

# DC / DC Converter

## Series GWH

Input voltage 16.8 - 162.5 VDC

Output 500 Watts

Powerful, compact DC/DC converter for wall and DIN rail mounting and 19" system mounting.



The GWH DC/DC - converter is designed for use in automation systems, power supply and power station engineering, traffic systems and mechanical and plant engineering. Cooling is provided by internal fans, all electrical connections are made using simple screw terminals, active current sharing takes place during parallel operation. As an option the product can be ruggedised to comply with EN50155 and 50121 for railway applications.

### Input:

Input DC	16.8 VDC to 162.5VDC, see table
Making current limitation	$I_{max} < I_{nom}$
Maximum permissible superimposed AC voltage of voltage source	$U_e \leq 5\%$
Maximum activation delay (including run-up)	$T_v < 2 \text{ Sec.}$
Overcurrent protection	safety fuse in input circuit
Overvoltage protection	Varistor in input circuit
Polarity reversal protection	Polarity reversal protection device in input circuit

### Output:

Direct output voltage	see table
Output currents	see table
Output decoupling diode is	built into the device. The anode side of the decoupling diode is also led to the output terminal.

### Control data:

Load control	$< 0.1\%$
Mains control	$< 0.1\%$
Superimposed AC voltage (measuring bandwidth 30 Mhz)	$\leq 1\%$
Undershoot / overshoot at load changes of 10 - 90%	$\leq 5\%$

### Protection and monitoring equipment:

Overload protection	U-I characteristic curve current limitation Activation point: $1.1 \times I_{nom}$
Sensor line operation	Wrong sensor line connections do not damage the converter. In the event of a sensor line break the output voltage is limited to a maximum of 120% of the nominal output voltage. 1 V adjustable.
Overtemperature protection	Shut-off if temperature becomes too high, automatic reactivation when temperature drops
Varistor in output as additional overtemperature protection.	
Signalling relay in output with volt-free changeover contact.	
Output voltage monitored for undervoltage and overvoltage.	

**Operating parameters:**

Operating temperature range -25°C - 70°C (derating from +50°C with 2%/K)  
 Cooling From built-in fan, temperature controlled

**Safety:**

Primary -> secondary 3kV 50 Hz  
 Primary -> housing 2kV 50 Hz  
 Secondary -> housing 2kV 50 Hz  
 Electrical safety VDE 0805 EN60950  
 Protection class 1

**EMC:**

EN61000-6-1 to EN61000-6-4

**Control, operating and indicating elements:**

Indicators There is an LED at the connection side for indicating the presence of the input voltage.  
 A second LED indicates output voltage within range.  
 A third LED indicates temperature too high

Output voltage adjustment The output voltage can be adjusted using a potentiometer at the connection side  
 The adjusting range is +5% -10%.

Parallel switching capability 3 units can be operated in parallel to increase output.  
 An internal current sharing circuit is mainly responsible for this.

Sensor line operation 1 V, adjustable

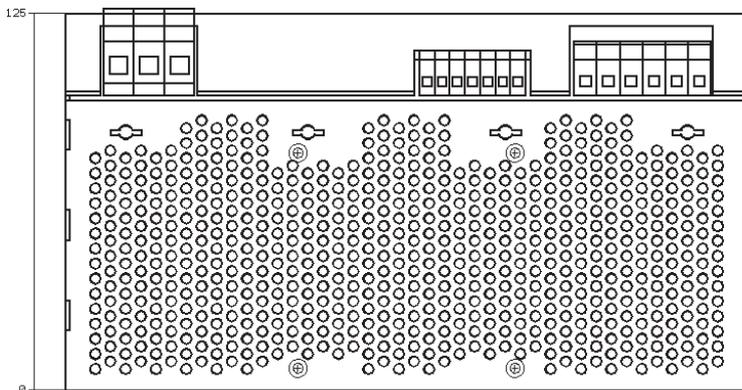
**Electrical connections:**

10mm<sup>2</sup> screw terminals for input and 4mm<sup>2</sup> for output (double)  
 1.5mm<sup>2</sup> screw terminals for signalling

**Mechanical configuration:**

Dimensions: WxHxD, 225 x 125 x 125  
 The standard version of the converter is housed in an aluminium case.  
 The screw terminals enable fast and simple connection.  
 The 125mm height means the converter can be also installed in a 19" rack.  
 The surface of the converter is finished in white chrome.  
 A ruggedised version of the converter is also available for railway applications.

**Option: vibration-proof**



Input Voltage (V)	Output Voltage / Current (V) / (A)	Model number
16.8 - 39	24/20.8	GWH24/24/20,8
16.8 - 39	48/10.4	GWH24/48/10,4
16.8 - 39	60/8.3	GWH24/60/8,3
33.6 - 78	24/20.8	GWH48/24/20,8
33.6 - 78	48/10.4	GWH48/48/10,4
33.6 - 78	60/8.3	GWH48/60/8,3
77 - 162,5	24/20.8	GWH110/24/20,8
77 - 162,5	48/10.4	GWH110/48/10,4
77 - 162,5	60/8.3	GWH110/60/8,3

