SUNGROW
Clean power for all

Preliminary

ST050-250CF

PowerKeeper Modular C&I Energy Storage System

Flexible & Scalable

- 12.5 kWh pack-based design supports flexible configuration up to 250 kWh per system
- Optional long-duration battery junction boxes enable flexible expansion up to 1000 kWh & 8h
- Standardized design simplifies warehousing and distribution

Fast Deployment

- Pre-built design with simplified wiring reduces installation time
- Suitable for both new and retrofit projects, with rapid site deployment
- Supports mixed new & aged modules with active balancing

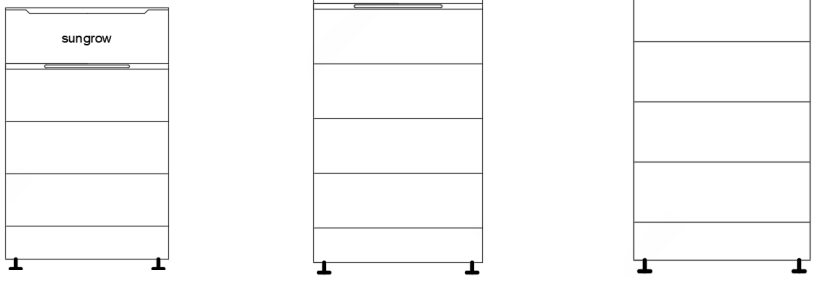
Safety & Reliable

- Pack-level thermal runaway protection, smoke detection and explosion relief valve
- IP66 & C5 protection, enhanced flood resistance, withstanding 50 cm submersion for 24 hours
- Seamless off-grid transfer ≤ 10ms ensures load continuity

Smart O&M

- User-friendly monitoring via logger with cloud-based energy optimization
- OTA upgrades and predictive diagnostics reduce maintenance costs
- Smooth integration with legacy EMS and existing meter



Product Name	ST050-250CF		
Battery pack	STC12.5		
Cell type	LFP 3.2 V		
Nominal capacity	12.48 kWh		
Depth of discharge (DOD)	0 % - 100 %		
Nominal voltage range	32.4 V ~ 43.8 V		
Nominal charge / discharge current	162.5 A		
Weight (per pack)	≤ 90 kg		
Dimensions (W * H * D)	800 mm * 270 mm * 405 mm		
System Specifications			
Auxiliary power supply	Internal power supply		
Installation method	Floor-standing		
Noise level	≤ 60 dB (A) @ 1 m, 25 ℃		
Operation temperature range	Charge: 0 ℃ ~ 55 ℃ / -20 ℃ ~ 55 ℃ (optional) Discharge: -20 ℃ ~ 55 ℃		
Storage temperature range	-30 ℃ ~ 55 ℃		
Operation humidity range	0 % ~ 100 % RH, non-condensing		
Max. operation altitude	3000 m		
Degree of protection	IP66, C5		
Temperature control method	Forced air cooling		
Compliance & Safety			
Standard compliance	IEC / EN 62619, IEC / EN 63056, UN 38.3; IEC / EN62477-1, IEC / EN 62040, IEC / EN 61000-6-1 / 6-3; VDE 2510-50; IEC / EN 62933-5-2, UL 9540A		
Fire suppression system	Aerosol, smoke sensor and explosion relief valve		
EMC class	Class B		
Base configuration options			
			
Number of packs	x 3 (*1)	x 4	x 5
Stack capacity	37.4 kWh	49.9 kWh	62.4 kWh
Stack weight	340 kg	430 kg	520 kg
Stack demension (W * H * D)	800 mm * 1297 mm * 405 mm	800 mm * 1567 mm * 405 mm	800 mm * 1837 mm * 405 mm
Typical system configurations			
ST050CF 49.9 kWh		*1	
ST062CF 62.4 kWh			*1
ST075CF 74.9 kWh	*2		
ST100CF 99.8 kWh		*2	
ST150CF 149.8 kWh		*3	
ST200CF 199.7 kWh		*4	
ST250CF 249.6 kWh			*4
Battery Junction Box	SJC160-02		
Configurations (for single inverter)	Single box supports 2 strings in parallel up to 2 * 250 kWh, two boxes support 3 strings in parallel up to 3 * 250 kWh, three boxes support 4 strings in parallel up to 4 * 250 kWh		
Max. DC voltage	1000 Vdc		
Rated DC current	162.5 A per input, 200 A output		
Safety & protection	Fuse protection + DC isolation switch		
Degree of protection	IP66, C5		
Dimensions (W*H*D)	350 mm * 411 mm * 185 mm		
Weight & installation	≤ 12 kg, Wall-mounted		

1. A single 3-pack stack cannot operate independently, the minimum system capacity is 49.9 kWh
2. "Pre-built stack (50kWh)" consists of four pre-built battery packs for integrated delivery and installation, see user manual for details
3. The usable capacity equals the nominal capacity, under 25°C and 0.25C constant current charge/discharge conditions