



## Isolated DC/DC converter

- Innovative in energy storage & Power Electronics
- Custom-made solutions
- Complete solution: storage & Power Electronics
- Design and system integration



### Features

- 4,5 kW converter
- Galvanic isolation between LV- and HV-side
- Wide input voltage range (130V – 330V)
- Inputs galvanically isolated with a relay
- Output derating in case of threshold value excess (safety shutdown if necessary)
- High efficiency
- High ambient temperatures
- User interfaces: CAN, Ethernet, RS232, binary in- and outputs
- Certified according to GL-type examination requirements

### Mechanical Data

Length x Width x Height  
518 x 324 x 141 mm  
Approx. 12,5 kg

### Applications

- DC/DC converter to connect an unidirectional DC power source to a HV-bus (e.g. fuel cells)

[aephybridpower.com](http://aephybridpower.com)  
[sales@aephybridpower.com](mailto:sales@aephybridpower.com)  
+31 (0)78 692 2100



## Technical Characteristics

Symbol	Parameter	Description	Value	Unit
<b>General</b>				
$P_r$	Rated output power		4,5	kW
$P_{max}$	Maximum power	@ $T_m=25^{\circ}C$ , $I_{pr}=33A$ , $U_{pr}=167V$	5,5	kW
$N_r$	Efficiency	@ $P_r$	96,7	%
$N_{r,max}$	Efficiency	@ $P=1,4$ kW	98,8	%
$I_{pr,max}$	Max. input current		35	A
<b>Primary side</b>				
$U_{Pr}$	Nominal voltage		310	VDC
$U_{Pr,max}$	Max. operating voltage		330	VDC
$U_{Pr,min}$	Min. operating voltage	Without reduction in performance	130	VDC
<b>Secondary side</b>				
$U_{out}$	Nominal voltage		700	VDC
$U_{out,max}$	Max. operating voltage		750	VDC
<b>Energy demand</b>				
	Control voltage	Nominal value range	24 21 till 27	VDC VDC
	Control current		<1	A
<b>Environment</b>				
	Operating temperature		-10 till 50	$^{\circ}C$
	Storage temperature		-20 till 60	$^{\circ}C$
	Degree of protection		IP20	
<b>Mechanical data</b>				
	Weight	Device (without plug) Frame	10 12,5	kg kg
	Width	Device (without plug) Frame	324 324	mm mm
	Height	Device (without plug) Frame	139 141	mm mm
	Length	Device (without plug) Frame	484 518	mm mm



Symbol	Parameter	Description	Value	Unit
	<b>Communication</b>			
	Data	CAN / RS232 / Ethernet		
	Control signal	ON/OFF; Reset; Emergency stop		
	Extra	Binary inputs and outputs		
	<b>Cooling</b>			
$T_{m\_max}$	Forced air cooling	Controlled stepless		
	Maximum ambient temperature		50	°C
	Maximum airflow		3,5	M <sub>3</sub> /min
	<b>Control</b>			
	Reference setting	CAN, RS232 (PowerPanel)		
	Control mode	Current-, voltage-, power control		
	<b>Measurement</b>			
	Input current		0...49	A
	Input voltage		0...330	V
	Output current		0...14	A
	Output voltage		0...800	V
	Temperature	Measurement on heat sink	-20...80	°C

