Pwr. Vault - Indoor Solution

Bidirectional electricity conversion system which includes management and storage from diversified sources

Solution:

Pwr.Vault is a power management and conversion system designed for storage of large quantities of energy. Thanks to its modularity, it is able to easily scale from a few kW to several MW of active power managed, based on customer needs. The modules are housed inside a 19" rack which is supplied assembled, wired and factory tested for easy installation.

- ▼ From one to four PCS modules for active power management;
- Modular power from 30 kW to 120 kW for each rack;
- EMS for intelligent energy management;
 Possibility of retrofit installation for large systems;
- Three-phase AC input compatible with any type of renewable or non-renewable source system;
- Self-use, peak-shaving and energy trading working methods; AC side disconnect switches included;
- DC side disconnect switches included;



Rack dimensions:

Length: 776 mm Height: 2013 mm Depth: 776 mm



zeroCO₂ - XL EU System







Order Code 90110110 90110111 90110112 90110113 90110112 9011012 90110112 90110112 90110112 9011012 9011	Pwr.Vault	30K	60K	90K	120K
Diseasions (Wikhlo, mmi)					
Meight [kg]		90110110			90110113
Sound power [dB]		105			201
PCSS technology					
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Power supply [V - Hz]		1			1
Power supply [V - Hz]		Τ	۷	3	4
Self-consumption power [W] 15U Standby power [W] < 5			000	. 50	
Search					
Rated power [Maximum power [kW] 30/33 60/66 90/9 120/132 Maximum apparent power [kVA] 33 66 99 132 AC input type 5 wire (3Ph+ N + PE) 5 wire (3Ph+ N + PE) Number and maximum section of connection cables per phase [mm²] 1 x 120 \$ x 120 Voltage range [V] 443 ±86 ±129 ±172 Rated electric current [A] ±43 ±86 ±129 ±224 Rated voltage and frequency [V-Hz] 400 - 50/60 ±224 Rated voltage and frequency [V-Hz] 8 - 10 - 10 (seating laging) ±224 Power factor 0.8 - 1 (seating laging) ±224 Rated voltage and frequency [V-Hz] 8 - 3 ±28 ±224 Rated voltage and frequency [V-Hz] 8 - 3 \$ 100 ±50 ±28 ±224 ************************************					
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AC and DC start function Yes Current switching time [ms] ≤ 10 Conversion efficiency [%] >97.3 Standby power consumption [W] <25					
Current switching time [ms] ≤ 10 Conversion efficiency [%] > 97.3 Standby power consumption [W] <25 <50 <75 <100 Permissible short-circuit current of short duration [kA] 6 (1") <td< th=""><th>Harmonic content THDi [%]</th><th colspan="4">≤3</th></td<>	Harmonic content THDi [%]	≤3			
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Standby power consumption [W] <25	Current switching time [ms]				
Permissible short-circuit current of short duration [kA] 6 (1°) DC PARAMETERS Rated power / Maximum power [kW] 30/33 60/66 90/99 120/132 Voltage range [V] 150 - 75∪ 1 Rated electric current [A] ±72 ±144 ±216 ±288 Maximum electric current [A] ±90 ±180 ±270 ±360 COMMUNICATION Communication interfaces RS485, LAN, WAN, CAN SAFETY IP protection rating IP20 Voltage resistance: input and output - PE [V DC] 3535 Voltage resistance: input and output - CAN [V DC] 2828 Surge: Input & Output - PE [kV] 6 EMC Standards BT 2014/35/CE - 2014/30/CE - FCC MTBF (Average Time Expected Between Failures) [h] 100000 Compliance with connection standards VDE 4105, EN 50549, 699, 0VE R25:2020, EN 62109, EN 62477	Conversion efficiency [%]		≥9	7.3	
DC PARAMETERS Rated power / Maximum power [kW] 30/33 60/66 90/99 120/132 Voltage range [V] 150 - 750 150 - 750 Rated electric current [A] ±72 ±144 ±216 ±288 Maximum electric current [A] ±90 ±180 ±270 ±360 COMMUNICATION Communication interfaces RS485, LAN, WAN, CAN SAFETY IP protection rating IP20 Voltage resistance: input and output - PE [V DC] 3535 Voltage resistance: input and output - CAN [V DC] 2828 Surge: Input & Output - PE [kV] 6 EMC Standards BT 2014/35/CE - 2014/30/CE - FCC MTBF (Average Time Expected Between Failures) [h] 100000 Compliance with connection standards VDE 4105, EN 50549, G99, OVE R25:2020, EN 62109, EN 62477	Standby power consumption [W]	<25			<100
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Compliance with connection standards VDE 4105, EN 50549, G99, OVE R25:2020, EN 62109, EN 62477					
	-	VDE 4105. EN			09, EN 62477
	Warranty [years]				,







