DC / DC Converter

harland simon
power solutions

Series GWH 100 Watt
Single Output
Galvanic separated

Input voltage 16.8 - 143VDC
Output power 100 Watt

DC/DC Converter for wall- or DIN-rail-mounting
and for 19"-rack systems
Voltage regulated
For parallel and n+1 redundant operation
In a rugged case
Optional configured for rail applications and fixed for shock

CE

The compact DC/DC converter is designed for use in automation systems, power supply and power station engineering, traffic systems and mechnical and plant engineering.
The high efficiency, the extensive protection- and monitoring- and control functions and numerous options are special merits of this series of converters. The Converter is fan cooled, all electrical connections are led over easy to be handled screw terminals.

Input:

Input DC voltage	16.8 VDC ... 143 VDC see table
Inrush current limitation	thermistor for U_{in} = 110VDC
Maximum permissible superimposed AC voltage of voltage source	$U_{in} \approx\leq$ 5%
Maximum activation delay (Including run-up)	T_v < 0.5 s
Overcurrent protection	safety fuse in input circuit
Overvoltage protection	varistor in input circuit

Output:

Output DC voltage	see table
Output current	see table
Output power	100W
Output decoupling diode	optional
Efficiency	> 80% (depending on input and output voltage)

Control data:

Mains control	≤ 0.1% x U_{out}
Load control (no-load - full-load)	≤ 0.1% x U_{out}
Regulation time	≤ 2ms
Superimposed AC voltage (measuring bandwidth 30MHz)	≤ 0.5%
Undershoot / overshoot at load changes of 10 - 90%	≤ 1%
Temperature coefficient	0.01%/K

Protection and monitoring equipment:

Overload protection	U-I characteristic curve current limitation activation: 1.1 - 1.2 x I_{nom}
Overtermperature protection	standard, 2. regulation circuit
Thermal protection	shut-off if temperature becomes too high, automatic reactivation when temperature drops
Decoupling diode	optional, output decoupling diode

Operating parameters:

Operating temperature range	-25°C - +75°C
Power reduction	no derating
Cooling	internal fan

Safety:

Electrical safety	VDE0805 EN 60950 safety class 1
Test voltage	
Prim. - sec.	3kV$_{eff}$, 50Hz
Prim. - frame	2kV$_{eff}$, 50Hz
Sec. - frame	2kV$_{eff}$, 50Hz

EMC:

Input EMI filter	EN 61000-6-3 IEC/CISPR 22 class B IEC/CISPR 14
Input immunity	EN 61000-6-2 IEC 61000-4-3 IEC 61000-4-2 IEC 61000-4-6 IEC 61000-4-4

Control, operating and indicating elements:

Operation indication	LED green in the front side "Output voltage o.k."
Output voltage adjustment	Voltage ± 10%, by using a potentiometer on the front side
Parallel switching	to increase the power, all units can be operated in parallel,with decoupling diode, no Current-Share
Remote Sense	none

Electrical connections:

Input	screw terminals 2.5mm²
Output	screw terminals 2.5mm²
Signalling	screw terminals 2.5mm²