## Standards

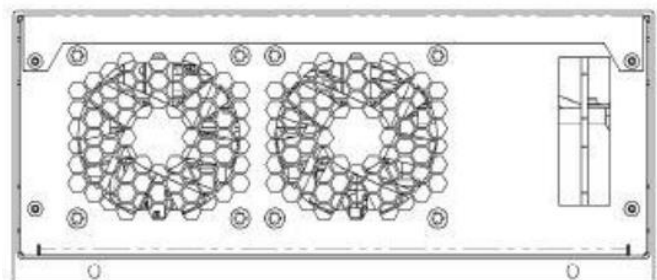
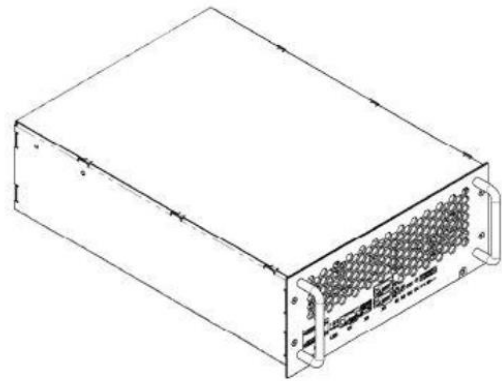
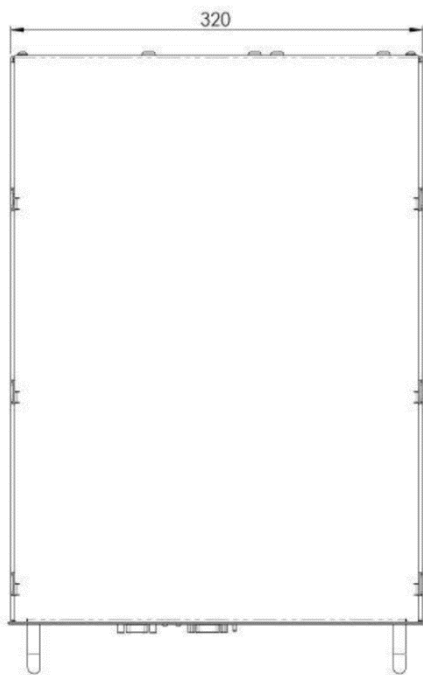
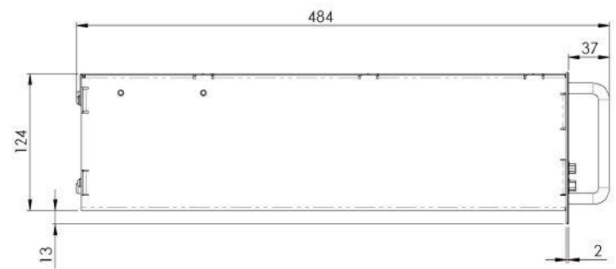
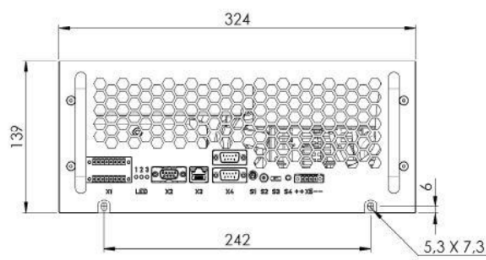
Isolation coordination according to DIN-EN 50178/ DIN EN 60664-1  
Proved according to GL-type examination requirements GL VI-7-7

## Mechanical Data

Length x Width x Height: 518 x 324 x 141 mm  
Weight: Approx. 12,5 kg  
Enclosure: IP20

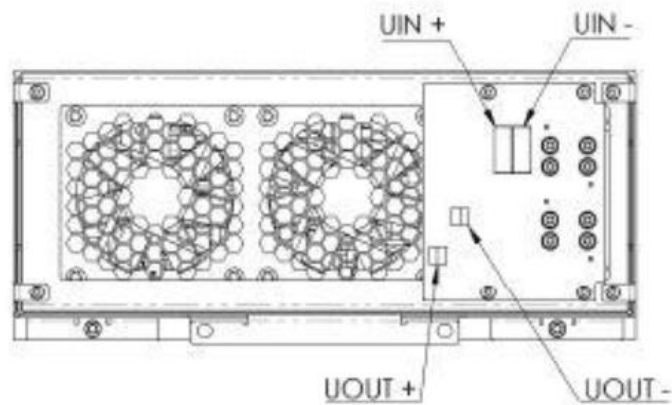
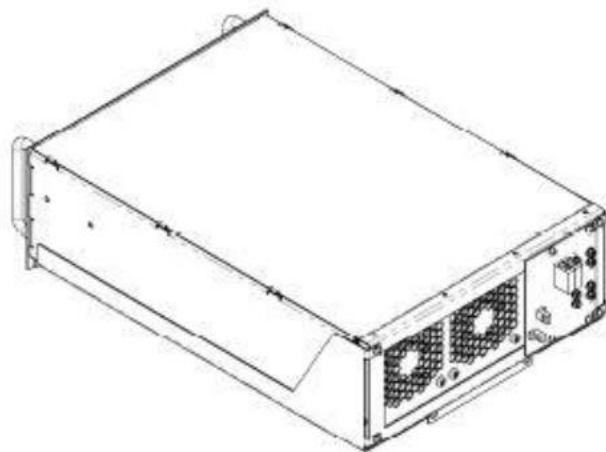
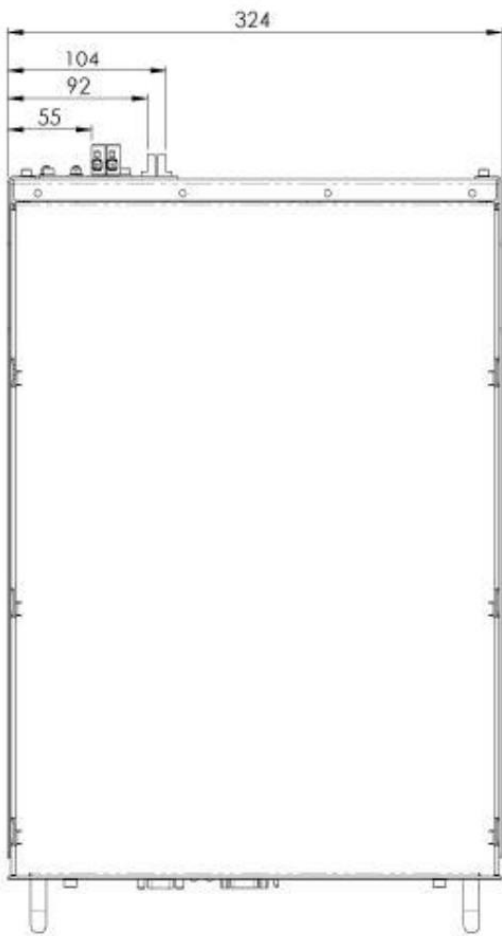
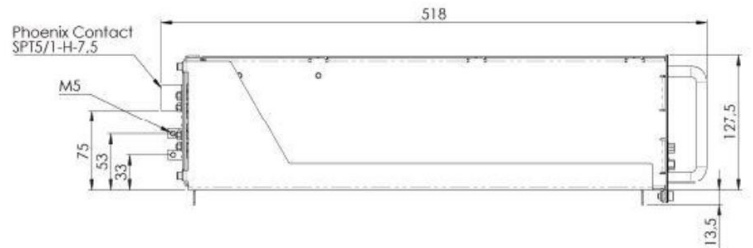
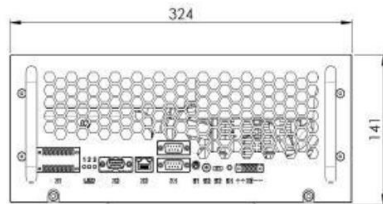


