rail mounting**



Low profile DC-DC high density convert. fanless design, free air convection cooling.
Wide operating temperature -30°C to +80°C (HT version mounted on heatsink)
Enclosure with half moulded silicone for components protection



Version and order code:

[Request a quote](#)

WRUHD-DC/DC in / out / pwr : DC-DC converter

in : Wide range input DC voltage 2:1 or 4:1 up to 12:1
(nominal voltage: 12Vdc, 24Vdc, 48Vdc, 110Vdc, 127Vdc)

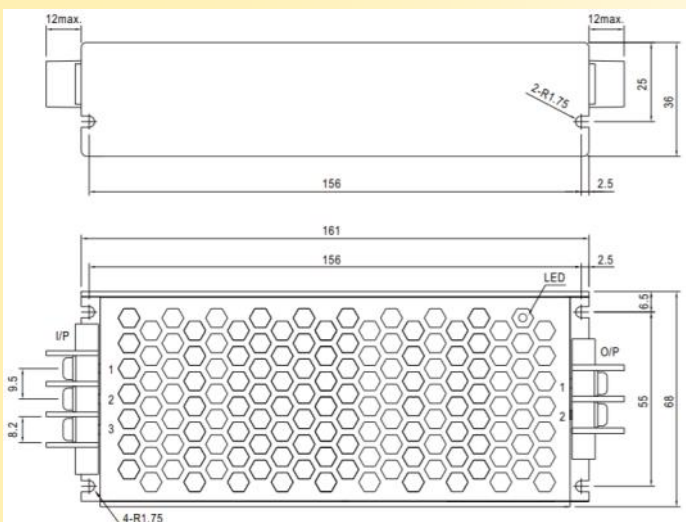
out : Output DC voltage
(nominal voltage: 3.3Vdc, 5Vdc, 12Vdc, 24Vdc, 48Vdc)

pwr : Output power
(60W, 100W, 150W, 200W, 300W, 500W)

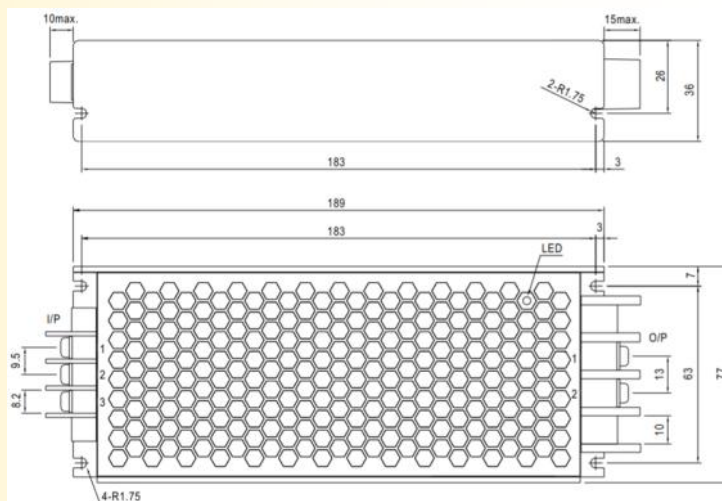
Mounting : -RD DIN rail mounting (option)
-WM wall mounting (in standard)

Option : -HT high temperature version (+70°C) with heatsink

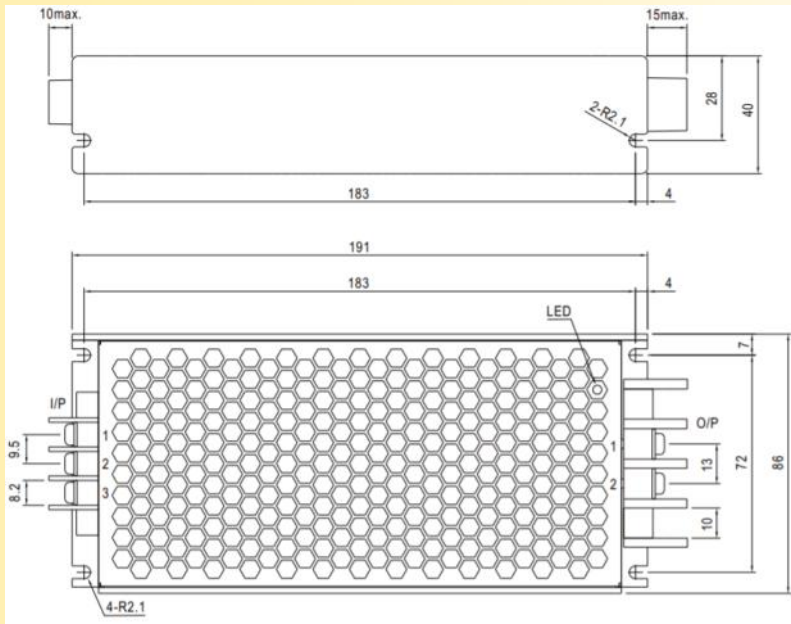
100 W version



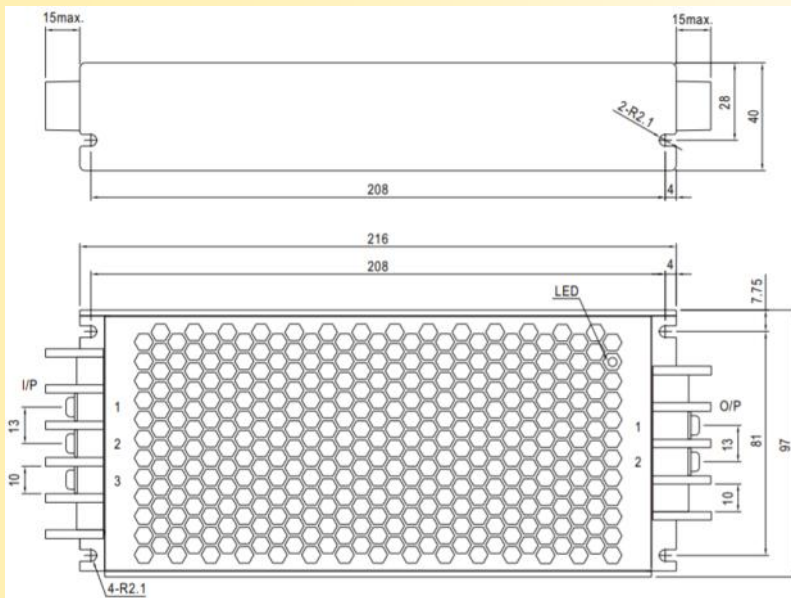
150 W version



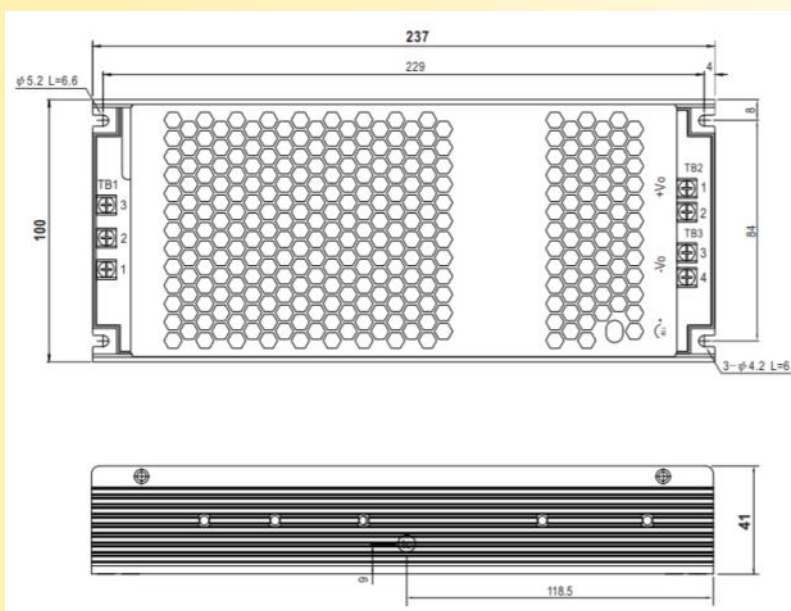
CONVERTISSEUR DC-DC
ultra haute Densité



200 W version



300 W Version

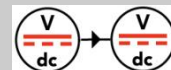


500 W version

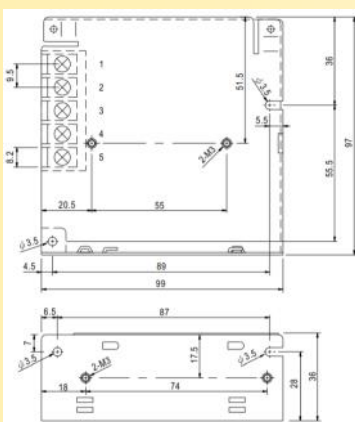
DC-DC CONVERTER

high density

- **Power range: 25 to 1000 watts**
- **Input : 12Vdc, 24Vdc, 48Vdc, 110Vdc, 125Vdc**
- **Output : 5 to 48Vdc**
- **Protection : short circuits, overload, thermal**
- **High efficiency: up to 92%**
- **2500V Input / output isolation**
- **Wall or DIN rail mounting**