RACK M1-22

Solution:

Pwr.Vault - RACK M1-22 is an energy storage system based on high voltage Li-ion (LFP) lithium batteries, to be combined with the Pwr.Vault System.

Each rack can hold up to 21 Pylontech H32148-C battery modules, for a nominal storage capacity of 100 kWh. The battery modules are connected in series inside the rack and managed by a BMS controller which monitors their state of charge and safety.

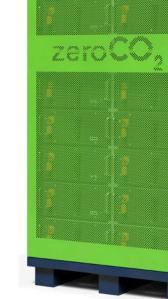
- → Battery technology: high voltage Li-ion (LFP);
- Nominal storage capacity of 100 kWh;
- Integrated BMS controller for battery string management;
- ✓ Integrated DC protection;
- DC circuit breaker switch included;
- UN 38.3 certification for the transport of lithium batteries;
- Possibility of parallelization of several racks to increase the storage capacity;



SC1000-200J-C



H32148-C



RACK M1-22

Rack dimensions:

Length: 818 mm Height: 2013 mm Depth: 776 mm







MODEL	RACK M1-22
Order Code (battery number to configure)	90110035
Order Code (supplied with 21 batteries)	90110040
Dimensions [WxHxD, mm]	818 x 2013 x 776
Weight [kg]	222 + (48 x n)
Cell technology	Li-ion (LFP)
Battery module model	H32148-C
BMS Controller Name	SC1000-200J-C
Charge / discharge test current [A] (*)	29.6
Rated charging / discharging current [A]	74
Max charge / discharge current [A]	148
Nominal module voltage [V]	32
Nominal module capacity [kWh/Ah]	4.74 / 148
Module efficiency [%]	95
DC PARAMETERS	
System rated voltage [V]	32 x n
Max System charge voltage [V]	36×n
Min System discharge voltage [V]	28.8 x n
Nominal capacity [kWh/Ah]	4.74 x n / 148
DOD discharge depth [%]	90% (8 - 98% SOC)
Usable capacity [kWh/Ah]	4.27 x n / 133
Battery modules quantity [n]	13~21
COMMUNICATION	
Communication interfaces	CAN, LAN, Modbus RTU, TCP/IP
AMBIENT CONDITIONS	
Working temperature range [°C]	0~50
Working humidity range [RH%]	0 ~ 95 (without condensation)
Storage temperature range [°C]	-20 ~ 60
Storage humidity range [RH%]	0 ~ 95 (without condensation)
Cooling	Natural cooling
Altitude [m]	<3000
SAFETY	
IP protection rating	IP20
Operational life [years]	15+
Dangerous goods transport certificate	UN38.3
	(*) current value used to determine the capacity of the battery during test.

ACCESSORY	Order Code
BMS SC1000-200J-C (**)	90040281
H32148-C (**)	90040280
Cable kit (**)	90900245
UPS 3 kVA 2U -19" module	90100080
Eastron three-phase meter kit with external CT 200A/5A	90900315
Eastron three-phase meter kit without CT (***)	90900305
Medium voltage meter	90900323

(**) Only for order code 90110035.

(****) If the system requires higher current values, it is possible to purchase the meter alone.

In this case the choice of CT is left to the customer.





