aep

Hybrid Power

T100-ISO
Preliminary

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

Illustration only

Features

- Galvanic isolation between HV- and LV-side

- Input galvanically isolated with a relay

- Output derating in case of threshold value excess (safety shutdown if required)

- High efficiency

- High ambient temperatures

- User interfaces: CAN, Ethernet, RS232, binary in- and outputs

Applications

- AC/DC converter (e.g. charging energy storages)

Mechanical Data

Length x Width x Height
518 x 324 x 141 mm
Weight: tbd.

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Technical Characteristics

Symbol	Parameter	Description	Value	Unit
	Capacitance			
P_r	Rated output power	@ T_m=25°C, I_{out}=100A, U_{out}=100V	10	kW
P_{max}	Maximum power		tbd.	kW
N_r	Efficiency	@ P_r	tbd.	%
$N_{r,max}$	Efficiency	@ P=1,4 kW	tbd.	%
V_{in}	Input voltage		3 x 400	VAC
	Output			
V_{out}	Output voltage		0 till 100	VDC
$V_{out,max}$	Maximum output voltage	With current derating	200	VDC
$I_{Pr,max}$	Maximum output current		100	A
	Energy Demand			
	Control voltage	Nominal value range	24 21 till 27	VDC VDC
	Control current		<1	A
	Environment			
	Operating temperature		-10 till 50	°C
	Storage temperature		-20 till 60	°C
	Degree of protection		IP20	
	Mechanical data			
	Weight	Device (without plug) Frame	tbd. tbd.	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
	Communication			
	Data	CAN / RS232 / Ethernet		
	Control signal	ON/OFF; Reset; Emergency stop		
	Binary inputs (X1.11 – 16)	Galvanically isolated		
		High	17 till 30	V
		Low	0 till 2	V
	Binary outputs (X1.3 – 8)	Galvanically isolated		
		I_{out}	Max. 10	mA
		High (open collector)	Max. 29	V
		Low	Max. 2	V
	Cooling			
	Forced air cooling	Temperature dependent		
T_{m_max}	Maximum ambient temperature		50	°C
	Maximum airflow		3,5	M_3/min
	Control			
	Reference setting	CAN, RS232 (PowerPanel)		
	Control mode	Current-, voltage-, power control		

Mechanical Data

Length x Width x Height:	518 x 324 x 141 mm
Weight:	tbd.
Enclosure:	IP20

Without frame for control cabinet installation
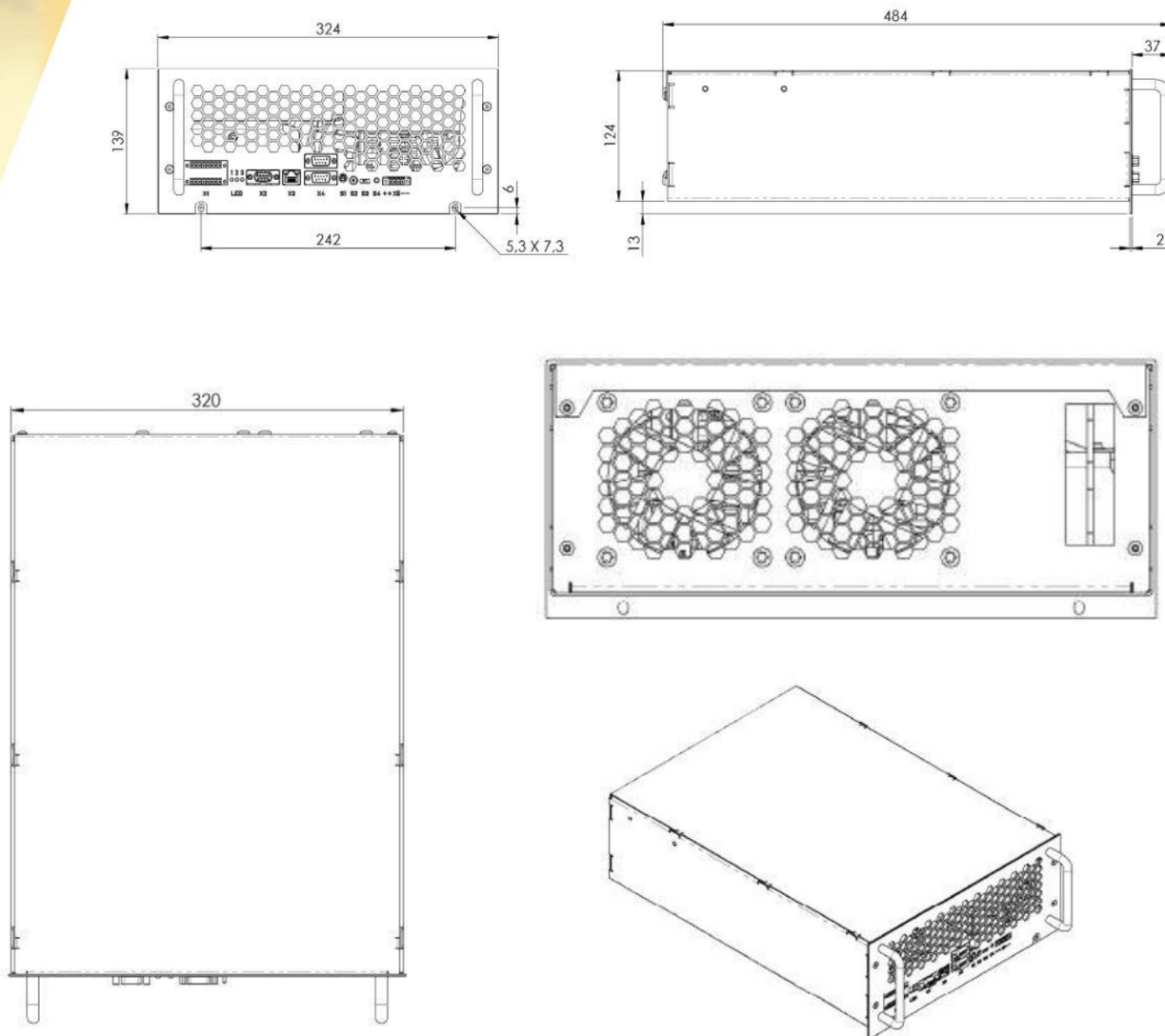