25 W version



Version and order code:

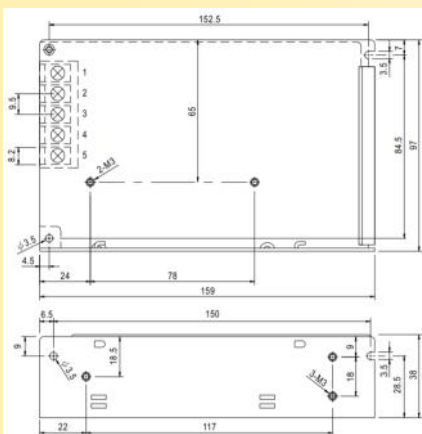
[Request a quote](#)

WRHD-DC/DC in / out / pwr : DC-DC converter

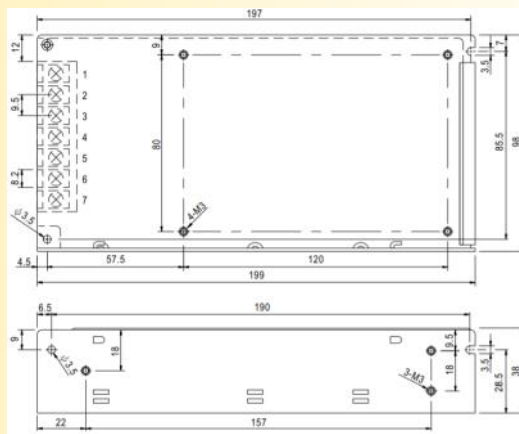
- in** : Wide range DC input voltage 2:1 or 4:1
(nominal voltage: 12Vdc, 24Vdc, 48Vdc, 110Vdc, 127Vdc)
- out** : Output DC voltage, +/-10% adjustable
(nominal voltage: 5Vdc, 12Vdc, 24Vdc, 48Vdc)
- pwr** : Output power
(25W, 50W, 100W, 200W, 350W, 500W, 1000W)

Mounting : **-RD** DIN rail mounting (option)
-WM wall mounting (in standard)

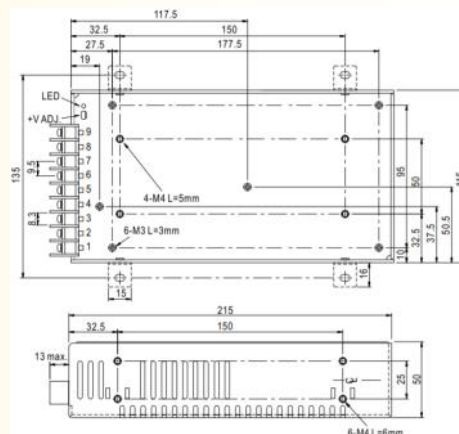
50 W version



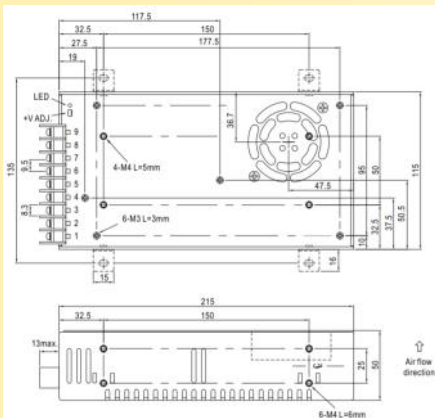
100 W version



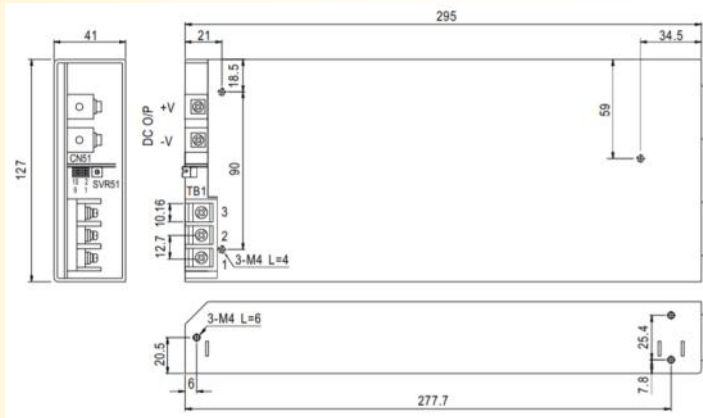
200 W version



350 W and 500W versions



1000W version



AC-DC CONVERTER fanless, natural convection
Ultra high density

WRUHD-AC/DC



- **Output power : 200, 350, 500, 750, 1000, 1500, 2500 watts**

Natural air cooling on plane surface

Heatsink embedded for high temperature version

- **Input : 90.....264Vac and 127.....370Vdc**

- **Output : 24Vdc, 36Vdc, 48Vdc,**
110Vdc, 125Vdc, 250Vdc, 400Vdc

- **Protection :**

- Short circuits
- Overload
- Thermal

- **High efficiency: up to 96%**

- **2500V Input / output isolation**

- **Wall or DIN rail mounting**

- **Optional redundancy circuit**

Allowing parallel coupling of 2 modules



Low profile and high density converter. Fanless, free-air convection cooling.

Wide operating temperature -30°C to +70°C
 (HT version : mounted on heat sink)

Withstand 300 VAC surge input for 5 seconds

Version and order code:

[Request a quote](#)

WRUHD-AC/DC in / out / pwr : AC-DC converter

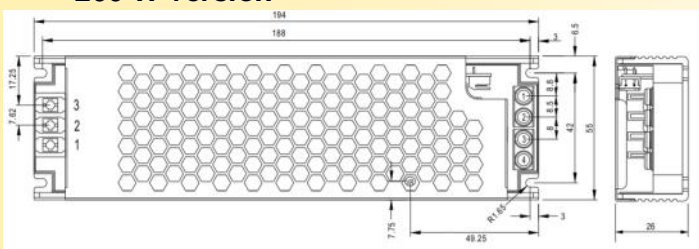
- in** : Wide range of AC-DC input voltage
(rating voltage: 90.....264Vac and 127.....370Vdc)
- out** : Output DC voltage, +/-5% adjustable
(rating voltage: 5Vdc, 12Vdc, 15Vdc, 24Vdc, 36Vdc, 48Vdc)
- pwr** : Output power
(200, 350, 500, 750, 1000, 1500, 2500W)

Mounting : -RD DIN rail mounting (option)
 -WM wall mounting (in standard)

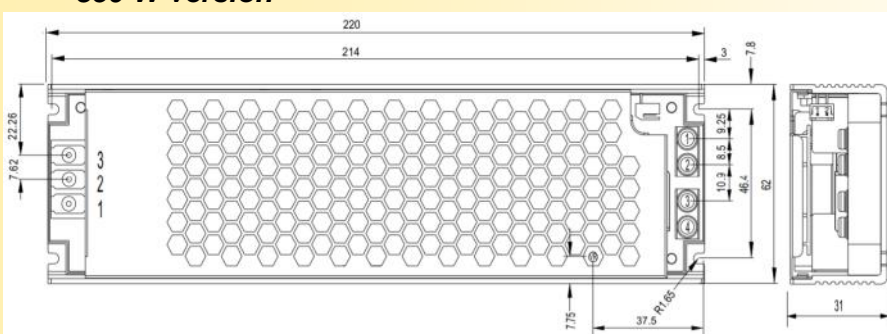
Option : -R version with redundancy function
 allowing the parallel coupling of 2 modules
 -HT High temperature version (+70°C) with heat sink

WIRING AND OUTLINE DIMENSIONS:

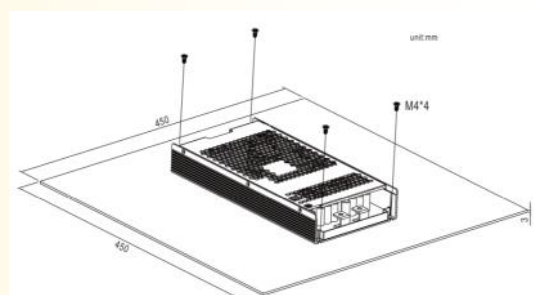
200 W version



350 W version



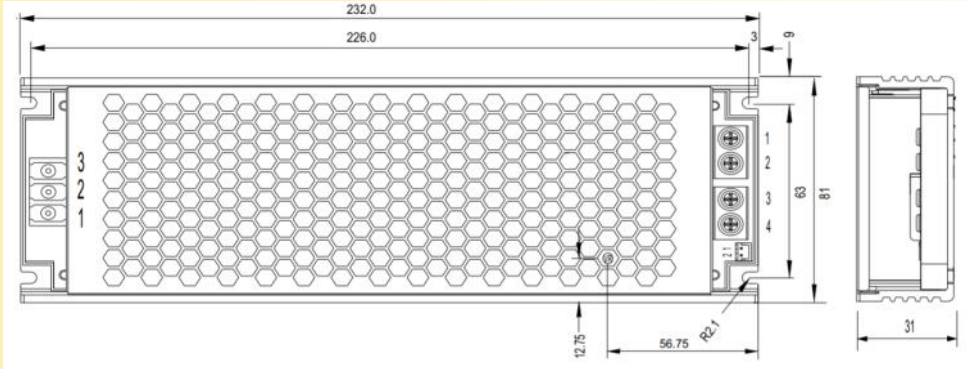
Implementation of free-air convection cooling



