

# WRHD-DC-AC-3000-3PH



## 3000VA THREE-PHASE DC/AC SINE INVERTER

24Vdc, 48Vdc, 72Vdc, 110Vdc, 115Vdc, 127Vdc  
To 400Vac three phase output

### GENERAL FEATURES:

Three Phase Sine wave output  
voltage Selectable  
output frequency: 50/60 Hz  
High input-output isolation 3000 Vrms  
Remote inhibit  
Alarms by isolated relay contacts  
Remote off opto-coupled



### Available models

Vdc input	24 Vdc 16.8 ... 30 V	36 Vdc 25.2 ... 45 V	48 Vdc 33.6 ... 60 V	72 Vdc 50.4 ... 90 V	110 Vdc 77 ... 138 V
Output 400 Vac	2400 W	3000 W	3000 W	3000 W	3000 W

Version and order code:

[Request a quote](#)

**WRHD-DC/AC in - 400 - 3000 - 3PH** : DC-AC Three-phase sine converter

**in** : Input DC voltage (24Vdc, 48Vdc, 72Vdc, 110Vdc, 127Vdc) +/-20%

Output AC voltage : 400Vac

Output power : 3000W

Mounting : **-WM** Wall mounting (standard)

# WRHD-DC-AC-3000-3PH



## INPUT

Input voltage range	-30, +25 % Vin nom
Maximum input ripple	5% Vin nom (Vrms, 100 Hz)

## OUTPUT

Nominal output voltage (Von)	
Output voltage range	400 Vac
Output frequency	50 / 60 Hz via DIP-switch
Load regulation	< 4 %
Line regulation	< 2 % Vin -25 % ... +25 % < 10 % Vin -30 % ... +25 % < 20 % Vin -40 % ... +40 % (100ms)
Output waveform distortion THD	< 2 % (average of 16 samples)
Output HF ripple	< 2.5 %

## ENVIRONMENTAL

Storage temperature	-25 ... 80 °C
Operating temperature: Full load	-25 ... 55 °C (EN50155 OT1)
Operating temperature: 62.5 % load	-25 ... 70 °C (EN50155 OT3)
Operating temperature: 25 % load	-25 ... 85 °C (EN50155 OT5)
Relative humidity	5 ... 95 %
Maximum altitude	2000m at full load, 2500m at 95% of load
Cooling	Controlled internal fan
Shock and vibration	According to EN61373:2010 + Corr 1:2011 Category 1 class B body mounted
MTBF (MIL-HDBK-217-E; G, 25 °C)	100.000 h

## EMC

Immunity according	EN61000-6-2, EN50121-3-2
Emissions according	EN61000-6-4, EN50121-3-2

## SAFETY

Dielectric strength: Input / Output	3000 Vrms / 50 Hz / 1 min
Dielectric strength: Output / PE	1500 Vrms / 50 Hz / 1 min
Dielectric strength: Input / PE	1500 Vrms / 50 Hz / 1 min
Dielectric strength: Signals (Note-2) / PE, Input	1500 Vrms / 50 Hz / 1 min
Dielectric strength: Signals (Note-2) / Output	1500 Vrms / 50 Hz / 1 min
Safety according to	EN60950-1, EN62368-1
Fire and smoke according to	EN45545-2

## MECHANICAL

Weight	7150 g
--------	--------

## PROTECTIONS

Against overloads	Current and I <sup>2</sup> T limited (see overload protection)
Against over-temperature	Shutdown with auto-recovery

