

- **Power from 25 to 10000 watts High density**
- **Wide range of voltage**
 - inputs DC : 12Vdc....1500Vdc
 - AC : 85Vac...530Vac
 - output DC : 12Vdc....72Vdc
 - AC : 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 aluminium 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



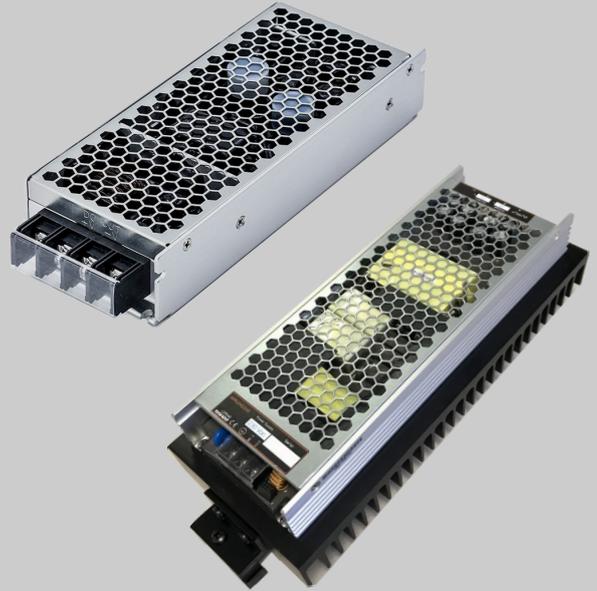
WRHD-DC/AC



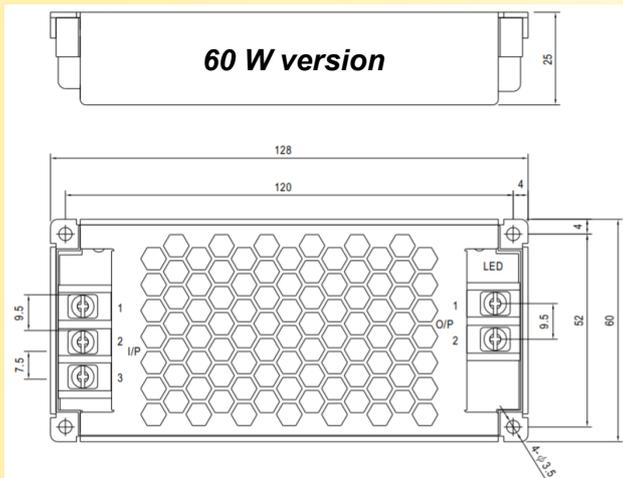
DC-DC CONVERTER

ultra high density

- **Power range : 60 to 500 watts**
- **Input : 12Vdc, 24Vdc, 48Vdc,...160Vdc**
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,)

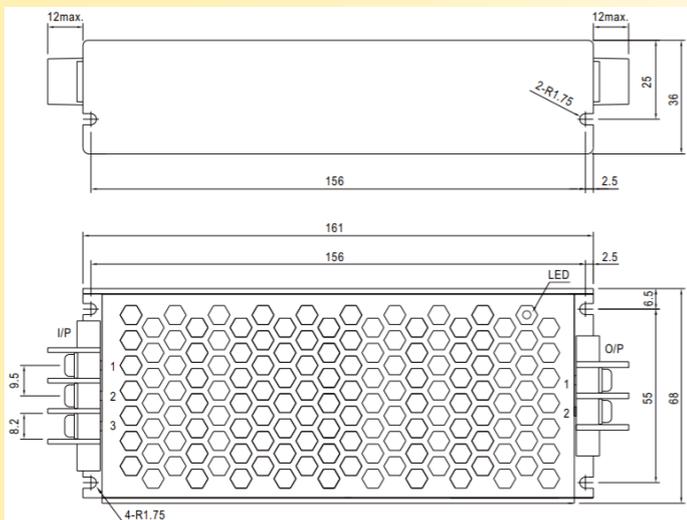
out : Output DC voltage
(nominal voltage: 3.3Vdc, 5Vdc, 12Vdc, 24Vdc, 48Vdc)

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

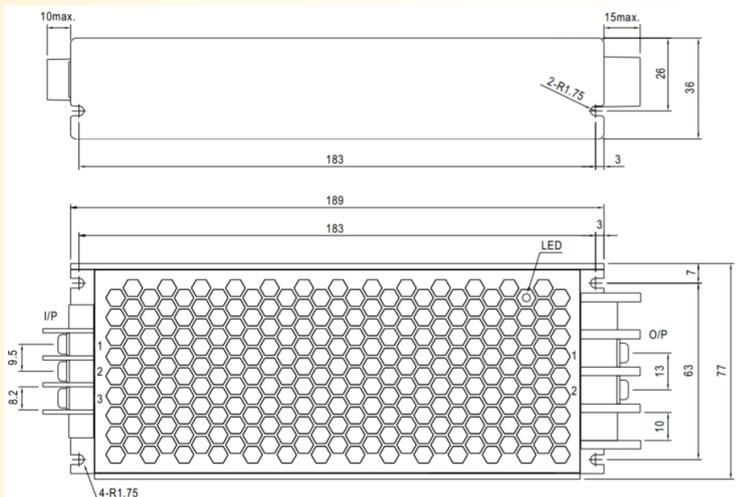
Mounting : -RD DIN rail mounting (option)
-WM wall mounting (in standard)