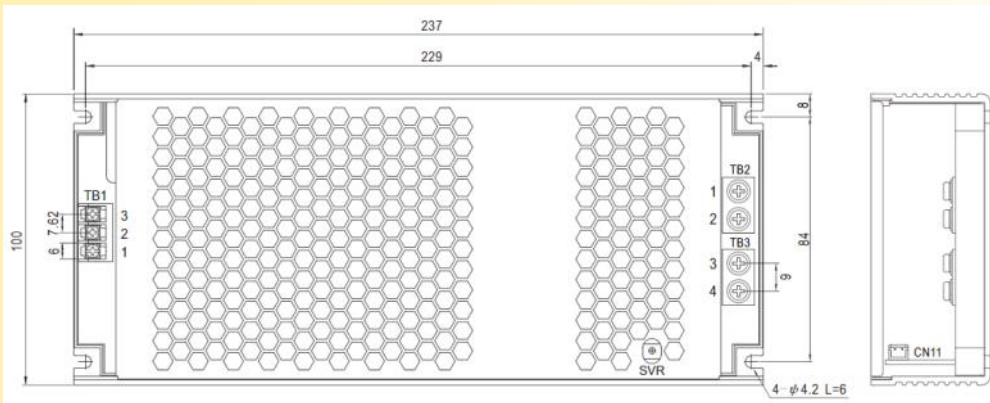
AC-DC CONVERTER

Ultra high density

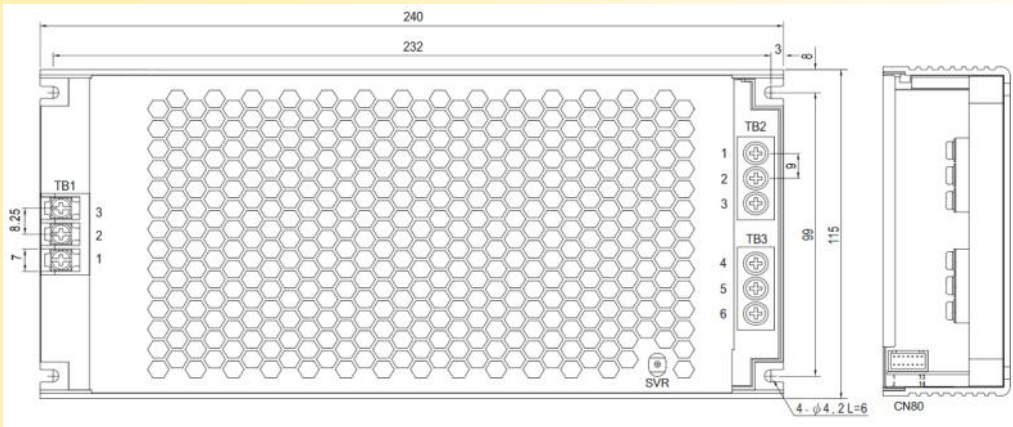
500 W version



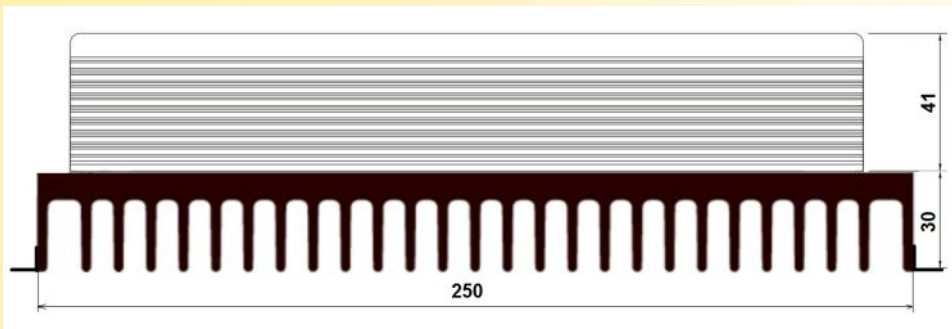
750 W version



1000 W version



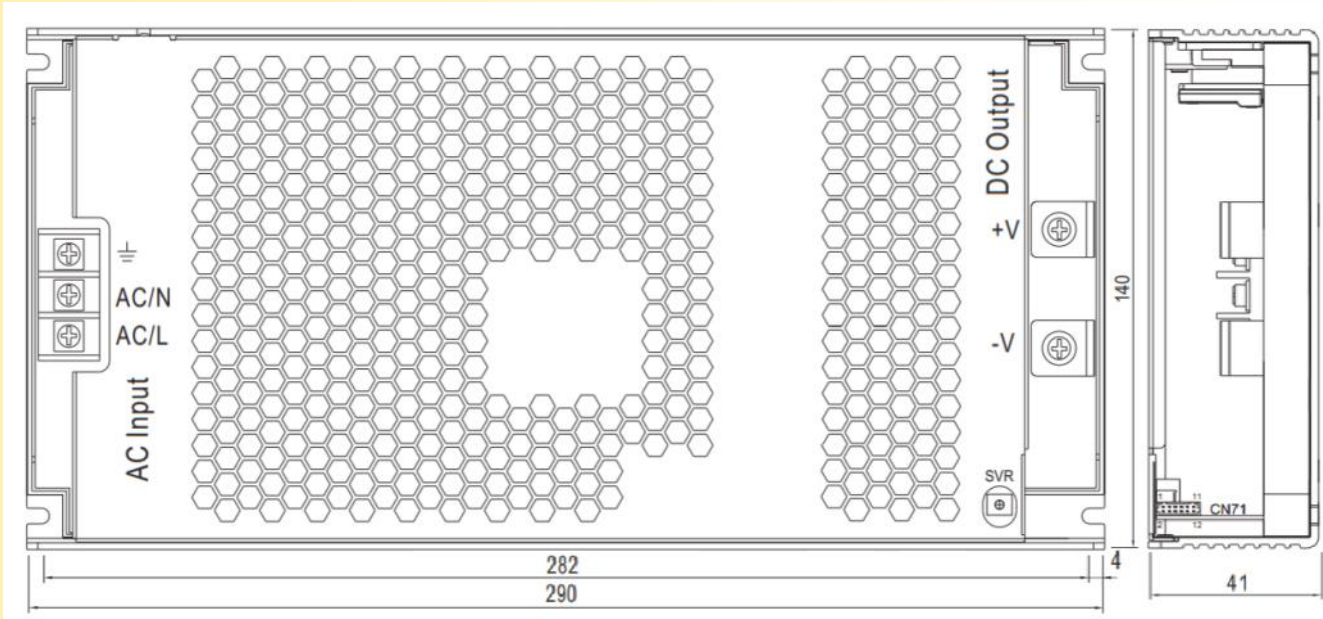
High temperature, 1000 W version with heat sink (side view)



