FREQCON BESS MAX
Technische Angaben
Technical Data

		BESS MAX P4.2 4.4 MW / 10 MWh	BESS MAX P4.4 4.4 MW / 18.75 MWh	BESS MAX P8.2 8.8 MW / 20 MWh	BESS MAX P8.4 8.8 MW / 37.5 MWh
CONVERTER	Inverter	2 x MSC 2,200		4 x MSC 2,200	
	Nominal AC Voltage (Inverter)	690 V			
	Nominal Apparent Power	4,400 kVA		8,800 kVA	
	Nominal AC Current (I)	Up to 2 x 2,200 A		Up to 4 x 2,200 A	
	Power Factor at Rated Power (Adjustable)	1 (0.03 capacitive to 0.0 inductive)			
	AC Power Frequency (Range)	50 Hz (47 to 53 Hz)			
	IGBT Switching Frequency	2 to 4 kHz			
	Number of DC Outputs	2		4	
	DC Current per Output / DC Current Combined	2,200 A / 4,400 A		2,200 A / 8,800 A	
	Max. Efficiency (AC to DC)	98.3%			
	Max. Efficiency (DC to DC)	99.4%			
	Max. THD	< 3% (at nominal power)			
BATTERY STORAGE	Battery Chemistry	$LiFePO_4$			
	BESS Capacity	2 x 5,015 kWh	3 x 6,250 kWh	4 x 5,015 kWh	6 x 6,250 kWh
	Nominal Charge / Discharge Rate	0.5 P / 0.5 P	0.25 P / 0.25 P	0.5 P / 0.5 P	0.25 P / 0.25 P
	Lifetime Cycles (Expected)	> 10,000			
	Operating Temperature	Ambient: -30°C to 40°C (at rated power)			
	Cooling Principle	Liquid-Cooled			
	Compliance	RoHS, REACH			
CONTROL	Main Controller	Beckhoff CX5330-0185			
	Control Software	FREQCON Framework			
	Internal Communication	EtherCat			
	External Communication	MODBUS TCP, EtherNet/IP (others available on request)			
	Reaction Time	< 150 ms			
GENERAL	Protection Level	IP54, C3 (C4 and C5 painting upon request)			
	Operating Temperature	Ambient: -30°C to 40°C (at rated power)			
	Cooling Principle	Liquid-Cooled			
	Lifetime	Up to 20 years (at rated conditions)			
	Housing	1 x 40 ft & 2 x 20 ft HC Container	1 x 40 ft & 3 x 20 ft HC Container	1 x 40 ft & 4 x 20 ft HC Container	1 x 40 ft & 6 x 20 ft HC Container
	Medium Voltage	Dry-type containerized option		ONAN/KNAN oil-type outdoor option	
	Standards and Certifications (Inverter)	Low Voltage Directive 2014/35/EU EN 62109-1:2010, EN 62109-2:2011, EN IEC 63000:2018; EMC Directive 2414/30/EU, IEC 61000-6-2:2005, IEC 61000-6-4:2006 and A1:2010; VDE 4110, 4120			
	Standards and Certifications (Battery Storage)	IEC 62619, IEC 62477, IEC 63056, IEC 61000, UL 1973, UL 9540A, NFPA 855, UN 38.3			
PROTECTION DEVICES	Battery Storage (DC)	Fuse and DC Load Break Switch			
	AC Side Disconnection Point	Circuit Breaker			
	DC Overvoltage Protection	Surge Arrester, Class II (I)			
	AC Overvoltage Protection	Surge Arrester, Class II (I)			
	Ground Fault Monitoring	Yes			
	Fire Protection	Active Fire Suppression, Smoke Detection, Exhaust Vents			