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

100 W version

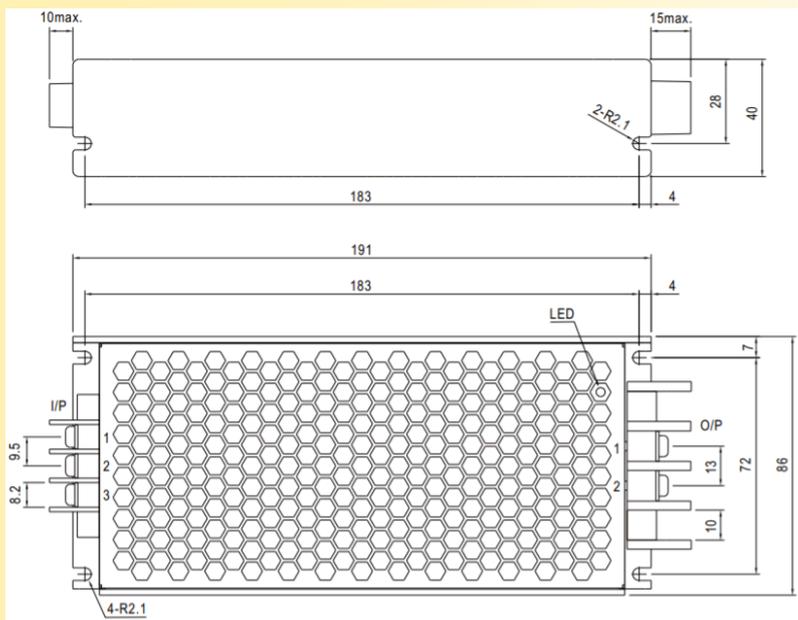


150 W version

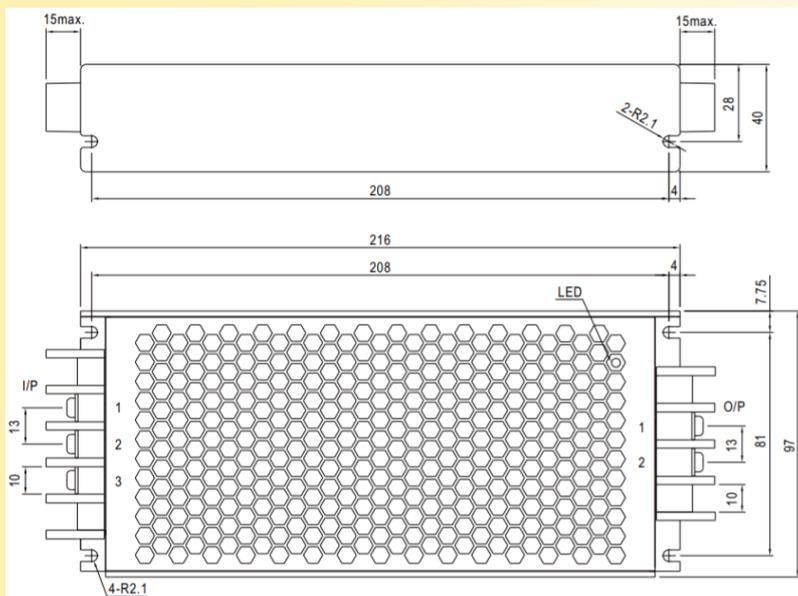


CONVERTISSEUR DC-DC

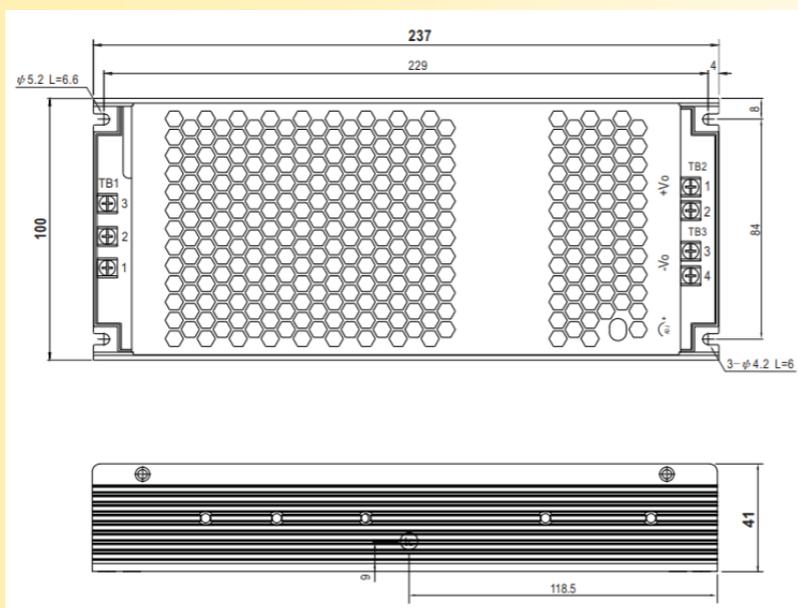
ultra haute Densité



200 W version



300W Version



500W version

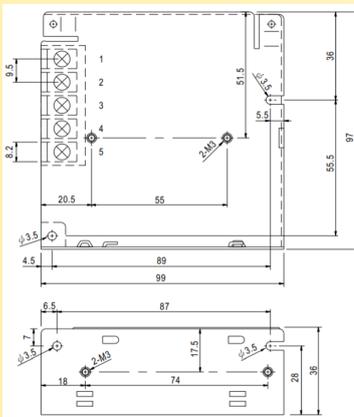
DC-DC CONVERTER

high density

- **Power range: 25 to 1000 watts**
- **Input : 12Vdc, 24Vdc, 48Vdc**
- **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:

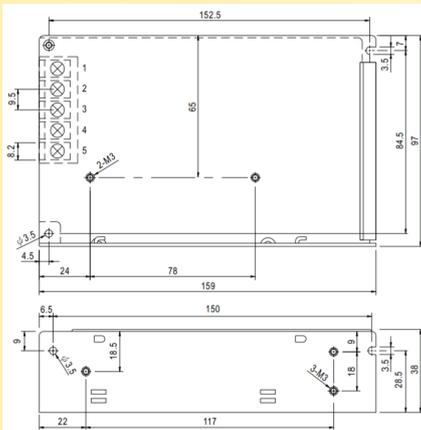
[Request a quote](#)

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

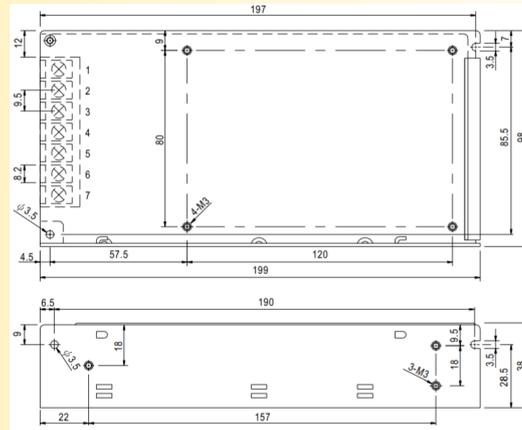
- in** : Wide range DC input voltage 2:1 or 4:1 (nominal voltage: 12Vdc, 24Vdc, 48Vdc)
- out** : Output DC voltage, +/-10% adjustable (nominal voltage: 5Vdc, 12Vdc, 24Vdc, 48Vdc)
- pwr** : Output power (25W, 50W, 100W, 200W, 350W, 500W, 1000W)