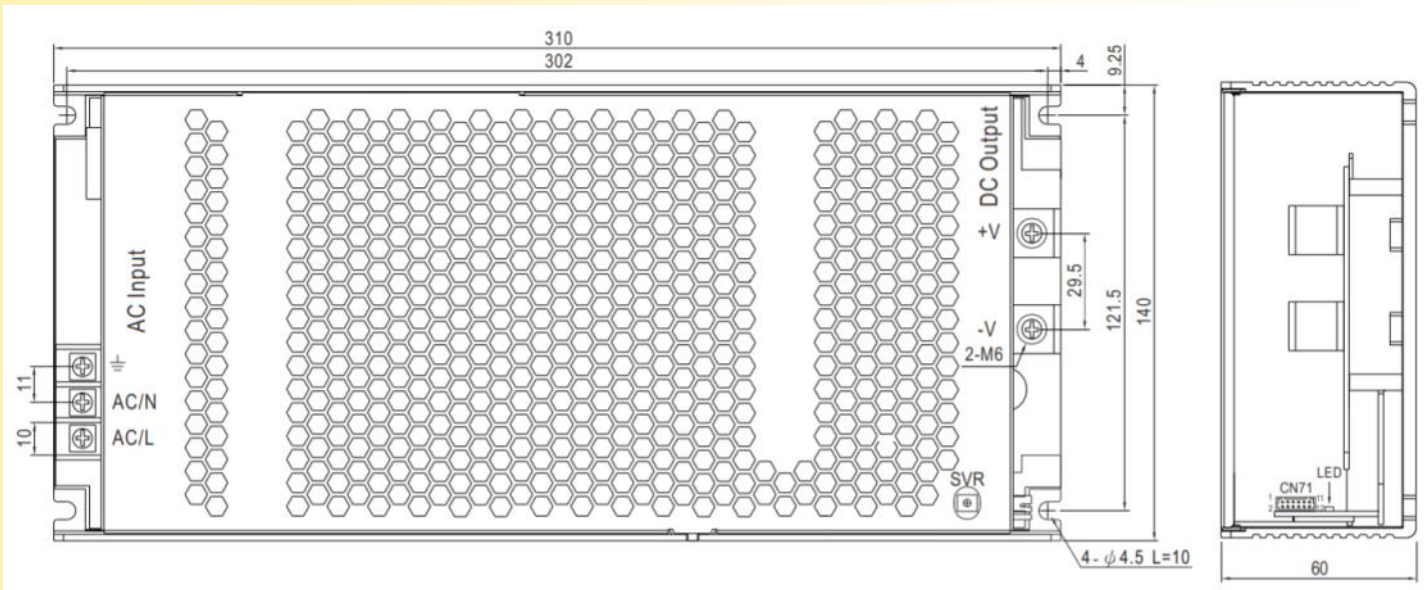
AC-DC CONVERTER

Ultra high density

1500 W version



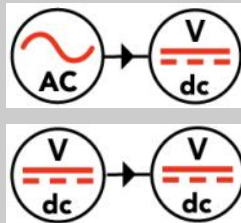
2500 W version



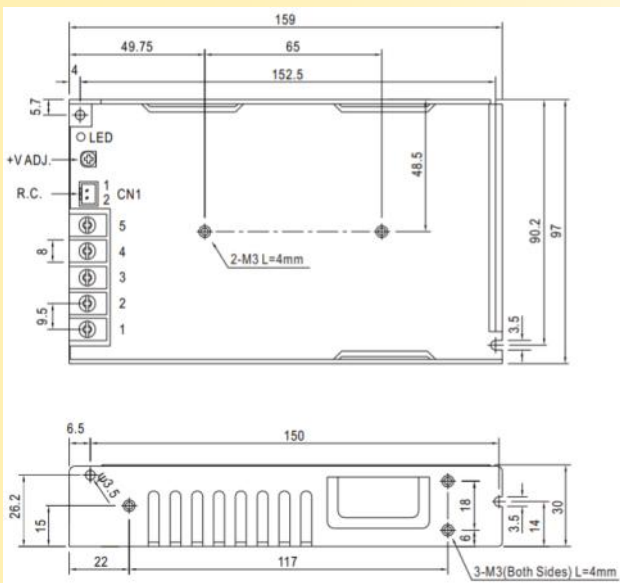
AC-DC CONVERTER

High density

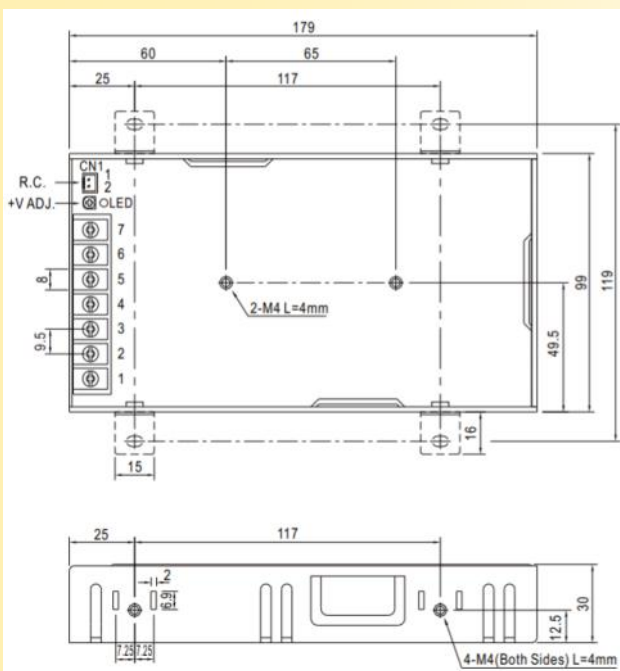
- **Power range : 75 watts to 3000 watts**
- **Input : 90.....264Vac and 120.....370Vdc**
- **Output : 3.3 to 48Vdc, 110Vdc, 250Vdc, 400Vdc**
- **Protection : short circuits, overload, thermal**
- **High efficiency: up to 92%**
- **2500V Input / output isolation**
- **Wall or DIN rail mounting**



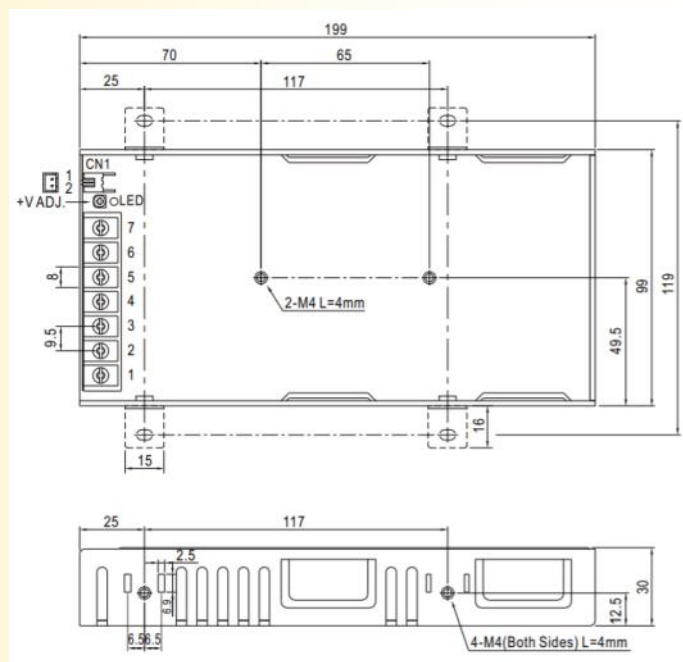
75W version



100W version



150W version



Version and order code:

[Request a quote](#)

WRHD-AC/DC in / out / pwr : DC-DC converter

in : Wide range AC-DC voltage input
(nominal voltage: 90.....264Vac and 127.....370Vdc)

out : Output DC voltage, +/-5% adjustable
(nominal voltage: 5Vdc, 12Vdc, 15Vdc, 24Vdc, 27Vdc, 36Vdc, 48Vdc)

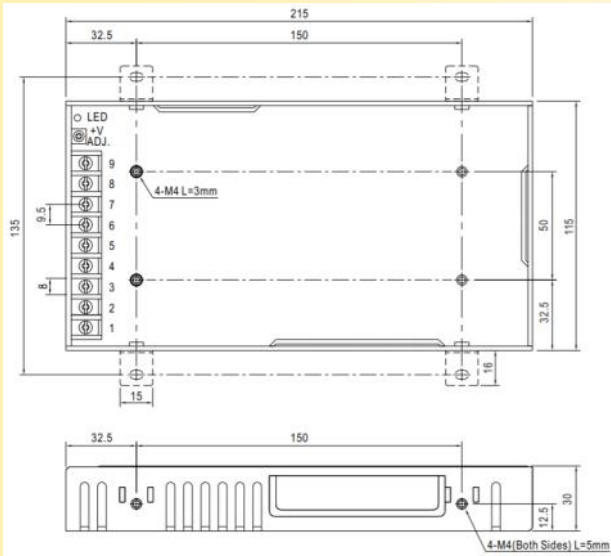
pwr : Output power: (75W, 100W, 150W, 200W, 320W, 500W, 750W, 1000W, 1500W, 2000W, 2400W, 3000W)

Mounting : **-RD** DIN rail mounting (option)
-WM wall mounting (in standard)

