

Model Number: HT1KWMP

Product Type: Multidirectional  
power converter

**HELIOS**  
POWER SOLUTIONS

**Power & backup solutions  
for critical infrastructure**

# HT1KWMP

DESIGNED AND BUILT FOR EXTREME ENVIRONMENTS

**IP65 Multidirectional Power Converter for  
Powering DC & AC Loads**



Multidirectional  
Power



High Operating  
Temperature



Outdoor  
Applications



Remote  
Monitoring



Chargers  
Batteries



Fanless



## POWER

1kW up to 3kW\*

## I/V

48Vdc – 230Vac

## O/V

230Vac & 48Vdc

## MOUNTING

Pole, rack, wall

\*Using 3 modules & a junction kit

### Main Features:

- Power 230Vac and 48Vdc loads
- Charges batteries
- Wide operating temperature -40°C to +70°C
- Compliant with shock and vibration MIL-STD- 810 & MIL-STD-461
- Easy to use

### Applications



Security



Telecom



Transportation

### Optional Features:

- Optional HCTMBOX monitoring device
- Up to 3kW output power (using 3 modules and a junction kit - [+1KABINT](#))

### Rugged power solution for outdoor, mobile, and remote applications

HT1KWMP was designed and built for extreme environments: Corrosive atmosphere, environment exposed to heavy rain or water splashes, dusty, difficult access, extreme temperatures, high vibration, and shock.

#### Outdoor (power or wall mounted):

- Telecom antenna
- Security camera / CCTV
- Traffic lighting
- Offshore wind farms and oil rigs

#### Onboard (chassis mounting):

- Outside broadcasting
- Transportation systems (train, boats, etc)
- Military operations

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# HT1KWMP

## Specifications Table

General	
Model	HT1KWMP
Cooling	Natural convection
MTBF	200 000 hrs (MIL-217F)
Dielectric strength DC/AC	4300 Vdc
RoHS / Material (casing)	Compliant / Aluminium
Operating T° / Relative Humidity	-40°C to +70°C derating above 50°C / 0-100%
Storage T° / Relative Humidity	Compliant to ETSI 300-019-14 class 4.1E Compliant to ETSI 300-019-2-4 class 4.1E
Shock & Vibration	-40°C to +70°C / 0 to 100% Design for on board vehicles and ship
Altitude above sea without de-rating of power	< 1500 m / derating > 1500 m – 0.8 % per 100 m / max 4000 m
Power	
AC Input Data	
Nominal voltage (AC) / Current	230 Vac / Max 5.4 Amps
Voltage range (AC)	150 - 265 Vac (derating below 195Vac)
Brownout	1000 W at 185 Vac linear decreasing
Power factor / THD	> 99% / < 3%
Frequency range (selectable) / synchronization range	50 Hz (range 47 – 53 Hz) / 60 Hz (range 57 – 63 Hz)
DC Input Data	
DC voltage: Nominal / range	48 Vdc / (40-60V)
Nominal current (at 48 Vdc and 900 W output)	20 A
Maximum input current (for 15 second) / voltage ripple	31 A / < 10 mV RMS
AC Output Data	
Efficiency AC to AC (EPC) / DC to AC / AC to DC	96% / > 93% / > 93%
Nominal voltage AC (Adjustable)	230 Vac (200 - 240 Vac)
Frequency / frequency accuracy	50 or 60 Hz / 0.03%
Nominal Output power	1200 VA / 1000 W @ 230 Vac
Short time overload capacity	150% (15 seconds)
Admissible load power factor	Full power rating from 0 inductive to 0 capacitive
Total harmonic distortion (resistive load)	< 3%
Load impact recovery time (10% - 90%)	≤ 0.4 ms
Nominal current	5.4 A @ 230 Vac
Crest factor at nominal power	3 : 1 for Load P.F. ≤ 0.7
Short circuit clear up capacity at AC input / On battery	21 A for 20 ms
Short circuit current after >20 ms	8.1 A for 15 seconds
AC output voltage stability	±1% from 10% to 100% load
DC Output Data	
Nominal voltage (range)	53.5 Vdc (44 - 60 Vdc)
Maximum power	1000 W with 230 Vac input voltage
Maximum current at 48 Vdc	20 A
Reverse polarity protection	YES