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

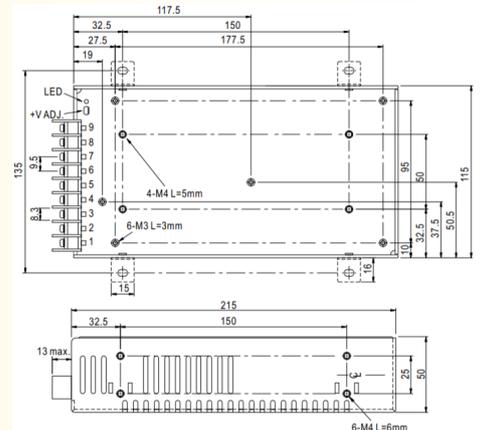
50 W version



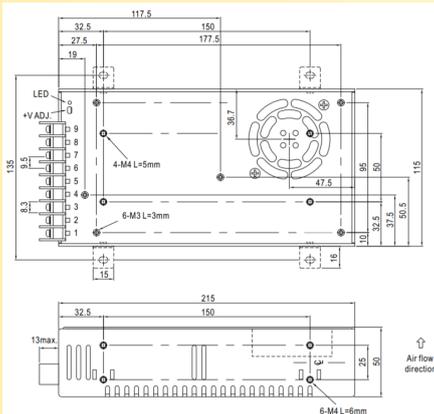
100 W version



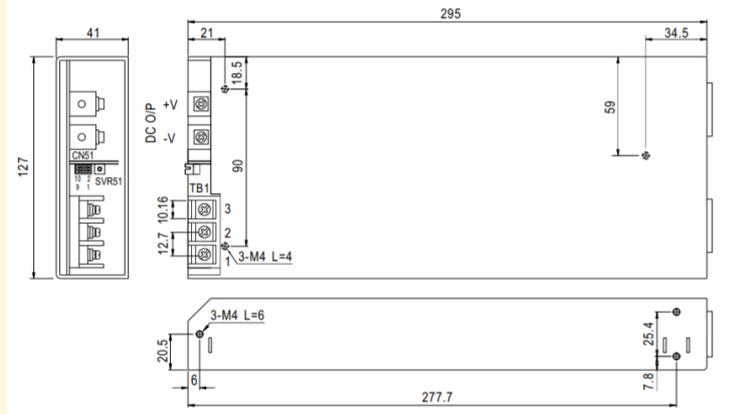
200 W version



350 W and 500W versions



1000W version



AC-DC CONVERTER *fanless, natural convection*

Ultra high density

WRUHD-AC/DC

LOREME

- **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**

- **Output : 24Vdc, 36Vdc, 48Vdc,**

- **Protection :**

- Short circuits
- Overload
- Thermal

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

- **2500V Input / output isolation**

- **Wall or DIN rail mounting**

- **Optional 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)

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

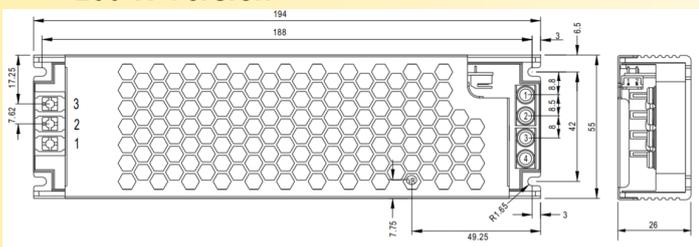
pwr : Output power
(200, 350, 500, 750, 1000, 1500, 2500W)

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

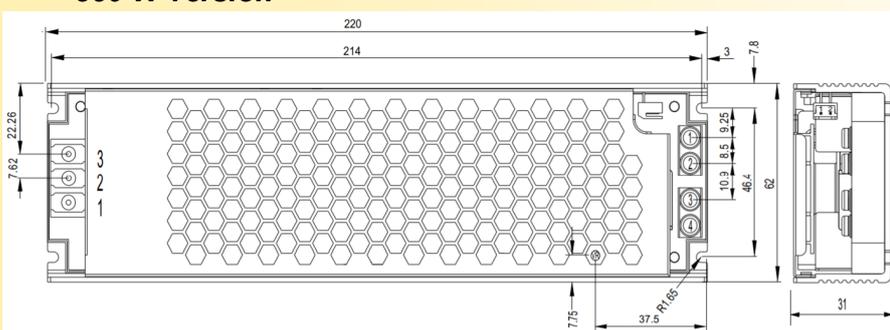
Option : -R version with redundancy function
allowing the parallel coupling of 2 modules
-HT High temperature version (+70°C) with heat sink

WIRING AND OUTLINE DIMENSIONS:

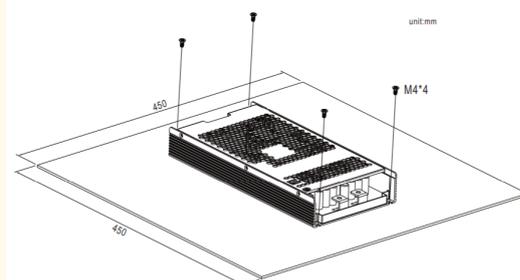
200 W version



350 W version



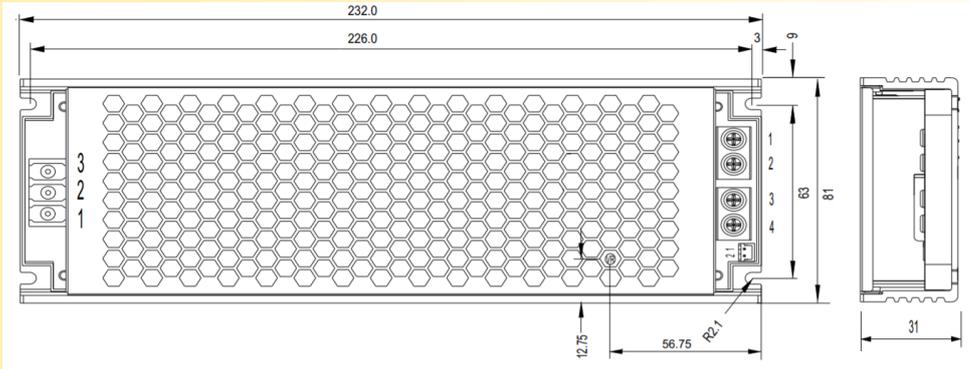
Implementation of free-air convection cooling