Figure 1: Device without frame for control cabinet installation
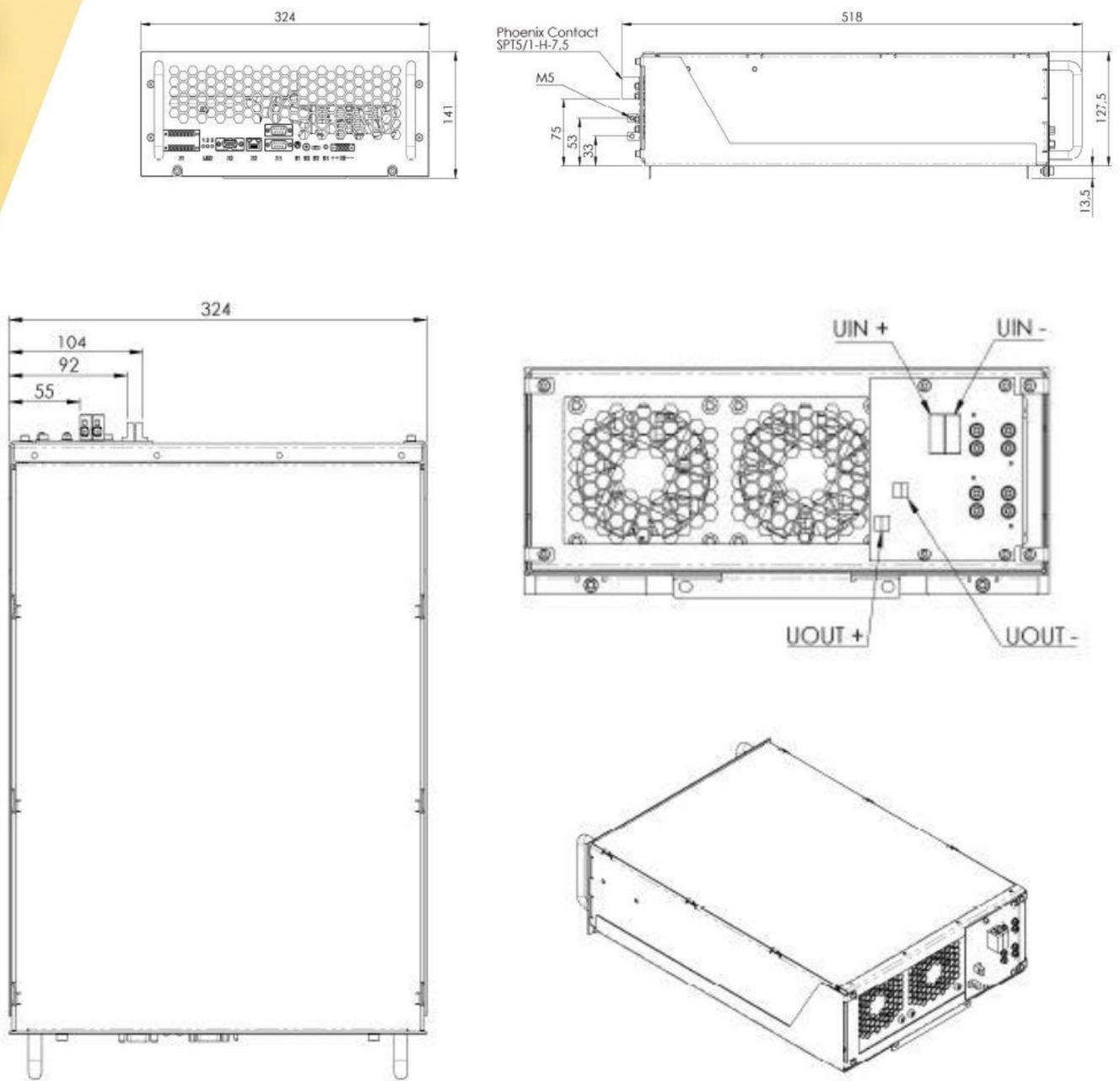
With frame for control cabinet installation