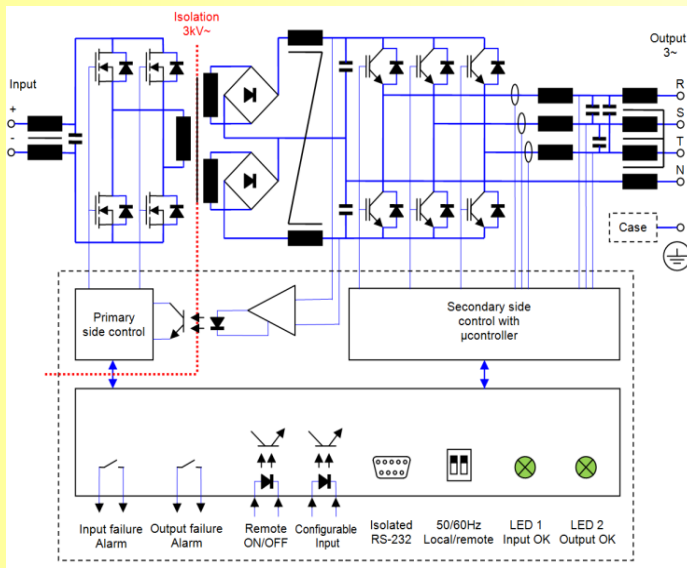
## CONTROL

Output OK LED	Green
Input OK LED	Green
Input alarm	Open when alarm. Maximum rating: 0.16 A at 160 Vdc
Output alarm	Open when alarm. Maximum rating: 0.16 A at 160 Vdc
Remote OFF input	OFF: applying 15...154 Vdc (acc. to EN50155), Impedance >35kΩ
Configurable input (reverse rotation or mid-power)	ON: applying 15...154 Vdc (acc. to EN50155), Impedance >35kΩ

# WRHD-DC-AC-3000-3PH



## BLOCKS DIAGRAM



## DESCRIPTION

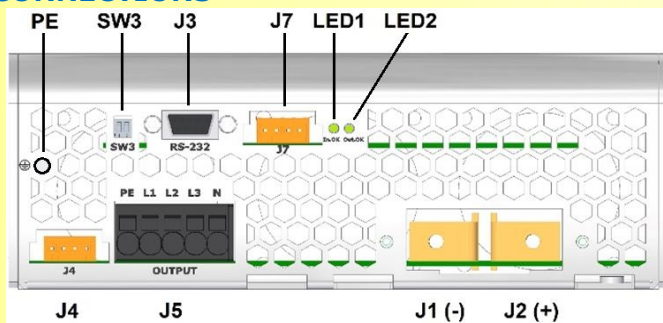
The device consists of three phase sine-wave DC-AC inverters with galvanic isolation between input and output. The unit allows:

- Two working modes configurable via switch SW3:

SW3-1	SW3-2	Working mode
OFF (UP)	OFF (UP)	Output frequency : 50Hz
ON (DOWN)	OFF (UP)	Output frequency : 60Hz

- Shutdown applying voltage output 15 to 154 V on pins 3 and 4 of J4
- Monitoring the status of the input and output voltage through the contacts of two separate solid-state relays.
- The device is equipped with a maximum average power protection as well as maximum output peak current protection. This protects the semiconductors even when an output short-circuit occurs.
- It also features a disable function for input under-voltage, which allows protecting the batteries from harmful discharges.

## CONNECTIONS

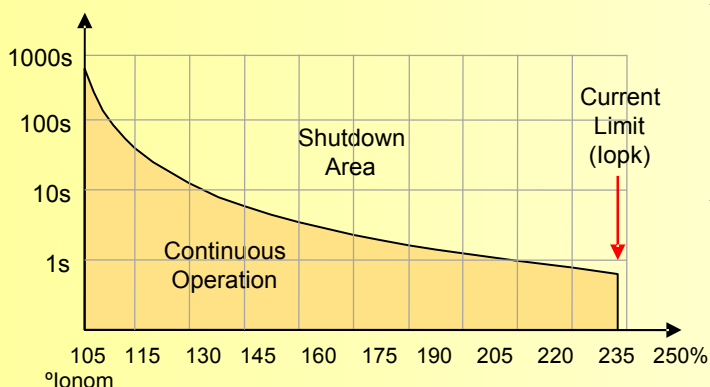


J1	-Vin	Terminals M6 (Rec. torque 6 Nm)
J2	+Vin	
PE	Protective Earth	Stud M5 (Rec. torque 3.8 Nm)
J5 - 1	Protective Earth	Cables 1.5 ... 2.5 mm <sup>2</sup>
J5 - 2	Output R	
J5 - 3	Output S	
J5 - 4	Output T	
J5 - 5	Output Neutral	
J4 - 1	+ Configurable input	Cables 0.25 ... 1.5 mm <sup>2</sup>
J4 - 2	- Configurable input	
J4 - 3	+ Remote ON/OFF	
J4 - 4	- Remote ON/OFF	
J7 - 1	Output alarm	
J7 - 2	Output alarm	
J7 - 3	Input alarm	
J7 - 4	Input alarm	