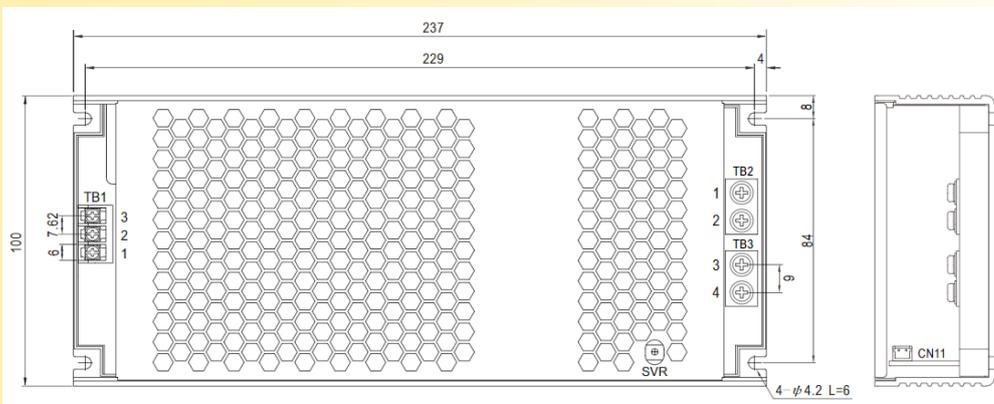
AC-DC CONVERTER

Ultra high density

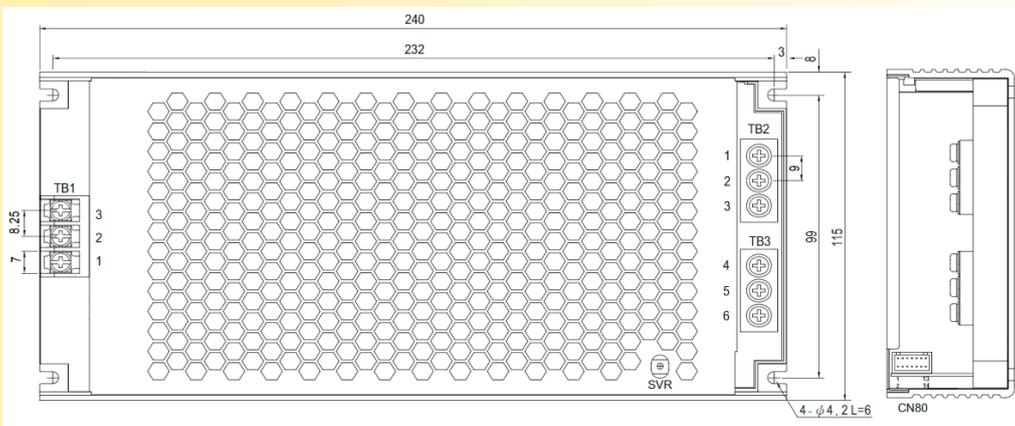
500 W version



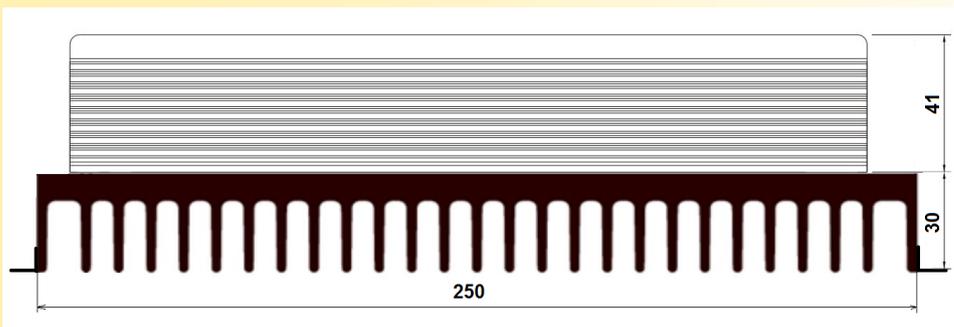
750 W version



1000 W version



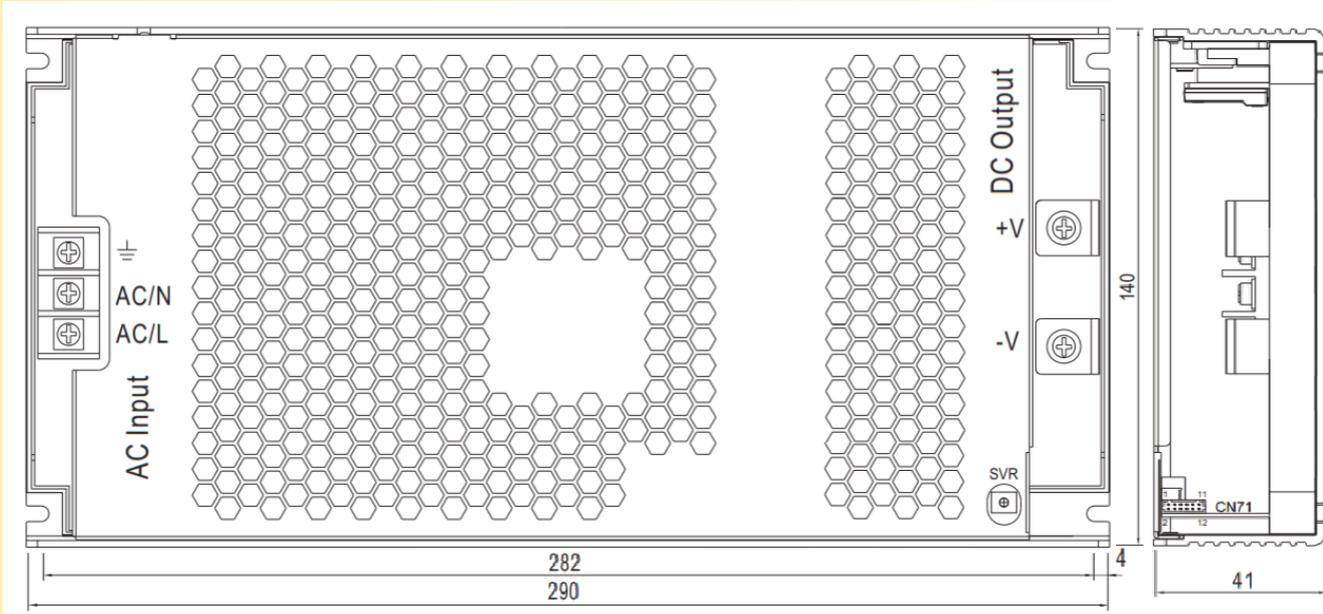
High temperature, 1000 W version with heat sink (side view)