Without frame for control cabinet installation

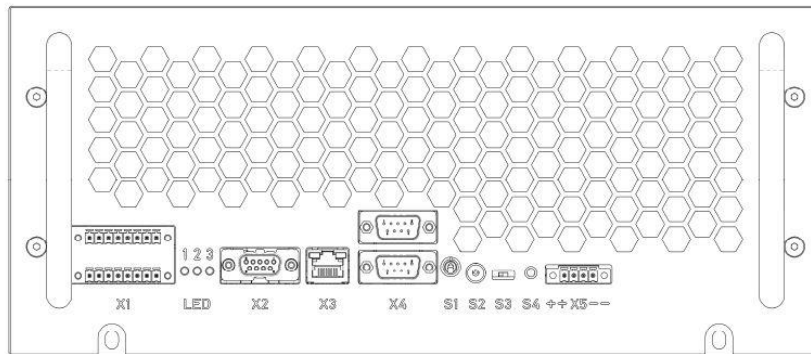




With frame for control cabinet installation

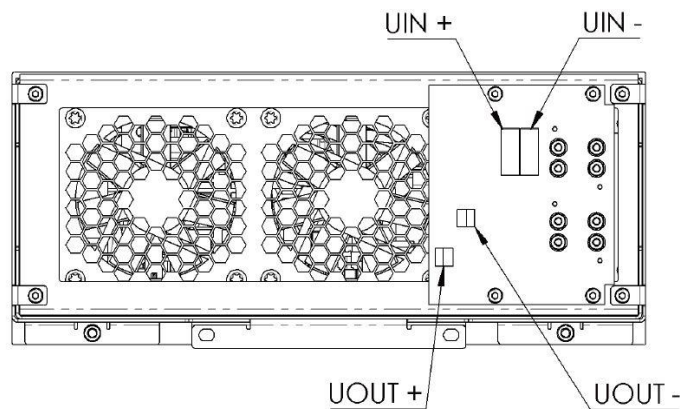


## Interfaces



### Connectors and switches (front panel)

	Measurement	Note
X1	Binary IOs	4x input, 4x output, connection for electric separation of input (for safety-related application), reference voltage for IOs
X	RS232	For connection of service tools PowerPanel
X3	Ethernet	Planned webserver
X4	CAN	Reference value setting and transmission of actual value
X5	Supply	24V supply voltage
LED	LEDs 1, 2, 3	1 (red) – Error; 2 (orange) – Warning; 3 (green) – Ignition impulse issued
S1	Enable	Ignition impulse
S2	CAN-Device	Setting of CAN-devices-ID (part of CAN-ID)
S3	CAN-Group	Setting of CAN-groups-ID (part of CAN-ID)
S4	BOOT buttons	Required for firmware upgrade



### Power connections back panel

Signal	Cross section	Note
Input voltage - UIN+/UIN-	Max. 6mm <sup>2</sup>	Phoenix Contact SPT5/1-H-7,5
Output voltage – UOUT+/OUT-	-	Screwed contact M5