## INSTALLATION

- The unit has 4 threaded holes for the fixation on a mounting surface.
- The unit has internal fans. For an appropriate cooling, the air input and output should be free of elements that cause an air flow reduction (minimum recommended distance to other objects 50 mm).
- Make connections as shown in the figure.
- The default output frequency is 50 Hz. For 60 Hz simply actuate the DIP-switch as indicated in the figure.
- For safety reasons, the following requirements must be met:**
- Provide the equipment with some kind of protective enclosure that complies with the electrical safety

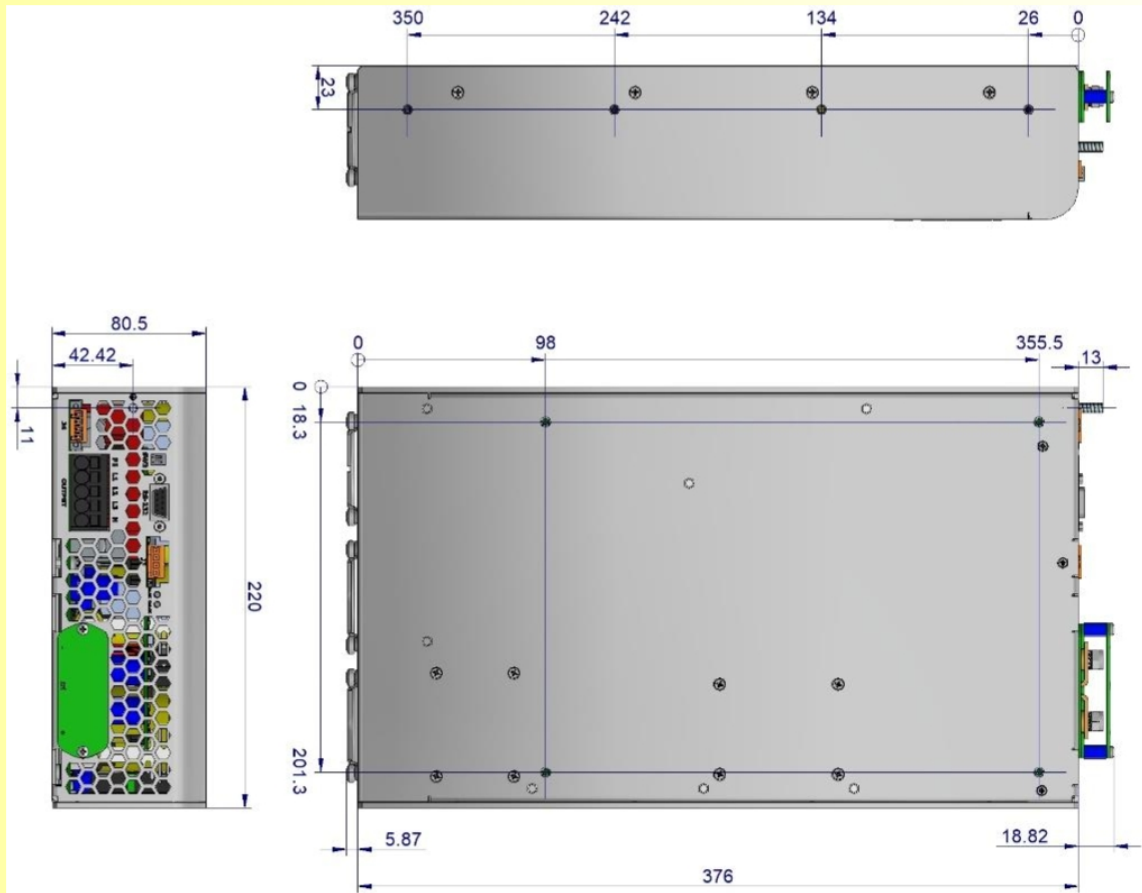
## POWER DERATING vs AMBIENT TEMP.



# WRHD-DC-AC-3000-3PH



## DIMENSIONS



## ACCESSORIES

Description	Notes
Mounting brackets kit	Contains two brackets and screws