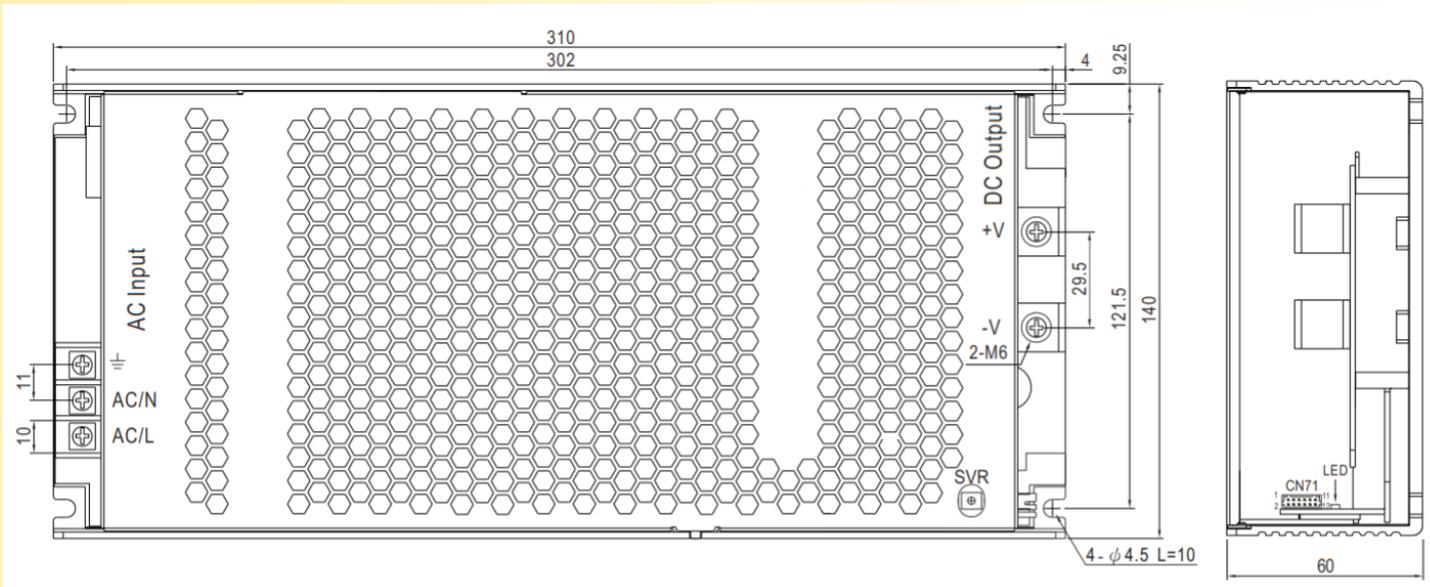
AC-DC CONVERTER

Ultra high density

1500 W version



2500 W version



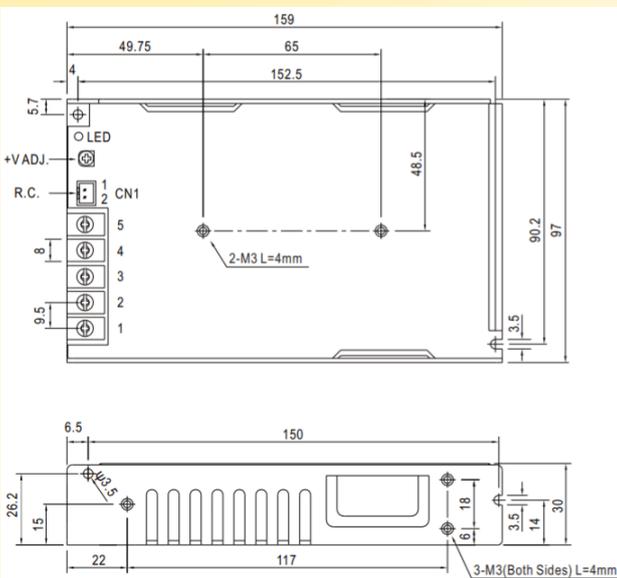
AC-DC CONVERTER

High density

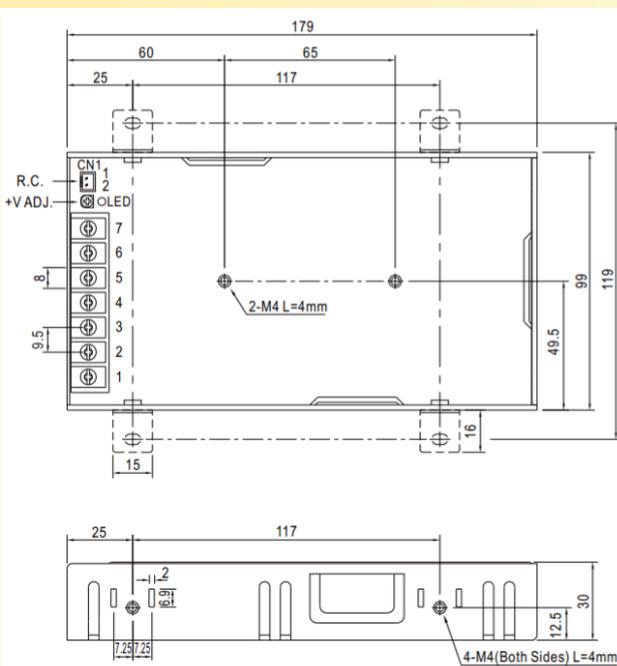
- Power range : 75 watts to 3000 watts
- Input : 90.....264Vac
- Output : 3.3 to 48Vdc,
- Protection : short circuits, overload, thermal
- High efficiency: up to 92%
- 2500V Input / output isolation
- Wall or DIN rail mounting



