

# CON-GWL

## DC-DC CONVERTER



POSITIVE PROBLEM SOLVING **+ =**

The CON-GWL range of DC/DC converters provide a rugged and reliable solution for convection cooled power.

Operating from 24VDC to 220VDC and providing outputs of 12VDC to 220VDC at 650W to 1500W. This range is ideal for remote and unattended sites. The power range can be extended with an optional fan tray which will cool up to 3 units. The parallel and N+1 option provide further security for critical load applications.

- + Convection Cooled up to 1500W**
- + Up to 1800W with Fan Option**
- + Parallel for Higher Powers**
- + Active Current Share**
- + High Efficiency**

# CON-GWL

## DC-DC CONVERTER



### SELECTION TABLE

Part Number	Output Power [ext.fan]	Input Voltage	Output Voltage	Output Current [ext.fan]	Part Number	Output Power [ext.fan]	Input Voltage	Output Voltage	Output Current [ext.fan]
CON-GWL 24-12-55 <sup>1</sup>	650[850]W	24V	12V	55[70]A	CON-GWL 48-60-12-65 <sup>1</sup>	800[1000]W	48 - 60V	12V	65[85]A
CON-GWL 24-12-85 <sup>2</sup>	1000[1300]W	24V	12V	85[110]A	CON-GWL 48-60-12-100 <sup>2</sup>	1200[1500]W	48 - 60V	12V	100[125]A
CON-GWL 24-15-45 <sup>1</sup>	675[900]W	24V	15V	45[60]A	CON-GWL 48-60-15-55 <sup>1</sup>	850[1050]W	48 - 60V	15V	55[70]A
CON-GWL 24-15-75 <sup>2</sup>	1100[1400]W	24V	15V	75[95]A	CON-GWL 48-60-15-85 <sup>2</sup>	1300[1600]W	48 - 60V	15V	85[105]A
CON-GWL 24-24-35 <sup>1</sup>	850[1000]W	24V	24V	35[40]A	CON-GWL 48-60-24-40 <sup>1</sup>	1000[1200]W	48 - 60V	24V	40[50]A
CON-GWL 24-24-55 <sup>2</sup>	1300[1550]W	24V	24V	55[65]A	CON-GWL 48-60-24-60 <sup>2</sup>	1500[1800]W	48 - 60V	24V	60[75]A
CON-GWL 24-48-17 <sup>1</sup>	850[1000]W	24V	48V	17[20]A	CON-GWL 48-60-48-20 <sup>1</sup>	1000[1200]W	48 - 60V	48V	20[25]A
CON-GWL 24-48-27 <sup>2</sup>	1300[1550]W	24V	48V	27[32]A	CON-GWL 48-60-48-30 <sup>2</sup>	1500[1800]W	48 - 60V	48V	30[37]A
CON-GWL 24-60-14 <sup>1</sup>	850[1000]W	24V	60V	14[17]A	CON-GWL 48-60-60-17 <sup>1</sup>	1000[1200]W	48 - 60V	60V	17[20]A
CON-GWL 24-60-22 <sup>2</sup>	1300[1550]W	24V	60V	22[26]A	CON-GWL 48-60-60-25 <sup>2</sup>	1500[1800]W	48 - 60V	60V	25[30]A
CON-GWL 24-110-8 <sup>1</sup>	850[1000]W	24V	110V	8[9]A	CON-GWL 48-60-110-9 <sup>1</sup>	1000[1200]W	48 - 60V	110V	9[11]A
CON-GWL 24-110-12 <sup>2</sup>	1300[1550]W	24V	110V	12[14]A	CON-GWL 48-60-110-13 <sup>2</sup>	1500[1800]W	48 - 60V	110V	13[16]A
CON-GWL 24-220-4 <sup>1</sup>	850[1000]W	24V	220V	4[4.5]A	CON-GWL 48-60-220-4.5 <sup>1</sup>	1000[1200]W	48 - 60V	220V	4.5[5.5]A
CON-GWL 24-220-6 <sup>2</sup>	1300[1550]W	24V	220V	6[7]A	CON-GWL 48-60-220-7 <sup>2</sup>	1500[1800]W	48 - 60V	220V	7[8]A
