

# DC/DC Converter

Made in Europe 

## Single Output Isolated Series GWL

Input voltage 24 ÷ 220 V  
Output power up to 1800 W  
Voltage regulated  
High efficiency  
Intended for 19" rack and  
Stand-alone use

**Other available operational modes:**  
parallel and n + 1 redundant



### Input:

Input voltage (DC) 24 V, 48 V ± 60 V, 110 V, 220 V ± 30 %  
Inrush current limiting standard (not 24 V, 48 V ± 60 V)  
Input current max.  $I_{INmax} = \frac{1,8 \times P_{OUTnom}}{U_{INnom}}$   
(Dimension input cable and eventual prefuse)

Fuse Input option (rear side)  
Decoupling diode option (rear side)

### Output:

Output voltage (DC) see table  
Output current (DC) see table  
Output power see table  
Decoupling diode option (rear side)  
Efficiency > 80 ÷ 90 %

### Regulation:

Line regulation ≤ 0,1 %  $U_{out}$   
(max. source voltage variation)  
Load regulation ≤ 0,1 %  $U_{out}$   
(0 ÷ 100 % output load change)  
Dynamic response ≤ 1 ms  
Ripple and noise < 1 %  
Temperature coefficient ≤ 0,02 % / K

### Protection:

Overload protection current limit at  $1,1 \times I_{nom}$   
short circuit protection  
Overvoltage protection standard, adjusted fix +10 %  $U_{out}$   
Thermal protection temperature regulated  
Decoupling diode option (rear side)  
Signal relay standard  
Shut down deviation of  $U_{in} \pm 30 %$

### Environmental conditons:

Operating temperature -25° C ÷ +70° C  
Derating 2,5 % / K  
+50 ÷ +70° C  
Power - boost with ext. fan, see table  
Cooling free air convection, power-boost  
with ext. fan (> 1,5 m/s)  
Switching frequency 100 kHz

### Safety:

Safety standard EN60950  
Isolation input - output:  $U_{in}$  and  $U_{out} \leq 60$  V: 500  $V_{rms}$   
 $U_{in} 60 \div 130$  V,  $U_{out} \leq 60$  V: 2  $kV_{rms}$   
 $U_{in} 130 \div 250$  V,  $U_{out} \leq 250$  V: 3  $kV_{rms}$   
input-ground, output -ground:  $U_{in}$  or  $U_{out} \leq 60$  V: 500  $V_{rms}$   
 $U_{in}$  or  $U_{out} 60 \div 130$  V: 1  $kV_{rms}$   
 $U_{in}$  or  $U_{out} 130 \div 250$  V: 1,5  $kV_{rms}$   
disconnect the anti-interference capacitors input-ground and output-ground

### EMC:

Input EMI filter EN50081-1, curve B  
Input immunity EN50082-2

### Operating and Control:

Remote sense standard, up to 0,25 V per wire  
Ext. on/off standard  
Current share standard  
Input control signal: Power Fail at -25 %  $U_{in}$   
(neg. or pos. Logic)  
Output control signal: Power Good  
(neg. or pos. Logic)  
Indication "ON" LED green  
Adjustment voltage ± 10 %, potentiometer  
front-panel

### Connectors:

Input  $U_{in} 24$  V, 48-60 V ( $I > 30$  A):  
input bus M8 threaded stud  
 $U_{in} 110$  V, 220 V ( $I < 30$  A):  
screw - terminal  
6 mm<sup>2</sup> fixed / 4 mm<sup>2</sup> variable  
Output  $U_{out} \leq 48$  V ( $I > 30$  A):  
input bus M8 threaded stud  
 $U_{out} \geq 60$  V ( $I < 30$  A):  
screw - terminal  
6 mm<sup>2</sup> fixed / 4 mm<sup>2</sup> variable  
Signals Combicon 12 pole 0,2 ÷ 2,5 #  
female multipoint connector with  
screw-terminal included  
with delivery

### Physical Specification:

Front-panel front-panel mask 19", 3U  
Dimensions see table and drawing  
Weight Case A: 13,0 kg  
Case B: 15,4 kg