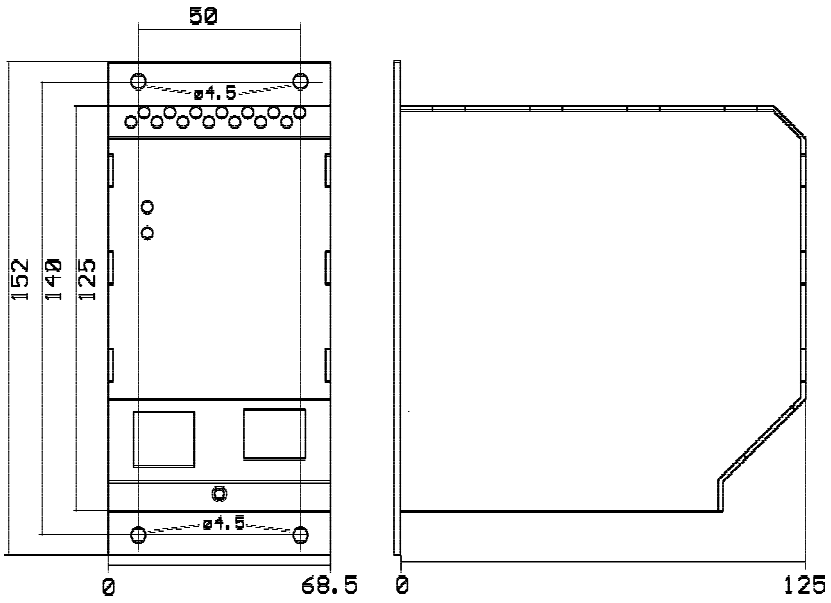
Mechanical configuration:

Dimensions	wxhxd: 83x125x125mm
Frame type	aluminum DIN rail frame, bright
DIN-rail mounting	with mounting brackets
Wall mounting	with mounting plate (optional)

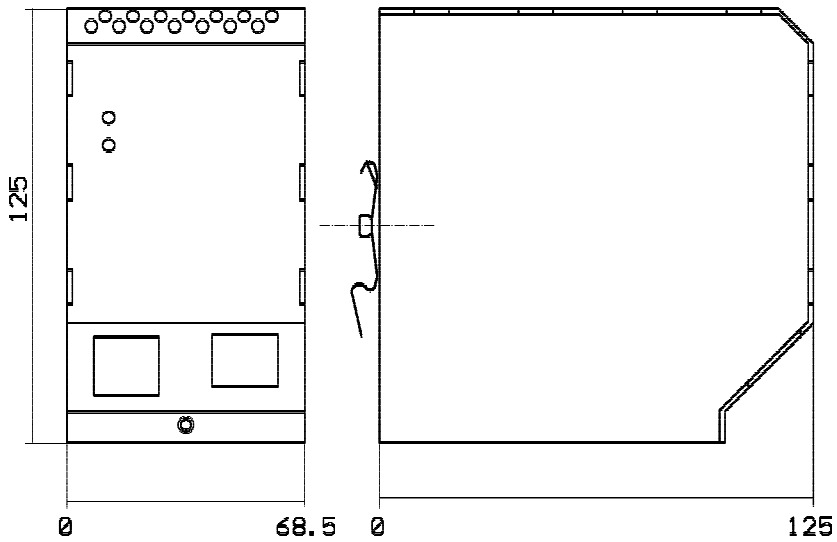
Option:

Varistor in the output as an additional overvoltage protection (required when using decoupling diode)
Decoupling diode in the output
Signal relay in the ouptut, for failure an NCC
Monting plate for wall mounting
Mounting brackets for DIN rail mounting

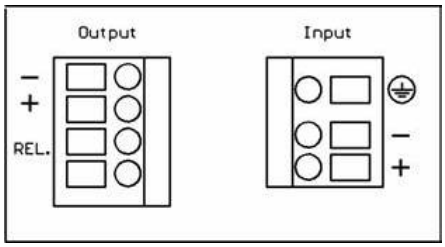
Wall-mounting:



DIN-rail-mounting:



Connectors:



Input Voltage (VDC)	Output Voltage / Current (VDC) / (A)	Model number
16.8 - 32	24/4.2	GWH 24/24/4.2
16.8 - 32	48/2.1	GWH 24/48/2.1
16.8 - 32	60/1.7	GWH 24/60/1.7
33.6 - 78	24/4.2	GWH 48/24/4.2
33.6 - 78	48/2.1	GWH 48/48/2.1
33.6 - 78	60/1.7	GWH 48/60/1.7
77 - 143	24/4.2	GWH 110/24/4.2
77 - 143	48/2.1	GWH 110/48/2.1
77 - 143	60/1.7	GWH 110/60/1.7