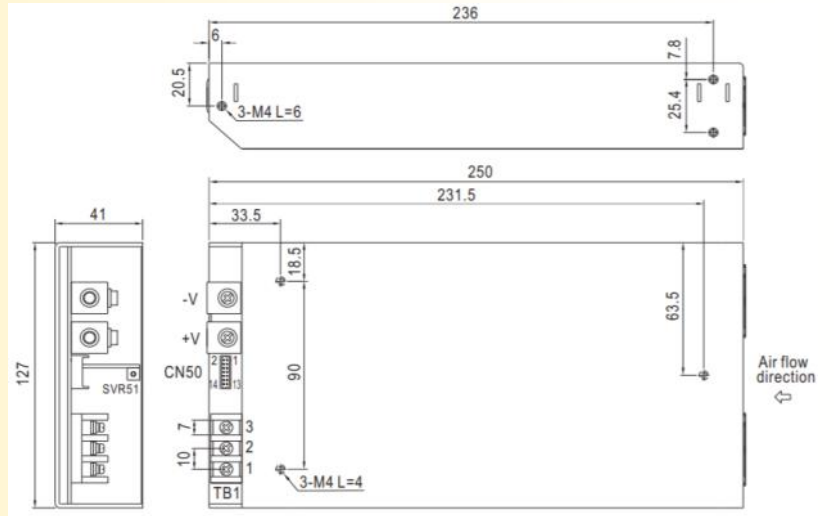
AC-DC CONVERTER

High density

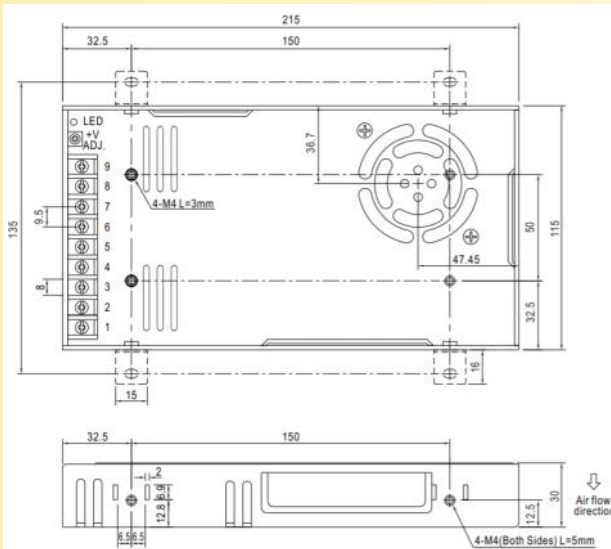
200W version



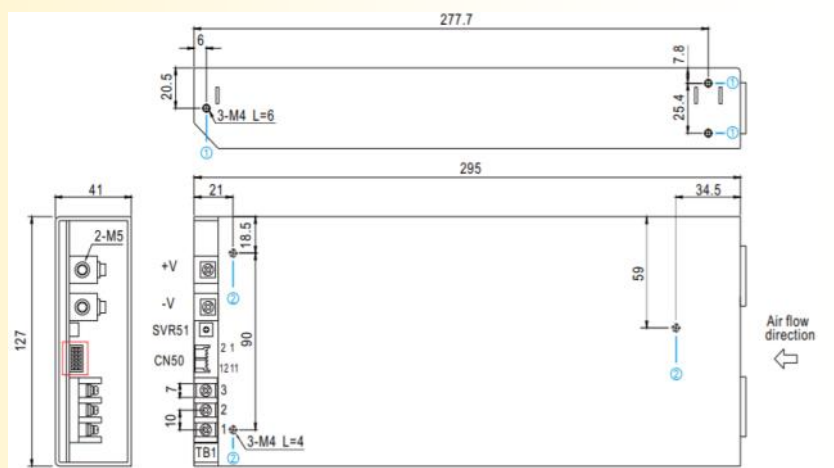
750W version



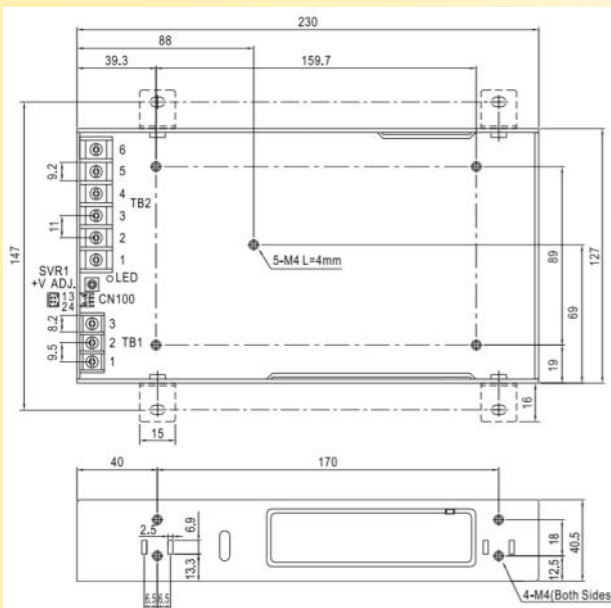
320W version



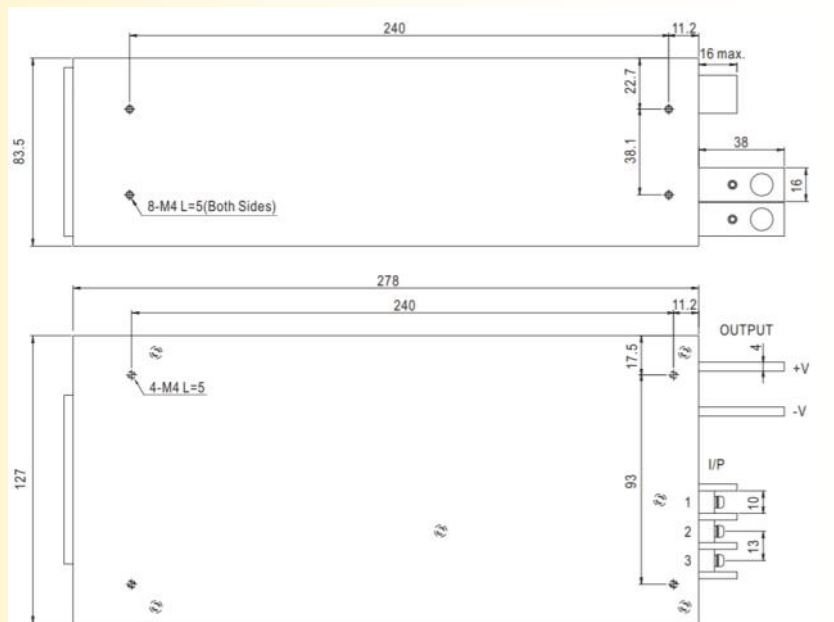
1000W version



500W version



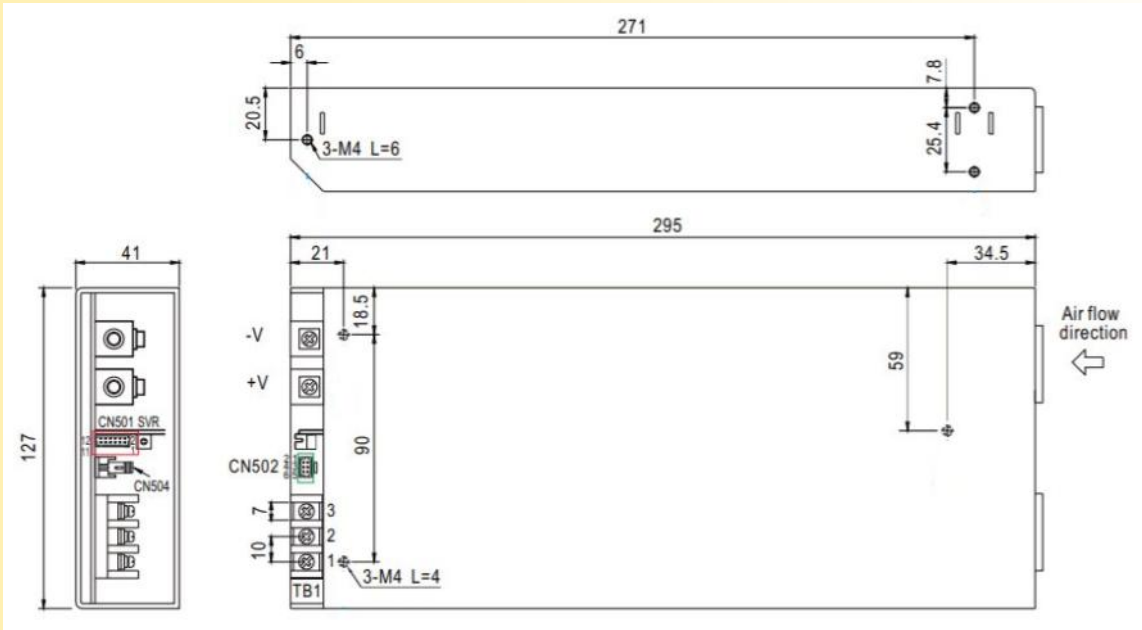
1500W version



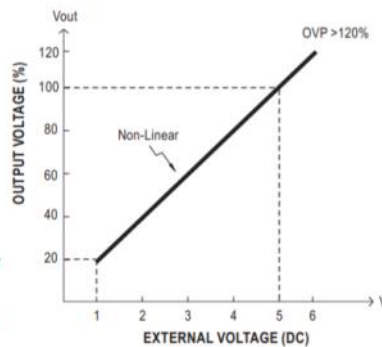
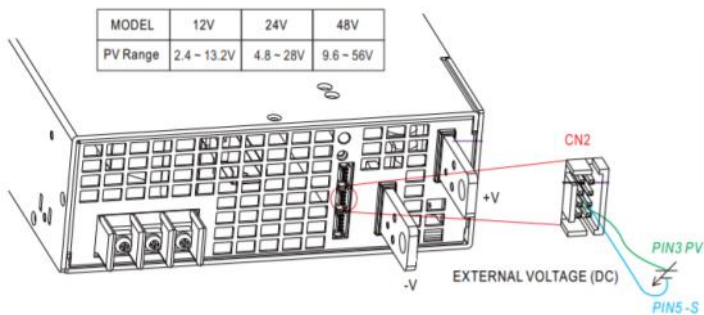
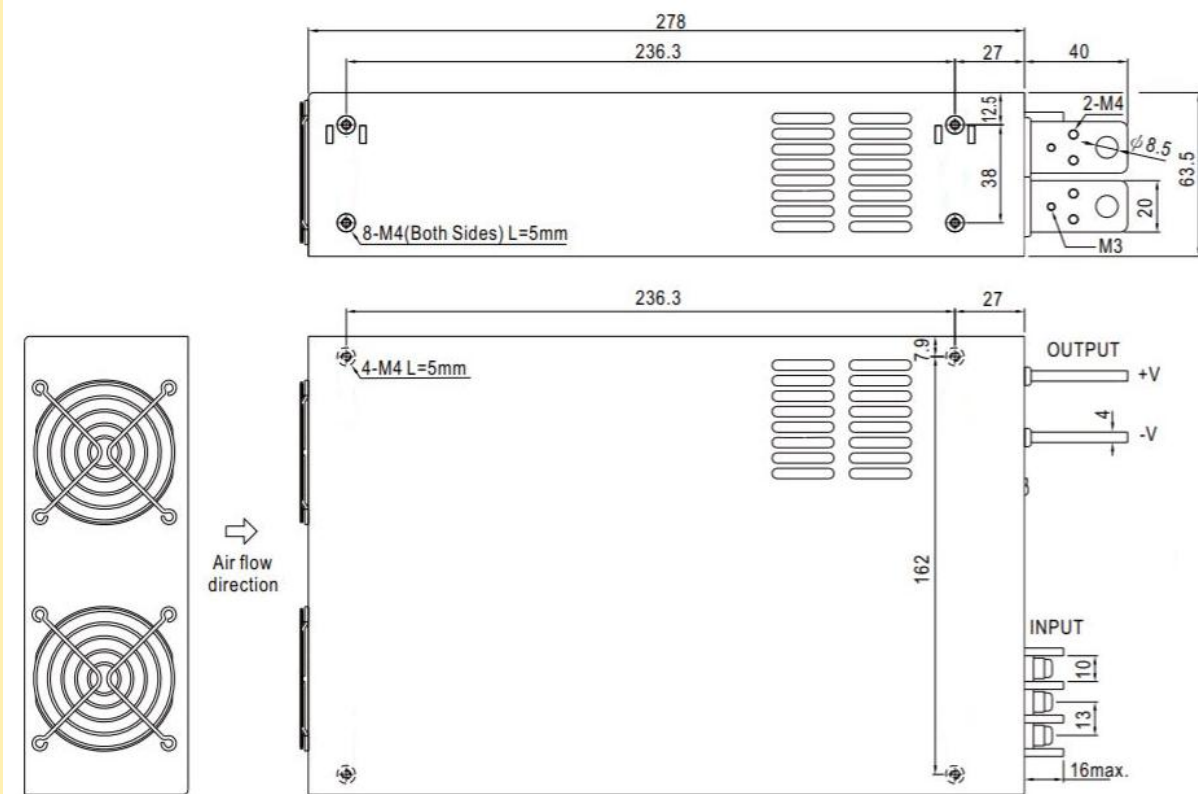
AC-DC CONVERTER

High density

2000W version



2400W and 3000W version with adjustable output option (1...5V control signal)



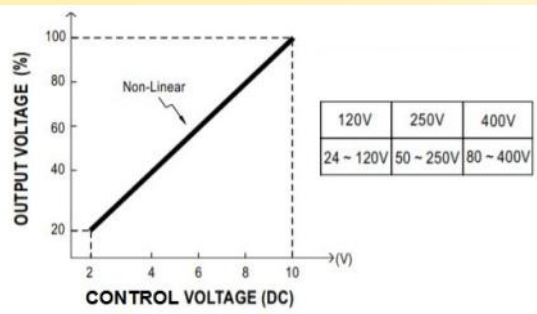
AC-DC CONVERTER adjustable, high voltage 110Vdc 115Vdc 125Vdc 127Vdc 250Vdc WRHD-AC/DC -adj