CON-GWL 110-12-65 <sup>1</sup>	800[1000]W	110V	12V	65[85]A	CON-GWL 220-12-65 <sup>1</sup>	800[1000]W	220V	12V	65[85]A
CON-GWL 110-12-100 <sup>2</sup>	1200[1500]W	110V	12V	100[125]A	CON-GWL 220-12-100 <sup>2</sup>	1200[1500]W	220V	12V	100[125]A
CON-GWL 110-15-55 <sup>1</sup>	850[1050]W	110V	15V	55[70]A	CON-GWL 220-15-55 <sup>1</sup>	850[1050]W	220V	15V	55[70]A
CON-GWL 110-15-85 <sup>2</sup>	1300[1600]W	110V	15V	85[105]A	CON-GWL 220-15-85 <sup>2</sup>	1300[1600]W	220V	15V	85[105]A
CON-GWL 110-24-40 <sup>1</sup>	1000[1200]W	110V	24V	40[50]A	CON-GWL 220-24-40 <sup>1</sup>	1000[1200]W	220V	24V	40[50]A
CON-GWL 110-24-60 <sup>2</sup>	1500[1800]W	110V	24V	60[75]A	CON-GWL 220-24-60 <sup>2</sup>	1500[1800]W	220V	24V	60[75]A
CON-GWL 110-48-20 <sup>1</sup>	1000[1200]W	110V	48V	20[25]A	CON-GWL 220-48-20 <sup>1</sup>	1000[1200]W	220V	48V	20[25]A
CON-GWL 110-48-30 <sup>2</sup>	1500[1800]W	110V	48V	30[37]A	CON-GWL 220-48-30 <sup>2</sup>	1500[1800]W	220V	48V	30[37]A
CON-GWL 110-60-17 <sup>1</sup>	1000[1200]W	110V	60V	17[20]A	CON-GWL 220-60-17 <sup>1</sup>	1000[1200]W	220V	60V	17[20]A
CON-GWL 110-60-25 <sup>2</sup>	1500[1800]W	110V	60V	25[30]A	CON-GWL 220-60-25 <sup>2</sup>	1500[1800]W	220V	60V	25[30]A
CON-GWL 110-110-9 <sup>1</sup>	1000[1200]W	110V	110V	9[11]A	CON-GWL 220-110-9 <sup>1</sup>	1000[1200]W	220V	110V	9[11]A
CON-GWL 110-110-13 <sup>2</sup>	1500[1800]W	110V	110V	13[16]A	CON-GWL 220-110-13 <sup>2</sup>	1500[1800]W	220V	110V	13[16]A
CON-GWL 110-220-4.5 <sup>1</sup>	1000[1200]W	110V	220V	4.5[5.5]A	CON-GWL 220-220-4.5 <sup>1</sup>	1000[1200]W	220V	220V	4.5[5.5]A
CON-GWL 110-220-7 <sup>2</sup>	1500[1800]W	110V	220V	7[8]A	CON-GWL 220-220-7 <sup>2</sup>	1500[1800]W	220V	220V	7[8]A

<sup>1</sup>Dimensions [W × H × D] = 482.6 × 132.6 × 210mm, weight = 13kg.

<sup>2</sup>Dimensions [W × H × D] = 482.6 × 132.6 × 270, weight = 15.4kg.

[ ] = Current and power values are valid when fan tray option is installed

### OPTIONS

CODE	DESCRIPTION
/DI	Decoupling diode
/FUSE	Fuse Input
/MB	Mounting bracket
/FTIU	Fan tray (mounted above top unit, can cool up to 3 units)

Every effort is made to ensure that the information provided within this technical summary is accurate. However, ETPS Ltd must reserve the right to make changes to the published specifications without prior notice. Where certain operating parameters are critical for your application we advise that they be confirmed at the time of order. ETPS Ltd specialises in modifying its proven platforms to suit your needs. Please contact our office if your requirement is non-standard. Please note that your actual unit may differ from those shown.