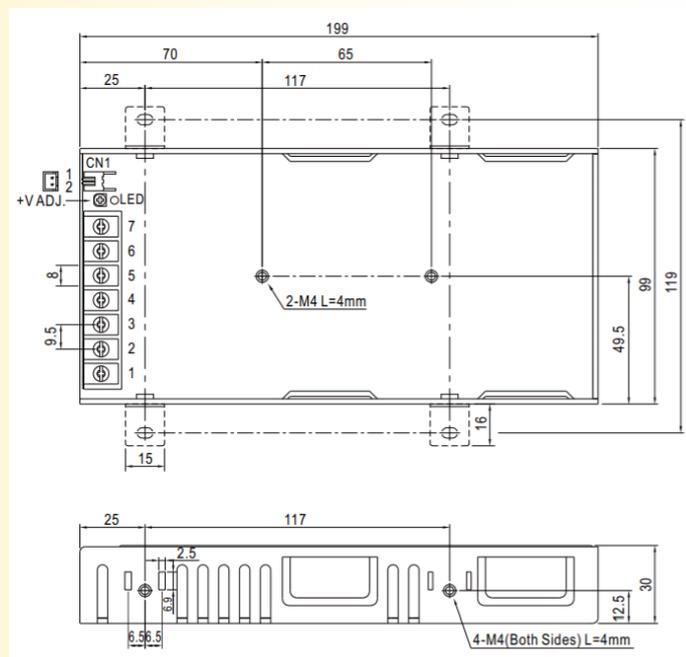
75W version



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)

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

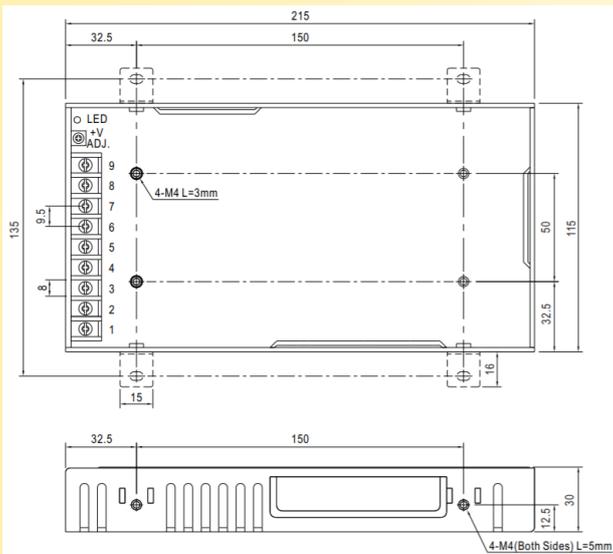
pwr : Output power: (75W, 100W, 150W, 200W, 320W, 500W, 750W, 1000W, 1500W, 2000W, 2400W, 3000W)