- **Power: up to 3000 watts**
- **Ac and Dc Input : 180 ... 264Vac / 250 ... 370Vdc**
- **3 version with adjustable output by trimmer**
 voltage 24Vdc ... 120Vdc / 25A
 voltage 50Vdc ... 250Vdc / 12A
 voltage 80Vdc ... 400Vdc / 7.5A
- **Protection**
 short circuits, overload, thermal
- **High efficiency: up to 93%**
- **2500V Input / output isolation**
- **Wall or DIN rail mounting**



Option : Output controlled by external voltage
0..2...10V for an output from 20% to 100%



Version and order code:

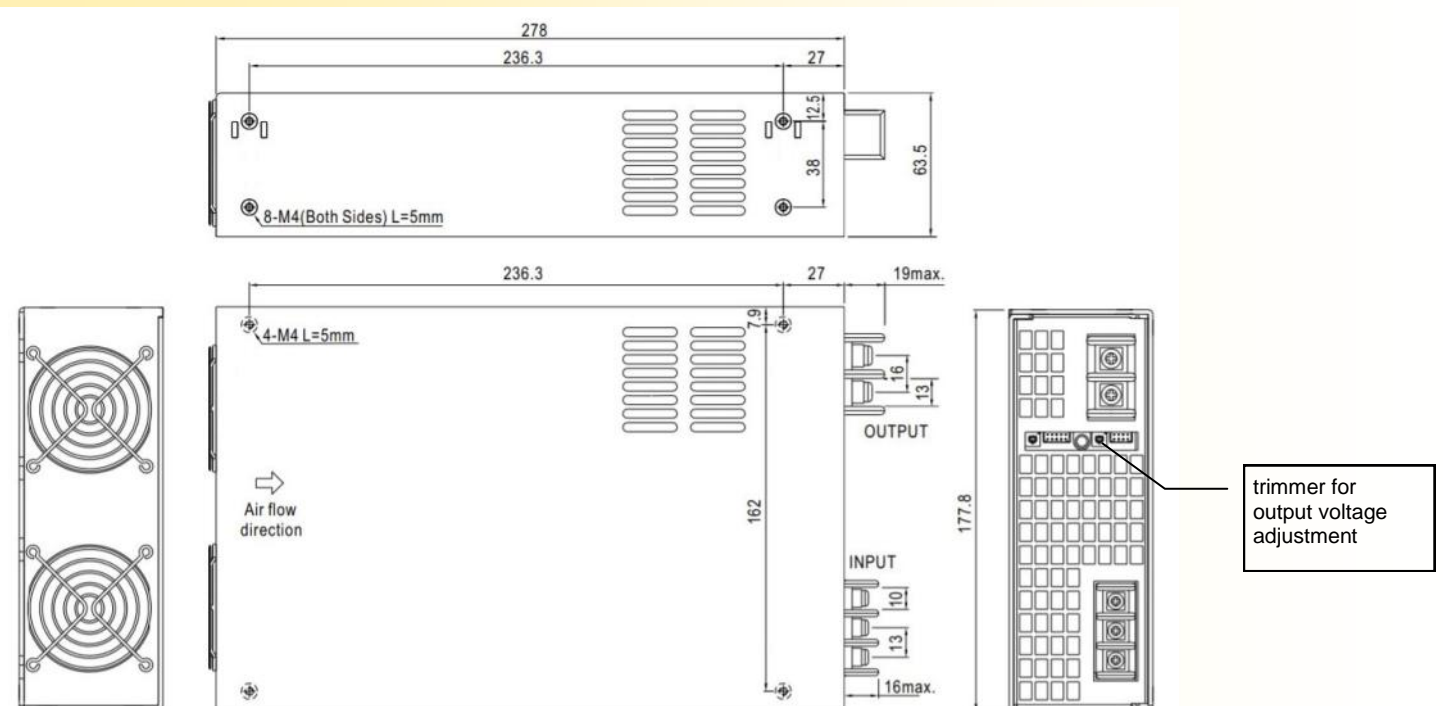
[Request a quote](#)

WRHD-AC/DC-adj in / out : DC-DC converter

in : Wide range AC-DC input voltage
(rating voltage: 180...264Vac and 250...370Vdc)