Figure 2: Device with frame for control cabinet installation
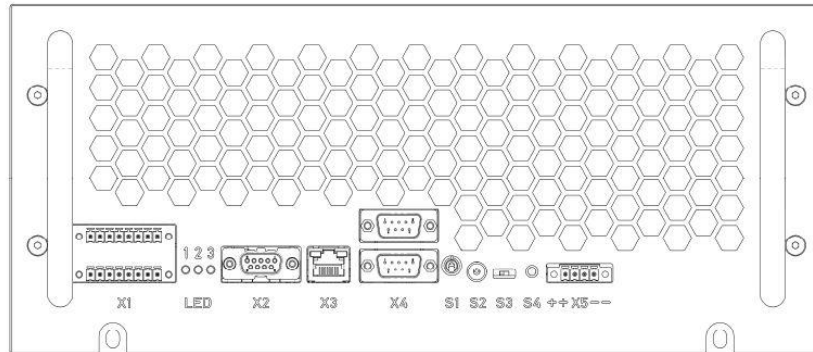
Interfaces

Figure 3: Connections and switches on the front panel

X1: 24V inputs and outputs (regard limit values)

	Identifier	Note
1	24 V-IO	X1.1 and X1.9 internal connected
2	GND-IO	X1.2 and X1.10 internal connected
3	OK-signal[1]	Output high, if there is no fault
4	FAN ext. [1]	Signal for external fan
5	Reserve[1]	
6	Reserve[1]	
7	Not connected	Signal for internal fan
8	FAN PWM	
9	24 V-IO	
10	GND-IO	
11	Reserve[1]	
12	Reserve[1]	
13	Reserve[1]	
14	Permit[1]	Permit at HIGH-signal
15	Not connected	Internal not connected
16	Emergency stop	Emergency stop at LOW-signal

[1]: User specific application possible on request.

Hybrid Power

Connectors and switches (front panel)

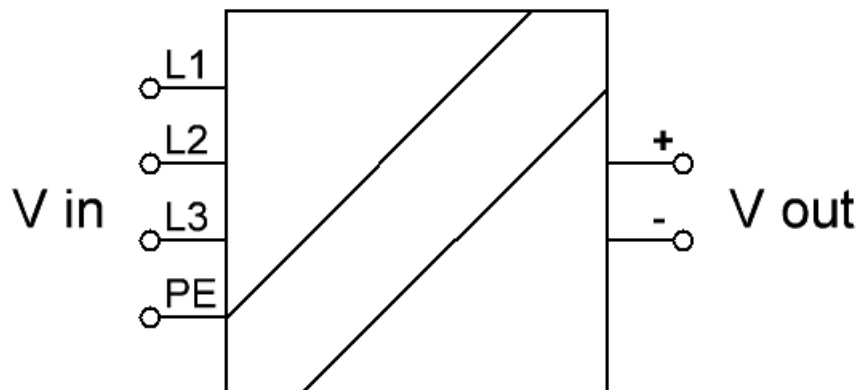|	Identifier	Note
X2	RS232	For connection of service tools PowerPanel
X3	Ethernet	Planned webserver
X4	CAN	Reference value setting and transmission of actual value
X5	Supply	24V supply voltage
LED	LEDs 1, 2, 3	1 (red): Error; 2 (orange): Warning; 3(green): Ignition impulse issued
S1	Enable	Control switch (switch must be activated per PowerPanel)
S2	CAN-Device	Setting of CAN-devices-ID (part of CAN-ID)
S3	CAN-Group	Setting of CAN-devices-ID (part of CAN-ID)
S4	Boot-Button	Required for firmware update

Figure 4: Power connections