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

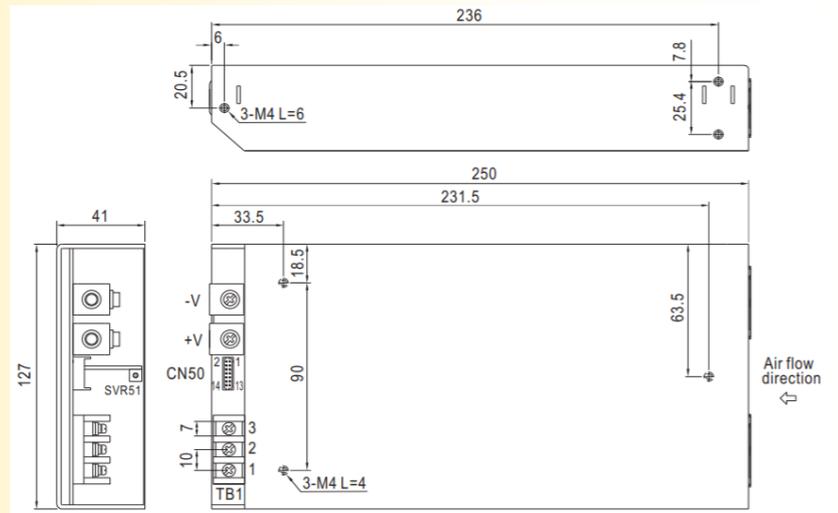
AC-DC CONVERTER

High density

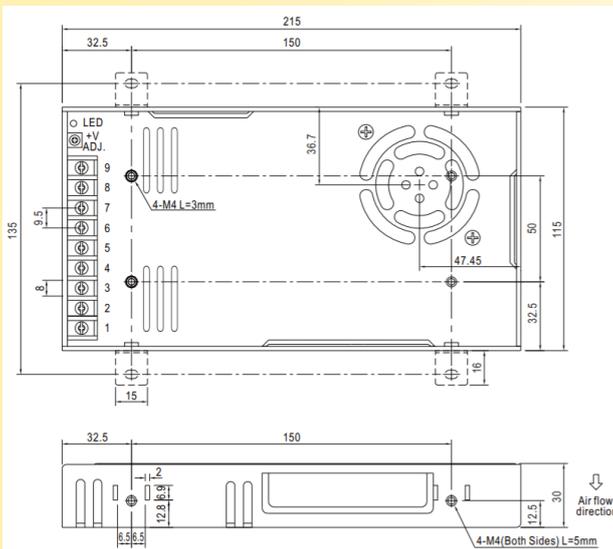
200W version



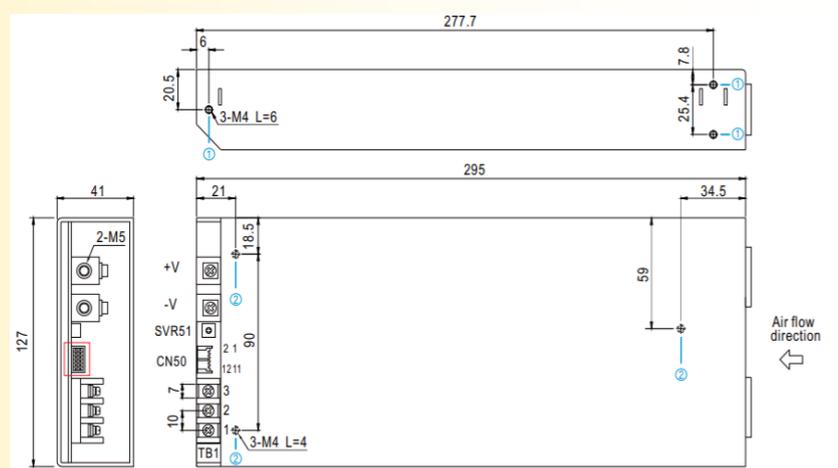
750W version



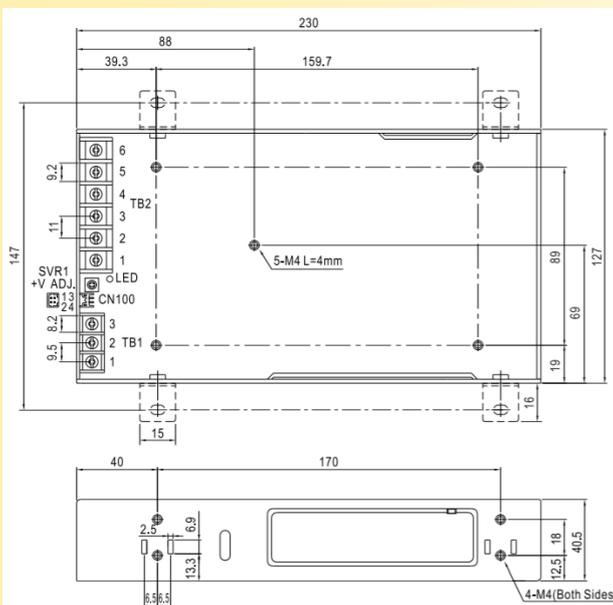
320W version



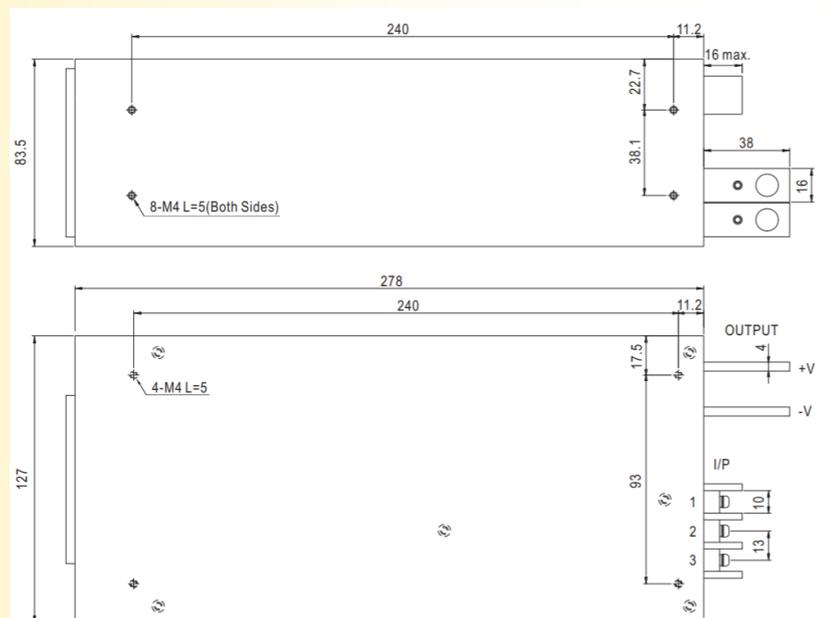
1000W version



500W version



1500W version



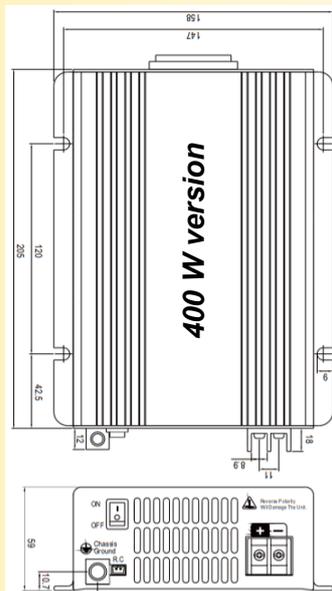
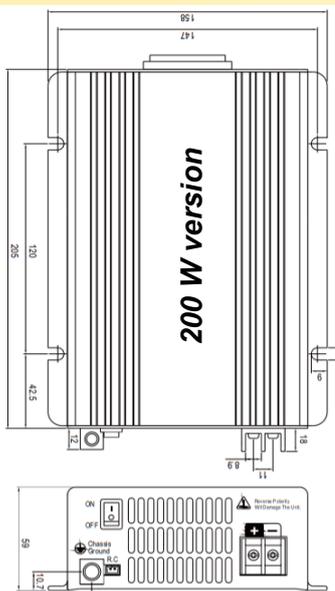
DC-AC PURE SINE WAVE INVERTER

Direct to alternating converter

WRHD-DC/AC



- **Power range** : 200 VA to 3000 VA
- **Input** : 12Vdc, 24Vdc, 48Vdc,
- **Sine output** : 230Vac single 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