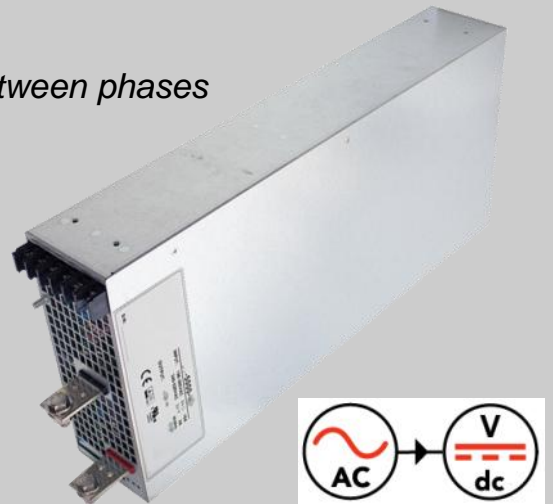
out : Adjustable voltage 24Vdc ... 120Vdc / 25A
 Adjustable voltage 50Vdc ... 250Vdc / 12A
 Adjustable voltage 80Vdc ... 400Vdc / 7.5A

Mounting : **-RD** Rail DIN mounting (option)
-WM wall mounting (in standard)



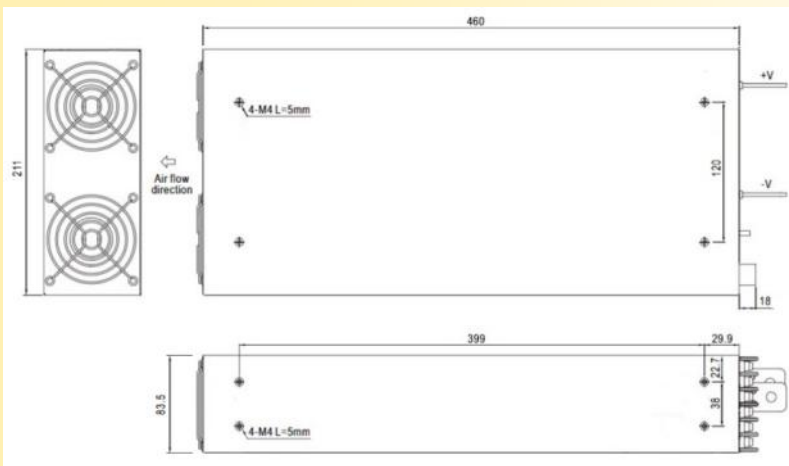
AC-DC CONVERTER *tree-phase input* *high density*

- **Power: 5000 and 10000 watts**
- **Input :** three-phase with neutral 340Vac to 530Vac between phases
- **Output :** 24Vdc, 28Vdc, 36Vdc, 48Vdc, 110Vdc,...
- **Protection :** short circuits, overload, thermal
- **High efficiency: up to 92%**
- **2500V Input / output isolation**
- **Wall or DIN rail mounting**

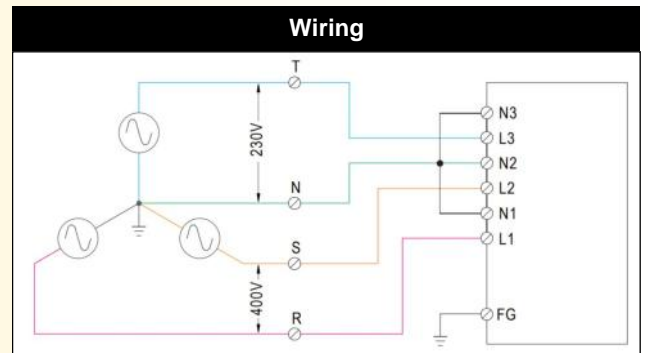
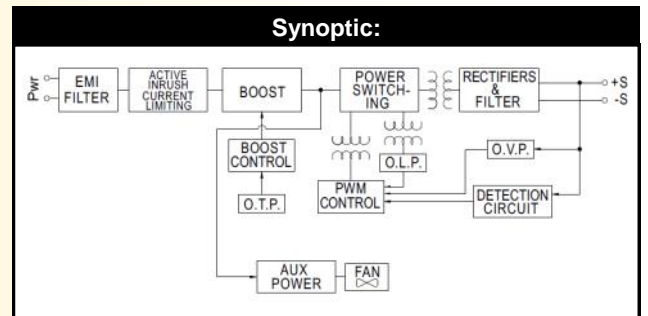
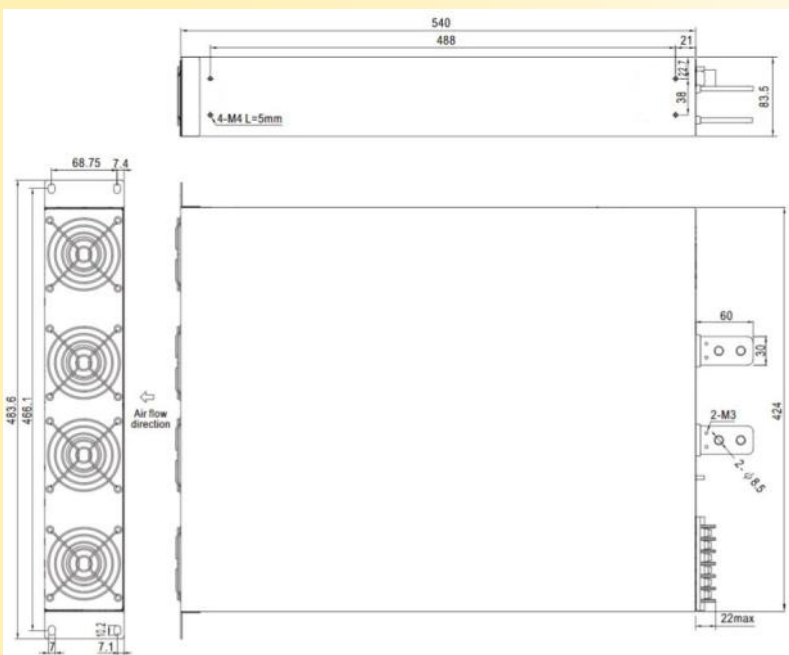


Le WRHDT is a very high power switch mode converter with three-phase input, for application needing high power in small volume.

5000 W version



10000 W version



Version and order code:

[Request a quote](#)

WRDT-AC/DC in / out / pwr

AC-DC converter three-phase input

in : Wide range AC input voltage
(rating voltage: 340.....530Vac between phases)

out : output DC voltage, +/-5% adjustable
(rating voltage: 24Vdc to 110Vdc)

pwr : output power
(5000W, 10000W)

Mounting : **-Rack** 19" 2U rack mounting (option)
-WM wall mounting (in standard)

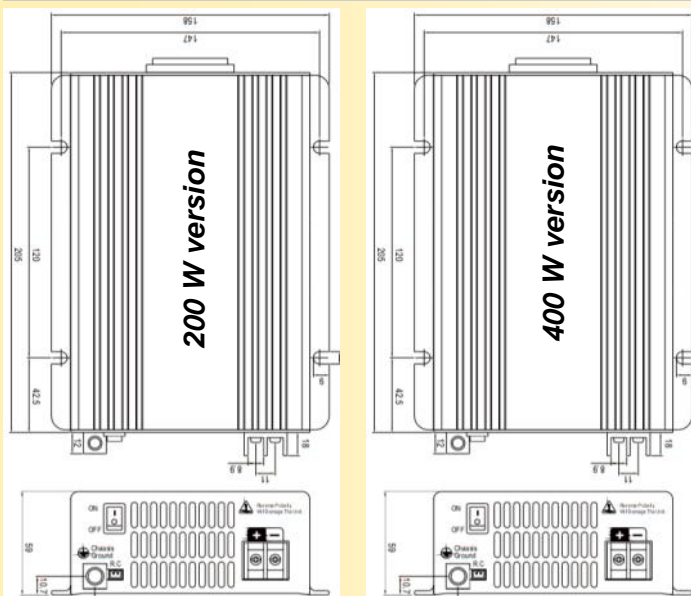
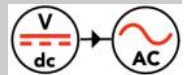
DC-AC PURE SINE WAVE INVERTER

Direct to alternating converter

WRHD-DC/AC



- **Power range** : 200 VA to 3000 VA
- **Input** : 12Vdc, 24Vdc, 48Vdc, 110Vdc, 115Vdc, 127Vdc
- **Sine output** : 115Vac, 230Vac single phase
400Vac three-phase
- **Frequency**: 50Hz - 60Hz
- **Protection** : short circuit, overload, thermal
- **High efficiency**: up to 92%, THD < 3%
- **Insulation**: 2500V Input / output
- **Mounting**: Wall or DIN rail