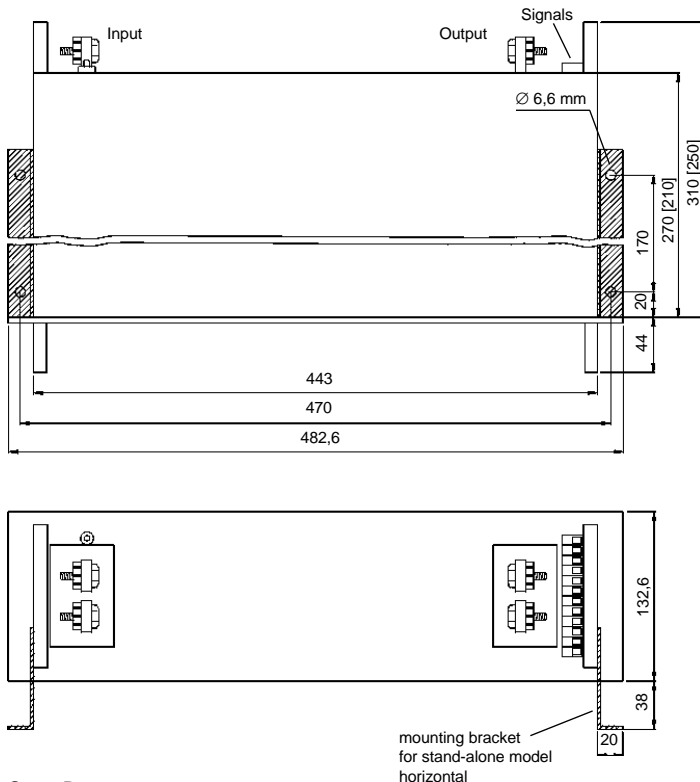
Input Voltage (V)	Output Voltage / Current (V) / (A)	Power free air convection (ext. fan) (W)	Case		Model Number
			A	B	
24	12/55 (70)	650 ( 850)	x		GWL24/12/55
24	12/85 (110)	1000 (1300)		x	GWL24/12/85
24	15/45 (60)	675 ( 900)	x		GWL24/15/45
24	15/75 (95)	1100 (1400)		x	GWL24/15/75
24	24/35 (40)	850 (1000)	x		GWL24/24/35
24	24/55 (65)	1300 (1550)		x	GWL24/24/55
24	48/17 (20)	850 (1000)	x		GWL24/48/17
24	48/27 (32)	1300 (1550)		x	GWL24/48/27
24	60/14 (17)	850 (1000)	x		GWL24/60/14
24	60/22 (26)	1300 (1550)		x	GWL24/60/22
24	110/8 (9)	850 (1000)	x		GWL24/110/8
24	110/12 (14)	1300 (1550)		x	GWL24/110/12
24	220/4 (4,5)	850 (1000)	x		GWL24/220/4
24	220/6 (7)	1300 (1550)		x	GWL24/220/6
48-60, 110, 220	12/65 (85)	800 (1000)	x		GWL.../12/65
48-60, 110, 220	12/100 (125)	1200 (1500)		x	GWL.../12/100
48-60, 110, 220	15/55 (70)	850 (1050)	x		GWL.../15/55
48-60, 110, 220	15/85 (105)	1300 (1600)		x	GWL.../15/85
48-60, 110, 220	24/40 (50)	1000 (1200)	x		GWL.../24/40
48-60, 110, 220	24/60 (75)	1500 (1800)		x	GWL.../24/60
48-60, 110, 220	48/20 (25)	1000 (1200)	x		GWL.../48/20
48-60, 110, 220	48/30 (37)	1500 (1800)		x	GWL.../48/30
48-60, 110, 220	60/17 (20)	1000 (1200)	x		GWL.../60/17
48-60, 110, 220	60/25 (30)	1500 (1800)		x	GWL.../60/25
48-60, 110, 220	110/9 (11)	1000 (1200)	x		GWL.../110/9
48-60, 110, 220	110/13 (16)	1500 (1800)		x	GWL.../110/13
48-60, 110, 220	220/4,5 (5,5)	1000 (1200)	x		GWL.../220/4,5
48-60, 110, 220	220/7 (8)	1500 (1800)		x	GWL.../220/7

**Options:**

- Decoupling diode - Input I ≤ 20 A
- Decoupling diode - Output I ≤ 20 A
- Decoupling diode - Input I > 20 A
- Decoupling diode - Output I > 20 A
- Fuse Input
- Front-panel
- Colour RAL 7032
- other colours consult factory
- Mounting bracket for stand-alone model - horizontal

**Model Number:**  
replace (...) with the input voltage

**Dimensions in mm**



Case B  
Values in brackets [...] Case A

**Dimensions**

Case	Dimensions	
	w x h x d (mm)	Depth incl. contact rail (mm)
A	482,6 x 132,6 x 210	250
B	482,6 x 132,6 x 270	310

**Pin Assignment**

Combicon 12-pole	GWL..
Signal relay	12
NOC	11
Signal relay	10
NCC	9
+ Sense	7
- Sense	6
Current Share	5
Common 0 V Output	4
Ext. on/off	3
Input Power Fail	1
Output Power Good	2