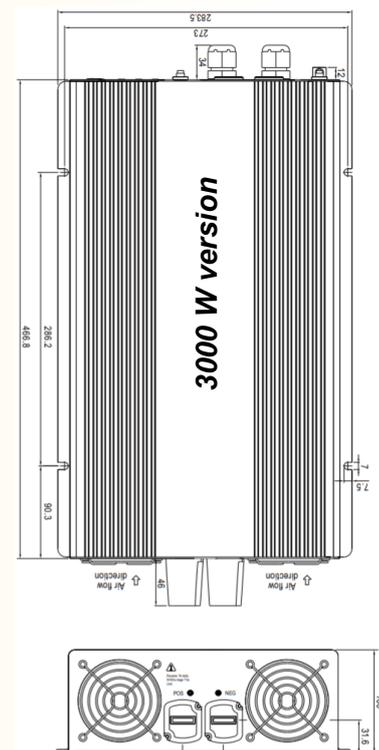
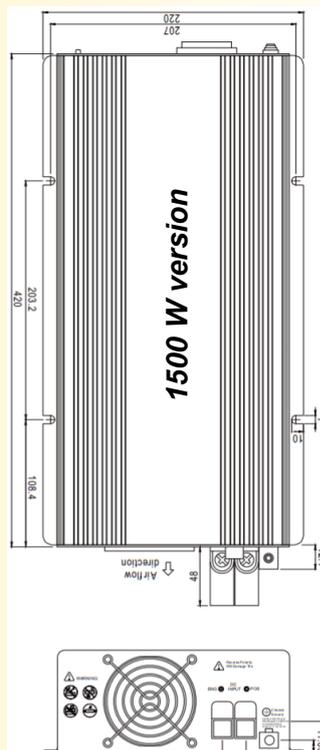
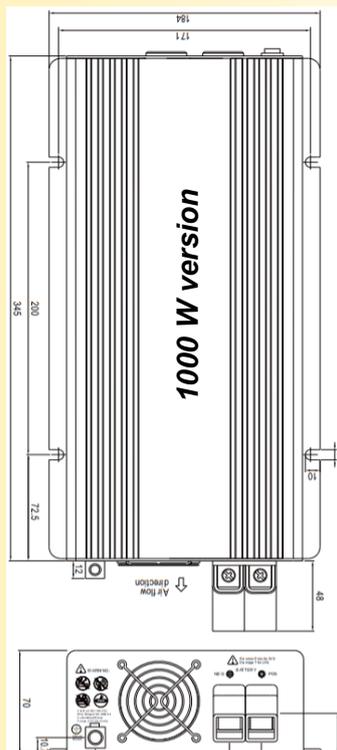
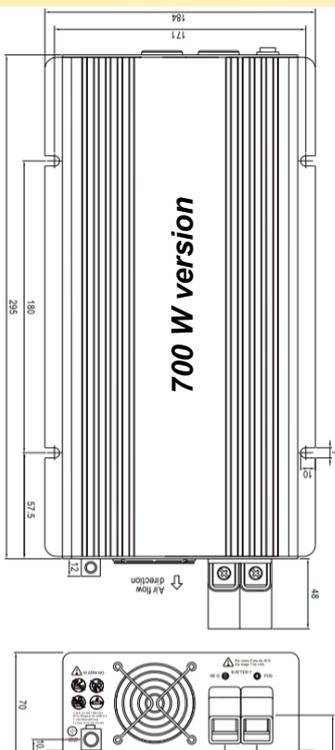
Version and order code:

[Request a quote](#)

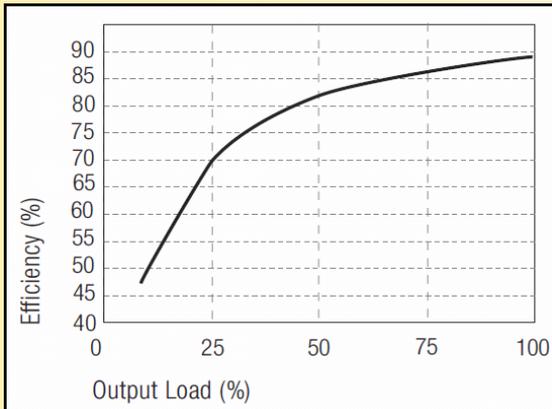
WRHD-DC/AC in / out / pwr : DC-AC sine wave inverter
output: 110Vac or 230Vac single phase
or 400Vac three-phases

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

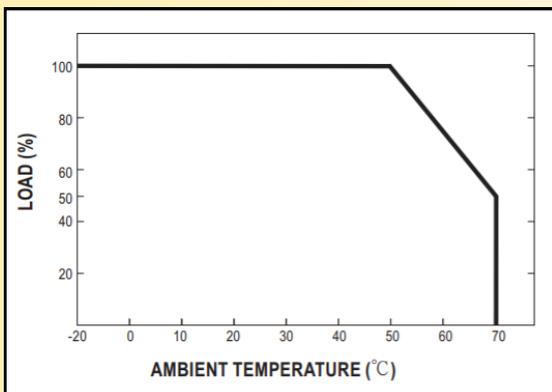
Mounting : -RD DIN rail mounting (option)
-WM wall mounting (in standard)



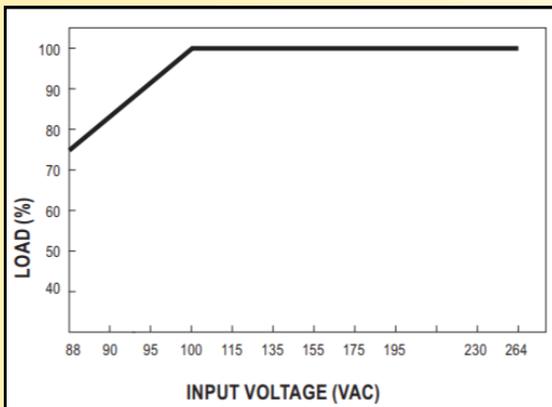
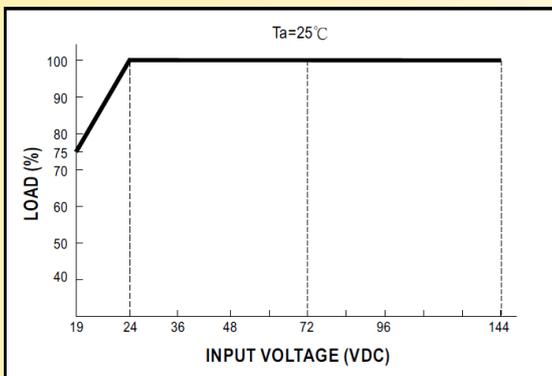
Efficiency as function of load (typical)



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

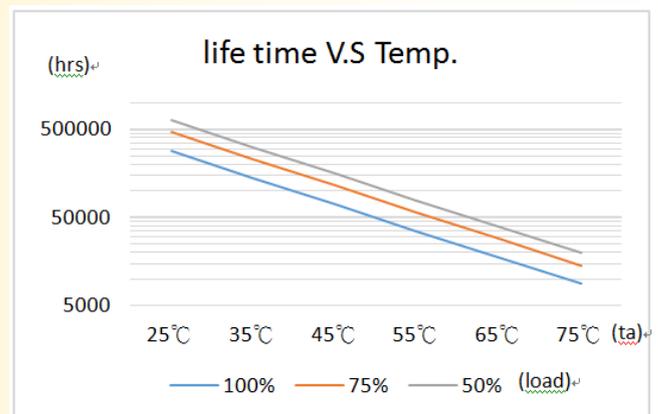
DC-AC models: True sine wave output, distortion < 3%

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
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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	