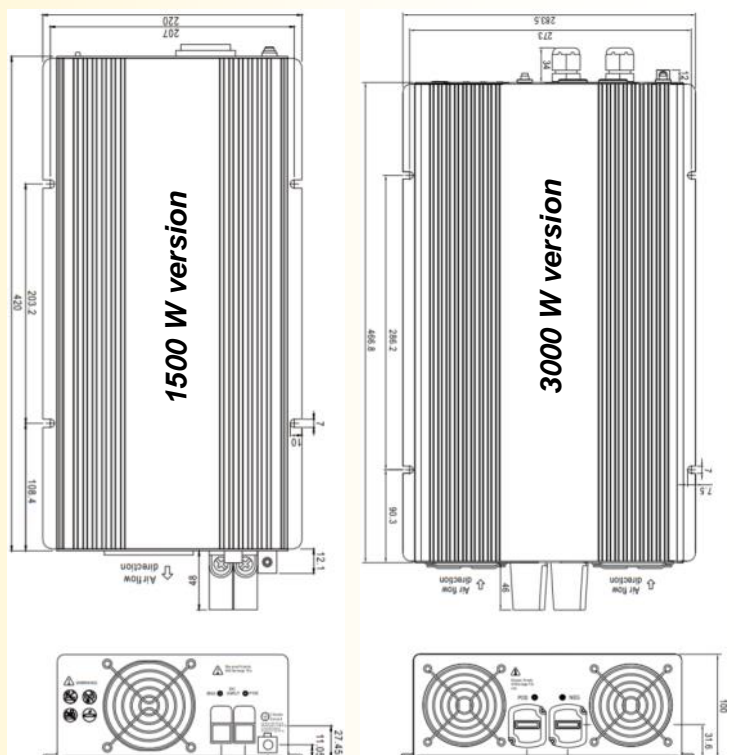
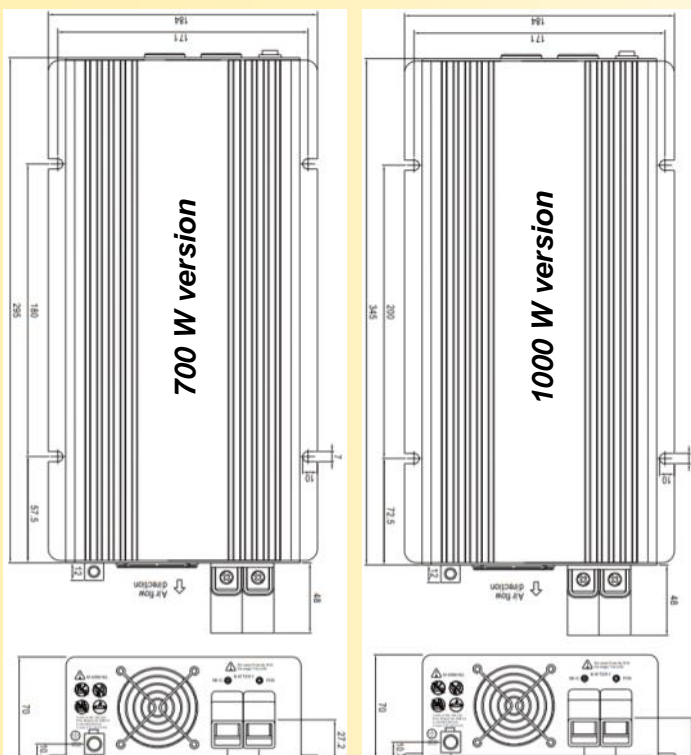
Version and order code:

[Request a quote](#)

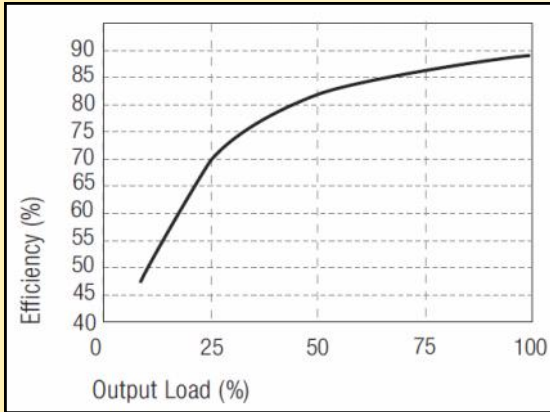
WRHD-DC/AC in / out / pwr : DC-AC sine wave inverter
output: 110Vac or 230Vac single phase
or 400Vac three-phases

- in** : Input DC voltage
(12Vdc, 24Vdc, 48Vdc, 110Vdc, 127Vdc) +/-20%
- out** : Output AC voltage (50Hz in standard)
(115Vac, 230Vac, 400Vac three-phases)
- pwr** : Output power
(200W, 400W, 700W, 1000W, 1500W, 3000W)

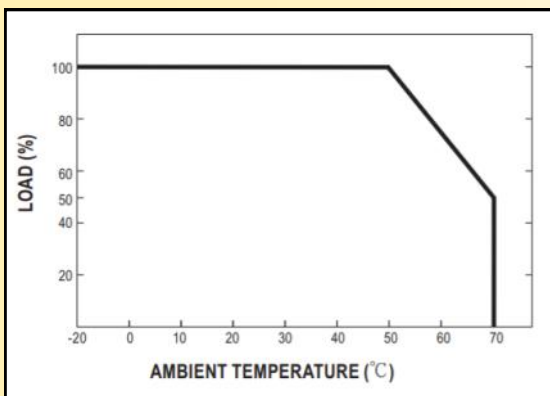
- Mounting** : -RD DIN rail mounting (option)
- WM wall mounting (in standard)



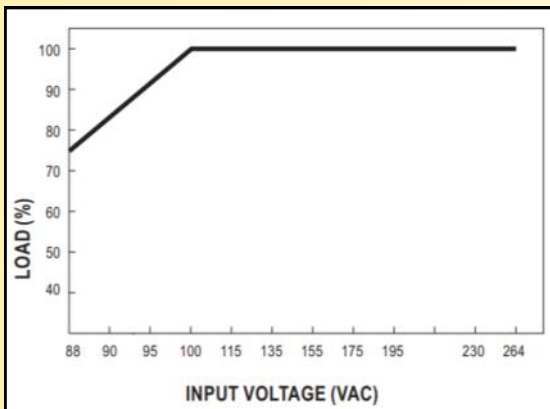
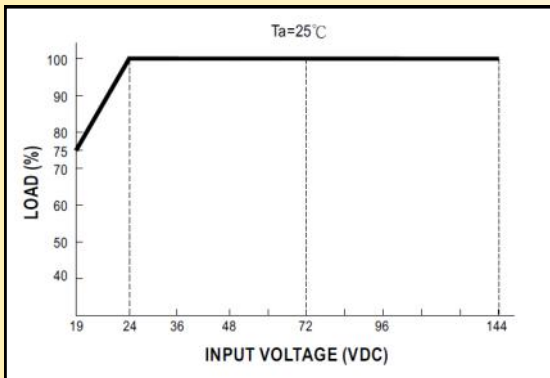
Efficiency as function of load (typical)



Output power as function of temperature



Output power as function of input voltage



ENVIRONMENT

Operating temperature	-20 to 50 °C (without derating)
Temperature derating	2.5% / °C above 50°C
Thermal protection	100°C internal
Storage temperature	-40 to 85 °C
Humidity	85 % (not condensed)
Protection rating	IP20 (enclosure and connectors)
Dielectric strength	2500 Vrms continuous
Insulation resistance	> 100 Mohms at 1000Vdc
Input / output capacity	1200pf typical
Safety standard	EN 60950-1
Typical efficiency	84 to 96% model dependant
Vibration	10-500Hz, 2G, 10 minutes X,Y,Z.
Weight	0.2kg to >5kg dependant of model
Switching frequency	65 to 120kHz typical
MTBF (+25°C)	> 500 000 hours
(according to MIL-HDBK-217F @ 25 °C)	

Technical specification for output

DC-DC and AC-DC models:

Output voltage accuracy	: +/-1%
Line regulation (input variation)	: +/-0.5%
Load regulation (output current variation)	: +/-1%
Noise and output ripple	: < 100mVpp (20MHz bandwidth)
Thermal stability	: +/-0.02% / °C
Output current limitation	: 110%
Start up time	: 600ms
Hold time	: ~ 20ms at full load

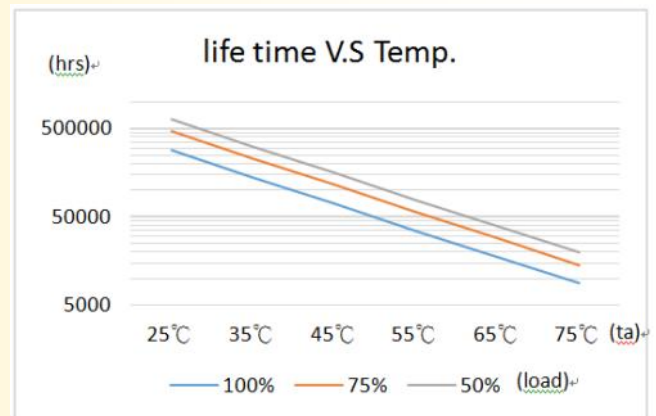
DC-AC models: True sine wave output, distortion < 3%

Frequency	: 50Hz +/- 0.1Hz or 60Hz +/-0.1Hz
Permissible overload at start-up	: 200%

Technical specification for input

Power factor	: > 0.94 @230Vac at full load
--------------	-------------------------------

Life time function of temperature



Electromagnetic compatibility 2004/108/CE / Low Voltage Directive 2006/95/EC

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011 group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	