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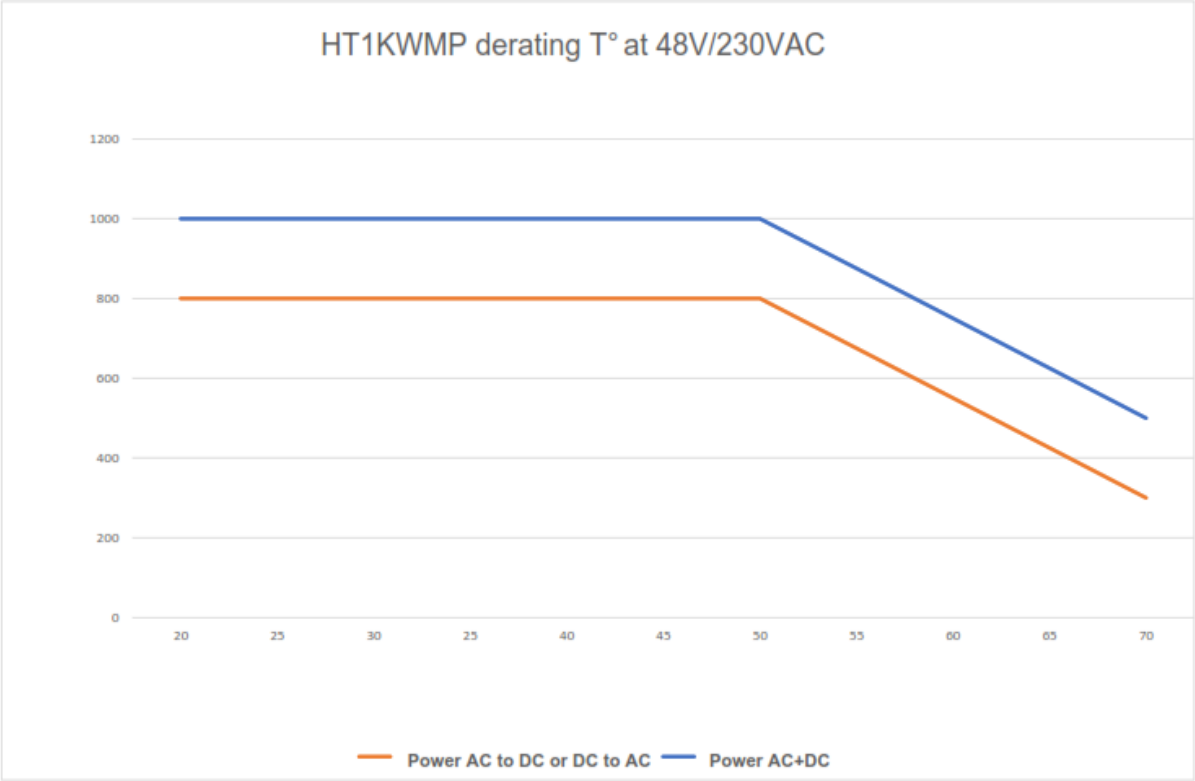
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Efficiency AC to DC	> 93%
In Transfer Performance	
Max. Voltage interruption / total transient voltage duration (max)	0 sec / 0 sec
Signalling & Supervision	
Display	Synoptic LED
Safety & EMC	
Safety	EN62040-1
EMC	EN 61000-4-2 / EN 61000-4-3 / EN 61000-4-4 / EN 61000-4-5 / EN 61000-4-6 / EN 61000-4-8 ETSI EN 300386 v1.9.1

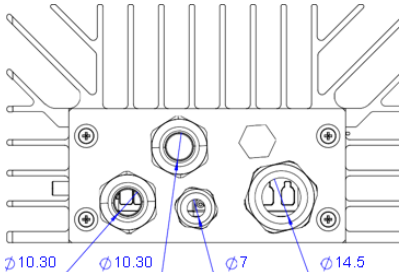
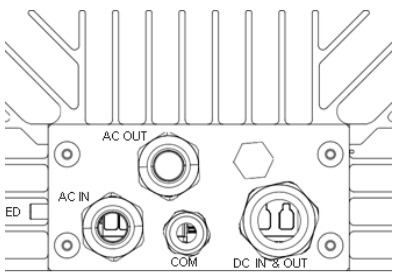
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# Derating Curve



