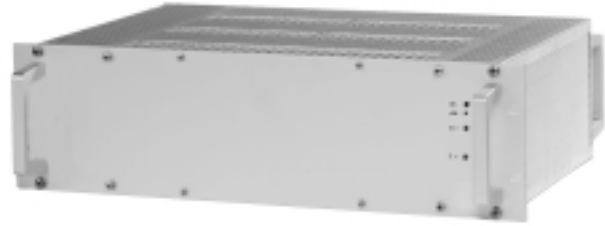


DC/DC Converter

Made in Europe 

Single Output Isolated Series GWL

Input voltage 24 – 220 V
Output power up to 1800 W
Voltage regulated
High efficiency
Option: fixed for vibration applications
Other available operational modes:
parallel and n + 1 redundant



Input:

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

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

Output:

Output voltage (DC) see table
Output current (DC) see table
Output power see table
Decoupling diode option (rear side)
Efficiency > 80 - 90 %
depending on model

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} 60–130 V, $U_{out} \leq 60$ V: 2 kV_{rms}
 U_{in} 130–250 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} 60–130 V: 1 kV_{rms}
 U_{in} or U_{out} 130–250 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)
Indicator "ON" LED green
Adjustment voltage ± 10 %, potentiometer
front-panel
Signal Relay

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 mm² fixed / 4 mm² 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 mm² fixed / 4 mm² 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

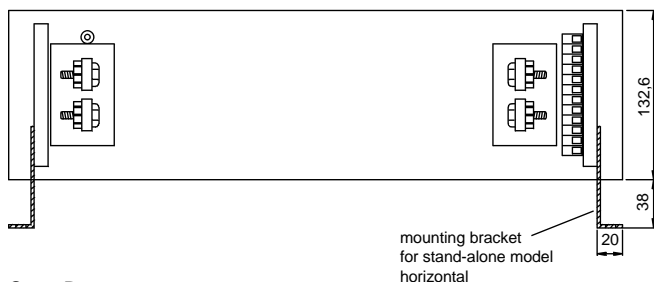
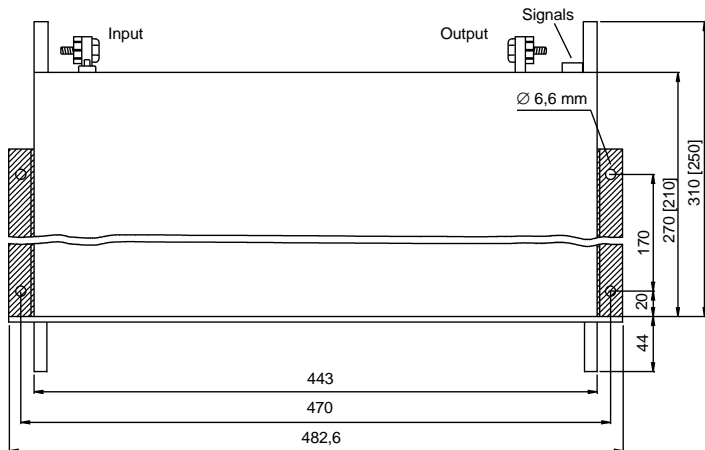
Input Voltage (V)	Output Voltage / Current (V) / (A)	Power free air convection (ext. fan) (W)	Case		Model Number
			A	B	
24	12/55 (70)	650 (850)	x		GWL24/12/55
24	12/85 (110)	1000 (1300)	x	x	GWL24/12/85
24	15/45 (60)	675 (900)	x		GWL24/15/45
24	15/75 (95)	1100 (1400)	x	x	GWL24/15/75
24	24/35 (40)	850 (1000)	x		GWL24/24/35
24	24/55 (65)	1300 (1550)	x	x	GWL24/24/55
24	48/17 (20)	850 (1000)	x		GWL24/48/17
24	48/27 (32)	1300 (1550)	x	x	GWL24/48/27
24	60/14 (17)	850 (1000)	x		GWL24/60/14
24	60/22 (26)	1300 (1550)	x	x	GWL24/60/22
24	110/8 (9)	850 (1000)	x		GWL24/110/8
24	110/12 (14)	1300 (1550)	x	x	GWL24/110/12
24	220/4 (4,5)	850 (1000)	x		GWL24/220/4
24	220/6 (7)	1300 (1550)	x	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	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	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	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	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	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	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	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
- fixed for vibration applications

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