## TECHNICAL DATA

### INPUT

DC Input Voltage	± 30%
Inrush Current Limiting	Standard for 110V and 220V models
Input Current Max.	$I_{INMAX} = (1.8 \times P_{OUTNOM}) / V_{INNOM}$
Dimension Input Cable & Prefuse	Use ext. fuse at least one band higher with delay characteristic. Ensure effective cross-sectional area of cable is to VDE 0100 check temperature, limit cable run and note voltage drop especially at low input voltages.
Fuse Input & Decoupling Diode	Both optional (rear side)

### OUTPUT

Output Voltage, Current and Power	See selection table overleaf
Decoupling Diode	Optional (rear side)
Efficiency	>80-90%

### REGULATION

Line Regulation	$\leq 0.1\% V_{OUT}$ (max. source voltage variation)
Load Regulation	$\leq 0.1\% V_{OUT}$ (0-100% output load change)
Dynamic Response	$\leq 1ms$
Ripple and Noise	<1%
Temperature Coefficient	$\leq 0.02\% / ^\circ C$

### PROTECTION

Overload Protection	Current limit at $1.1 \times I_{NOM}$ short circuit protection
Overvoltage Protection	Standard, adjusted fix +10% $V_{OUT}$
Thermal Protection	Temperature regulated
Decoupling Diode	Optional (rear side)
Signal Relay	Standard
Shut Down	Deviation of $V_{IN} \pm 30\%$

### ENVIRONMENTAL CONDITIONS

Operating Temperature	-25°C to +70°C
Derating	2.5% /°C (+50°C to +70°C)
Power - Boost	With external fan
Cooling	Free air convection, power boost with external fan (>1.5mS)
Switching Frequency	100kHz

### SAFETY

Safety Standard	EN60950
Isolation Input-Output	$V_{IN}$ and $V_{OUT} \leq 60V$ : 500Vrms, $V_{IN}$ 60-130V, $V_{OUT} t \leq 60V$ : 2kVrms, $V_{IN}$ 130-250V, $V_{OUT} \leq 250V$ : 3kVrms
Input-Ground, Output-Ground	$V_{IN}$ or $V_{OUT} \leq 60V$ : 500Vrms, $V_{IN}$ or $V_{OUT}$ 60-130V: 1kVrms, $V_{IN}$ or $V_{OUT}$ 130-250V: 1.5kVrms [disconnect the anti-interference capacitors input-ground and output-ground]

### OPERATING AND CONTROL

Remote Sense	Standard, up to 0.25V per wire
Ext. On/Off	Standard
Current Share	Standard
Input Control	Signal: power fail at -25% $V_{IN}$ (negative or positive logic)
Output Control	Signal: power good (negative or positive logic)
Indicator ON	LED green
Adjustment	Voltage ± 10 %, potentiometer front-panel mounted

### CONNECTORS

Input	$V_{IN}$ 24V, 48-60V (I >30A): input bus M8 threaded stud, $V_{IN}$ 110V, 220V (I <30A): screw - terminal 6mm <sup>2</sup> fixed / 4mm <sup>2</sup> variable
Output	$V_{OUT} \leq 48V$ (I >30A): input bus M8 threaded stud $V_{OUT} \geq 60V$ (I <30A): screw - terminal 6 mm <sup>2</sup> fixed / 4 mm <sup>2</sup> variable
Signals	Combicon 12 pole 0.2 to 2.5 female multipoint connector with screw-terminal included with delivery

### OTHER

EMC: Input EMI Filter	EN50081-1, curve B
EMC: Input Immunity	EN50082-2
Front Panel	Front panel mask 19" 3U



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