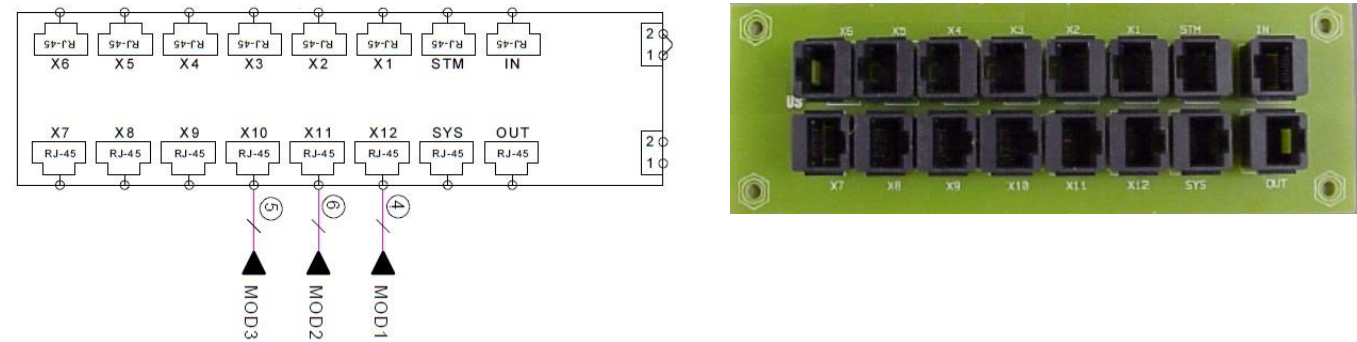
# Input and Output Terminals



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## Bus Interface for Increasing Output Power up to 3kVA

The bus interface card is used to connect up to 3 modules in parallel.

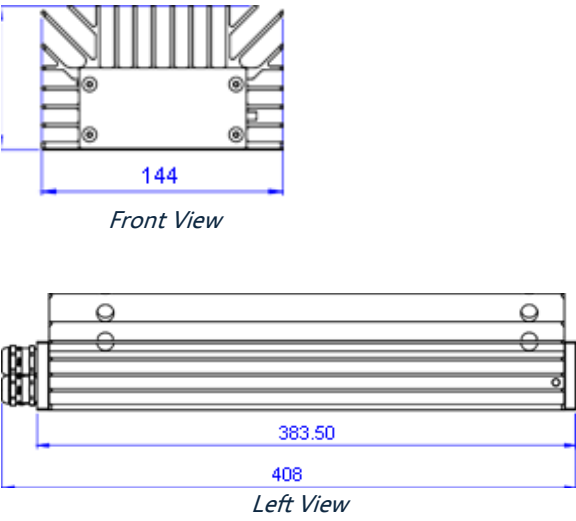


+1KVABINT 1 – Bus Interface card - part number. Cat 5 cables for connection no provided.



When using three HT1KWMP multidirectional converters in parallel, they must be installed in a rack

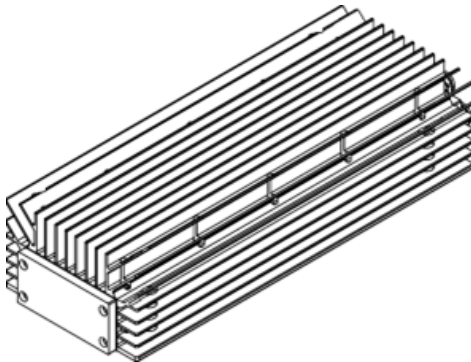
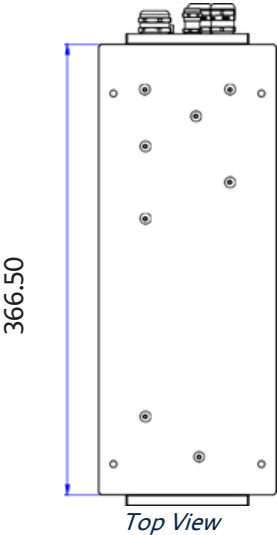
## Mechanical Drawings



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